Agenda - Executive Policy Committee – July 20, 2005

Report – Alternate Service Delivery Committee - May 17, 2005

Item No. 1 Solid Waste Collection Services Business Plan
File WT-1

STANDING COMMITTEE RECOMMENDATION:

On May 17, 2005, the Alternate Service Delivery Committee concurred in the administrative recommendation and recommends to Council:

1. That the Residential Solid Waste Collection - Alternative Service Delivery Business Plan dated April 25, 2005, be approved subject to the following, namely:

   A. That the Chief Administrative Officer, in accordance with the collective agreement, provide formal notice to the Canadian Union of Public Employees (CUPE) of the intention to arrange for outside delivery of these services.

   B. That the Joint Council-CUPE Committee, in accordance with the collective agreement, meet within thirty (30) days of the notification to CUPE and provide a report to the Executive Policy Committee within forty-five (45) days of the notification to CUPE.

2. That the Proper Officers of the City of the City be authorized to do all things necessary to implement the intent of the foregoing.

Agenda - Executive Policy Committee – July 20, 2005

Report – Alternate Service Delivery Committee - May 17, 2005

DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On May 17, 2005, the Alternate Service Delivery Committee concurred in the administrative recommendation and submitted the matter to the Executive Policy Committee and Council.

Further, the Alternate Service Delivery Committee considered a presentation dated May 17, 2005, submitted by Mike Davidson, President, CUPE Local 500, in opposition to the administrative recommendation.

RE: SOLID WASTE COLLECTION SERVICES BUSINESS PLAN

FOR SUBMISSION TO: Alternative Service Delivery Committee

ORIGINAL REPORT SIGNED BY: Director of Water and Waste Department

REPORT DATE: May 6, 2005

RECOMMENDATION(S):

1. That the attached *Residential Solid Waste Collection – Alternative Service Delivery Business Plan* dated April 25, 2005 be approved subject to:

    a. In accordance with the collective agreement, that the Chief Administrative Officer provide formal notice to Canadian Union of Public Employees (CUPE) of the intention to arrange for outside delivery of these services.

    b. In accordance with the collective agreement, the Joint Council-CUPE Committee meet within 30 days of the notification to CUPE and provide a report to the Executive Policy Committee within 45 days of the notification to CUPE.

REPORT SUMMARY

KEY ISSUES:

The attached business plan recommends contracting out of solid waste collection services for both manual and AutoBin collection.

IMPLICATIONS OF THE RECOMMENDATION(S):

General Implications

	None
X	For the organization overall and/or for other departments
	For the community and/or organizations external to the City of Winnipeg
	Involves a multi-year contract

Comment(s): Adoption of the recommendation will reduce the demand for space provided by Planning Property and Development as well as fleet services provided by the Fleet Management Agency.

Policy Implications

X	No
	Yes – Comment(s):

Environmental Implications

X	None
	Yes – Comment(s):

Human Resources Implications

	No
X	Yes – Comment(s): Contracting out of services will result in a reduction of permanent and temporary employees of the City of Winnipeg

.

Financial Implications

	Within approved current and/or capital budget
X	Current and/or capital budget adjustment required

Comment(s): Contracting out of services will result in a saving of tax dollars as outlined in the report.

REPORT

REASON FOR THE REPORT:

On April 21, 2004, Council concurred in the recommendation of the Alternate Service Delivery Committee and adopted the following:

1. *That the Administration be directed to prepare a business plan consistent with the collective agreement and the Alternative Service Delivery (ASD) process related to the provision of solid waste collection services in the City of Winnipeg providing a comparison of the following alternatives;*

   A. *Productivity improvements for City staff currently providing the service; or*
   B. *Contract out the manual collection and/or AutoBin collection work currently done by City forces.*

2. *That the Proper Officers of the City be authorized to do all things necessary to implement the foregoing.*

DISCUSSION:

The previous report outlined that savings of approximately $3 million per year less transition costs over the status quo could be expected if the portion of solid waste collection by City forces were contracted out. The report outlined the reasons for this discrepancy and recommended a more detailed examination and preparation of a business plan.

The business plan has now been completed and is attached. The business plan includes a ten year present value analysis of the cost of internal servicing versus contracting out. Transition costs including employment security for permanent employees are accounted for in the business plan.

It is now appropriate for City Council to decide to proceed with contracting out or to retain the work internally.

The business plan considered and analyzed four options as follows:

1. Option 1 – Internal improvements to City staff providing manual collection and contract out AutoBin collection.
2. Option 2 – Contract out manual collection and internal improvements to City staff providing AutoBin collection.
3. Option 3 – Internal improvements to City staff providing both manual and AutoBin collection.
4. Option 4 – Contract out both manual and AutoBin collection.

A comparative summary of each of these options is presented in the following table:

Service Component	*Manual* *AutoBin*	Status Quo (2002)	Option 1 II [1] CO [2]	Option 2 CO II	Option 3 II II	Option 4 CO CO
Financial Summary (in $000s) [3]						
Operating Costs		$75,689	$64,198	$55,951	$67,486	$51,986
Transition Costs		-	$157	$2,078	$387	$3,954
Total 10 Year NPV		$75,689	$64,355	$58,029	$67,873	$55,940
Variance from Status Quo			*$(11,334)*	*$(17,660)*	*$(7,816)*	*$(19,749)*
Operating Summary						
Staff Complement Water + Waste						
Permanent FTEs		70.8	46.2	16.8	60.0	4.0
Non-permanent FTEs		9.1	13.0	5.0	18.0	-
Total FTES		79.9	59.2	21.8	78.0	4.0
Fleet Size (includes spares) [4]		32	17	7	24	0
Transition Summary						
Staff Redeployment						
Water + Waste			-	3	-	15
Fleet Management Agency			7	10	6	15
Total FTEs			7	13	6	30

Notes

[1] *II = Internal Improvements to city staff delivery of services*

[2] *CO = Contract out services*

[3] *Ten year present value discounted at 3.5%*

[4] *Light fleet not included*

A more detailed cost breakdown from the Business Plan is attached.

The business plan recommends that the Water and Waste Department be directed to proceed with Option 4 – namely the contracting out of the manual collection work in the south area and the AutoBin collection work in the north central area of the City of Winnipeg.

The reasons for this recommendation are as follows:

1. This service delivery option will provide the service at the lowest cost to the residents of Winnipeg over the 10 year period considered in this business plan. After the business plan period, this option would provide even larger savings since the transition costs will no longer apply.

2. The risks associated with this option are mainly related to the escalation of contract pricing. The Solid Waste Services Division has a contracting strategy that fosters a fair and competitive bidding process. The number of bids received has always been sufficient to indicate that the marketplace is competitive and there is no known reason to expect this to change in the future.

3. The risks associated with achieving the savings in the internal improvement options are significant. These risks cannot be mitigated by the Water and Waste Department. As a result, the full savings of the internal improvement options would not likely be achieved.

4. Currently the difference in cost between contract and City forces doing the work can be attributed to two factors – productivity and the cost of labour. The internal improvement options presented in this business plan still assume productivity that is lower than the productivity in the private sector. A system with lower productivity by City workers at higher wages is not considered sustainable.

From a human resource perspective the impact of the recommendation is a significant reduction of permanent positions from about 70 to 4. However, non-permanent staff currently occupies a large number of these permanent positions. Redeployment into positions occupied by non-permanent staff as well as vacancies, retirements and attrition, necessitate only 15 permanent staff within the Solid Waste Division be redeployed. In addition another 15 staff will need to be redeployed from Fleet Management. The cost of these redeployments is accounted for in the business plan as transition costs. Non-permanent staff displaced by this workforce adjustment process will be deployed throughout the City through the normal layoff and recall process.

In terms of next steps, the collective agreement requires the following with respect to outsourcing of CUPE work.

"In all instances of changes regarding alternate sources of service delivery which affect the workloads assigned to CUPE rated staff, the following process shall apply:

1. *The City shall provide a minimum of 90 days' notice to the Union of its intention to arrange for the outside delivery of services currently provided by CUPE rated staff. Said notice,*

including a copy of the related business plan, shall also be supplied to all members of the Joint Council - CUPE Committee.

2. *Concurrent with the above noted provision, the Joint Council- CUPE Committee shall meet within 30 days, to discuss the business plan and concerns, if any, regarding impact on CUPE employees.*

3. *Within 45 days of the initial notification, the Joint Council - CUPE Committee shall report to the Executive Policy Committee regarding the discussions that have taken place."*[1]

After the above process, the Executive Policy Committee would make a recommendation to Council. If Council elects to proceed with the recommended option, it will take about nine months to implement as discussed in the business plan.

FINANCIAL IMPACT:

The following financial impact statement for this project has been prepared in accordance with the recommendation adopted by Council on December 13, 2000.

[1] Collective Agreement December 29, 2002 to December 30, 2005, Letter of Understanding Re: Changes in Staffing Levels.

Financial Impact Statement Date:

Project Name: SOLID WASTE COLLECTION SERVICES BUSINESS PLAN

COMMENTS:

The attached business plan provides a comparative ten year present value financial analysis of the cost savings of contracting out versus the status quo. The equivalent annual savings are approximately $3 million per year. There is no financial impact prepared for the recommendations in this report because the base year for this analysis was 2002 and some internal improvements have already been made and the operating budget impacts can only be determined once Council makes a decision and detailed plans for implementation of the preferred service delivery method are prepared.

Moira L. Geer C.A.
Manager of Finance & Administration

IN PREPARING THIS REPORT THERE WAS CONSULTATION WITH AND CONCURRENCE BY:

N/A

THIS REPORT SUBMITTED BY:

Department: Water and Waste Department
Prepared by: Barry MacBride, P. Eng.
File No. 011-15-10-03-00

Solid Waste Collection ASD Study
Summary of Service Delivery Options
(10 Year NPV discounted at 3.5%)

OPTIONS	2002 - Status Quo	Option 1	Option 2	Option 3	Option 4
Manual Collection	**City Staff**	**City Staff - Internal Improvements**	**Contract Out**	**City Staff - Internal Improvements**	**Contract Out**
Autobin Collection	**City Staff**	**Contract Out**	**City Staff - Internal Improvements**	**City Staff - Internal Improvements**	**Contract Out**
Operating Costs					
Manual					
Salaries and Benefits	$ 26,454,978	$ 21,245,531	$ 1,374,966	$ 21,245,531	$ 1,193,742
Equipment	10,351,998	8,254,471	205,420	8,254,471	160,228
Contracts	-	-	16,722,266	-	16,722,266
Tipping Fees	11,758,268	11,595,424	11,758,268	11,595,424	11,758,268
Other Operating	1,046,388	1,065,192	859,212	1,065,192	854,821
	49,611,633	42,160,618	30,920,132	42,160,618	30,689,324
Autobin					
Salaries and Benefits	7,001,265	1,293,189	6,524,893	6,524,893	1,062,540
Equipment	9,817,595	205,420	9,353,678	9,353,678	147,903
Contracts	373,689	12,091,701	415,830	415,830	12,091,701
Tipping Fees	7,137,443	7,137,443	7,137,444	7,137,444	7,137,443
Other Operating	998,068	506,352	1,089,509	1,089,509	500,764
	25,328,060	21,234,105	24,521,353	24,521,353	20,940,350
Subtotal Operating Costs	**74,939,693**	**63,394,723**	**55,441,485**	**66,681,971**	**51,629,674**
Facility Costs	749,314	803,494	509,493	803,494	356,101
Total Operating Cost	**75,689,007**	**64,198,216**	**55,950,978**	**67,485,465**	**51,985,775**
Transition Costs					
City Staff	-	-	1,089,023	-	3,195,494
Sale of Fleet Equipment	-	(882,136)	(645,030)	(270,136)	(1,257,030)
Fleet Management	-	1,039,182	1,633,676	657,717	2,015,142
Total Transition Cost	**-**	**157,046**	**2,077,670**	**387,581**	**3,953,606**
TOTAL COST	**$ 75,689,007**	**$ 64,355,262**	**$ 58,028,647**	**$ 67,873,045**	**$ 55,939,381**
NPV - Variance from Status Quo		**$ (11,333,745)**	**$ (17,660,360)**	**$ (7,815,962)**	**$ (19,749,626)**
Equivalent Annual Cost	**$ 9,100,950**	**$ 7,738,165**	**$ 6,977,444**	**$ 8,161,148**	**$ 6,726,228**

EQUIVALENT ANNUAL COST BASIS

Operating Costs					
Manual					
Salaries + Benefits	$ 3,180,983	$ 2,554,592	$ 165,328	$ 2,554,592	$ 143,537
Equipment	1,244,738	992,529	24,700	992,529	19,266
Contracts	-	-	2,010,708	-	2,010,708
Tipping Fees	1,413,830	1,394,250	1,413,830	1,394,250	1,413,830
Other Operating	125,819	128,080	103,313	128,080	102,785
	$ 5,965,371	$ 5,069,450	$ 3,717,879	$ 5,069,450	$ 3,690,126
Autobin					
Salaries + Benefits	$ 841,842	$ 155,495	$ 784,562	$ 784,562	$ 127,761
Equipment	1,180,481	24,700	1,124,699	1,124,699	17,784
Contracts	44,933	1,453,923	50,000	50,000	1,453,923
Tipping Fees	858,216	858,216	858,216	858,216	858,216
Other Operating	120,009	60,884	131,004	131,004	60,213
	$ 3,045,481	$ 2,553,218	$ 2,948,481	$ 2,948,481	$ 2,517,896
Subtotal Operating Costs	$ 9,010,851	$ 7,622,668	$ 6,666,360	$ 8,017,931	$ 6,208,023
Facility Costs	$ 90,099	$ 96,613	$ 61,262	$ 96,613	$ 42,818
Total Operating Cost	**$ 9,100,950**	**$ 7,719,281**	**$ 6,727,622**	**$ 8,114,545**	**$ 6,250,841**
Transition Costs					
City Staff	$ -	$ -	$ 130,945.62	$ -	$ 384,230.62
Sale of Fleet Vehicles	-	(106,069)	(77,559)	(32,482)	(151,147)
Fleet Management	-	124,953	196,435	79,085	242,303
Total Transition Cost	**$ -**	**$ 18,883**	**$ 249,822**	**$ 46,603**	**$ 475,387**
TOTAL COST	**$ 9,100,950**	**$ 7,738,165**	**$ 6,977,444**	**$ 8,161,148**	**$ 6,726,228**



City of Winnipeg

Residential Solid Waste Collection

Alternative Service Delivery
Business Plan

Prepared by:

City of Winnipeg
Water and Waste Department
April 25, 2005

Residential Solid Waste Collection

Alternative Service Delivery
Business Plan

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Executive Summary

The provision of garbage collection services from single and multifamily locations within the City of Winnipeg is split between contracted forces and City employees using City owned equipment. The service has been provided this way for a number of years and there has always been a significant difference in the cost of the two collection services, with the City forces costing significantly more than the contracted forces. City forces manually collect garbage from the south of the Assiniboine River and from the AutoBin area in the central area of the City. This represents 52% of the single family locations and 11% of the multifamily locations in the City.

On April 21, 2004 Council directed that administration prepare a business plan to assess options to lower the cost of garbage collection services in the areas serviced by City forces. This business plan generally follows the format outlined in the document titled *A Business Plan Framework for Alternative Service Delivery*, dated May 10, 1996.

The business plan assesses four options. The status quo is not considered an option.

Service Delivery Options		
Option	**Manual Collection**	**AutoBin Collection**
1	City Staff Internal Improvements	Contract Out
2	Contract Out	City Staff Internal Improvements
3	City Staff Internal Improvements	City Staff Internal Improvements
4	Contract Out	Contract Out

Under the project steering committee, teams were put in place to determine what each of these options would be comprised of. One team reviewed the operational requirements for City staff to remain in the manual and AutoBin collection services (referred to as internal improvements) while another reviewed the contracting out options. Others were Finance and Human Resources. In addition consultation took place with the Fleet Management Agency and Civic Accommodations to determine the impact of these options on their operations. CUPE representatives attended the meetings and were provided with all assumptions and calculations.

In order to be consistent with the Council report of 2004, the year 2002 was selected to be the baseline year. Since 2002, there has been growth in the number of locations serviced and the tonnes of garbage collected. However, since this business plan is only meant to recommend the most appropriate service delivery method, and not the absolute cost of delivering the service in the future, the comparison with the 2002 locations and tonnage information is valid.

The internal improvements team developed a manual collection model that increases efficiency of City forces through larger loads and longer hours reducing equipment costs. Manual collection would continue to be provided using rear loads trucks with an operator and two refuse helpers. The model includes utilizing crews and equipment for 50 hours a week as compared to the current level of 40 hours. Overtime would be worked during the peak garbage collection periods. Along with this, the number of Foreman was reduced from 3 to 2. The collection of rear load apartment bins and the servicing of the Leaf It depots are to be incorporated into existing contracts in order to have this workforce focus on the core business, the collection of garbage from single family locations.

The internal improvements team also reviewed the way the AutoBin collection service is provided. AutoBin collection is done with an automated truck with a single operator and residents place their garbage into larger bins that are placed in the lanes and shared with 4 to 5 homes. It was determined that efficiencies could be made by working an eleven hour work day, seven days a week as compared to a eight hour, five day a week operation with significant amounts of overtime as was being done in 2002. Along with this change, the rollout cart locations would be converted to manual collection and would be serviced on the same cycle day as recycling. A designated truck would be used for the collection of bulky items and the garbage from the rollout locations.

The contracting team developed a strategy for providing both of these services using private sector contracted forces. One contract would be issued for the manual collection service and another for the AutoBin collection service.

The Human Resource team reviewed the impacts of the options on the workforce. A review of the existing Collective Agreement and various corporate policies indicated that permanent employees could be redeployed to do other work within the City. Non-permanent staff would be laid off. A plan was developed for each of the four service delivery options. Allowances were made for retirements and attrition through promotions and transfers.

The Finance team reviewed and compiled the operational costs for each of these options including the transition costs for Human Resources, Fleet and Civic Accommodations.

Service Component	*Manual* / *AutoBin*	Status Quo	Option 1 II [1] / CO [2]	Option 2 CO / II	Option 3 II / II	Option 4 CO / CO
Financial Summary (in $000s) [3]						
Operating Costs		$75,689	$64,198	$55,951	$67,486	$51,986
Transition Costs		-	$157	$2,078	$387	$3,954
Total 10 Year NPV		$75,689	$64,355	$58,029	$67,873	$55,940
Variance from Status Quo			*$(11,334)*	*$(17,660)*	*$(7,816)*	*$(19,749)*
Operating Summary						
Staff Complement Water + Waste						
Permanent FTEs		70.8	46.2	16.8	60.0	4.0
Non-permanent FTEs		9.1	13.0	5.0	18.0	-
Total FTES		79.9	59.2	21.8	78.0	4.0
Fleet Size (includes spares) [4]		32	17	7	24	0
Transition Summary						
Staff Redeployment						
Water + Waste			-	3	-	15
Fleet Management Agency			7	10	6	15
Total FTEs			7	13	6	30

Notes

1 *II = Internal Improvements to city staff delivery of services*

2 *CO = Contract out services*

3 *Ten year present value discounted at 3.5%*

4 *Light fleet not included*

The risk associated with each of these options was reviewed. The risks related to the options that include internal improvements involve not being able to meet the assumptions contained in the models.

- risk of not meeting productivity targets
- risk of not having enough staff come to work
- risk of non-acceptance of the longer shift
- risk of refusing overtime

- risk of fleet costs

These risks with meeting the financial targets for the internal improvement options are considered high with little opportunity for mitigation.

The risks related to the options that include contracting out are related to the possibility of escalating contract costs due to a lack of competition and the possibility of inferior customer service by the contractor. In both cases, the risk is considered to be small since the contracting strategy being used by the Water and Waste Department involves fostering an environment that promotes competition within the private sector. The risk associated with inferior customer service is being mitigated with a provision for financial penalties in the case of poor customer service and financial bonuses for superior service.

It is recommended that the Water and Waste Department be directed to proceed with Option 4 – namely the contracting out of the manual collection work in the south area and the AutoBin collection work in the north central area of the City of Winnipeg.

The reasons for this recommendation are as follows:

1. This service delivery option will provide the service at the lowest cost to the residents of Winnipeg over the 10 year period considered in this business plan. After the business plan period, this option would provide even larger savings since the transition costs will no longer apply.

2. The risks associated with this option are mainly related to the escalation of contract pricing. The Solid Waste Services Division has a contracting strategy that fosters a fair and competitive bidding process. The number of bids received has always been sufficient to indicate that the marketplace is competitive and there is no known reason to expect this to change in the future.

3. The risks associated with achieving the savings in the internal improvement options are numerous and significant. These risks cannot be mitigated by the Water and Waste Department. As a result, the full savings of the internal improvement options would not likely be achieved.

4. Currently the difference in cost between contract and City forces doing the work can be attributed to two factors – productivity and the cost of labour. The internal improvement options presented in this business plan still assume productivity that is lower than the productivity in the private sector. A system with lower productivity by City workers at higher wages is not considered sustainable.

From a human resource perspective the impact of the recommendation is a significant reduction of permanent positions from about 70 to 4. However, non-permanent staff currently occupies a large number of these permanent positions. Redeployment into positions occupied by non-permanent staff as well as vacancies, retirements and attrition,

necessitate only 15 permanent staff within the Solid Waste Division be redeployed. In addition another 15 staff will need to be redeployed from Fleet Management. The cost of these redeployments is accounted for in the business plan as transition costs. Non-permanent staff displaced by this workforce adjustment process will be deployed throughout the City through the normal layoff and recall process.

The Collective Agreement outlines a process that must be undertaken when considering the contracting out of services. A review of the business plan is done by the Joint Council-CUPE Committee and the Council Alternative Services Delivery Committee. The recommendations from these two Committees are then reviewed by the Executive Policy Committee and a recommendation is made to Council. Once Council has made the final decision on which option to implement, it would require between six and nine months for implementation.

