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Green Industries SA

Food Waste Pilot – Summary Report

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- IMPORTANT NOTES-

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Document verification

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Executive Summary

Background

The Commercial Precinct Food Waste Pilot (the Pilot) was an initiative under the Commercial Food Waste Incentives Program and was undertaken during the first half of 2015. The project was facilitated by Green Industries SA (previously Zero Waste SA at the time of the pilot) in partnership with the City of Charles Sturt and the City of Unley. The Pilot aimed to introduce new food waste collection services for food-related businesses in the King William Road and the Henley Beach precincts.

During the Pilot, Green Industries SA (GISA) funded the food waste recycling service to encourage businesses to trial a food waste recycling system. This trial enabled the businesses to understand the benefits, costs and potential challenges for implementing a food waste recycling service.

The objective of the Pilot was to capture and understand the benefits and challenges associated with a precinct approach to commercial food waste recycling, which could then be used in the future when considering other precinct recycling models.

The Pilot was conducted between 27 March and 30 June 2015 (96 days), and included:

- Initial assessments to establish potential tonnages and requirements for a food waste collection service.
- Mid-Pilot assessments to measure Pilot outcomes (cost, diversion of recyclable material from landfill, etc.), as well as identify opportunities for further improvement, and any changes required to overcome any identified inefficiencies and barriers.
- Final assessments to measure Pilot outcomes (cost, diversion, etc.), identify opportunities for further improvement, and to document and share key learnings from the Pilot.

Pilot Outcomes

Total tonnes of food waste diverted from landfill

The total amount of food waste diverted from landfill achieved during the Pilot was 14.54 tonnes. This included:

- 9.37 tonnes for the King William Road Precinct (with 8 participating businesses and 7 actively participating businesses); and
- 5.17 tonnes for the Henley Beach Precinct (with 6 participating businesses and 5 actively participating businesses).

Based on these results, the businesses that actively participated in the Pilot have the potential to divert an estimated 55.3 tonnes of food waste from landfill per annum. This equated to an average potential diversion per business of 4.61 tonnes per annum, which is considered a significant potential diversion amount.

Pilot participation and identification of businesses continuing with a food waste recycling collection service

Table E-1 below shows a timeline of the progression of business participation throughout the Pilot.

Table E-1: Participation in Pilot throughout Pilot stages

No. Businesses	Participated in the Initial Assessments	Supplied with collection services during Pilot	Actively Participating in Pilot as per Mid-Pilot Assessments	Interested in Continuing with a Food Waste Collection Service as per Mid-Pilot Assessments	Confirmed as Continuing or Likely to Continue with a Food Waste Recycling Collection Service after Pilot Completion
King William Road Precinct	14	8	7	5	2-3
Henley Beach Precinct	12	6	5	3	3-4
Total	26	14	12	8	5-7

Out of the 14 businesses that were supplied with food waste collections during the Pilot, 5-7 businesses were confirmed as continuing/likely to continue with food waste collection services since the Pilot ended. This equates to around a 42% retention of those that participated in the funded trial, continuing with an ongoing service.

Summary of costs and savings from a food waste collection service

Analysis of the data provided by the food waste collection contractor providing services throughout the Pilot, identified that the costs for implementing a food waste collection service for most of the businesses could range between approximately \$700 to \$2,300 (or an additional 35% to 46% on top of current waste collection costs) per year.

Based on the current collection model where business is charged per lift for collection of each bin, for a business to be able to achieve savings on their waste and recycling collection costs through the implementation (or continuation) of a food waste collection service, they need to be able to either:

- Reduce the number of general waste bins rented and collected;
- Reduce the collection frequency of the general waste bins collected; and/or
- Reduce the cost per lift for general waste service, through negotiations with collection contractors based on a lower general waste weight due to the removal of food waste.

The pilot examined the potential for each business to achieve any of the above savings to their general waste collection costs, and identified that (based on market rates), one businesses could potentially save an estimated \$200 per year on their total waste and recycling collection costs, and a number of businesses could potentially implement a food waste recycling collection services for a reduced cost.

For the businesses where savings or a reduced cost food waste recycling service could not be identified, the main reasons for this were:

- Most businesses were unable to reduce their general waste collection frequency or bin sizes due to waste collection contractors charging their services on a per lift basis rather than per tonne. Any reduction in the weight of general waste material collected (per lift) is not taken into account on bills. Savings could only be realised if their collection costs were re-negotiated or the collection frequency or number of general waste bins utilised could be reduced.
- Many businesses pay for their waste collection services as part of their rental fees (i.e. within a shopping centre complex), through a single landlord arrangement, or utilise their councils waste collection services. This meaning there is little financial incentive to be provided with a food waste collection service.
- During the Pilot, most businesses were using between 1-2 compostable liners per day, meaning that the costs for using liners made up a significant proportion (approximately 1/3) of the calculated food waste collection service costs.