Chapter 1 – Introduction

The City of Winnipeg provides garbage collection service to single family and multifamily locations throughout the City. About half of this work is done by City employees using City equipment and the other half is done by waste management companies under contract to the City. Over the years there have been a number of studies on the comparative cost of these two service delivery methods. It has been generally accepted that the cost of City employees doing this work is about double that of the same work done by contracted waste management companies.

On April 21, 2004, Council concurred in the recommendation of the Alternate Service Delivery Committee and adopted the following:[1]

1. *That the Administration be directed to prepare a business plan consistent with the collective agreement and the Alternative Service Delivery (ASD) process related to the provision of solid waste collection services in the City of Winnipeg providing a comparison of the following alternatives;*

   A. *Productivity improvements for City staff currently providing the service; or*
   B. *Contract out the manual collection and/or AutoBin collection work currently done by City forces.*

2. *That the Proper Officers of the City be authorized to do all things necessary to implement the foregoing.*

It was understood that the status quo was no longer acceptable. The report indicated that the gross operational costs of refuse collection could be reduced by approximately $3 million per year less transition costs if the service was contracted out.

The collective agreement requires a business plan be prepared whenever a change in staffing levels is contemplated.

"In all instances of changes regarding alternate sources of service delivery which affect the workloads assigned to CUPE rated staff the following process shall apply:

1. *The City shall provide a minimum of 90 days' notice to the Union of its intention to arrange for the outside delivery of services currently provided by CUPE rated staff. Said notice, including a copy of the related business plan, shall also be supplied to all members of the Joint Council - CUPE Committee.*
2. *Concurrent with the above noted provision, the Joint Council- CUPE Committee shall meet within 30 days, to discuss the business plan and concerns, if any, regarding impact on CUPE employees.*
3. *Within 45 days of the initial notification, the Joint Council- CUPE Committee shall report to the Executive Policy Committee regarding the discussions that have taken place."*[2]

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[1] The Council minute and report is available online at:
http://www.winnipeg.ca/clkdmis/documents/c/2004/m3817/asd%2004%2013%20no.%2001.pdf

This business plan generally follows the format outlined in the City of Winnipeg document titled *A Business Plan Framework for Alternative Service Delivery*, dated May 10, 1996.

The scope of the business plan included both the AutoBin service and the manual collection service for those areas of the City currently receiving this service using City employees and equipment. The standard of service provided to customers would not change regardless of which service delivery option is implemented. The business plan format includes a detailed financial and budget analysis of the status quo, internal improvements that can be made, as well as alternative service delivery, in this case contracting out.

In total there are four different options that are being considered. They are:

Table 1 – Service Delivery Options

Option	Manual Collection	AutoBin Collection
1	City Staff Internal Improvements	Contract Out
2	Contract Out	City Staff Internal Improvements
3	City Staff Internal Improvements	City Staff Internal Improvements
4	Contract Out	Contract Out

The purpose of this business plan is to compare these four options and recommend the most suitable option for Council to consider.

A Steering Committee was formed with representation from Corporate Services Department, and the Finance and Administration, Human Resources, and Solid Waste Services Divisions of the Water and Waste Department. Any information used in the report and all calculations have been shared with CUPE in the process. A number of teams were formed to consider each of the four possible service delivery options within the scope of their expertise. The results of each team's work was reviewed by the Steering Committee and compiled into this business plan.

The recommendations consider the financial impacts of the various options as well as customer service impacts, implementation risks and impacts on City departments other than the Water and Waste Department.

[2] Collective Agreement December 29, 2002 to December 30, 2005, Letter of Understanding Re: Changes in Staffing Levels.

Chapter 2 – Current Service Description

The City of Winnipeg provides garbage collection service to all residential locations. In total, there are approximately 179,500 (2002) single-family dwelling units that receive this service.[3] With the exception of the AutoBin area, all single family and multifamily locations up to 16 dwelling units, receive manual collection service. Residents are required to set out their household garbage for collection on a designated day for their particular area. There is no limit to the amount of garbage a location can set out for collection. A single-family location receives service about 50 times per year.

The AutoBin collection service is located in the central area of the City. For every 4 to 5 homes, there is one 2.25 cubic metre AutoBin located in the lane. The garbage is collected about 50 times per year from each AutoBin.

The service is provided by City employees in the south and AutoBin areas, and by Contractors in the northwest and northeast quadrants of the City.

The amount of collection service provided to single-family locations is summarized in Table 2.

Table 2 – Single Family Dwelling Units Summary (2002)

Area	Service Type/Provider	Single-family Dwelling Units
Northwest	Manual Collection/Contracted Forces	42,756
Northeast	Manual Collection/Contracted Forces	42,575
Central	AutoBin Collection/City Forces	30,476
South	Manual Collection/City Forces	63,733
Total		179,540

Along with the single family locations, there are approximately 84,800 (2002) multifamily dwelling units at locations with more than 16 dwelling units that receive garbage collection service. In the non-AutoBin area of the City, these locations receive front end bin collection service. There are three contracts issued for this collection work. The multifamily property owner provides the collection bin and they are collected by or on behalf of the City either once or twice a week. The service is provided on a Monday to Saturday schedule.

City Forces also provide collection services to multifamily locations. The central area of the City utilizes AutoBins and the south area of the City utilizes rear load bins that are collected on the same frequency as the front end bins in the contracted areas of the City.

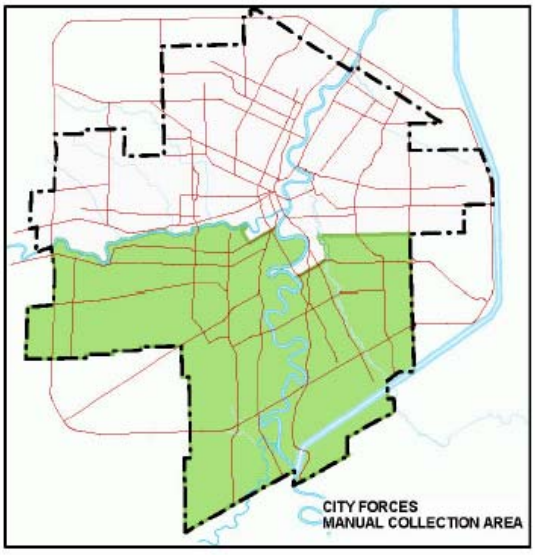
[3] The baseline year for the analysis in this report was 2002 to correspond with the Council approved report.

The amount of collection service provided to multifamily locations is summarized in Table 3.

Table 3 – Multifamily Dwelling Units Summary (2002)		
Area	**Service Type/Provider**	**Multifamily Dwelling Units**
Northwest	Front End Collection/Contracted Forces	30,423
East	Front End Collection/Contracted Forces	25,226
Southwest	Front End Collection/Contracted Forces	19,872
Central	AutoBin Collection/City Forces	7,643
South	Rear Load Collection/City Forces	1,697
Total		84,861

This business plan only considers the collection services provided by City Forces -- namely, the manual and rear load collection in the south area and the AutoBin collection in the central portion of the City.

2.1 Manual Collection – City Forces



As described above, the south area of the City receives manual garbage collection service using City forces and equipment from the City Fleet Management Agency (FMA). The typical configuration of a collection crew is a rear loading garbage truck with a driver and two helpers. Each crew is required to complete two full loads per eight hour day. The weight of the garbage per load varies with the season of the year. In the summer months each truck is capable of hauling 10 tonnes per load, while in the winter months the capacity is reduced to 7 to 8 tonnes per load. This variation is due to the higher density of the yard waste in the summer months and the frozen condition of the garbage in the winter months. Overtime is worked when the amount of garbage set out for collection exceeds the

capacity of the two loads per crew. The number of crews per day varies between 14 in the winter months and 20 in the summer peak periods.

For 2002, the production efficiency of the manual collection crews is summarized in Table 4

Table 4 – City Forces Manual Collection Efficiency (2002)		
Production Efficiency Measure	**Period**	**Output**
Average Dwelling Units/Day/Crew	2002	715
Maximum Dwelling Units/Day/Crew	December 23, 2002	900
Minimum Dwelling Units/Day/Crew	June 7, 2002	587
Average Tonnes/Load	2002	6.9
Maximum Tonnes/Load	June 27, 2002	10.8
Minimum Tonnes/Load	February 1, 2002	4.1

A small part of the area is comprised of rural residential development. Due to the greater distances between homes, it is more efficient to utilize a single operator manual side load truck for these locations. One side load truck is used for this purpose. This truck is also used for litter container collection.

Bulky waste, such as mattresses and furniture, is defined as an object more than 1.5 metres long or weighing more than 34 kilograms, and is collected provided the occupant pays a $10 charge for up to 5 bulky waste items. These wastes are collected with the regular garbage collection.

The south area manual collection forces also collect from some multifamily and small commercial locations using a rear load truck with a driver and two helpers. These locations are collected using a designated rear load truck, separate from the single family collection effort. The truck works four days per week on this service.

In the fall, these crews also service the four Leaf-It depots in the south area of the City. There are a total of nine Leaf-It depots in the City. This work is usually done on overtime with a rear load truck and two workers. The bags of leaves are collected from the depot sites and hauled to the composting pad at the Brady Road Landfill.

2.2 AutoBin Collection

As described above, the AutoBin collection service is primarily utilized in the central part of the City. The work is done with single person operated automated side load trucks that are provided by FMA. There are 5,272 AutoBins located in this area.

Along with the AutoBins, there are also 800 single family locations that utilize roll out carts. These locations do not have a lane, which makes it impossible to service with a typical AutoBin. Each location receives one 450 litre cart that is collected every Wednesday. The collection is done using the normal AutoBin collection vehicle.

There are about 7,640 multifamily dwelling units that receive AutoBin collection service on a once a week or twice a week basis. A designated route to service these multifamily locations, separate from the single family locations, is assigned to an AutoBin truck operator. The truck works four days per week on this service.

The actual AutoBins belong to the City of Winnipeg and require periodic maintenance. Maintenance involves painting the bins and replacing the plastic lids after a fire, relocating the bins to accommodate the construction of a garage or fence, as well as sanitizing the bins to control odours in the summer months. There is a service truck with crane, along with two or three staff, that performs this work along with cleaning up spilt garbage from around the bins.



There is a significant amount of bulky and abandoned waste in the AutoBin area. A manual rear load truck and crew is dispatched to the AutoBin area once or twice per week.

For 2002, the production efficiency of the AutoBin collection crews is summarized in Table 5.

Table 5 – City Forces AutoBin Collection Efficiency (2002)		
Production Efficiency Measure	**Period**	**Output**
Average Tonnes/Paid Hour	2002	1.54
Maximum Tonnes/Paid Hour	April 16, 2002	2.44
Minimum Tonnes/Paid Hour	November 16, 2002	0.55
Average Tonnes/Load	2002	5.6
Maximum Tonnes/Load	June 30, 2002	8.0
Minimum Tonnes/Load	June 7, 2002	3.3

Chapter 3 – Financial Baseline

Activity Based Costing (ABC) was used to calculate the cost of service. The analysis assigns actual expenditures and revenues from the previous year to all the collection activities and service providers. The unit cost of each service is determined by taking the total cost of that service and dividing it by the number of units of service provided in that year. 2002 was used as the baseline year for the purpose of developing new work methods and costing service delivery options.

Table 6 shows the results the ABC analysis for in-house services completed in 2002.

Table 6 – Summary of Single Family Collection Costs (2002)

	Manual Collection City	AutoBin Collection City
Total Cost	$5,871,378	$2,937,292
No. of Dwellings	63,733	30,476
No. of Tonnes Collected	62,058	33,085
Total Cost/Dwelling	$92.12	$96.38
Total Cost/Tonne	$94.61	$88.78
Total Program Cost	$5,871,378	$2,937,292
Less Tipping Fees	$1,392,838	$739,700
Equals Collection Cost	$4,478,540	$2,197,592
Collection Cost/Tonne	$72.17	$66.42
Collection Cost/Dwelling	$70.27	$72.11

Chapter 4 – Alternate Service Delivery Options

The ASD project team reviewed four options in total. The manual and AutoBin collection services were considered separately for both internal improvements and contracting the service. Each of these four options is discussed in the following sections.

4.1 Internal Improvements Manual Collection

The internal improvements team was charged with the responsibility to develop the most efficient work practices utilizing City staff and equipment. The team was comprised of the following people.

Manager of Solid Waste Services – Team Leader
Supervisor of Collection
AutoBin Foreman
Manual Collection Foreman
Operator 2
Refuse Helper (partial)

A CUPE National Staff Representative also attended meetings of the team.

The team developed a detailed spreadsheet model that was used to determine the daily staff and equipment requirements along with the associated costs. The team considered a number of alternatives including "driver-driver", converting to automated cart collection in the south area, and enhanced status-quo "driver-helper-helper".

The "driver-driver" model of collection is based on a two member team sharing the driving and pitching duties during the day. This alternative was rejected by the worker members of the team. It was believed that the senior and older members of the crew should no longer be required to pitch and that work should be done by the more junior staff.

Automated collection using specially designed equipment and carts has long been pursued as a way to avoid the stress and strain of pitching in the industry. Many communities have switched to automated collection. It is especially suited to front street collection where there is more room and driveways that make accessibility to the carts in winter more practicable. However a review of the cost of the system, including equipment, carts and productivity indicated that the cost would even exceed the cost of current system.

It was determined that an enhanced "driver-helper-helper" mode of operation would be the most cost effective work practice. The enhanced procedure is as follows:

- Manual collection service
- Three person crew per truck - one Operator 2 and two Refuse Helpers
- Two foreman
- No change to the existing garbage collection schedule
- Ten hour per day shifts with each crew working four shifts per week

- Each crew required to collect up to 1,050 homes per shift
- Convert the existing rear load locations to front load collection and incorporated into the existing contracted multifamily collection
- Litter container collection would be done by a separate crew(s)
- Leaf-It collection for the depots in the south area of the City would be incorporated into the existing contracted work
- Parking and fuelling of the trucks would be done by the collection crew at the end of the shift

In this scenario, each crew would do three full loads of garbage per shift in the summer months (when the garbage is greater than 18 kg/stop) and two full loads in the winter months (minimum 1050 homes). The amount of garbage per load would vary between 9.5 tonnes in the summer months to a load of a similar size to the contractor in the winter months (6.8 to 9.5 tonnes).

Crews would be required to be at work four of the five collection days. The days off would follow the collection schedule with 20% of the crews having Day 1 as their regular day off, 20% having Day 2 off, etc. Each crew would be required to come to work 200 times per year as compared to the 250 times per year currently.

Industry best practice indicates that a collection operation like this should staff to a baseline and then use overtime to handle the peak periods. There will be collection days where the baseline number of crews cannot complete the work due to excessive garbage. Using a "what-if" type analysis on the spreadsheet model, the impact of various crew numbers for winter and summer were examined. It was determined that the optimum number of crews is 11, all year round. This would result in 95% of the work being done on regular time (7,205 out of 7,578 loads per year) and the remainder on overtime. Overtime would typically take place on the week after a statutory holiday when the garbage generation rate increases due to the increased time between collections. It is estimated that some overtime would be required on approximately 80 days per year.

It is planned that the work would be completed each day, with no carryover of uncollected garbage from one day to the next.

Table 7 summarizes the collection efficiencies for the internal improvement model.

Table 7 – City Forces Internal Improvement Manual Collection Efficiency

Production Efficiency Measure	Period	Output
Average Dwelling Units/Day/Crew	2002	1,022
Average Tonnes/Load	2002	7.9
Maximum Tonnes/Load	Various Days	9.5
Minimum Tonnes/Load	December 24, 2002	5.4

A detailed summary of the manual collection spreadsheet model is contained in the appendices to this report.

4.2 Internal Improvements AutoBin Collection

The internal improvements for AutoBin collection were developed by the same team that developed the internal improvement model for manual collection.

A detailed spreadsheet model was developed as the tool for determining the most cost effective work practices. These practices involve the following:

- Automated side-load collection service
- Seven day – 11 hour shift with two teams for AutoBin collection.
- Five day shift for AutoBin maintenance and bulky/abandoned waste collection
- Number of AutoBin trucks varies during the year depending upon the required collection tonnages.
- Existing rollout collection converted to manual collection and serviced with a rear load truck on a cycle day basis, the same day as recycling collection.
- The cycle day schedule for AutoBin collection would be abolished and replaced with a policy of servicing AutoBins when they are full to allow less frequent collection when the bins are not full (winter).
- Incorporate micro-routing and daily work planning.
- Global positioning systems would be installed on all vehicles to monitor productivity.
- Bulky/abandoned waste would be collected four days per week using a rear load truck and a two person crew.
- AutoBin maintenance work would be completed with a two person crew working five days per week.
- The waste disposal swap with BFI Canada would continue to a maximum of 10,000 tonnes per year.
- Parking and fuelling of the trucks would be done by the collection crew at the end of the shift

The collection of garbage from AutoBins would take place on every day of the year except for statutory holidays. Two separate teams would be formed with a foreman on each team. The shift would be approximately 11 hours per day. The shift rotation would cover a 14 day period which is coincident with the payroll periods. The shift rotation would be two days on, two days off, two days on, five days off, three days on. The other team would have the same schedule except would be at work when the first team is off. This shift rotation results in each team having every second weekend off and an employee would be required to come to work 176 to 178 times per year as compared to the 250 times per year currently required.

The number of AutoBin trucks would vary between three and five per shift, depending on the generation rate of garbage. During the winter months three trucks would be required with four trucks being required during the summer months. The peak spring period would require five trucks per shift. Each truck is expected to haul 5 full loads per shift of garbage to Brady

Road landfill or 6 full loads per shift to the BFI landfill. When hauling to the BFI landfill the last load of the day would be hauled to Brady.

Table 8 summarizes the collection efficiencies for the internal improvement model.

Table 8 – City Forces Internal Improvement AutoBin Efficiency		
Production Efficiency Measure	**Period**	**Output**
Average Tonnes/Paid Hour	2002	1.84
Average Tonnes/Load	2002	6.3

A detailed summary of the AutoBin collection spreadsheet model is contained in the appendices to this report.

4.3 Contract Out Manual Collection

Staff involved with current contracts, lead by the Contract Administrator, were tasked to determine what the strategy and cost of collection would be if the south area of the City were to be contracted out.

The contract out model consists of the following assumptions:

- One tender would be issued for the 63,733 dwelling units in the south area of the City. (This would be larger than the two existing contracts of 42,000 homes, but two contracts would equate to 32,000 homes which is considered small. Also, the 5 day cycle would have to change to have two contracts.)
- The contract would be for a 5 to 7 year term.
- Convert the existing rear load locations to front load collection and incorporated into the existing contracted multifamily collection.
- Litter container collection would be done by a separate crew(s).
- Leaf-It collection for the depots in the south area of the City would be incorporated into the existing contracted work.
- In addition to the one foreman that assists with the current contract administration, one more foreman would be added to assist with the contract administration of this contract.
- A third foreman would be added to assist with the contract administration of the three multifamily collection contracts. This would minimize the amount of travel time and provide the necessary vacation coverage.

The costing of this alternative was based on the actual contracted prices for the two single family residential contracts in the north half of the City. An estimate equal to the actual contracted price from 2002 was used. No consideration was made for the shorter haul

distance to the Brady Landfill that the contractor would incur in the south area as compared to the existing haul distance from the north area of the City.

4.4 Contract Out AutoBin Collection

The Contract Out AutoBin model was developed by same staff that worked on the Contract Out Manual Collection model. Since the City does not have a contract for AutoBin collection it was more difficult to estimate what this work would cost if it were contracted out. The closest comparison that could be made was to the front end multifamily locations. The cost of the front end collection service was reviewed from a number of different ways including cost per tonne collected and cost per cubic metre of bin capacity collected. After consulting with a number of people, including the private sector waste haulers, the cost per cubic metre of bin capacity collected was used as the estimated cost for AutoBin collection.

The contract out model consists of the following assumptions:

- One tender would be issued for the 30,476 single family and 7,643 multifamily dwelling units in the central area of the City.
- The contract would include collection of bulky and abandoned wastes, moving, painting and repairing bins and sanitizing the bins as required.
- The contract would be for a 5 to 7 year term.
- Existing rollout collection converted to manual collection and serviced with a rear load truck on a cycle day basis, the same day as recycling collection. This would be done through the existing manual collection contract for the northwest area of the City.
- The cycle day schedule for AutoBin collection would be abolished and replaced with a policy of servicing AutoBins when they are full.
- One foreman position would be retained to assists with the contract administration duties.

Chapter 5 – Human Resource Considerations

The collective agreement provides for employment security for permanent employees.

"4-2 During the life of this Agreement, no permanent employee shall be laid off provided they accept any reasonable offer of alternative employment made by the City. This provision shall expire on December 30, 2005 (the end of Pay Period #26, 2005). "[4]

The collective agreement includes a letter of understanding on redeployment of staff. To assist in redeployment, the appropriate City – CUPE Placement Committee will consider such issues as retraining, probationary period, salary protection, leg up protection, allowing displaced employees to meet qualifications within a reasonable period of time, or any other matters deemed appropriate for the success of the particular placement.

Non-permanent employees do not have employment security but are laid off and rehired according to seniority and qualifications.

The Human Resource team was charged with the responsibility to determine the human resource impacts of each of the four options considered in this business plan. The team was comprised of the following people:

Manager of Human Resources
Labour Relations Coordinator
Supervisor of Collection
Refuse Helper

A CUPE National Staff Representative also attended meetings of the team.

The team worked in close consultation with the Finance team and the Human Resource Business and Training Coordinator and Personnel Records Clerk in order to cost out the human resource impacts. In addition, consultation took place with the Corporate Services Manager of Labour Relations & Compensation as well as the Corporate Services Staffing Coordinator.

Human Resource Review Topics:

The Human Resource team met to discuss and review topics that would be applicable to the implementation of a human resource transition plan for each of the four ASD options. The topics that were reviewed included:

a. Reviewing the staff requirements for each one of the four options as provided by the internal improvement and contracting out teams.
b. Review the Division seniority list and make them current.

[4] Collective Agreement December 29, 2002 to December 30, 2005, Article 4-2

c. Review the age and seniority of the existing permanent staff and determine the eligibility of staff to retire from the workplace.
d. Review the number of permanent staff that have left the Division to other positions and resignations and determine how many staff would be likely to do so in the future. Seasonal/temporary (non-permanent) staff was not considered since they will subject to the provisions of Collective Agreement in the event of a layoff.
e. Review and identify any gaps between the skills of the existing employees and the skills required for the new work practices. The major focus of this was on staff being able to obtain the required drivers licenses.
f. Review the opportunities for offering selective buyouts to existing staff during the transition phase.
g. Review the opportunities for enhanced testing requirements for new hires, similar to a firefighter fitness test.
h. Review the opportunities to establish new entry level hiring qualifications in order to assist with future deployment to other positions.
i. Review the opportunities to offer a period of employment in Solid Waste followed by a mandatory deployment after a predetermined period to other positions within the City.
j. Review the opportunities to partner with another larger Department(s) to pool hiring resources and create a City wide labour pool for hiring for short term periods.
k. Estimate the transition cost of redeployment.

Human Resource Assumptions:

Based on this review, certain topics were considered not to be feasible or practical and were not pursued further. The Human Resource team then made the following assumptions.

a. Two employees would leave the Division through promotions or reassignments each year.
b. Employees would retire when they reach 30 years of service.
c. Two employees would retire from the Division prior to implementation.
d. Incumbents would stay in their current position and promotions would be made from the applicable spare lists.
e. Dual seniority in Solid Waste and other Departments would be recognized for 24 months after implementation.
f. Some of the existing employees are not deployable and all costs of these employees would remain with Solid Waste over the period of this business plan.

Human Resource Conclusions:

The Human Resource team then applied these assumptions to each of the ASD options and made the following conclusions.

Option 1 – Internal Improvements Manual Collection/Contract Out AutoBin

a. There would be very minimal financial impact since the existing permanent AutoBin staff could be deployed totally within the Solid Waste Services Division, albeit through displacement of non-permanent employees.

Option 2 – Contract Out Manual Collection/Internal Improvements AutoBin

a. Upon implementation, there are only two permanent staff members that would not find an alternate position within the Division.
b. These two permanent staff would be deployed within one year of implementation

Option 3 – Internal Improvement for both Manual and AutoBin Collection

a. There would be very minimal overall staffing impact since the existing permanent staff could be deployed totally within the Solid Waste Services Division.

Option 4 – Contract Out both Manual and AutoBin Collection

a. Upon implementation, there are fifteen permanent employees who would not find an alternate position within the Division.
b. Permanent employees would be seasonally employed in other areas of the City for 6 months of the year. These employees would continue to be employed (and paid for by Solid Waste Services Division) for the other 6 months of the year. After two years, these employees would be red-circled and will receive 50% of the cost of living increases. This would continue through the 10 year period of the business plan.
c. Two permanent employees would be deployed to another Department within 2 years.
d. Two permanent employees would be deployed within the Division due to retirements.

Based on these conclusions the Finance team prepared an estimate of the human resource transition costs. These costs are included in the financial data presented in this business plan.

Chapter 6 – Interdepartmental Considerations

There are two Departments outside of the Solid Waste Services Division that would be impacted by the implementation of any of these options.

Civic Accommodations

The Solid Waste Service Division rents office and garage space from the Civic Accommodations Division of the Planning Property and Development Department. The cost per square foot includes all occupancy costs such as heat, light and water. The required office and garbage space for each of the four options was developed and a cost estimate was provided by the Civic Accommodations Division. In the event that less space is required in the future, such as in options 2 and 4, it was agreed that the Solid Waste Services Division would continue to pay for the unused space for the lesser period of two years or until another tenant was found. Civic Accommodations have indicated that they have a need for the space.

The Finance team has incorporated these costs into the financial analysis presented in this business plan.

Fleet Management Agency

The Solid Waste Services Division receives all of the mobile equipment required for collecting garbage from the Fleet Management Agency (FMA). All of the options under consideration will result in less equipment being utilized and therefore maintained by FMA staff. Representatives from FMA were asked to prepare the financial and human resource impacts for each of the options. These impacts include the revenue selling off of some or all of the equipment and the downsizing the FMA staff complement, specifically mechanics, as less equipment is utilized. For the purpose of this business plan it is assumed that the FMA staff would be downsized as retirements occur over five years. The cost of carrying the redundant permanent staff are accounted for in this business plan

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The Finance team has incorporated these costs into the financial analysis presented in this business plan.

Joint Departmental Committee / Joint Corporate Placement Committee (JCPC)

The Letter of Understanding Re: Redeployment outlines the required process when workforce adjustment can only be accomplished through redeployment. Permanent CUPE staff with employment security may be redeployed to vacancies within the Water and Waste Department.

Where displaced permanent staff cannot be accommodated within the Water and Waste Department, the Joint Corporate Placement Committee (JCPC) leads the process of redeployment of CUPE employees. Employees will be placed into vacancies in any department at the same or comparable classification. All CUPE bulletins are referred to JCPC who then compare job requirements, salary with the employee redeployment pool.

Training requirements are assessed and if reasonable the necessary resources will be provided by the Solid Waste Division. Placements are considered complete when the placement is into a permanent position, the duration of the placement is 2 years or longer, the placement is in the same classification or the salary is 15% or less over range. The redeployment process will require Corporate Services and other civic departments to participate in the redeployment of staff until all placements are completed.

The Finance Team has incorporated these costs into the financial analysis presented in this business plan.

Chapter 7 – Financial Analysis

The Finance team was charged with the responsibility to determine the cost of each of the four options considered in this business plan. The team was comprised of the following people:

Manager of Finance and Administration
Senior Financial Analyst
Budget Clerk

The financial analysis information was shared as it was developed with a CUPE financial consultant.

The team worked in close consultation with all of the other teams in order to cost out the operating costs for each of the ASD options as well as the transition costs involved. The options were analyzed on a ten year net present value (NPV) basis. Costs include direct labour costs as well as compensation costs and employee benefits. A discount rate of 3.5% (net of inflation) was used. To simplify the analysis, growth in the amount of garbage expected to be collected over the 10 years was not included.

Detailed assumptions are disclosed separately under each option in the applicable appendix to this report. Based on this information, the following table summarizes the results of the financial analysis.

On a cost basis, contracting out of both manual and AutoBin collection is the least costly alternative even absorbing approximately $4.0 million in transition costs associated with providing employment to all permanent staff in Solid Waste and Fleet Management. The internal improvements model Option 3 shows considerable improvement over the status quo based on better equipment utilization and labour productivity than the current system. However, it is still about $1 million more per year than contracting out.

The next chapter focuses on risks associated with the options.

Table 9 - Solid Waste Collection ASD Study
Summary of Service Delivery Options
(10 Year NPV discounted at 3.5%)

OPTIONS	2002 - Status Quo	Option 1	Option 2	Option 3	Option 4
Manual Collection	City Staff	City Staff - Internal Improvements	Contract Out	City Staff - Internal Improvements	Contract Out
Autobin Collection	City Staff	Contract Out	City Staff - Internal Improvements	City Staff - Internal Improvements	Contract Out
Operating Costs					
Manual					
Salaries and Benefits	$ 26,454,978	$ 21,245,531	$ 1,374,966	$ 21,245,531	$ 1,193,742
Equipment	10,351,998	8,254,471	205,420	8,254,471	160,228
Contracts	-	-	16,722,266	-	16,722,266
Tipping Fees	11,758,268	11,595,424	11,758,268	11,595,424	11,758,268
Other Operating	1,046,388	1,065,192	859,212	1,065,192	854,821
	49,611,633	42,160,618	30,920,132	42,160,618	30,689,324
Autobin					
Salaries and Benefits	7,001,265	1,293,189	6,524,893	6,524,893	1,062,540
Equipment	9,817,595	205,420	9,353,678	9,353,678	147,903
Contracts	373,689	12,091,701	415,830	415,830	12,091,701
Tipping Fees	7,137,443	7,137,443	7,137,444	7,137,444	7,137,443
Other Operating	998,068	506,352	1,089,509	1,089,509	500,764
	25,328,060	21,234,105	24,521,353	24,521,353	20,940,350
Subtotal Operating Costs	74,939,693	63,394,723	55,441,485	66,681,971	51,629,674
Facility Costs	749,314	803,494	509,493	803,494	356,101
Total Operating Cost	75,689,007	64,198,216	55,950,978	67,485,465	51,985,775
Transition Costs					
City Staff	-	-	1,089,023	-	3,195,494
Sale of Fleet Equipment	-	(882,136)	(645,030)	(270,136)	(1,257,030)
Fleet Management	-	1,039,182	1,633,676	657,717	2,015,142
Total Transition Cost	-	157,046	2,077,670	387,581	3,953,606
TOTAL COST	$ 75,689,007	$ 64,355,262	$ 58,028,647	$ 67,873,045	$ 55,939,381
NPV - Variance from Status Quo		$ (11,333,745)	$ (17,660,360)	$ (7,815,962)	$ (19,749,626)
Equivalent Annual Cost	$ 9,100,950	$ 7,738,165	$ 6,977,444	$ 8,161,148	$ 6,726,228

EQUIVALENT ANNUAL COST BASIS

Operating Costs					
Manual					
Salaries + Benefits	$ 3,180,983	$ 2,554,592	$ 165,328	$ 2,554,592	$ 143,537
Equipment	1,244,738	992,529	24,700	992,529	19,266
Contracts	-	-	2,010,708	-	2,010,708
Tipping Fees	1,413,830	1,394,250	1,413,830	1,394,250	1,413,830
Other Operating	125,819	128,080	103,313	128,080	102,785
	$ 5,965,371	$ 5,069,450	$ 3,717,879	$ 5,069,450	$ 3,690,126
Autobin					
Salaries + Benefits	$ 841,842	$ 155,495	$ 784,562	$ 784,562	$ 127,761
Equipment	1,180,481	24,700	1,124,699	1,124,699	17,784
Contracts	44,933	1,453,923	50,000	50,000	1,453,923
Tipping Fees	858,216	858,216	858,216	858,216	858,216
Other Operating	120,009	60,884	131,004	131,004	60,213
	$ 3,045,481	$ 2,553,218	$ 2,948,481	$ 2,948,481	$ 2,517,896
Subtotal Operating Costs	$ 9,010,851	$ 7,622,668	$ 6,666,360	$ 8,017,931	$ 6,208,023
Facility Costs	$ 90,099	$ 96,613	$ 61,262	$ 96,613	$ 42,818
Total Operating Cost	$ 9,100,950	$ 7,719,281	$ 6,727,622	$ 8,114,545	$ 6,250,841
Transition Costs					
City Staff	$ -	$ -	$ 130,945.62	$ -	$ 384,230.62
Sale of Fleet Vehicles	-	(106,069)	(77,559)	(32,482)	(151,147)
Fleet Management	-	124,953	196,435	79,085	242,303
Total Transition Cost	$ -	$ 18,883	$ 249,822	$ 46,603	$ 475,387
TOTAL COST	$ 9,100,950	$ 7,738,165	$ 6,977,444	$ 8,161,148	$ 6,726,228

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Chapter 8 – Risks

A review of the risks associated with each of the service delivery options was completed and is summarized as follows.

Internal Improvements Manual Collection

a. Risk of not meeting productivity goals

The major risk with committing to internal improvements is not meeting the productivity goals on which the financial analysis is based. The Solid Waste Services Division has tried many times to meet productivity goals in terms of tonnes per load and definition of a workday. It has been the experience of the Solid Waste Services Division that it has been extremely difficult to successfully implement productivity targets for collection. The current workplace standard is that the work of a crew is done when two full loads are done over eight hours. The proposed workplace standard is that the work of crew is done when three full loads are done over ten hours. The workplace culture has always been one of leaving when two loads are complete, no matter how full the loads are. Crews regularly leave before the end of their shift, sometimes by as much as three hours. Efforts by management to reduce the number of crews to better match the amount of garbage and extend the workday to closer to eight hours are met with a work slowdown and overtime being incurred to complete the work. CUPE and staff have opposed implementing a productivity requirement or an incentive bonus for crews that exceed the daily minimum requirements. There is no provision in the internal improvement model to ensure that productivity requirements will be met.

In addition, the age of the workforce is not addressed in the model. Manual collection of garbage is physically demanding work. The internal improvement model is based on each crew collecting up to 1,050 homes or 28,500 kilograms of garbage per day (not including overtime). The risk of injury, particularly to shoulders and backs, is high and increases as an employee ages and does this work for a number of years.

Finally, it will be necessary to hire non-permanent staff to cover WCB, sick and vacation time off. The Collective Agreement requires the Division to hire the most senior laid off seasonal employee. Typically these staff are well over 40 years of age (with one case where the person was over 60 years old) and due to their age and physical condition not all of them are able to meet the physical demands of the manually collecting garbage. There is no provision in the internal improvement model to address this issue.

b. Risk of Not Having Enough Staff Come to Work

Under the collective agreement employees receive a sick leave credit for 1.25 days per month (15 days per year). Even with an absenteeism policy requiring doctor's notes for high users, on average, employees use 11 days per year. While the cost of

sick leave has been accounted for in the model, one circumstance not included is the case when multiple employees call in sick on the same day, during bad weather or to extend a weekend. The internal improvement team recognized that this is likely to happen, for example when an employee is scheduled to have a day off on Tuesday, being sick leave for the Monday provides the employee gets a four day long weekend. There is no provision in the internal improvement model to address this situation.

c. Risk of non-acceptance of 10 hour shifts

The internal improvement model for manual collection involves working ten hour shifts in order to achieve the productivity targets. The Province of Manitoba requires a workplace majority vote in order to implement shifts longer than eight hours per day. If the internal improvement model is determined to be the preferred service delivery option, staff could thwart this effort by voting down the 10 hour shift.

d. Risk of refusing overtime

The internal improvement model is based on overtime being completed when there are peak collection tonnages. This occurs particularly after statutory holidays. The CUPE Collective Agreement nor the Province of Manitoba labour law does not make overtime mandatory. It has been a problem to get staff to work overtime and therefore it takes many days to get back on schedule. This is not generally a problem with contract collection.

e. Risk of Fleet Costs

The internal improvement model assumes that the collection vehicles will be provided by the Fleet Management Agency. In the past there have been concerns with the cost of service and the suitability of the equipment being provided. Improvements are underway in the Fleet Management Agency to address these concerns but the benefits of these improvements have not been seen by the Solid Waste Services Division to date.

Risk Mitigation

Risk mitigation could only be achieved with major changes to the collective agreement requiring associating pay with productivity. This would involve many clauses of the agreement dealing with productivity, hours of work, mandatory overtime, and other work rules. It is not expected that this extent of change could be achieved.

Internal Improvements AutoBin Collection

The risks associated and risk mitigation with this plan are the same as for manual collection, i.e.:

- risk of not meeting productivity targets (In this case the standard is three full loads per day).
- risk of not having enough staff come to work
- risk of non-acceptance of the longer shift (11 hours in this case)
- risk of refusing overtime
- risk of fleet costs.

Contracted Collection

a. Risk of Monopoly Pricing through lack of competition

The most significant risk with this option is the escalation of contract pricing. This concern would be related to a reduction in the number of companies bidding on contracts and a monopoly being held by one company. The normal escalation by inflation would not be a concern since it would impact all of the options being considered.

While there was a trend for significant consolidation of companies in the waste industry previously, there has been some reversal of that trend in Winnipeg. There are at least five significant players in Winnipeg[5] and at least three that would bid on the manual and AutoBin collection contracts. In addition, with long term contracts, it would be reasonable to expect out of province bids.

b. Risk of Poorer Service

The customer service performance indicators for City forces manual collection and contracted collection were tracked for the period from January 1, 2004 to the present. The number of service deficiencies per 10,000 collections was 6.09 for City forces and 4.82 for contracted collection. Both of these performance indicators are satisfactory as demonstrated by the 2004 citizen survey[6] that indicates that 95% of garbage collection customers are either satisfied or very satisfied with the service they receive. Garbage collection is the second highest rated of all City services.

Risk Mitigation

In order to mitigate this risk the Solid Waste Services Division has implemented a contracting strategy that includes:

a. Staggering the start dates of the contracts. In the past, all collection contracts were three years and started and ended on the same date. A company that was not successful on one round had to wait three years for the opportunity to bid on work for

[5] Waste Management Inc, BFI, IPI, Johnson Waste Management, HaulRite
[6] http://www.winnipeg.ca/cao/reports

the duration of the contract. A smaller company may not be able to sustain itself over this period. Now contracts are arranged so that there is normally a bid opportunity each year.

b. Changing the basis of payment. In the past the Division paid multifamily contracts on a per dwelling unit basis. If a multifamily location had one large bin or a number of smaller bins, the contractor was paid the same. The new basis of payment is based on the size of the actual bin and how often it is collected. This made the contracts simpler to bid and less risky to contractors in general.

c. Simplifying the contract documents. A thorough review of the tender documents was completed and the size of the document was reduced considerably by removing unnecessary clauses and rewording others to simpler language. Contractors are now more confident in the bids they submit since the scope of the work is better understood.

d. Longer term contracts. In the past the Division issued tenders for three years of collection. Since trucks are usually amortized over six or seven years it is less risky for bidders if the term of the contract matches the amortization schedule. The Division now issues garbage collection contracts for six years and recycling collection contracts for seven years.

e. Reducing the risk to contractors. The Division includes a clause in the contracts that allows for the unit prices to be increased each year by the rate of inflation. This reduces the risk to contractors and they do not have to include unnecessary allowances in their bids to cover for the unknown. There are also similar risk reduction clauses for collection during snow storms and impassable streets.

f. Customer service standards. In the past, collection contracts did not include any standard for customer service. As a result some contractors bid collection contracts with the minimum possible standard while other contractors bid with a higher standard. The new tenders all outline the acceptable number of service deficiencies per day and a penalty is applied to every service deficiency above that. Conversely a bonus is paid when the number of service deficiencies is below the minimum. This ensures all contractors are bidding on the same basis.

The risk of increased contract pricing is considered small due to this contracting strategy. In the event that the option implemented includes a contracting out component and the price of the contract escalates to beyond the cost of doing the work with City employees and equipment, it would not take long for employees to be hired and equipment acquired to do this work. Tenders are usually issued eight or nine months prior to the start of the next contract and that would provide time, although short, to mobilize City forces to do the work. It is not expected that this risk will be an issue over the 10 year period of this business plan.

Chapter 9 – Recommendation

It is recommended that the Water and Waste Department be directed to proceed with Option 4 – namely the contracting out of the manual collection work in the south area and the AutoBin collection work in the north central area of the City of Winnipeg.

The reasons for this recommendation are as follows:

1. This service delivery option will provide the service at the lowest cost to the residents of Winnipeg over the 10 year period considered in this business plan. After the business plan period, this option would provide even larger savings since the transition costs will no longer apply.

2. The risks associated with this option are mainly related to the escalation of contract pricing. The Solid Waste Services Division has a contracting strategy that fosters a fair and competitive bidding process. The number of bids received has always been sufficient to indicate that the marketplace is competitive and there is no known reason to expect this to change in the future.

3. The risks associated with achieving the savings in the internal improvement options are numerous and significant. These risks cannot be mitigated by the Water and Waste Department. As a result, the full savings of the internal improvement options would not likely be achieved.

4. Currently the difference in cost between contract and City forces doing the work can be attributed to two factors – productivity and the cost of labour. The internal improvement options presented in this business plan still assume productivity that is lower than the productivity in the private sector. A system with lower productivity by City workers at higher wages is not considered sustainable.

From a human resource perspective the impact of the recommendation is a significant reduction of permanent positions from about 70 to 4. However, non-permanent staff currently occupies a large number of these permanent positions. Redeployment into positions occupied by non-permanent staff as well as vacancies, retirements and attrition, necessitate only 15 permanent staff within the Solid Waste Division be redeployed. In addition another 15 staff will need to be redeployed from Fleet Management. The cost of these redeployments is accounted for in the business plan as transition costs. Non-permanent staff displaced by this workforce adjustment process will be deployed throughout the City through the normal layoff and recall process.

Chapter 10 – Implementation Schedule

If Council ratifies the recommended option, contract out manual and AutoBin collection, the program can be implemented within nine months. Tenders would have to be developed, issued and awarded about seven months prior to implementation so that trucks could be purchased and staff hired by the successful contractor.

The implementation of an option that includes internal improvements, particularly for manual collection can be implemented within six months of a Council decision. This is provided that staff approves working other than an eight hour shift and accept the higher productivity standard.

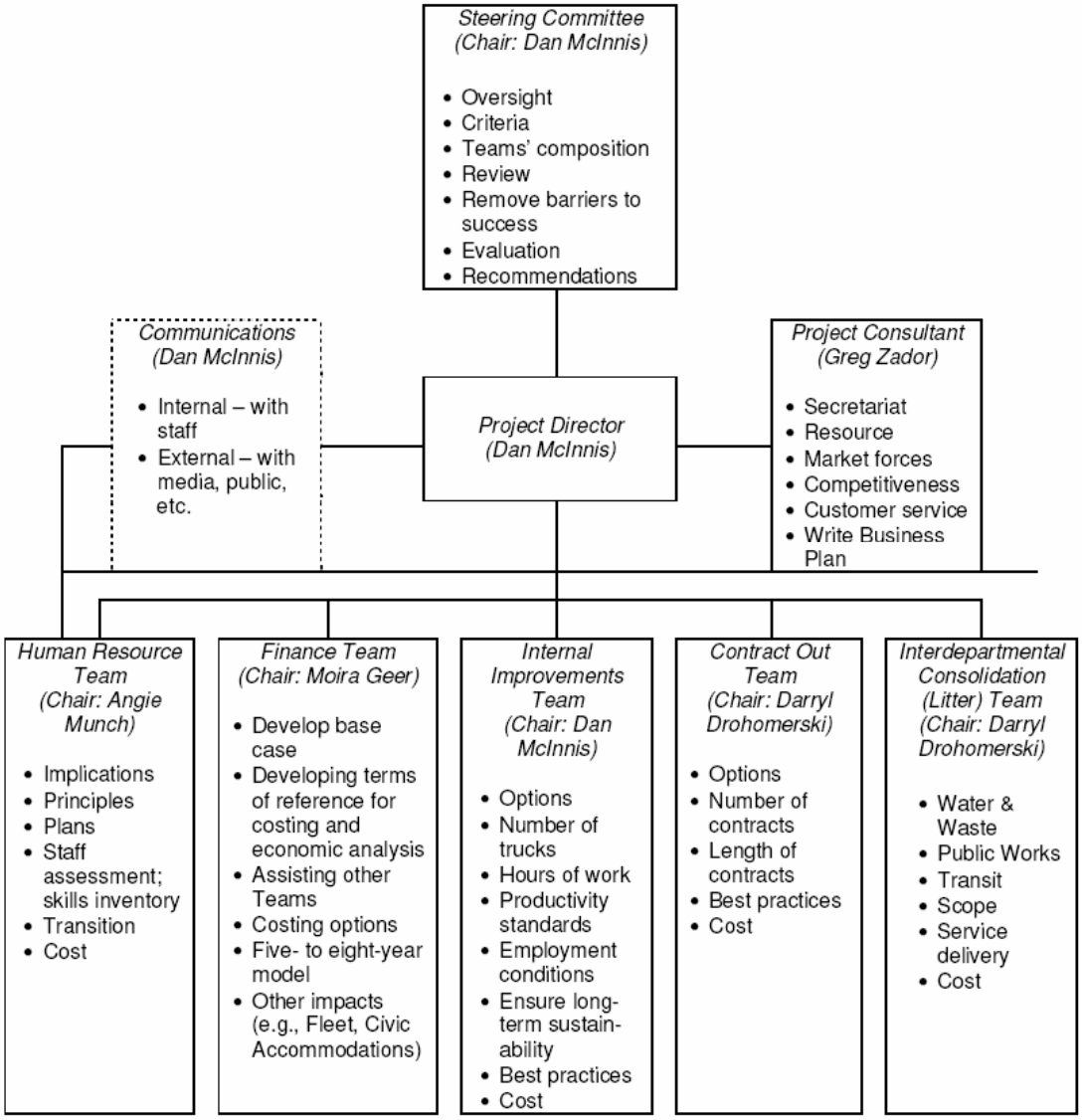
Appendices

A. ASD Project Structure
B. Explanation of Financial Variances
C. Manual Collection Internal Improvement Model
D. AutoBin Collection Internal Improvement Model
E. Fleet Management Transition Plan
F. Human Resource Transition Plan Details

Appendix A - Solid Waste Collection Business Plan

PROJECT STRUCTURE

September 13, 2004



Solid Waste Collection ASD Study
Comparison of Status Quo to Option 1 - Internal Improvements Manual Collection, Contract Out AutoBin Collection
(10 Year NPV discounted at 3.5%)

OPTIONS	2002 - Status Quo	Option 1	Variance	
Manual Collection	City Staff	City Staff - Internal Improvements	(Decrease) Increase	
AutoBin Collection	City Staff	Contract Out		Explanation
Operating Costs				
Manual				
Salaries and Benefits	$ 26,454,978	$ 21,245,531	$ (5,209,447)	Staff reduction from 67.9 to 58 FTEs
Equipment	10,351,998	8,254,471	(2,097,527)	Fleet reduction from 22 to 17 (10 hr shift)
Contracts	-	-	-	
Tipping Fees	11,758,268	11,595,424	(162,844)	Litter bins not included in option 1
Other Operating	1,046,388	1,065,192	18,803	
	49,611,633	42,160,618	(7,451,015)	
AutoBin				
Salaries and Benefits	7,001,265	1,293,189	(5,708,075)	Staff reduction from 12.2 to 1.2 FTEs
Equipment	9,817,595	205,420	(9,612,175)	Fleet reduced to 1 pickup truck from 10 garbage trucks
Contracts	373,689	12,091,701	11,718,012	At apartment collection contract rates
Tipping Fees	7,137,443	7,137,443	-	
Other Operating	998,068	506,352	(491,716)	
	25,328,060	21,234,105	(4,093,955)	
Subtotal Operating Costs	74,939,693	63,394,723	(11,544,970)	
Facility Costs	749,314	803,494	54,179	No significant change in facilities
Total Operating Cost	75,689,007	64,198,216	(11,490,791)	
Transition Costs				
City Staff	-	-	-	
Sale of Fleet Equipment	-	(882,136)	(882,136)	Sale of 8 AutoBin trucks
Fleet Management	-	1,039,182	1,039,182	Redeployment of 7 staff in FMA
Total Transition Cost	-	157,046	157,046	
TOTAL COST	$ 75,689,007	$ 64,355,262	$ (11,333,745)	

Solid Waste Collection ASD Study
Comparison of Status Quo to Option 2 - Contract Out Manual Collection, Internal Improvements Out Autobin Collection
(10 Year NPV discounted at 3.5%)

OPTIONS Manual Collection Autobin Collection	2002 - Status Quo City Staff City Staff	Option 2 Contract Out City Staff - Internal Improvements	Variance (Decrease) Increase	Explanation
Operating Costs				
Manual				
Salaries and Benefits	$ 26,454,978	$ 1,374,966	$ (25,080,012)	Staff reduction from 67.9 to 1.8 FTEs
Equipment	10,351,998	205,420	(10,146,578)	Fleet reduction from 22 garbage trucks to 2 pickup trucks
Contracts	-	16,722,266	16,722,266	
Tipping Fees	11,758,268	11,758,268	-	
Other Operating	1,046,388	859,212	(187,176)	
	49,611,633	30,920,132	(18,691,501)	
Autobin				
Salaries and Benefits	7,001,265	6,524,893	(476,372)	Staff increase from 12.2 to 20 FTES but lower overtime
Equipment	9,817,595	9,353,678	(463,918)	Fleet reduced from 10 to 7 trucks but increased O + M
Contracts	373,689	415,830	42,141	
Tipping Fees	7,137,443	7,137,443	-	
Other Operating	998,068	1,089,509	91,441	
	25,328,060	24,521,352	(806,708)	
Subtotal Operating Costs	74,939,693	55,441,484	(19,498,209)	
Facility Costs	749,314	509,493	(239,821)	Reduced garage space for fleet
Total Operating Cost	**75,689,007**	**55,950,977**	**(19,738,030)**	
Transition Costs				
City Staff	-	1,089,023	1,089,023	Redeployment of 3 staff
Sale of Fleet Equipment	-	(645,030)	(645,030)	Sale of 22 manual trucks
Fleet Management	-	1,633,676	1,633,676	Redeployment of 10 staff in FMA
Total Transition Cost	**-**	**2,077,670**	**2,077,670**	
TOTAL COST	**$ 75,689,007**	**$ 58,028,646**	**$ (17,660,361)**	

Solid Waste Collection ASD Study
Comparison of Status Quo to Option 3 - Internal Improvements Manual Collection, Internal Improvements Autobin Collection
(10 Year NPV discounted at 3.5%)

OPTIONS	2002 - Status Quo	Option 3 City Staff - Internal Improvements	Variance	
Manual Collection	City Staff	City Staff - Internal Improvements		
Autobin Collection	City Staff		(Decrease) Increase	Explanation
Operating Costs				
Manual				
Salaries and Benefits	$ 26,454,978	$ 21,245,531	$ (5,209,447)	Staff reduction from 67.9 to 58 FTEs
Equipment	10,351,998	8,254,471	(2,097,527)	Fleet reduction from 22 to 17 (10 hr shift)
Contracts	-	-	-	
Tipping Fees	11,758,268	11,595,424	(162,844)	Litter bins not included in option 3
Other Operating	1,046,388	1,065,192	18,804	
	49,611,633	42,160,618	(7,451,014)	
Autobin				
Salaries and Benefits	7,001,265	6,524,893	(476,372)	Staff increase from 12.2 to 20 FTES but lower overtime
Equipment	9,817,595	9,353,678	(463,918)	Fleet reduced from 10 to 7 trucks but increased O + M
Contracts	373,689	415,830	42,141	
Tipping Fees	7,137,443	7,137,444	1	
Other Operating	998,068	1,089,509	91,441	
	25,328,060	24,521,353	(806,707)	
Subtotal Operating Costs	74,939,693	66,681,971	(8,257,722)	
Facility Costs	749,314	803,494	54,179	Reduced garage space for fleet
Total Operating Cost	75,689,007	67,485,465	(8,203,542)	
Transition Costs				
City Staff	-	-	-	
Sale of Fleet Equipment	-	(270,136)	(270,136)	Sale of 7 manual trucks + 2 autobin trucks
Fleet Management	-	657,717	657,717	Redeployment of 6 staff in FMA
Total Transition Cost	-	387,581	387,581	
TOTAL COST	$ 75,689,007	$ 67,873,045	$ (7,815,962)	

Solid Waste Collection ASD Study
Comparison of Status Quo to Option 4 - Contract Out Manual Collection, Contract Out Autobin Collection
(10 Year NPV discounted at 3.5%)

OPTIONS Manual Collection Autobin Collection	2002 - Status Quo City Staff City Staff	Option 4 Contract Out Contract Out	Variance (Decrease) Increase	Explanation
Operating Costs				
Manual				
Salaries and Benefits	$ 26,454,978	$ 1,193,742	$ (25,261,237)	Staff reduction from 67.9 to 2.8 FTEs
Equipment	10,351,998	160,228	(10,191,770)	Fleet reduced to 2 pickup trucks
Contracts	-	16,722,266	16,722,266	Same rate as existing contracts
Tipping Fees	11,758,268	11,758,268	0	Litter bins not included in option 4
Other Operating	1,046,388	854,821	(191,568)	
	49,611,633	30,689,324	(18,922,309)	
Autobin				
Salaries and Benefits	7,001,265	1,062,540	(5,938,725)	Staff reduced from 12.2 to 1.2 FTES
Equipment	9,817,595	147,903	(9,669,693)	Fleet reduced to 1 pickup truck
Contracts	373,689	12,091,701	11,718,012	At apartment collection contract rates
Tipping Fees	7,137,443	7,137,443	-	
Other Operating	998,068	500,764	(497,304)	
	25,328,060	20,940,350	(4,387,710)	
Subtotal Operating Costs	74,939,693	51,629,674	(23,310,019)	
Facility Costs	749,314	356,101	(393,213)	Reduced garage space for fleet
Total Operating Cost	**75,689,007**	**51,985,775**	**(23,703,232)**	
Transition Costs				
City Staff	-	3,195,494	3,195,494	Redeployment of 15 staff
Sale of Fleet Equipment	-	(1,257,030)	(1,257,030)	Sale of 22 manual trucks + 8 autobin trucks
Fleet Management	-	2,015,142	2,015,142	Redeployment of 15 staff in FMA
Total Transition Cost	**-**	**3,953,606**	**3,953,606**	
TOTAL COST	**$ 75,689,007**	**$ 55,939,381**	**$ (19,749,626)**	

Solid Waste Collection ASD Study
Comparison of Option 3 - Full Internal Improvements to Option 4 - Full Contract Out
(10 Year NPV discounted at 3.5%)

OPTIONS Manual Collection Autobin Collection	Option 3 City Staff - Internal Improvements City Staff - Internal Improvements	Option 4 Contract Out Contract Out	Variance (Decrease) Increase	Explanation
Operating Costs				
Manual				
Salaries and Benefits	$ 21,245,531	$ 1,193,742	$ (20,051,790)	Staff of 58 FTEs compared to 2.8 FTEs
Equipment	8,254,471	160,228	(8,094,243)	17 garbage trucks compared to 2 pickup trucks
Contracts	-	16,722,266	16,722,266	Same rate as existing contracts
Tipping Fees	11,595,424	11,758,268	162,844	Litter bins not included in option 4
Other Operating	1,065,192	854,821	(210,372)	
	42,160,618	30,689,324	(11,471,295)	
Autobin				
Salaries and Benefits	6,524,893	1,062,540	(5,462,353)	Staff of 20 FTEs compared to 1.2 FTEs
Equipment	9,353,678	147,903	(9,205,775)	7 autobin trucks compared to 1 pickup truck
Contracts	415,830	12,091,701	11,675,870	At apartment collection contract rates
Tipping Fees	7,137,444	7,137,444	-	
Other Operating	1,089,509	500,764	(588,744)	
	24,521,353	20,940,351	(3,581,002)	
Subtotal Operating Costs	66,681,971	51,629,675	(15,052,296)	
Facility Costs	803,494	356,101	(447,392)	Reduced garage space for fleet
Total Operating Cost	**67,485,465**	**51,985,776**	**(15,499,689)**	
Transition Costs				
City Staff	-	3,195,494	3,195,494	Redeployment of 15 staff compared to none
Sale of Fleet Equipment	(270,136)	(1,257,030)	(986,894)	Sale of 22 manual and 8 autobin trucks
Fleet Management	657,717	2,015,142	1,357,425	Redeployment of 15 compared to 4 staff in FMA
Total Transition Cost	**387,581**	**3,953,606**	**3,566,026**	
TOTAL COST	**$ 67,873,045**	**$ 55,939,382**	**$ (11,933,663)**	

Appendix C – Manual Collection Model

Assumptions:

Type of truck	Rear Load
Crew size	3 per truck
Work day length	10 hours
Truck Capacity	as per contractor actual to a maximum of 9.5 tonnes
Loads per shift per crew (<18 kgs/stop)	2
Loads per shift per crew (>18 kgs/stop)	3
Stops per shift per crew	1,200
Baseline trucks (rearloaders)	11
Baseline trucks (sideloaders)	1

Overtime Cost (per load)

Time	3 hours

Fuel & Consumables		$60.86
Salary		
	Foreman	$30.21
	Op2	$85.50
	RH	$165.10
Salary Total		$280.81
Equipment Total		$60.86
Total		$341.67

Foreman 1	$20.14 per hour	October 6, 2002 Rate	
Op3 Wage Rate	$17.79 per hour	October 6, 2002 Rate	
Op2 Wage Rate	$17.10 per hour	October 6, 2002 Rate	
RH Wage Rate	$16.51 per hour	October 6, 2002 Rate	Blended Wage Rate:
Supervisor Rate	$267.90 per day	October 21, 2001 Rate	

WCB Rate	10.06%	based on 2002 actual for manual collection (% of perm and temp salaries)
Sick leave	6.01%	15 days per year per employee
Dental	1.50%	based on 2002 actual for manual collection (% of perm and temp salaries)
Vision	0.39%	based on 2002 actual for manual collection (% of perm and temp salaries)
Pension (CPP)	5.11%	based on 2002 actual for manual collection (% of perm and temp salaries)
Pension (City)	6.72%	based on 2002 actual for manual collection (% of perm and temp salaries)
Employment Insurance	3.59%	based on 2002 actual for manual collection (% of perm and temp salaries)
Acting Pay	1.53%	based on 2002 actual for manual collection (% of perm and temp salaries)

Appendix C – Manual Collection Model

Assumptions:

Long Service Pay	0.44%	based on 2002 actual for manual collection (% of perm and temp salaries)
Drivers License	0.03%	based on 2002 actual for manual collection (% of perm and temp salaries)
Uniforms	1.08%	based on 2002 actual for manual collection (% of perm and temp salaries)
Group Insurance	0.24%	based on 2002 actual for manual collection (% of perm and temp salaries)
Vacation	9.62%	5 weeks/year on average
Shift Premium	0.00%	due to operators parking and fuelling own trucks
Meal Expense	5.69%	based on 2002 actual for manual collection (% of overtime cost)
Training, courses, meetings	1.00%	estimate for various training programs, safety meetings, staff meetings, etc.
Safety Talks	0.30%	6 hours per year per employee

Parking and fuelling trucks	by crew
Leaf It	by others
Rear Load Mech	by others
Litter Bins	by others

Appendix C - Internal Improvement Manual Collection Model #1

									Required Staffing					
	Day	Stops	Tonnes	Trucks (baseline)	Collection Capacity (tonnes)	Overtime Tonnes	Overtime Loads	Sup'r	Frmn	Op3	Op2	RH	Total Employee Costs	Total Equip Costs
01-Jan-02														
02-Jan-02	2	12601	333.9	11	257	77	10	0.8	2	1	11	22	$12,645	$4,820
03-Jan-02	3	12017	338.9	11	254	85	12	0.8	2	1	11	22	$13,239	$4,953
04-Jan-02	4	11961	245.2	11	256	0	0	0.8	2	1	11	22	$9,677	$4,150
05-Jan-02														
06-Jan-02														
07-Jan-02	5	12728	288.9	11	275	14	2	0.8	2	1	11	22	$10,271	$4,284
08-Jan-02	1	12031	200.9	11	194	7	1	0.8	2	1	11	22	$9,974	$3,481
09-Jan-02	2	12601	201.6	11	185	17	3	0.8	2	1	11	22	$10,568	$3,614
10-Jan-02	3	12017	183.9	11	181	3	1	0.8	2	1	11	22	$9,974	$3,481
11-Jan-02	4	11961	173.4	11	177	0	0	0.8	2	1	11	22	$9,677	$3,414
12-Jan-02														
13-Jan-02														
14-Jan-02	5	12728	166.7	11	168	0	0	0.8	2	1	11	22	$9,447	$3,414
15-Jan-02	1	12031	157.6	11	167	0	0	0.8	2	1	11	22	$9,447	$3,414
16-Jan-02	2	12601	180.2	11	175	5	1	0.8	2	1	11	22	$9,744	$3,481
17-Jan-02	3	12017	157.4	11	165	0	0	0.8	2	1	11	22	$9,447	$3,414
18-Jan-02	4	11961	143.5	11	146	0	0	0.8	2	1	11	22	$9,447	$3,414
19-Jan-02														
20-Jan-02														
21-Jan-02	5	12728	151.5	11	163	0	0	0.8	2	1	11	22	$9,447	$3,414
22-Jan-02	1	12031	137.2	11	167	0	0	0.8	2	1	11	22	$9,447	$3,414
23-Jan-02	2	12601	148.7	11	152	0	0	0.8	2	1	11	22	$9,447	$3,414
24-Jan-02	3	12017	145.4	11	155	0	0	0.8	2	1	11	22	$9,447	$3,414
25-Jan-02	4	11961	149.5	11	167	0	0	0.8	2	1	11	22	$9,447	$3,414
26-Jan-02														
27-Jan-02														
28-Jan-02	5	12728	143.8	11	154	0	0	0.8	2	1	11	22	$9,447	$3,414
29-Jan-02	1	12031	134.7	11	153	0	0	0.8	2	1	11	22	$9,447	$3,414
30-Jan-02	2	12601	156.3	11	150	6	1	0.8	2	1	11	22	$9,744	$3,481
31-Jan-02	3	12017	139.4	11	143	0	0	0.8	2	1	11	22	$9,447	$3,414
01-Feb-02	4	11961	131.6	11	149	0	0	0.8	2	1	11	22	$9,447	$3,414
02-Feb-02														
03-Feb-02														
04-Feb-02	5	12728	140.0	11	147	0	0	0.8	2	1	11	22	$9,447	$3,414
05-Feb-02	1	12031	148.0	11	161	0	0	0.8	2	1	11	22	$9,447	$3,414
06-Feb-02	2	12601	158.8	11	175	0	0	0.8	2	1	11	22	$9,447	$3,414
07-Feb-02	3	12017	143.0	11	153	0	0	0.8	2	1	11	22	$9,447	$3,414
08-Feb-02	4	11961	142.3	11	165	0	0	0.8	2	1	11	22	$9,447	$3,414
09-Feb-02														
10-Feb-02														
11-Feb-02	5	12728	151.5	11	171	0	0	0.8	2	1	11	22	$9,447	$3,414
12-Feb-02	1	12031	136.0	11	161	0	0	0.8	2	1	11	22	$9,447	$3,414
13-Feb-02	2	12601	150.0	11	168	0	0	0.8	2	1	11	22	$9,447	$3,414
14-Feb-02	3	12017	155.0	11	181	0	0	0.8	2	1	11	22	$9,447	$3,414
15-Feb-02	4	11961	145.9	11	190	0	0	0.8	2	1	11	22	$9,447	$3,414
16-Feb-02														
17-Feb-02														

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									Required Staffing					
	Day	Stops	Tonnes	Trucks (baseline)	Collection Capacity (tonnes)	Overtime Tonnes	Overtime Loads	Sup'r	Frmn	Op3	Op2	RH	Total Employee Costs	Total Equip Costs
18-Feb-02	5	12728	160.4	11	189	0	0	0.8	2	1	11	22	$9,447	$3,414
19-Feb-02	1	12031	155.2	11	180	0	0	0.8	2	1	11	22	$9,447	$3,414
20-Feb-02	2	12601	166.3	11	184	0	0	0.8	2	1	11	22	$9,447	$3,414
21-Feb-02	3	12017	157.4	11	171	0	0	0.8	2	1	11	22	$9,447	$3,414
22-Feb-02	4	11961	143.5	11	187	0	0	0.8	2	1	11	22	$9,447	$3,414
23-Feb-02														
24-Feb-02														
25-Feb-02	5	12728	156.6	11	161	0	0	0.8	2	1	11	22	$9,447	$3,414
26-Feb-02	1	12031	143.2	11	160	0	0	0.8	2	1	11	22	$9,447	$3,414
27-Feb-02	2	12601	157.5	11	172	0	0	0.8	2	1	11	22	$9,447	$3,414
28-Feb-02	3	12017	145.4	11	159	0	0	0.8	2	1	11	22	$9,447	$3,414
01-Mar-02	4	11961	131.6	11	164	0	0	0.8	2	1	11	22	$9,447	$3,414
02-Mar-02														
03-Mar-02														
04-Mar-02	5	12728	151.5	11	157	0	0	0.8	2	1	11	22	$9,447	$3,414
05-Mar-02	1	12031	145.6	11	168	0	0	0.8	2	1	11	22	$9,447	$3,414
06-Mar-02	2	12601	139.9	11	163	0	0	0.8	2	1	11	22	$9,447	$3,414
07-Mar-02	3	12017	145.4	11	167	0	0	0.8	2	1	11	22	$9,447	$3,414
08-Mar-02	4	11961	129.2	11	169	0	0	0.8	2	1	11	22	$9,447	$3,414
09-Mar-02														
10-Mar-02														
11-Mar-02	5	12728	141.3	11	169	0	0	0.8	2	1	11	22	$9,447	$3,414
12-Mar-02	1	12031	131.1	11	177	0	0	0.8	2	1	11	22	$9,447	$3,414
13-Mar-02	2	12601	147.4	11	166	0	0	0.8	2	1	11	22	$9,447	$3,414
14-Mar-02	3	12017	140.6	11	158	0	0	0.8	2	1	11	22	$9,447	$3,414
15-Mar-02	4	11961	132.8	11	173	0	0	0.8	2	1	11	22	$9,447	$3,414
16-Mar-02														
17-Mar-02														
18-Mar-02	5	12728	156.6	11	174	0	0	0.8	2	1	11	22	$9,447	$3,414
19-Mar-02	1	12031	137.2	11	160	0	0	0.8	2	1	11	22	$9,447	$3,414
20-Mar-02	2	12601	156.3	11	164	0	0	0.8	2	1	11	22	$9,447	$3,414
21-Mar-02	3	12017	139.4	11	165	0	0	0.8	2	1	11	22	$9,447	$3,414
22-Mar-02	4	11961	131.6	11	174	0	0	0.8	2	1	11	22	$9,447	$3,414
23-Mar-02														
24-Mar-02														
25-Mar-02	5	12728	137.5	11	156	0	0	0.8	2	1	11	22	$9,447	$3,414
26-Mar-02	1	12031	136.0	11	169	0	0	0.8	2	1	11	22	$9,447	$3,414
27-Mar-02	2	12601	151.2	11	172	0	0	0.8	2	1	11	22	$9,447	$3,414
28-Mar-02	3	12017	143.0	11	178	0	0	0.8	2	1	11	22	$9,447	$3,414
29-Mar-02														
30-Mar-02														
31-Mar-02														
01-Apr-02														
02-Apr-02	4	11961	261.9	11	295	0	0	0.8	2	1	11	22	$9,447	$4,150
03-Apr-02	5	12728	236.7	11	269	0	0	0.8	2	1	11	22	$9,447	$4,150
04-Apr-02	1	12031	221.4	11	281	0	0	0.8	2	1	11	22	$9,447	$4,150
05-Apr-02	2	12601	239.4	11	283	0	0	0.8	2	1	11	22	$9,447	$4,150
06-Apr-02														

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									Required Staffing						
	Day	Stops	Tonnes	Trucks (baseline)	Collection Capacity (tonnes)	Overtime Tonnes	Overtime Loads	Sup'r	Frmn	Op3	Op2	RH	Total Employee Costs	Total Equip Costs
07-Apr-02														
08-Apr-02	3	12017	281.2	11	296	0	0	0.8	2	1	11	22	$9,447	$4,150
09-Apr-02	4	11961	159.1	11	181	0	0	0.8	2	1	11	22	$9,447	$3,414
10-Apr-02	5	12728	170.6	11	181	0	0	0.8	2	1	11	22	$9,447	$3,414
11-Apr-02	1	12031	167.2	11	197	0	0	0.8	2	1	11	22	$9,447	$3,414
12-Apr-02	2	12601	210.4	11	202	9	1	0.8	2	1	11	22	$9,744	$3,481
13-Apr-02														
14-Apr-02														
15-Apr-02	3	12017	301.6	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
16-Apr-02	4	11961	334.9	11	314	21	3	0.8	2	1	11	22	$10,337	$4,351
17-Apr-02	5	12728	329.7	11	314	16	2	0.8	2	1	11	22	$10,041	$4,284
18-Apr-02	1	12031	333.3	11	314	20	3	0.8	2	1	11	22	$10,337	$4,351
19-Apr-02	2	12601	316.3	11	309	7	1	0.8	2	1	11	22	$9,744	$4,217
20-Apr-02														
21-Apr-02														
22-Apr-02	3	12017	310.0	11	294	17	2	0.8	2	1	11	22	$10,041	$4,284
23-Apr-02	4	11961	290.7	11	302	0	0	0.8	2	1	11	22	$9,447	$4,150
24-Apr-02	5	12728	311.8	11	304	8	1	0.8	2	1	11	22	$9,744	$4,217
25-Apr-02	1	12031	275.5	11	286	0	0	0.8	2	1	11	22	$9,447	$4,150
26-Apr-02	2	12601	297.4	11	278	19	3	0.8	2	1	11	22	$10,337	$4,351
27-Apr-02														
28-Apr-02														
29-Apr-02	3	12017	250.0	11	284	0	0	0.8	2	1	11	22	$9,447	$4,150
30-Apr-02	4	11961	227.3	11	297	0	0	0.8	2	1	11	22	$9,447	$4,150
01-May-02	5	12728	255.8	11	285	0	0	0.8	2	1	11	22	$9,447	$4,150
02-May-02	1	12031	237.0	11	295	0	0	0.8	2	1	11	22	$9,447	$4,150
03-May-02	2	12601	279.7	11	302	0	0	0.8	2	1	11	22	$9,447	$4,150
04-May-02														
05-May-02														
06-May-02	3	12017	254.8	11	285	0	0	0.8	2	1	11	22	$9,447	$4,150
07-May-02	4	11961	224.9	11	295	0	0	0.8	2	1	11	22	$9,447	$4,150
08-May-02	5	12728	235.5	11	305	0	0	0.8	2	1	11	22	$9,447	$4,150
09-May-02	1	12031	228.6	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
10-May-02	2	12601	224.3	11	206	18	2	0.8	2	1	11	22	$10,041	$3,548
11-May-02														
12-May-02														
13-May-02	3	12017	240.3	11	313	0	0	0.8	2	1	11	22	$9,447	$4,150
14-May-02	4	11961	227.3	11	310	0	0	0.8	2	1	11	22	$9,447	$4,150
15-May-02	5	12728	244.4	11	302	0	0	0.8	2	1	11	22	$9,447	$4,150
16-May-02	1	12031	249.0	11	305	0	0	0.8	2	1	11	22	$9,447	$4,150
17-May-02	2	12601	273.4	11	303	0	0	0.8	2	1	11	22	$9,447	$4,150
18-May-02														
19-May-02														
20-May-02														
21-May-02	3	12017	367.7	11	310	58	7	0.8	2	1	11	22	$11,524	$4,619
22-May-02	4	11961	346.9	11	306	41	5	0.8	2	1	11	22	$10,931	$4,485
23-May-02	5	12728	332.2	11	311	21	3	0.8	2	1	11	22	$10,337	$4,351
24-May-02	1	12031	324.8	11	303	22	3	0.8	2	1	11	22	$10,337	$4,351

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									Required Staffing					
	Day	Stops	Tonnes	Trucks (baseline)	Collection Capacity (tonnes)	Overtime Tonnes	Overtime Loads	Sup'r	Frmn	Op3	Op2	RH	Total Employee Costs	Total Equip Costs
25-May-02														
26-May-02														
27-May-02	2	12601	476.3	11	314	163	18	0.8	2	1	11	22	$14,789	$5,355
28-May-02	3	12017	334.1	11	314	21	3	0.8	2	1	11	22	$10,337	$4,351
29-May-02	4	11961	300.2	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
30-May-02	5	12728	320.7	11	314	7	1	0.8	2	1	11	22	$9,744	$4,217
31-May-02	1	12031	285.1	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
01-Jun-02														
02-Jun-02														
03-Jun-02	2	12601	384.3	11	314	71	8	0.8	2	1	11	22	$11,821	$4,686
04-Jun-02	3	12017	356.9	11	314	43	5	0.8	2	1	11	22	$10,931	$4,485
05-Jun-02	4	11961	348.1	11	314	35	4	0.8	2	1	11	22	$10,634	$4,418
06-Jun-02	5	12728	402.2	11	314	89	10	0.8	2	1	11	22	$12,415	$4,820
07-Jun-02	1	12031	315.2	11	314	2	1	0.8	2	1	11	22	$9,744	$4,217
08-Jun-02														
09-Jun-02														
10-Jun-02	2	12601	335.2	11	314	22	3	0.8	2	1	11	22	$11,258	$4,351
11-Jun-02	3	12017	288.4	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
12-Jun-02	4	11961	326.5	11	314	13	2	0.8	2	1	11	22	$10,961	$4,284
13-Jun-02	5	12728	361.5	11	314	48	6	0.8	2	1	11	22	$12,148	$4,552
14-Jun-02	1	12031	305.6	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
15-Jun-02														
16-Jun-02														
17-Jun-02	2	12601	433.5	11	314	120	13	0.8	2	1	11	22	$14,226	$5,020
18-Jun-02	3	12017	421.8	11	314	108	12	0.8	2	1	11	22	$13,929	$4,953
19-Jun-02	4	11961	358.8	11	314	45	5	0.8	2	1	11	22	$11,852	$4,485
20-Jun-02	5	12728	375.5	11	314	62	7	0.8	2	1	11	22	$12,445	$4,619
21-Jun-02	1	12031	335.7	11	314	22	3	0.8	2	1	11	22	$11,258	$4,351
22-Jun-02														
23-Jun-02														
24-Jun-02	2	12601	404.5	11	314	91	10	0.8	2	1	11	22	$13,336	$4,820
25-Jun-02	3	12017	371.3	11	314	58	7	0.8	2	1	11	22	$12,445	$4,619
26-Jun-02	4	11961	405.5	11	314	92	10	0.8	2	1	11	22	$13,336	$4,820
27-Jun-02	5	12728	432.8	11	314	119	13	0.8	2	1	11	22	$14,226	$5,020
28-Jun-02	1	12031	326.0	11	314	13	2	0.8	2	1	11	22	$10,961	$4,284
29-Jun-02														
30-Jun-02														
01-Jul-02														
02-Jul-02	2	12601	362.9	11	314	49	6	0.8	2	1	11	22	$12,148	$4,552
03-Jul-02	3	12017	365.3	11	314	52	6	0.8	2	1	11	22	$12,148	$4,552
04-Jul-02	4	11961	352.8	11	314	39	5	0.8	2	1	11	22	$11,852	$4,485
05-Jul-02	5	12728	343.7	11	314	30	4	0.8	2	1	11	22	$11,555	$4,418
06-Jul-02														
07-Jul-02														
08-Jul-02	1	12031	366.9	11	314	53	6	0.8	2	1	11	22	$12,148	$4,552
09-Jul-02	2	12601	325.1	11	314	12	2	0.8	2	1	11	22	$10,961	$4,284
10-Jul-02	3	12017	310.0	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
11-Jul-02	4	11961	290.7	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150

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									Required Staffing					
	Day	Stops	Tonnes	Trucks (baseline)	Collection Capacity (tonnes)	Overtime Tonnes	Overtime Loads	Sup'r	Frmn	Op3	Op2	RH	Total Employee Costs	Total Equip Costs
12-Jul-02	5	12728	337.3	11	314	24	3	0.8	2	1	11	22	$11,258	$4,351
13-Jul-02														
14-Jul-02														
15-Jul-02	1	12031	247.8	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
16-Jul-02	2	12601	281.0	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
17-Jul-02	3	12017	274.0	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
18-Jul-02	4	11961	264.3	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
19-Jul-02	5	12728	277.5	11	303	0	0	0.8	2	1	11	22	$10,368	$4,150
20-Jul-02														
21-Jul-02														
22-Jul-02	1	12031	229.8	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
23-Jul-02	2	12601	277.2	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
24-Jul-02	3	12017	269.2	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
25-Jul-02	4	11961	271.5	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
26-Jul-02	5	12728	268.6	11	303	0	0	0.8	2	1	11	22	$10,368	$4,150
27-Jul-02														
28-Jul-02														
29-Jul-02	1	12031	225.0	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
30-Jul-02	2	12601	263.4	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
31-Jul-02	3	12017	248.8	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
01-Aug-02	4	11961	246.4	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
02-Aug-02	5	12728	246.9	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
03-Aug-02														
04-Aug-02														
05-Aug-02														
06-Aug-02	1	12031	249.0	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
07-Aug-02	2	12601	278.5	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
08-Aug-02	3	12017	266.8	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
09-Aug-02	4	11961	235.6	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
10-Aug-02														
11-Aug-02														
12-Aug-02	5	12728	342.4	11	314	29	4	0.8	2	1	11	22	$11,555	$4,418
13-Aug-02	1	12031	209.3	11	209	0	1	0.8	2	1	11	22	$10,665	$3,481
14-Aug-02	2	12601	278.5	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
15-Aug-02	3	12017	257.2	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
16-Aug-02	4	11961	234.4	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
17-Aug-02														
18-Aug-02														
19-Aug-02	5	12728	255.8	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
20-Aug-02	1	12031	241.8	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
21-Aug-02	2	12601	297.4	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
22-Aug-02	3	12017	304.0	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
23-Aug-02	4	11961	295.4	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
24-Aug-02														
25-Aug-02														
26-Aug-02	5	12728	295.3	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
27-Aug-02	1	12031	256.3	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
28-Aug-02	2	12601	327.6	11	314	14	2	0.8	2	1	11	22	$10,961	$4,284

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									Required Staffing					
	Day	Stops	Tonnes	Trucks (baseline)	Collection Capacity (tonnes)	Overtime Tonnes	Overtime Loads	Sup'r	Frmn	Op3	Op2	RH	Total Employee Costs	Total Equip Costs
29-Aug-02	3	12017	311.2	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
30-Aug-02	4	11961	300.2	11	314	0	0	0.8	2	1	11	22	$10,368	$4,150
31-Aug-02														
01-Sep-02														
02-Sep-02														
03-Sep-02	5	12728	383.1	11	314	70	8	0.8	2	1	11	22	$11,821	$4,686
04-Sep-02	1	12031	322.4	11	314	9	1	0.8	2	1	11	22	$9,744	$4,217
05-Sep-02	2	12601	424.7	11	314	111	12	0.8	2	1	11	22	$13,008	$4,953
06-Sep-02	3	12017	406.2	11	314	93	10	0.8	2	1	11	22	$12,415	$4,820
07-Sep-02														
08-Sep-02														
09-Sep-02	4	11961	433.0	11	314	119	13	0.8	2	1	11	22	$13,305	$5,020
10-Sep-02	5	12728	346.2	11	314	33	4	0.8	2	1	11	22	$10,634	$4,418
11-Sep-02	1	12031	299.6	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
12-Sep-02	2	12601	339.0	11	314	25	3	0.8	2	1	11	22	$10,337	$4,351
13-Sep-02	3	12017	332.9	11	314	19	3	0.8	2	1	11	22	$10,337	$4,351
14-Sep-02														
15-Sep-02														
16-Sep-02	4	11961	333.7	11	314	20	3	0.8	2	1	11	22	$10,337	$4,351
17-Sep-02	5	12728	367.8	11	314	54	6	0.8	2	1	11	22	$11,228	$4,552
18-Sep-02	1	12031	279.1	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
19-Sep-02	2	12601	304.9	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
20-Sep-02	3	12017	313.6	11	314	0	1	0.8	2	1	11	22	$9,744	$4,217
21-Sep-02														
22-Sep-02														
23-Sep-02	4	11961	271.5	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
24-Sep-02	5	12728	296.6	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
25-Sep-02	1	12031	253.9	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
26-Sep-02	2	12601	326.4	11	314	13	2	0.8	2	1	11	22	$10,041	$4,284
27-Sep-02	3	12017	278.8	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
28-Sep-02														
29-Sep-02														
30-Sep-02	4	11961	317.0	11	314	3	1	0.8	2	1	11	22	$9,744	$4,217
01-Oct-02	5	12728	352.6	11	314	39	5	0.8	2	1	11	22	$10,931	$4,485
02-Oct-02	1	12031	300.8	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
03-Oct-02	2	12601	318.8	11	314	5	1	0.8	2	1	11	22	$9,744	$4,217
04-Oct-02	3	12017	306.4	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
05-Oct-02														
06-Oct-02														
07-Oct-02	4	11961	278.7	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
08-Oct-02	5	12728	297.8	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
09-Oct-02	1	12031	257.5	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
10-Oct-02	2	12601	291.1	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
11-Oct-02	3	12017	310.0	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
12-Oct-02														
13-Oct-02														
14-Oct-02														
15-Oct-02	4	11961	294.2	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150

Appendix C - Internal Improvement Manual Collection Model #1

									Required Staffing					
	Day	Stops	Tonnes	Trucks (baseline)	Collection Capacity (tonnes)	Overtime Tonnes	Overtime Loads	Sup'r	Frmn	Op3	Op2	RH	Total Employee Costs	Total Equip Costs
16-Oct-02	5	12728	314.4	11	314	1	1	0.8	2	1	11	22	$9,744	$4,217
17-Oct-02	1	12031	294.8	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
18-Oct-02	2	12601	335.2	11	314	22	3	0.8	2	1	11	22	$10,337	$4,351
19-Oct-02														
20-Oct-02														
21-Oct-02	3	12017	399.0	11	314	85	9	0.8	2	1	11	22	$12,118	$4,753
22-Oct-02	4	11961	259.6	11	303	0	0	0.8	2	1	11	22	$9,447	$4,150
23-Oct-02	5	12728	250.7	11	295	0	0	0.8	2	1	11	22	$9,447	$4,150
24-Oct-02	1	12031	287.5	11	303	0	0	0.8	2	1	11	22	$9,447	$4,150
25-Oct-02	2	12601	268.4	11	292	0	0	0.8	2	1	11	22	$9,447	$4,150
26-Oct-02														
27-Oct-02														
28-Oct-02	3	12017	233.1	11	268	0	0	0.8	2	1	11	22	$9,447	$4,150
29-Oct-02	4	11961	210.5	11	201	10	2	0.8	2	1	11	22	$10,041	$3,548
30-Oct-02	5	12728	208.7	11	193	16	2	0.8	2	1	11	22	$10,041	$3,548
31-Oct-02	1	12031	270.7	11	294	0	0	0.8	2	1	11	22	$9,447	$4,150
01-Nov-02	2	12601	252.0	11	273	0	0	0.8	2	1	11	22	$9,447	$4,150
02-Nov-02														
03-Nov-02														
04-Nov-02	3	12017	257.2	11	305	0	0	0.8	2	1	11	22	$9,447	$4,150
05-Nov-02	4	11961	247.6	11	314	0	0	0.8	2	1	11	22	$9,447	$4,150
06-Nov-02	5	12728	253.3	11	311	0	0	0.8	2	1	11	22	$9,447	$4,150
07-Nov-02	1	12031	292.4	11	301	0	0	0.8	2	1	11	22	$9,447	$4,150
08-Nov-02	2	12601	277.2	11	297	0	0	0.8	2	1	11	22	$9,447	$4,150
09-Nov-02														
10-Nov-02														
11-Nov-02														
12-Nov-02	3	12017	247.6	11	257	0	0	0.8	2	1	11	22	$9,447	$4,150
13-Nov-02	4	11961	215.3	11	171	45	6	0.8	2	1	11	22	$11,228	$3,815
14-Nov-02	5	12728	227.8	11	171	56	8	0.8	2	1	11	22	$11,821	$3,949
15-Nov-02	1	12031	249.0	11	250	0	0	0.8	2	1	11	22	$9,447	$4,150
16-Nov-02														
17-Nov-02														
18-Nov-02	2	12601	253.3	11	261	0	0	0.8	2	1	11	22	$9,447	$4,150
19-Nov-02	3	12017	152.6	11	151	1	1	0.8	2	1	11	22	$9,744	$3,481
20-Nov-02	4	11961	147.1	11	179	0	0	0.8	2	1	11	22	$9,447	$3,414
21-Nov-02	5	12728	154.0	11	176	0	0	0.8	2	1	11	22	$9,447	$3,414
22-Nov-02	1	12031	140.8	11	166	0	0	0.8	2	1	11	22	$9,447	$3,414
23-Nov-02														
24-Nov-02														
25-Nov-02	2	12601	152.5	11	151	1	1	0.8	2	1	11	22	$9,744	$3,481
26-Nov-02	3	12017	147.8	11	156	0	0	0.8	2	1	11	22	$9,447	$3,414
27-Nov-02	4	11961	135.2	11	160	0	0	0.8	2	1	11	22	$9,447	$3,414
28-Nov-02	5	12728	151.5	11	159	0	0	0.8	2	1	11	22	$9,447	$3,414
29-Nov-02	1	12031	140.8	11	173	0	0	0.8	2	1	11	22	$9,447	$3,414
30-Nov-02														
01-Dec-02														
02-Dec-02	2	12601	160.0	11	162	0	0	0.8	2	1	11	22	$9,447	$3,414

Appendix C - Internal Improvement Manual Collection Model #1

									Required Staffing						
	Day	Stops	Tonnes	Trucks (baseline)	Collection Capacity (tonnes)	Overtime Tonnes	Overtime Loads	Sup'r	Frmn	Op3	Op2	RH	Total Employee Costs	Total Equip Costs
03-Dec-02	3	12017	149.0	11	155	0	0	0.8	2	1	11	22	$9,447	$3,414
04-Dec-02	4	11961	142.3	11	157	0	0	0.8	2	1	11	22	$9,447	$3,414
05-Dec-02	5	12728	150.2	11	158	0	0	0.8	2	1	11	22	$9,447	$3,414
06-Dec-02	1	12031	138.4	11	161	0	0	0.8	2	1	11	22	$9,447	$3,414
07-Dec-02														
08-Dec-02														
09-Dec-02	2	12601	148.7	11	158	0	0	0.8	2	1	11	22	$9,447	$3,414
10-Dec-02	3	12017	153.8	11	160	0	0	0.8	2	1	11	22	$9,447	$3,414
11-Dec-02	4	11961	142.3	11	168	0	0	0.8	2	1	11	22	$9,447	$3,414
12-Dec-02	5	12728	152.7	11	176	0	0	0.8	2	1	11	22	$9,447	$3,414
13-Dec-02	1	12031	139.6	11	169	0	0	0.8	2	1	11	22	$9,447	$3,414
14-Dec-02														
15-Dec-02														
16-Dec-02	2	12601	160.0	11	172	0	0	0.8	2	1	11	22	$9,447	$3,414
17-Dec-02	3	12017	153.8	11	160	0	0	0.8	2	1	11	22	$9,447	$3,414
18-Dec-02	4	11961	138.7	11	164	0	0	0.8	2	1	11	22	$9,447	$3,414
19-Dec-02	5	12728	147.6	11	186	0	0	0.8	2	1	11	22	$9,447	$3,414
20-Dec-02	1	12031	138.4	11	159	0	0	0.8	2	1	11	22	$9,447	$3,414
21-Dec-02														
22-Dec-02														
23-Dec-02	2	12601	148.7	11	155	0	0	0.8	2	1	11	22	$9,447	$3,414
24-Dec-02	3	12017	140.6	11	123	18	4	0.8	2	1	11	22	$10,634	$3,681
25-Dec-02														
26-Dec-02														
27-Dec-02	4	11961	185.4	11	152	34	5	0.8	2	1	11	22	$11,622	$3,748
28-Dec-02														
29-Dec-02														
30-Dec-02	5	12728	290.2	11	250	40	6	0.8	2	1	11	22	$11,918	$4,552
31-Dec-02	1	12031	253.9	11	239	15	3	0.8	2	1	11	22	$11,028	$4,351
			61,452.8		63,339	2,996	373						$2,529,766	$992,529

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

Assumptions:

Type of truck	Automated Side Load		
Crew size	1	per truck	
Work day length	11.22	hours	
Truck Capacity (winter)	actual	tonnes	
Truck Capacity (summer)	actual	tonnes	
Loads per shift per crew (Brady)	5		
Loads per shift per crew (BFI)	6		
Trigger to BFI	19		loads per day
Average downtime	5.0%		
One rear load truck x 5 days per week doing two loads/day - carts and bulk			
Seven day work week, excluding stat holidays			

Foreman 1	$20.14	per hour	October 6, 2002 Rate
Op3 Wage Rate	$17.79	per hour	October 6, 2002 Rate
Op2 Wage Rate	$17.10	per hour	October 6, 2002 Rate
RH Wage Rate	$16.51	per hour	October 6, 2002 Rate
Utility Wage Rate	$17.10	per hour	October 6, 2002 Rate
Supervisor Rate	$267.90	per day	October 21, 2001 Rate

WCB Rate	10.11%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Sick leave	6.01%	15 days per year per employee
Dental	1.43%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Vision	0.17%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Pension (CPP)	4.06%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Pension (City)	6.12%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Employment Insurance	2.80%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Acting Pay	1.58%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Long Service Pay	0.63%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Drivers License	0.00%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Uniforms	0.25%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Group Insurance	0.23%	based on 2002 actual for AutoBin collection (% of perm and temp salaries)
Vacation	9.62%	5 weeks/year on average

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

Shift Premium	0.00%	due to operators parking and fuelling own trucks
Meal Expense	1.00%	based on 2002 actual for AutoBin collection (% of overtime cost)
Overtime Allowance	5.00%	estimate
Training, courses, meetings	1.00%	estimate for various training programs, safety meetings, staff meetings, etc.
Safety Talks	0.30%	6 hours per year per employee

Parking and fueling trucks	by crew

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

	Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	Required Staffing S'visor	Fman	Op3	Op2	RH	Utility	Total Employee Cost	Total Equip Costs
01-Jan-02	Tue															
02-Jan-02	Wed	1	97.51	Brady	4.00	4.88	97.51	0.00	0.2	1	4	1	1	2	$2,556	$3,429
03-Jan-02	Thu	1	96.80	Brady	4.00	4.84	96.80	0.00	0.2	1	4	1	1	2	$2,556	$3,594
04-Jan-02	Fri	1	94.76	Brady	4.00	4.74	94.76	0.00	0.2	1	4	1	1	2	$2,556	$3,640
05-Jan-02	Sat	1	89.30	Brady	4.00	4.46	89.30	0.00	0.0	1	4	0	0	0	$1,721	$3,260
06-Jan-02	Sun	1	85.33	Brady	4.00	4.27	85.33	0.00	0.0	1	4	0	0	0	$1,721	$2,974
07-Jan-02	Mon	1	79.62	Brady	3.00	5.31	79.62	0.00	0.2	1	3	1	1	2	$2,002	$2,872
08-Jan-02	Tue	1	76.18	Brady	3.00	5.08	76.18	0.00	0.2	1	3	1	1	2	$2,002	$2,827
09-Jan-02	Wed	1	75.51	Brady	3.00	5.03	75.51	0.00	0.2	1	3	1	1	2	$2,002	$2,797
10-Jan-02	Thu	1	74.45	Brady	3.00	4.96	74.45	0.00	0.2	1	3	1	1	2	$2,002	$2,812
11-Jan-02	Fri	1	72.96	Brady	3.00	4.86	72.96	0.00	0.2	1	3	1	1	2	$2,002	$2,737
12-Jan-02	Sat	1	71.57	Brady	3.00	4.77	71.57	0.00	0.0	1	3	0	0	0	$1,167	$2,402
13-Jan-02	Sun	1	71.57	Brady	3.00	4.77	71.57	0.00	0.0	1	3	0	0	0	$1,167	$2,402
14-Jan-02	Mon	1	71.57	Brady	3.00	4.77	71.57	0.00	0.2	1	3	1	1	2	$2,002	$2,601
15-Jan-02	Tue	1	71.76	Brady	3.00	4.78	71.76	0.00	0.2	1	3	1	1	2	$2,002	$2,601
16-Jan-02	Wed	1	69.35	Brady	3.00	4.62	69.35	0.00	0.2	1	3	1	1	2	$2,002	$2,601
17-Jan-02	Thu	1	69.51	Brady	3.00	4.63	69.51	0.00	0.2	1	3	1	1	2	$2,002	$2,601
18-Jan-02	Fri	1	69.31	Brady	3.00	4.62	69.31	0.00	0.2	1	3	1	1	2	$2,002	$2,601
19-Jan-02	Sat	1	71.37	Brady	3.00	4.76	71.37	0.00	0.0	1	3	0	0	0	$1,167	$2,387
20-Jan-02	Sun	1	67.04	Brady	3.00	4.47	67.04	0.00	0.0	1	3	0	0	0	$1,167	$2,206
21-Jan-02	Mon	1	67.04	Brady	3.00	4.47	67.04	0.00	0.2	1	3	1	1	2	$2,002	$2,511
22-Jan-02	Tue	1	66.72	Brady	3.00	4.45	66.72	0.00	0.2	1	3	1	1	2	$2,002	$2,541
23-Jan-02	Wed	1	67.35	Brady	3.00	4.49	67.35	0.00	0.2	1	3	1	1	2	$2,002	$2,586
24-Jan-02	Thu	1	66.46	Brady	3.00	4.43	66.46	0.00	0.2	1	3	1	1	2	$2,002	$2,511
25-Jan-02	Fri	1	65.47	Brady	3.00	4.36	65.47	0.00	0.2	1	3	1	1	2	$2,002	$2,466
26-Jan-02	Sat	1	65.52	Brady	3.00	4.37	65.52	0.00	0.0	1	3	0	0	0	$1,167	$2,146
27-Jan-02	Sun	1	65.52	Brady	3.00	4.37	65.52	0.00	0.0	1	3	0	0	0	$1,167	$2,161
28-Jan-02	Mon	1	65.52	Brady	3.00	4.37	65.52	0.00	0.2	1	3	1	1	2	$2,002	$2,541
29-Jan-02	Tue	1	62.44	Brady	3.00	4.16	62.44	0.00	0.2	1	3	1	1	2	$2,002	$2,481
30-Jan-02	Wed	1	65.89	Brady	3.00	4.39	65.89	0.00	0.2	1	3	1	1	2	$2,002	$2,586
31-Jan-02	Thu	1	67.09	Brady	3.00	4.47	67.09	0.00	0.2	1	3	1	1	2	$2,002	$2,782
01-Feb-02	Fri	1	69.98	Brady	3.00	4.67	69.98	0.00	0.2	1	3	1	1	2	$2,002	$2,767
02-Feb-02	Sat	1	68.77	Brady	3.00	4.58	68.77	0.00	0.0	1	3	0	0	0	$1,167	$2,387
03-Feb-02	Sun	1	68.65	Brady	3.00	4.58	68.65	0.00	0.0	1	3	0	0	0	$1,167	$2,492
04-Feb-02	Mon	1	68.65	Brady	3.00	4.58	68.65	0.00	0.2	1	3	1	1	2	$2,002	$2,722
05-Feb-02	Tue	1	72.52	Brady	3.00	4.83	72.52	0.00	0.2	1	3	1	1	2	$2,002	$2,737
06-Feb-02	Wed	1	73.98	Brady	3.00	4.93	73.98	0.00	0.2	1	3	1	1	2	$2,002	$2,691
07-Feb-02	Thu	1	73.31	Brady	3.00	4.89	73.31	0.00	0.2	1	3	1	1	2	$2,002	$2,676
08-Feb-02	Fri	1	72.89	Brady	3.00	4.86	72.89	0.00	0.2	1	3	1	1	2	$2,002	$2,661
09-Feb-02	Sat	1	71.11	Brady	3.00	4.74	71.11	0.00	0.0	1	3	0	0	0	$1,167	$2,266
10-Feb-02	Sun	1	71.11	Brady	3.00	4.74	71.11	0.00	0.0	1	3	0	0	0	$1,167	$2,372
11-Feb-02	Mon	1	71.11	Brady	3.00	4.74	71.11	0.00	0.2	1	3	1	1	2	$2,002	$2,556
12-Feb-02	Tue	1	74.60	Brady	3.00	4.97	74.60	0.00	0.2	1	3	1	1	2	$2,002	$2,827
13-Feb-02	Wed	1	72.97	Brady	3.00	4.86	72.97	0.00	0.2	1	3	1	1	2	$2,002	$2,812

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

	Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	Required Staffing S'visor	Fman	Op3	Op2	RH	Utility	Total Employee Cost	Total Equip Costs
14-Feb-02	Thu	1	73.53	Brady	3.00	4.90	73.53	0.00	0.2	1	3	1	1	2	$2,002	$2,827
15-Feb-02	Fri	1	72.38	Brady	3.00	4.83	72.38	0.00	0.2	1	3	1	1	2	$2,002	$2,797
16-Feb-02	Sat	1	70.71	Brady	3.00	4.71	70.71	0.00	0.0	1	3	0	0	0	$1,167	$2,236
17-Feb-02	Sun	1	70.71	Brady	3.00	4.71	70.71	0.00	0.0	1	3	0	0	0	$1,167	$2,372
18-Feb-02	Mon	1	70.71	Brady	3.00	4.71	70.71	0.00	0.2	1	3	1	1	2	$2,002	$2,496
19-Feb-02	Tue	1	68.21	Brady	3.00	4.55	68.21	0.00	0.2	1	3	1	1	2	$2,002	$2,420
20-Feb-02	Wed	1	64.67	Brady	3.00	4.31	64.67	0.00	0.2	1	3	1	1	2	$2,002	$2,405
21-Feb-02	Thu	1	65.68	Brady	3.00	4.38	65.68	0.00	0.2	1	3	1	1	2	$2,002	$2,435
22-Feb-02	Fri	1	68.15	Brady	3.00	4.54	68.15	0.00	0.2	1	3	1	1	2	$2,002	$2,496
23-Feb-02	Sat	1	70.92	Brady	3.00	4.73	70.92	0.00	0.0	1	3	0	0	0	$1,167	$2,206
24-Feb-02	Sun	1	70.92	Brady	3.00	4.73	70.92	0.00	0.0	1	3	0	0	0	$1,167	$2,251
25-Feb-02	Mon	1	70.92	Brady	3.00	4.73	70.92	0.00	0.2	1	3	1	1	2	$2,002	$2,496
26-Feb-02	Tue	1	70.31	Brady	3.00	4.69	70.31	0.00	0.2	1	3	1	1	2	$2,002	$2,586
27-Feb-02	Wed	1	69.32	Brady	3.00	4.62	69.32	0.00	0.2	1	3	1	1	2	$2,002	$2,511
28-Feb-02	Thu	1	68.37	Brady	3.00	4.56	68.37	0.00	0.2	1	3	1	1	2	$2,002	$2,435
01-Mar-02	Fri	1	68.57	Brady	3.00	4.57	68.57	0.00	0.2	1	3	1	1	2	$2,002	$2,451
02-Mar-02	Sat	1	70.25	Brady	3.00	4.68	70.25	0.00	0.0	1	3	0	0	0	$1,167	$2,025
03-Mar-02	Sun	1	70.56	Brady	3.00	4.70	70.56	0.00	0.0	1	3	0	0	0	$1,167	$2,146
04-Mar-02	Mon	1	70.56	Brady	3.00	4.70	70.56	0.00	0.2	1	3	1	1	2	$2,002	$2,631
05-Mar-02	Tue	1	71.03	Brady	3.00	4.74	71.03	0.00	0.2	1	3	1	1	2	$2,002	$2,782
06-Mar-02	Wed	1	72.45	Brady	3.00	4.83	72.45	0.00	0.2	1	3	1	1	2	$2,002	$2,496
07-Mar-02	Thu	1	72.05	Brady	3.00	4.80	72.05	0.00	0.2	1	3	1	1	2	$2,002	$2,466
08-Mar-02	Fri	1	69.87	Brady	3.00	4.66	69.87	0.00	0.2	1	3	1	1	2	$2,002	$2,420
09-Mar-02	Sat	1	71.85	Brady	3.00	4.79	71.85	0.00	0.0	1	3	0	0	0	$1,167	$2,221
10-Mar-02	Sun	1	71.85	Brady	3.00	4.79	71.85	0.00	0.0	1	3	0	0	0	$1,167	$2,206
11-Mar-02	Mon	1	71.85	Brady	3.00	4.79	71.85	0.00	0.2	1	3	1	1	2	$2,002	$2,496
12-Mar-02	Tue	1	70.67	Brady	3.00	4.71	70.67	0.00	0.2	1	3	1	1	2	$2,002	$2,330
13-Mar-02	Wed	1	69.42	Brady	3.00	4.63	69.42	0.00	0.2	1	3	1	1	2	$2,002	$2,676
14-Mar-02	Thu	1	69.88	Brady	3.00	4.66	69.88	0.00	0.2	1	3	1	1	2	$2,002	$2,661
15-Mar-02	Fri	1	66.22	Brady	3.00	4.41	66.22	0.00	0.2	1	3	1	1	2	$2,002	$2,556
16-Mar-02	Sat	1	67.99	Brady	3.00	4.53	67.99	0.00	0.0	1	3	0	0	0	$1,167	$2,372
17-Mar-02	Sun	1	67.68	Brady	3.00	4.51	67.68	0.00	0.0	1	3	0	0	0	$1,167	$2,221
18-Mar-02	Mon	1	67.68	Brady	3.00	4.51	67.68	0.00	0.2	1	3	1	1	2	$2,002	$2,315
19-Mar-02	Tue	1	58.66	Brady	3.00	3.91	58.66	0.00	0.2	1	3	1	1	2	$2,002	$2,195
20-Mar-02	Wed	1	75.00	Brady	3.00	5.00	75.00	0.00	0.2	1	3	1	1	2	$2,002	$2,571
21-Mar-02	Thu	1	75.00	Brady	3.00	5.00	75.00	0.00	0.2	1	3	1	1	2	$2,002	$2,661
22-Mar-02	Fri	1	75.00	Brady	3.00	5.00	75.00	0.00	0.2	1	3	1	1	2	$2,002	$2,586
23-Mar-02	Sat	1	75.00	Brady	3.00	3.75	75.00	0.00	0.0	1	3	0	0	0	$1,167	$2,688
24-Mar-02	Sun	1	75.00	Brady	3.00	3.75	75.00	0.00	0.0	1	3	0	0	0	$1,167	$2,688
25-Mar-02	Mon	1	75.00	Brady	3.00	5.00	75.00	0.00	0.2	1	3	1	1	2	$2,002	$2,722
26-Mar-02	Tue	1	75.00	Brady	3.00	5.00	75.00	0.00	0.2	1	3	1	1	2	$2,002	$2,797
27-Mar-02	Wed	1	75.00	Brady	3.00	5.00	75.00	0.00	0.2	1	3	1	1	2	$2,002	$2,722
28-Mar-02	Thu	1	75.00	Brady	3.00	5.00	75.00	0.00	0.2	1	3	1	1	2	$2,002	$2,405
29-Mar-02	Fri															

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

	Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	Required Staffing S'visor	Fman	Op3	Op2	RH	Utility	Total Employee Cost	Total Equip Costs
30-Mar-02	Sat	1	75.00	Brady	3.00	5.00	75.00	0.00	0.0	1	3	0	0	0	$1,167	$2,402
31-Mar-02	Sun	1	75.00	Brady	3.00	5.00	75.00	0.00	0.0	1	3	0	0	0	$1,167	$2,146
01-Apr-02	Mon															
02-Apr-02	Tue	1	91.43	Brady	3.00	6.10	91.43	0.00	0.2	1	3	1	1	2	$2,002	$2,767
03-Apr-02	Wed	1	90.61	Brady	3.00	6.04	90.61	0.00	0.2	1	3	1	1	2	$2,002	$2,586
04-Apr-02	Thu	1	92.24	Brady	3.00	6.15	92.24	0.00	0.2	1	3	1	1	2	$2,002	$2,496
05-Apr-02	Fri	1	93.95	Brady	3.00	6.26	93.95	0.00	0.2	1	3	1	1	2	$2,002	$2,435
06-Apr-02	Sat	1	96.26	Brady	3.00	6.42	96.26	0.00	0.0	1	3	0	0	0	$1,167	$2,447
07-Apr-02	Sun	1	100.09	Brady	3.00	6.67	100.09	0.00	0.0	1	3	0	0	0	$1,167	$2,327
08-Apr-02	Mon	1	100.09	Brady	3.00	6.67	100.09	0.00	0.2	1	3	1	1	2	$2,002	$2,827
09-Apr-02	Tue	1	100.09	Brady	3.00	6.67	100.09	0.00	0.2	1	3	1	1	2	$2,002	$2,827
10-Apr-02	Wed	1	103.05	Brady	4.00	5.15	103.05	0.00	0.2	1	4	1	1	2	$2,556	$3,052
11-Apr-02	Thu	1	105.26	Brady	4.00	5.26	105.26	0.00	0.2	1	4	1	1	2	$2,556	$3,308
12-Apr-02	Fri	1	106.69	Brady	4.00	5.33	106.69	0.00	0.2	1	4	1	1	2	$2,556	$3,082
13-Apr-02	Sat	1	110.00	Brady	4.00	5.50	110.00	0.00	0.0	1	4	0	0	0	$1,721	$3,019
14-Apr-02	Sun	1	120.00	Brady	4.00	6.00	120.00	0.00	0.0	1	4	0	0	0	$1,721	$3,245
15-Apr-02	Mon	1	120.00	BFI	4.00	5.00	20.00	100.00	0.2	1	4	1	1	2	$2,556	$3,971
16-Apr-02	Tue	1	120.00	BFI	4.00	5.00	20.00	100.00	0.2	1	4	1	1	2	$2,556	$3,971
17-Apr-02	Wed	1	140.57	BFI	5.00	4.69	23.43	117.14	0.2	1	5	1	1	2	$2,839	$4,633
18-Apr-02	Thu	1	140.38	BFI	5.00	4.68	23.40	116.98	0.2	1	5	1	1	2	$2,839	$4,618
19-Apr-02	Fri	1	143.04	BFI	5.00	5.96	23.84	119.20	0.2	1	5	1	1	2	$2,839	$4,512
20-Apr-02	Sat	1	143.05	BFI	5.00	4.77	23.84	119.21	0.0	1	5	0	0	0	$2,003	$4,283
21-Apr-02	Sun	1	146.71	BFI	5.00	4.89	24.45	122.26	0.0	1	5	0	0	0	$2,003	$4,298
22-Apr-02	Mon	1	153.49	BFI	5.00	6.40	25.58	127.91	0.2	1	5	1	1	2	$2,839	$4,407
23-Apr-02	Tue	1	158.45	BFI	5.00	5.28	26.41	132.05	0.2	1	5	1	1	2	$2,839	$4,678
24-Apr-02	Wed	1	159.34	BFI	5.00	5.31	26.56	132.79	0.2	1	5	1	1	2	$2,839	$4,708
25-Apr-02	Thu	1	166.83	BFI	5.00	5.56	27.81	139.03	0.2	1	5	1	1	2	$2,839	$4,949
26-Apr-02	Fri	1	166.46	BFI	5.00	5.55	27.74	138.72	0.2	1	5	1	1	2	$2,839	$4,648
27-Apr-02	Sat	1	165.14	BFI	5.00	6.88	27.52	137.61	0.0	1	5	0	0	0	$2,003	$4,268
28-Apr-02	Sun	1	162.12	BFI	5.00	5.40	27.02	135.10	0.0	1	5	0	0	0	$2,003	$4,343
29-Apr-02	Mon	1	154.44	BFI	5.00	6.44	25.74	128.70	0.2	1	5	1	1	2	$2,839	$4,332
30-Apr-02	Tue	1	144.51	BFI	5.00	4.82	24.09	120.43	0.2	1	5	1	1	2	$2,839	$4,573
01-May-02	Wed	1	146.25	BFI	5.00	4.87	24.37	121.87	0.2	1	5	1	1	2	$2,839	$4,618
02-May-02	Thu	1	151.53	BFI	5.00	5.05	25.26	126.28	0.2	1	5	1	1	2	$2,839	$4,768
03-May-02	Fri	1	154.94	BFI	5.00	5.16	25.82	129.12	0.2	1	5	1	1	2	$2,839	$5,009
04-May-02	Sat	1	161.98	BFI	5.00	5.40	27.00	134.98	0.0	1	5	0	0	0	$2,003	$4,870
05-May-02	Sun	1	157.23	BFI	5.00	5.24	26.21	131.03	0.0	1	5	0	0	0	$2,003	$4,976
06-May-02	Mon	1	150.45	BFI	5.00	5.01	25.07	125.37	0.2	1	5	1	1	2	$2,839	$5,055
07-May-02	Tue	1	145.48	BFI	5.00	4.85	24.25	121.24	0.2	1	5	1	1	2	$2,839	$4,648
08-May-02	Wed	1	130.98	BFI	5.00	5.46	21.83	109.15	0.2	1	5	1	1	2	$2,839	$4,437
09-May-02	Thu	1	126.52	BFI	5.00	5.27	21.09	105.43	0.2	1	5	1	1	2	$2,839	$4,332
10-May-02	Fri	1	130.26	BFI	5.00	5.43	21.71	108.55	0.2	1	5	1	1	2	$2,839	$4,452
11-May-02	Sat	1	134.91	BFI	5.00	5.62	22.48	112.42	0.0	1	5	0	0	0	$2,003	$4,208
12-May-02	Sun	1	137.00	BFI	5.00	5.71	22.83	114.17	0.0	1	5	0	0	0	$2,003	$4,268

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

	Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	Required Staffing S'visor	Fman	Op3	Op2	RH	Utility	Total Employee Cost	Total Equip Costs
13-May-02	Mon	1	141.76	BFI	5.00	5.91	23.63	118.14	0.2	1	5	1	1	2	$2,839	$4,452
14-May-02	Tue	1	141.76	BFI	5.00	4.73	23.63	118.14	0.2	1	5	1	1	2	$2,839	$4,708
15-May-02	Wed	1	144.25	BFI	5.00	4.81	24.04	120.20	0.2	1	5	1	1	2	$2,839	$4,768
16-May-02	Thu	1	144.76	BFI	5.00	4.83	24.13	120.63	0.2	1	5	1	1	2	$2,839	$4,663
17-May-02	Fri	1	143.72	BFI	5.00	5.99	23.95	119.77	0.2	1	5	1	1	2	$2,839	$4,452
18-May-02	Sat	1	140.92	BFI	5.00	5.87	23.49	117.44	0.0	1	5	0	0	0	$2,003	$4,072
19-May-02	Sun	1	147.46	BFI	5.00	6.14	24.58	122.88	0.0	1	5	0	0	0	$2,003	$3,681
20-May-02	Mon															
21-May-02	Tue	1	168.05	BFI	5.00	5.60	28.01	140.04	0.2	1	5	1	1	2	$2,839	$4,919
22-May-02	Wed	1	168.05	BFI	5.00	5.60	28.01	140.04	0.2	1	5	1	1	2	$2,839	$4,919
23-May-02	Thu	1	168.70	BFI	5.00	5.62	28.12	140.58	0.2	1	5	1	1	2	$2,839	$4,934
24-May-02	Fri	1	166.39	BFI	5.00	5.55	27.73	138.66	0.2	1	5	1	1	2	$2,839	$4,949
25-May-02	Sat	1	163.94	BFI	5.00	5.46	27.32	136.62	0.0	1	5	0	0	0	$2,003	$4,509
26-May-02	Sun	1	161.83	BFI	5.00	6.74	26.97	134.86	0.0	1	5	0	0	0	$2,003	$4,163
27-May-02	Mon	1	157.07	BFI	5.00	6.54	26.18	130.89	0.2	1	5	1	1	2	$2,839	$4,256
28-May-02	Tue	1	157.07	BFI	5.00	6.54	26.18	130.89	0.2	1	5	1	1	2	$2,839	$4,302
29-May-02	Wed	1	152.72	BFI	5.00	5.09	25.45	127.27	0.2	1	5	1	1	2	$2,839	$4,558
30-May-02	Thu	1	148.48	BFI	4.00	6.19	24.75	123.74	0.2	1	4	1	1	2	$2,556	$4,332
31-May-02	Fri	1	147.96	BFI	4.00	6.16	24.66	123.30	0.2	1	4	1	1	2	$2,556	$4,091
01-Jun-02	Sat	1	145.51	BFI	4.00	6.06	24.25	121.26	0.0	1	4	0	0	0	$1,721	$3,742
02-Jun-02	Sun	1	141.25	BFI	4.00	5.89	23.54	117.71	0.0	1	4	0	0	0	$1,721	$3,937
03-Jun-02	Mon	1	134.87	BFI	4.00	5.62	22.48	112.39	0.2	1	4	1	1	2	$2,556	$3,911
04-Jun-02	Tue	1	134.87	BFI	4.00	5.62	22.48	112.39	0.2	1	4	1	1	2	$2,556	$4,061
05-Jun-02	Wed	1	131.69	Brady	4.00	6.58	131.69	0.00	0.2	1	4	1	1	2	$2,556	$3,158
06-Jun-02	Thu	1	131.28	Brady	4.00	6.56	131.28	0.00	0.2	1	4	1	1	2	$2,556	$3,128
07-Jun-02	Fri	1	132.86	Brady	4.00	6.64	132.86	0.00	0.2	1	4	1	1	2	$2,556	$3,369
08-Jun-02	Sat	1	130.91	Brady	4.00	6.55	130.91	0.00	0.0	1	4	0	0	0	$1,721	$3,245
09-Jun-02	Sun	1	132.21	Brady	4.00	6.61	132.21	0.00	0.0	1	4	0	0	0	$1,721	$3,275
10-Jun-02	Mon	1	132.21	Brady	4.00	6.61	132.21	0.00	0.2	1	4	1	1	2	$2,556	$3,338
11-Jun-02	Tue	1	132.21	Brady	4.00	8.81	132.21	0.00	0.2	1	4	1	1	2	$2,556	$3,037
12-Jun-02	Wed	1	130.44	Brady	4.00	8.70	130.44	0.00	0.2	1	4	1	1	2	$2,556	$3,007
13-Jun-02	Thu	1	128.99	Brady	4.00	6.45	128.99	0.00	0.2	1	4	1	1	2	$2,556	$3,369
14-Jun-02	Fri	1	127.07	Brady	4.00	6.35	127.07	0.00	0.2	1	4	1	1	2	$2,556	$3,489
15-Jun-02	Sat	1	126.66	Brady	4.00	6.33	126.66	0.00	0.0	1	4	0	0	0	$1,721	$3,079
16-Jun-02	Sun	1	127.31	Brady	4.00	6.37	127.31	0.00	0.0	1	4	0	0	0	$1,721	$3,305
17-Jun-02	Mon	1	126.93	Brady	4.00	6.35	126.93	0.00	0.2	1	4	1	1	2	$2,556	$3,489
18-Jun-02	Tue	1	126.93	Brady	4.00	6.35	126.93	0.00	0.2	1	4	1	1	2	$2,556	$3,564
19-Jun-02	Wed	1	116.27	Brady	4.00	5.81	116.27	0.00	0.2	1	4	1	1	2	$2,556	$3,278
20-Jun-02	Thu	1	111.97	Brady	4.00	5.60	111.97	0.00	0.2	1	4	1	1	2	$2,556	$3,143
21-Jun-02	Fri	1	110.48	Brady	4.00	5.52	110.48	0.00	0.2	1	4	1	1	2	$2,556	$3,248
22-Jun-02	Sat	1	110.99	Brady	4.00	5.55	110.99	0.00	0.0	1	4	0	0	0	$1,721	$3,109
23-Jun-02	Sun	1	112.56	Brady	4.00	5.63	112.56	0.00	0.0	1	4	0	0	0	$1,721	$3,109
24-Jun-02	Mon	1	119.84	BFI	4.00	4.99	19.97	99.87	0.2	1	4	1	1	2	$2,556	$3,805
25-Jun-02	Tue	1	119.84	BFI	4.00	4.99	19.97	99.87	0.2	1	4	1	1	2	$2,556	$3,805

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

	Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	Required Staffing S'visor	Fman	Op3	Op2	RH	Utility	Total Employee Cost	Total Equip Costs
26-Jun-02	Wed	1	122.87	BFI	4.00	5.12	20.48	102.39	0.2	1	4	1	1	2	$2,556	$3,881
27-Jun-02	Thu	1	125.09	Brady	4.00	6.25	125.09	0.00	0.2	1	4	1	1	2	$2,556	$3,414
28-Jun-02	Fri	1	121.24	Brady	4.00	6.06	121.24	0.00	0.2	1	4	1	1	2	$2,556	$3,519
29-Jun-02	Sat	1	117.97	Brady	4.00	5.90	117.97	0.00	0.0	1	4	0	0	0	$1,721	$3,275
30-Jun-02	Sun	1	114.97	BFI	4.00	4.79	19.16	95.81	0.0	1	4	0	0	0	$1,721	$3,440
01-Jul-02	Mon															
02-Jul-02	Tue	1	122.77	BFI	4.00	5.12	20.46	102.31	0.2	1	4	1	1	2	$2,556	$3,790
03-Jul-02	Wed	1	134.55	BFI	4.00	5.61	22.42	112.12	0.2	1	4	1	1	2	$2,556	$4,091
04-Jul-02	Thu	1	135.50	BFI	4.00	5.65	22.58	112.91	0.2	1	4	1	1	2	$2,556	$3,820
05-Jul-02	Fri	1	136.23	BFI	4.00	5.68	22.71	113.53	0.2	1	4	1	1	2	$2,556	$3,941
06-Jul-02	Sat	1	135.90	BFI	4.00	5.66	22.65	113.25	0.0	1	4	0	0	0	$1,721	$3,937
07-Jul-02	Sun	1	135.75	BFI	4.00	5.66	22.63	113.13	0.0	1	4	0	0	0	$1,721	$3,501
08-Jul-02	Mon	1	128.47	Brady	4.00	6.42	128.47	0.00	0.2	1	4	1	1	2	$2,556	$3,549
09-Jul-02	Tue	1	128.47	Brady	4.00	6.42	128.47	0.00	0.2	1	4	1	1	2	$2,556	$3,609
10-Jul-02	Wed	1	128.47	BFI	4.00	5.35	21.41	107.06	0.2	1	4	1	1	2	$2,556	$3,715
11-Jul-02	Thu	1	125.63	Brady	4.00	6.28	125.63	0.00	0.2	1	4	1	1	2	$2,556	$3,504
12-Jul-02	Fri	1	129.28	BFI	4.00	5.39	21.55	107.73	0.2	1	4	1	1	2	$2,556	$3,805
13-Jul-02	Sat	1	128.80	BFI	4.00	5.37	21.47	107.33	0.0	1	4	0	0	0	$1,721	$3,546
14-Jul-02	Sun	1	130.20	BFI	4.00	5.43	21.70	108.50	0.0	1	4	0	0	0	$1,721	$3,591
15-Jul-02	Mon	1	122.40	Brady	4.00	6.12	122.40	0.00	0.2	1	4	1	1	2	$2,556	$3,323
16-Jul-02	Tue	1	122.40	Brady	4.00	6.12	122.40	0.00	0.2	1	4	1	1	2	$2,556	$3,384
17-Jul-02	Wed	1	122.81	Brady	4.00	6.14	122.81	0.00	0.2	1	4	1	1	2	$2,556	$3,414
18-Jul-02	Thu	1	123.27	Brady	4.00	6.16	123.27	0.00	0.2	1	4	1	1	2	$2,556	$3,474
19-Jul-02	Fri	1	123.33	Brady	4.00	6.17	123.33	0.00	0.2	1	4	1	1	2	$2,556	$3,474
20-Jul-02	Sat	1	124.78	Brady	4.00	6.24	124.78	0.00	0.0	1	4	0	0	0	$1,721	$3,260
21-Jul-02	Sun	1	125.82	Brady	4.00	6.29	125.82	0.00	0.0	1	4	0	0	0	$1,721	$3,169
22-Jul-02	Mon	1	125.82	Brady	4.00	6.29	125.82	0.00	0.2	1	4	1	1	2	$2,556	$3,564
23-Jul-02	Tue	1	125.82	BFI	4.00	5.24	20.97	104.85	0.2	1	4	1	1	2	$2,556	$3,670
24-Jul-02	Wed	1	111.43	Brady	4.00	5.57	111.43	0.00	0.2	1	4	1	1	2	$2,556	$3,369
25-Jul-02	Thu	1	111.70	Brady	4.00	5.58	111.70	0.00	0.2	1	4	1	1	2	$2,556	$3,369
26-Jul-02	Fri	1	109.88	Brady	4.00	5.49	109.88	0.00	0.2	1	4	1	1	2	$2,556	$3,203
27-Jul-02	Sat	1	113.60	Brady	4.00	5.68	113.60	0.00	0.0	1	4	0	0	0	$1,721	$3,049
28-Jul-02	Sun	1	114.37	Brady	4.00	5.72	114.37	0.00	0.0	1	4	0	0	0	$1,721	$3,215
29-Jul-02	Mon	1	126.70	BFI	4.00	5.28	21.12	105.58	0.2	1	4	1	1	2	$2,556	$3,745
30-Jul-02	Tue	1	126.70	BFI	4.00	5.28	21.12	105.58	0.2	1	4	1	1	2	$2,556	$3,790
31-Jul-02	Wed	1	126.27	Brady	4.00	6.31	126.27	0.00	0.2	1	4	1	1	2	$2,556	$3,414
01-Aug-02	Thu	1	123.94	BFI	4.00	5.16	20.66	103.28	0.2	1	4	1	1	2	$2,556	$3,730
02-Aug-02	Fri	1	116.60	Brady	4.00	5.83	116.60	0.00	0.2	1	4	1	1	2	$2,556	$3,564
03-Aug-02	Sat	1	111.06	Brady	4.00	5.55	111.06	0.00	0.0	1	4	0	0	0	$1,721	$3,184
04-Aug-02	Sun	1	110.45	Brady	4.00	5.52	110.45	0.00	0.0	1	4	0	0	0	$1,721	$3,169
05-Aug-02	Mon															
06-Aug-02	Tue	1	125.00	Brady	4.00	6.25	125.00	0.00	0.2	1	4	1	1	2	$2,556	$3,384
07-Aug-02	Wed	1	134.37	BFI	4.00	5.60	22.39	111.97	0.2	1	4	1	1	2	$2,556	$3,685
08-Aug-02	Thu	1	133.96	Brady	4.00	6.70	133.96	0.00	0.2	1	4	1	1	2	$2,556	$3,564

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

								Required Staffing							
Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	S'visor	Fman	Op3	Op2	RH	Utility	Total Employee Cost	Total Equip Costs
09-Aug-02 Fri	1	138.07	BFI	4.00	5.75	23.01	115.06	0.2	1	4	1	1	2	$2,556	$3,655
10-Aug-02 Sat	1	135.79	Brady	4.00	6.79	135.79	0.00	0.0	1	4	0	0	0	$1,721	$3,365
11-Aug-02 Sun	1	133.11	BFI	4.00	5.55	22.19	110.93	0.0	1	4	0	0	0	$1,721	$3,425
12-Aug-02 Mon	1	120.78	Brady	4.00	6.04	120.78	0.00	0.2	1	4	1	1	2	$2,556	$3,414
13-Aug-02 Tue	1	120.78	Brady	4.00	6.04	120.78	0.00	0.2	1	4	1	1	2	$2,556	$3,489
14-Aug-02 Wed	1	120.94	Brady	4.00	6.05	120.94	0.00	0.2	1	4	1	1	2	$2,556	$3,444
15-Aug-02 Thu	1	120.05	Brady	4.00	6.00	120.05	0.00	0.2	1	4	1	1	2	$2,556	$3,444
16-Aug-02 Fri	1	124.55	BFI	4.00	5.19	20.76	103.79	0.2	1	4	1	1	2	$2,556	$3,820
17-Aug-02 Sat	1	126.93	BFI	4.00	5.29	21.15	105.77	0.0	1	4	0	0	0	$1,721	$3,621
18-Aug-02 Sun	1	126.74	BFI	4.00	5.28	21.12	105.62	0.0	1	4	0	0	0	$1,721	$3,711
19-Aug-02 Mon	1	114.62	Brady	4.00	5.73	114.62	0.00	0.2	1	4	1	1	2	$2,556	$3,459
20-Aug-02 Tue	1	114.62	Brady	4.00	5.73	114.62	0.00	0.2	1	4	1	1	2	$2,556	$3,384
21-Aug-02 Wed	1	103.13	Brady	4.00	5.16	103.13	0.00	0.2	1	4	1	1	2	$2,556	$3,082
22-Aug-02 Thu	1	102.13	Brady	4.00	5.11	102.13	0.00	0.2	1	4	1	1	2	$2,556	$3,082
23-Aug-02 Fri	1	101.64	Brady	4.00	5.08	101.64	0.00	0.2	1	4	1	1	2	$2,556	$3,067
24-Aug-02 Sat	1	102.38	Brady	4.00	5.12	102.38	0.00	0.0	1	4	0	0	0	$1,721	$2,838
25-Aug-02 Sun	1	105.97	Brady	4.00	5.30	105.97	0.00	0.0	1	4	0	0	0	$1,721	$2,943
26-Aug-02 Mon	1	118.17	Brady	4.00	5.91	118.17	0.00	0.2	1	4	1	1	2	$2,556	$3,609
27-Aug-02 Tue	1	118.17	Brady	4.00	5.91	118.17	0.00	0.2	1	4	1	1	2	$2,556	$3,399
28-Aug-02 Wed	1	121.21	Brady	4.00	6.06	121.21	0.00	0.2	1	4	1	1	2	$2,556	$3,218
29-Aug-02 Thu	1	120.22	Brady	4.00	6.01	120.22	0.00	0.2	1	4	1	1	2	$2,556	$3,579
30-Aug-02 Fri	1	118.84	Brady	4.00	5.94	118.84	0.00	0.2	1	4	1	1	2	$2,556	$3,067
31-Aug-02 Sat	1	115.98	Brady	4.00	7.73	115.98	0.00	0.0	1	4	0	0	0	$1,721	$2,763
01-Sep-02 Sun	1	117.28	Brady	4.00	7.82	117.28	0.00	0.0	1	4	0	0	0	$1,721	$2,793
02-Sep-02 Mon															
03-Sep-02 Tue	1	120.00	Brady	4.00	8.00	120.00	0.00	0.2	1	4	1	1	2	$2,556	$3,007
04-Sep-02 Wed	1	130.35	Brady	4.00	6.52	130.35	0.00	0.2	1	4	1	1	2	$2,556	$3,097
05-Sep-02 Thu	1	130.91	Brady	4.00	6.55	130.91	0.00	0.2	1	4	1	1	2	$2,556	$3,158
06-Sep-02 Fri	1	125.38	Brady	4.00	6.27	125.38	0.00	0.2	1	4	1	1	2	$2,556	$3,594
07-Sep-02 Sat	1	123.82	Brady	4.00	6.19	123.82	0.00	0.0	1	4	0	0	0	$1,721	$3,320
08-Sep-02 Sun	1	121.91	Brady	4.00	6.10	121.91	0.00	0.0	1	4	0	0	0	$1,721	$3,184
09-Sep-02 Mon	1	120.48	BFI	4.00	5.02	20.08	100.40	0.2	1	4	1	1	2	$2,556	$3,865
10-Sep-02 Tue	1	120.48	Brady	4.00	6.02	120.48	0.00	0.2	1	4	1	1	2	$2,556	$3,549
11-Sep-02 Wed	1	116.90	Brady	4.00	5.85	116.90	0.00	0.2	1	4	1	1	2	$2,556	$3,489
12-Sep-02 Thu	1	115.91	Brady	4.00	5.80	115.91	0.00	0.2	1	4	1	1	2	$2,556	$3,384
13-Sep-02 Fri	1	110.82	Brady	4.00	5.54	110.82	0.00	0.2	1	4	1	1	2	$2,556	$3,353
14-Sep-02 Sat	1	115.11	Brady	4.00	5.76	115.11	0.00	0.0	1	4	0	0	0	$1,721	$3,215
15-Sep-02 Sun	1	116.36	Brady	4.00	5.82	116.36	0.00	0.0	1	4	0	0	0	$1,721	$2,959
16-Sep-02 Mon	1	120.28	Brady	4.00	6.01	120.28	0.00	0.2	1	4	1	1	2	$2,556	$3,308
17-Sep-02 Tue	1	120.28	Brady	4.00	6.01	120.28	0.00	0.2	1	4	1	1	2	$2,556	$3,474
18-Sep-02 Wed	1	119.48	Brady	4.00	5.97	119.48	0.00	0.2	1	4	1	1	2	$2,556	$3,203
19-Sep-02 Thu	1	118.79	Brady	4.00	5.94	118.79	0.00	0.2	1	4	1	1	2	$2,556	$3,399
20-Sep-02 Fri	1	121.05	Brady	4.00	6.05	121.05	0.00	0.2	1	4	1	1	2	$2,556	$3,444
21-Sep-02 Sat	1	121.42	Brady	4.00	6.07	121.42	0.00	0.0	1	4	0	0	0	$1,721	$3,215

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

									Required Staffing							
Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	S'visor	Fman	Op3	Op2	RH	Utility		Total Employee Cost	Total Equip Costs
22-Sep-02 Sun	1	124.30	Brady	4.00	6.22	124.30	0.00	0.0	1	4	0	0	0		$1,721	$2,959
23-Sep-02 Mon	1	117.40	Brady	4.00	5.87	117.40	0.00	0.2	1	4	1	1	2		$2,556	$3,308
24-Sep-02 Tue	1	117.40	Brady	4.00	5.87	117.40	0.00	0.2	1	4	1	1	2		$2,556	$3,414
25-Sep-02 Wed	1	106.03	Brady	4.00	5.30	106.03	0.00	0.2	1	4	1	1	2		$2,556	$3,082
26-Sep-02 Thu	1	108.55	Brady	4.00	5.43	108.55	0.00	0.2	1	4	1	1	2		$2,556	$3,128
27-Sep-02 Fri	1	111.94	Brady	4.00	5.60	111.94	0.00	0.2	1	4	1	1	2		$2,556	$3,188
28-Sep-02 Sat	1	111.74	Brady	4.00	5.59	111.74	0.00	0.0	1	4	0	0	0		$1,721	$2,943
29-Sep-02 Sun	1	113.86	Brady	4.00	5.69	113.86	0.00	0.0	1	4	0	0	0		$1,721	$3,109
30-Sep-02 Mon	1	118.91	Brady	4.00	5.95	118.91	0.00	0.2	1	4	1	1	2		$2,556	$3,564
01-Oct-02 Tue	1	118.91	Brady	4.00	5.95	118.91	0.00	0.2	1	4	1	1	2		$2,556	$3,534
02-Oct-02 Wed	1	119.79	Brady	4.00	5.99	119.79	0.00	0.2	1	4	1	1	2		$2,556	$3,459
03-Oct-02 Thu	1	122.25	Brady	4.00	6.11	122.25	0.00	0.2	1	4	1	1	2		$2,556	$3,640
04-Oct-02 Fri	1	123.81	BFI	4.00	5.16	20.64	103.18	0.2	1	4	1	1	2		$2,556	$3,670
05-Oct-02 Sat	1	125.41	BFI	4.00	5.23	20.90	104.50	0.0	1	4	0	0	0		$1,721	$3,455
06-Oct-02 Sun	1	125.24	Brady	4.00	6.26	125.24	0.00	0.0	1	4	0	0	0		$1,721	$3,365
07-Oct-02 Mon	1	121.37	BFI	4.00	5.06	20.23	101.14	0.2	1	4	1	1	2		$2,556	$3,655
08-Oct-02 Tue	1	122.00	Brady	4.00	6.10	122.00	0.00	0.2	1	4	1	1	2		$2,556	$3,579
09-Oct-02 Wed	1	132.24	BFI	4.00	5.51	22.04	110.20	0.2	1	4	1	1	2		$2,556	$3,865
10-Oct-02 Thu	1	135.39	BFI	4.00	5.64	22.57	112.83	0.2	1	4	1	1	2		$2,556	$3,700
11-Oct-02 Fri	1	137.86	BFI	4.00	5.74	22.98	114.89	0.2	1	4	1	1	2		$2,556	$3,760
12-Oct-02 Sat	1	135.69	BFI	4.00	5.65	22.61	113.07	0.0	1	4	0	0	0		$1,721	$3,471
13-Oct-02 Sun	1	132.78	BFI	4.00	5.53	22.13	110.65	0.0	1	4	0	0	0		$1,721	$3,410
14-Oct-02 Mon																
15-Oct-02 Tue	1	122.25	BFI	4.00	5.09	20.38	101.88	0.2	1	4	1	1	2		$2,556	$3,790
16-Oct-02 Wed	1	120.88	BFI	4.00	5.04	20.15	100.73	0.2	1	4	1	1	2		$2,556	$3,745
17-Oct-02 Thu	1	118.63	BFI	4.00	4.94	19.77	98.86	0.2	1	4	1	1	2		$2,556	$3,655
18-Oct-02 Fri	1	114.52	Brady	4.00	5.73	114.52	0.00	0.2	1	4	1	1	2		$2,556	$3,564
19-Oct-02 Sat	1	109.14	Brady	4.00	5.46	109.14	0.00	0.0	1	4	0	0	0		$1,721	$3,184
20-Oct-02 Sun	1	107.01	Brady	4.00	7.13	107.01	0.00	0.0	1	4	0	0	0		$1,721	$2,793
21-Oct-02 Mon	1	113.91	Brady	4.00	5.70	113.91	0.00	0.2	1	4	1	1	2		$2,556	$3,489
22-Oct-02 Tue	1	113.91	BFI	4.00	4.75	18.98	94.92	0.2	1	4	1	1	2		$2,556	$3,655
23-Oct-02 Wed	1	114.99	Brady	4.00	5.75	114.99	0.00	0.2	1	4	1	1	2		$2,556	$3,609
24-Oct-02 Thu	1	111.50	Brady	4.00	5.57	111.50	0.00	0.2	1	4	1	1	2		$2,556	$3,609
25-Oct-02 Fri	1	110.72	Brady	4.00	5.54	110.72	0.00	0.2	1	4	1	1	2		$2,556	$3,429
26-Oct-02 Sat	1	111.38	Brady	4.00	5.57	111.38	0.00	0.0	1	4	0	0	0		$1,721	$3,199
27-Oct-02 Sun	1	110.02	Brady	4.00	5.50	110.02	0.00	0.0	1	4	0	0	0		$1,721	$3,154
28-Oct-02 Mon	1	116.68	Brady	4.00	5.83	116.68	0.00	0.2	1	4	1	1	2		$2,556	$3,459
29-Oct-02 Tue	1	116.68	Brady	4.00	5.83	116.68	0.00	0.2	1	4	1	1	2		$2,556	$3,323
30-Oct-02 Wed	1	106.51	Brady	4.00	5.33	106.51	0.00	0.2	1	4	1	1	2		$2,556	$3,173
31-Oct-02 Thu	1	106.44	Brady	4.00	5.32	106.44	0.00	0.2	1	4	1	1	2		$2,556	$3,459
01-Nov-02 Fri	1	108.29	Brady	4.00	5.41	108.29	0.00	0.2	1	4	1	1	2		$2,556	$3,504
02-Nov-02 Sat	1	110.69	Brady	4.00	5.53	110.69	0.00	0.0	1	4	0	0	0		$1,721	$3,320
03-Nov-02 Sun	1	109.72	BFI	4.00	4.57	18.29	91.44	0.0	1	4	0	0	0		$1,721	$3,410
04-Nov-02 Mon	1	102.83	Brady	4.00	5.14	102.83	0.00	0.2	1	4	1	1	2		$2,556	$3,444

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

									Required Staffing						
Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	S'visor	Fman	Op3	Op2	RH	Utility	Total Employee Cost	Total Equip Costs
05-Nov-02 Tue	1	102.83	Brady	4.00	5.14	102.83	0.00	0.2	1	4	1	1	2	$2,556	$3,384
06-Nov-02 Wed	1	101.69	Brady	4.00	5.08	101.69	0.00	0.2	1	4	1	1	2	$2,556	$3,384
07-Nov-02 Thu	1	98.97	Brady	4.00	4.95	98.97	0.00	0.2	1	4	1	1	2	$2,556	$3,369
08-Nov-02 Fri	1	94.69	Brady	4.00	4.73	94.69	0.00	0.2	1	4	1	1	2	$2,556	$3,263
09-Nov-02 Sat	1	93.66	Brady	4.00	4.68	93.66	0.00	0.0	1	4	0	0	0	$1,721	$2,989
10-Nov-02 Sun	1	90.11	Brady	4.00	4.51	90.11	0.00	0.0	1	4	0	0	0	$1,721	$2,974
11-Nov-02 Mon															
12-Nov-02 Tue	1	88.91	Brady	4.00	5.93	88.91	0.00	0.2	1	4	1	1	2	$2,556	$3,022
13-Nov-02 Wed	1	96.53	Brady	4.00	4.83	96.53	0.00	0.2	1	4	1	1	2	$2,556	$3,323
14-Nov-02 Thu	1	94.66	Brady	4.00	4.73	94.66	0.00	0.2	1	4	1	1	2	$2,556	$3,218
15-Nov-02 Fri	1	92.41	Brady	4.00	4.62	92.41	0.00	0.2	1	4	1	1	2	$2,556	$3,158
16-Nov-02 Sat	1	91.42	Brady	4.00	4.57	91.42	0.00	0.0	1	4	0	0	0	$1,721	$2,883
17-Nov-02 Sun	1	88.22	Brady	3.00	5.88	88.22	0.00	0.0	1	3	0	0	0	$1,167	$2,583
18-Nov-02 Mon	1	88.22	Brady	3.00	5.88	88.22	0.00	0.2	1	3	1	1	2	$2,002	$2,706
19-Nov-02 Tue	1	88.22	Brady	3.00	5.88	88.22	0.00	0.2	1	3	1	1	2	$2,002	$2,676
20-Nov-02 Wed	1	85.09	Brady	3.00	5.67	85.09	0.00	0.2	1	3	1	1	2	$2,002	$2,767
21-Nov-02 Thu	1	85.79	Brady	3.00	4.29	85.79	0.00	0.2	1	3	1	1	2	$2,002	$2,947
22-Nov-02 Fri	1	84.44	Brady	3.00	5.63	84.44	0.00	0.2	1	3	1	1	2	$2,002	$2,917
23-Nov-02 Sat	1	83.42	Brady	3.00	5.56	83.42	0.00	0.0	1	3	0	0	0	$1,167	$2,643
24-Nov-02 Sun	1	81.43	Brady	3.00	5.43	81.43	0.00	0.0	1	3	0	0	0	$1,167	$2,643
25-Nov-02 Mon	1	80.11	Brady	3.00	5.34	80.11	0.00	0.2	1	3	1	1	2	$2,002	$2,767
26-Nov-02 Tue	1	80.11	Brady	3.00	5.34	80.11	0.00	0.2	1	3	1	1	2	$2,002	$2,782
27-Nov-02 Wed	1	80.60	Brady	3.00	5.37	80.60	0.00	0.2	1	3	1	1	2	$2,002	$2,691
28-Nov-02 Thu	1	81.31	Brady	3.00	5.42	81.31	0.00	0.2	1	3	1	1	2	$2,002	$2,752
29-Nov-02 Fri	1	80.87	Brady	3.00	5.39	80.87	0.00	0.2	1	3	1	1	2	$2,002	$2,737
30-Nov-02 Sat	1	78.13	Brady	3.00	5.21	78.13	0.00	0.0	1	3	0	0	0	$1,167	$2,432
01-Dec-02 Sun	1	78.94	Brady	3.00	5.26	78.94	0.00	0.0	1	3	0	0	0	$1,167	$2,507
02-Dec-02 Mon	1	78.94	Brady	3.00	5.26	78.94	0.00	0.2	1	3	1	1	2	$2,002	$2,857
03-Dec-02 Tue	1	78.94	Brady	3.00	5.26	78.94	0.00	0.2	1	3	1	1	2	$2,002	$2,797
04-Dec-02 Wed	1	79.36	Brady	3.00	5.29	79.36	0.00	0.2	1	3	1	1	2	$2,002	$2,767
05-Dec-02 Thu	1	78.02	Brady	3.00	5.20	78.02	0.00	0.2	1	3	1	1	2	$2,002	$2,797
06-Dec-02 Fri	1	79.33	Brady	3.00	5.29	79.33	0.00	0.2	1	3	1	1	2	$2,002	$2,827
07-Dec-02 Sat	1	77.02	Brady	3.00	5.13	77.02	0.00	0.0	1	3	0	0	0	$1,167	$2,522
08-Dec-02 Sun	1	77.36	Brady	3.00	5.16	77.36	0.00	0.0	1	3	0	0	0	$1,167	$2,402
09-Dec-02 Mon	1	73.21	Brady	3.00	4.88	73.21	0.00	0.2	1	3	1	1	2	$2,002	$2,631
10-Dec-02 Tue	1	73.21	Brady	3.00	4.88	73.21	0.00	0.2	1	3	1	1	2	$2,002	$2,676
11-Dec-02 Wed	1	71.24	Brady	3.00	4.75	71.24	0.00	0.2	1	3	1	1	2	$2,002	$2,737
12-Dec-02 Thu	1	61.32	Brady	3.00	4.09	61.32	0.00	0.2	1	3	1	1	2	$2,002	$2,481
13-Dec-02 Fri	1	54.33	Brady	3.00	3.62	54.33	0.00	0.2	1	3	1	1	2	$2,002	$2,210
14-Dec-02 Sat	1	54.99	Brady	3.00	3.67	54.99	0.00	0.0	1	3	0	0	0	$1,167	$1,980
15-Dec-02 Sun	1	56.91	Brady	3.00	5.69	56.91	0.00	0.0	1	3	0	0	0	$1,167	$1,815
16-Dec-02 Mon	1	66.92	Brady	3.00	4.46	66.92	0.00	0.2	1	3	1	1	2	$2,002	$2,435
17-Dec-02 Tue	1	66.92	Brady	3.00	4.46	66.92	0.00	0.2	1	3	1	1	2	$2,002	$2,586
18-Dec-02 Wed	1	65.49	Brady	3.00	4.37	65.49	0.00	0.2	1	3	1	1	2	$2,002	$2,511

Appendix D – AutoBin Collection Internal Improvement Model

Internal Improvement AutoBin Collection Model #1

									Required Staffing							
Day	Collection	Tonnes	BFI or Brady	No. of Trucks (actual)	Tonnes per Load	Tonnes to Brady	Tonnes to BFI	S'visor	Fman	Op3	Op2	RH	Utility	Total Employee Cost	Total Equip Costs
19-Dec-02 Thu	1	57.38	Brady	3.00	3.83	57.38	0.00	0.2	1	3	1	1	2	$2,002	$2,225
20-Dec-02 Fri	1	56.21	Brady	3.00	3.75	56.21	0.00	0.2	1	3	1	1	2	$2,002	$2,195
21-Dec-02 Sat	1	57.69	Brady	3.00	3.85	57.69	0.00	0.0	1	3	0	0	0	$1,167	$1,995
22-Dec-02 Sun	1	62.26	Brady	3.00	4.15	62.26	0.00	0.0	1	3	0	0	0	$1,167	$2,010
23-Dec-02 Mon	1	70.67	Brady	3.00	4.71	70.67	0.00	0.2	1	3	1	1	2	$2,002	$2,616
24-Dec-02 Tue	1	76.39	Brady	3.00	3.82	76.39	0.00	0.2	1	3	1	1	2	$2,002	$2,947
25-Dec-02 Wed															
26-Dec-02 Thu															
27-Dec-02 Fri	1	97.51	BFI	4.00	4.06	16.25	81.26	0.2	1	4	1	1	2	$2,556	$3,685
28-Dec-02 Sat	1	100.10	BFI	4.00	4.17	16.68	83.42	0.0	1	4	0	0	0	$1,721	$3,516
29-Dec-02 Sun	1	97.67	Brady	4.00	4.88	97.67	0.00	0.0	1	4	0	0	0	$1,721	$3,184
30-Dec-02 Mon	1	87.66	Brady	4.00	4.38	87.66	0.00	0.2	1	4	1	1	2	$2,556	$3,097
31-Dec-02 Tue	1	87.66	Brady	4.00	4.38	87.66	0.00	0.2	1	4	1	1	2	$2,556	$3,338
		37,404				27,018	10,386							$758,422	$1,142,187

Appendix E – Fleet Management Agency Transition Costs

Manual Collection - Internal Improvements	Units	Cost	Total
(Rear Loaders: Required 15 units in Summer & 10 Units in Winter)			
(Reduce Fleet to 17 Rear Loaders)			
1 Value of Existing Fleet (Approx. Book Value - Jan. 1, 2006) (To Be Disposed)	7	$ 28,000	$ 196,000
2 Proceeds from Sales go to FMA			
3 Capital Contributions continue unless directed otherwise by Corporate Finance			
4 Impact on FMA:			
- 2 Mechanics			
HR Transition - About 30% are eligible for retirement, but may not choose to do so.			
Approx. Cost:			
Mechanics	2	$ 57,700	$ 115,400
			$ 115,400
5 No Facility Impact			

AutoBin Collection - Internal Improvements	Units	Cost	Total
(AutoBin: Requires 6 units in Summer & 4 units in Winter)			
1 Value of Existing Fleet (Approx. Book Value - Jan. 1, 2006) (To Be Disposed)	2	$ 53,319	$ 106,638
2 Proceeds from Sales go to FMA			
3 Capital Contributions continue unless directed otherwise by Corporate Finance			
4 Impact on FMA:			
- 2 Mechanics			
HR Transition - About 30% are eligible for retirement, but may not choose to do so.			
Approx. Cost:			
Mechanics	2	$ 57,700	$ 115,400
			$ 115,400
5 No Facility Impact			

Manual Collection - Contract Out	Units	Cost	Total
1 Value of Existing Fleet (Approx. Book Value - Jan 1, 2006) (To Be Disposed)	22	$ 28,000	$ 616,000
2 Proceeds from Sales go to FMA			
3 Capital Contributions continue unless directed otherwise by Corporate Finance			

Appendix E – Fleet Management Agency Transition Costs

4 Impact on FMA:
- 9 Mechanics
- 1 Foreman

HR Transition - About 30% are eligible for retirement, but may not choose to do so.
Approx. Cost:

Mechanics	9	$	57,700	$	519,300
Foreman	1	$	62,250	$	62,250
				$	581,550

5 Facility requirement will be reduced by 50% of floor space, current annual rent costs approx. $155,000.00

AutoBin Collection - Contract Out	Units		Cost		Total
1 Value of Existing Fleet (Approx. Book Value - Jan. 1, 2006) (To Be Disposed)	8	$	99,034	$	792,274

2 Proceeds from Sales go to FMA

3 Capital Contributions continue unless directed otherwise by Corporate Finance

4 Impact on FMA:
- 5 Mechanics

HR Transition - About 30% are eligible for retirement, but may not choose to do so.
Approx. Cost:

Mechanics	5	$	57,700	$	288,500
				$	288,500

5 Facility requirement will be reduced by 50% of floor space, current annual rent costs approx. $155,000.00

Manual and AutoBin Collection - Contract out Both	Units	Cost		Total
1 Value of Existing Fleet (Approx. Book Value - Jan. 1, 2006) (To Be Disposed)	30		$	1,408,274

2 Proceeds from Sales go to FMA

3 Capital Contributions continue unless directed otherwise by Corporate Finance

4 Impact on FMA:
- 14 Mechanics
- 1 Foreman

HR Transition - About 30% are eligible for retirement, but may not choose to do so.
Approx. Cost:

Mechanics	14	$	57,700	$	807,800
Foreman	1	$	62,250	$	62,250
				$	870,050

5 FMA will no longer have a need for space at Waverley, current annual rent costs approx. $155,000.00

		Option 2 Contract Out Manual	Option 1 Contract out AutoBin	Option 4 Contract Out Manual & AutoBin
Year 1	2006	$ 94,715.70	$ -	$ 389,051.28
Year 2	2007	$ 103,434.30	$ -	$ 346,349.70
Year 3	2008	$ 103,830.60	$ -	$ 278,846.60
Year 4	2009	$ 103,434.30	$ -	$ 277,393.50
Year 5	2010	$ 103,434.30	$ -	$ 277,393.50
Year 6	2011	$ 103,434.30	$ -	$ 277,393.50
Year 7	2012	$ 103,830.60	$ -	$ 278,959.21
Year 8	2013	$ 103,434.30	$ -	$ 277,393.50
Year 9	2014	$ 103,434.30	$ -	$ 277,393.50
Year 10	2015	$ 103,434.30	$ -	$ 277,393.50
Total		$ 1,026,417.00	$ -	$ 2,957,567.78
Additional Costs*		$ 284,625.04	$ -	$ 850,229.27
		$ 1,311,042.04	$ -	$ 3,807,797.05

Option 4 - Contract Out Manual and AutoBin
- assume 8 employees will be seasonally employed for 6 months for 2 years at the same rate of
  After the first 2 years, the employees are red-circled and will receive 1/2 of the COLA
- assume 2 employees will retire at the end of year 1 (2006) creating opening for 2 staff to be re
- assume 2 employees will be redeployed to another department within 2 years
- assume 2 employees will be reassigned within the department and no cost to Solid Waste pric
- assume 3 employees are not redeployable - all costs to Solid Waste
- all employees retire at 30 years service
- as of February 2006, dual seniority will be accepted for 24 months

Option 1 - Contract Out AutoBin, Internal Improvements Manual
- addition positions for this option are included in costing of internal improvements

Option 2 - Contract Out Manual, Internal Improvements AutoBin
- assume 2 employees will be reassigned within the department and no cost to Solid Waste pric
- assume 3 employees are not redeployable - all costs to Solid Waste
- all employees retire at 30 years service
- as of February 2006, dual seniority will be accepted for 24 months

* Burden as listed below and applicable training and boot allowance

Civic Pension	6.72%
CPP	5.11%
Group Insurance	0.24%
EI	3.59%
Dental	1.50%
Vision	0.39%
WCB	10.06%
	27.61%