Summary of challenges and benefits

A summary of the current and on-going challenges identified by most businesses includes:

- Most businesses found challenges with providing ongoing training/reminding for staff on what materials can go into the food waste bin, particularly with the high number of casual staff in this sector.
- A number of the businesses participating in the Pilot had their waste collection costs covered within their rental fees, so there was no financial incentive to recycle food waste.
- Some businesses found the compostable bin liners to be too thin, compared to the black plastic bin liners they were used to dealing with, and had incidents of the liners splitting when they were overfilled by staff.
- Many of the businesses were time poor and have a high number/turnover of staff, so implementation of a food waste recycling system proved difficult.

Most of the businesses participating in the Pilot found some benefits from participation, including:

- A noticeable reduction in waste in general waste bins, which was seen as reducing the number of trips taken by employees to dispose of waste in external bins, and could also be seen potentially reduce collection frequency or bin sizes required.
- Employee appreciation of the business recycling food waste.
- The environmental benefits for both employees and customers, which could become a selling point for the business products and services.

Key learnings

All the businesses that were actively involved in the Pilot were generally positive about their participation. The assessments also found that the diversion ratio (tonnes/no. of businesses) was quite balanced between the two precincts. This gives a good indication of the number of tonnes that could be expected to be diverted by these types of businesses in other precincts.

The assessments also identified that if this type of pilot program was to be conducted again:

- There should be early participation from food waste collection contractors, to ensure that the businesses identified for a pilot have a higher chance continuing with services; and
- More emphasis should be placed on educational and promotional activities of the Pilot program, to create greater awareness among members of the public and potential customers.
- Periodic visits to, and communication with, businesses, by the project stakeholders, contributed to the success of the Pilot
- Encourage businesses to transition away from using the compostable bin liners, in order to reduce the costs of providing a food waste collection service.

Further reasons why a precinct model can be an excellent method to encourage food waste recycling in businesses include:

- The potential to use a precinct wide food waste recycling as an environmental selling point for business products and services in the area; and
- The geographical location of businesses enables collection efficiency and encourages lower collection service rates.

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1 Commercial Precinct Food Waste Pilot Summary

1.1 Background

Green Industries SA (GISA) (previously named Zero Waste SA at the time of the Pilot) worked in partnership with the City of Charles Sturt and the City of Unley to try to reduce the amount of food waste from businesses within these Councils going to landfill. Both Councils have commercial precincts that generate and discard food waste, and there is potential to divert large volumes of this waste from landfill to food recycling from precinct businesses. In response to this, GISA trialed a Commercial Precinct Food Waste Pilot (Pilot) that aimed to introduce new food waste recycling collection services in precincts that predominantly deal with the manufacture or retail of food items.

The Pilot was an initiative under the Commercial Food Waste Incentives Program. Under this program, GISA paid a financial incentive to a waste collection contractor to encourage businesses to introduce a food waste recycling service. Precincts offer a great opportunity to explore cost and performance efficiencies in waste management due to the close proximity of traders, space constraints for back of house waste management, business associations, an ethic of the businesses working together, as well as being high profile locations.

As part of the Pilot, GISA engaged Rawtec to provide waste assessments at the beginning, during and end of the pilot. Funding was also provided for food waste services collected during the Pilot. Promotional and educational materials were also part of the roll out to support the introduction of the food waste services. These materials provided information on use of the system and public information on the initiative targeted at key sectors or industry groups.

To maintain confidentiality of the participants, businesses are labelled Business 1-14 in the report.

1.2 What is Contained in this Report

This report contains a summary the analysis and assessment of the businesses from both precincts who participated in the Pilot, including:

- Total diversion of food waste achieved in the trial (tonnages collected over the period 27 March 2015 to 30 June 2015);
- Identification of businesses who are continuing with a food waste recycling service;
- Total potential costs and savings to businesses;
- Any further opportunities for increased division of food waste from landfill; and
- Any key learnings.

1.3 Scope of Work

The scope of work conducted during the assessments by Rawtec included:

- Review and assessment of data from the waste contractor of food waste recycling collection.
- Recording of key findings from the assessments.
- Preparation of a project report.
- Meetings to review key findings from the assessments and receive feedback on draft report.

2 Summary of Pilot Outcomes

2.1 Available Food Waste

Initial assessments of precinct businesses found that no businesses were previously receiving a food waste recycling collection service before the Pilot commenced, and that the general waste bins used by cafés and restaurants in the Precincts contained a significant amount of available food waste (approximately 31%) that could be diverted throughout the Pilot (see Figure 2-1 below). The initial assessments also found high levels of other recyclable materials in the general waste bin (i.e. dry recyclables, bottles & cans and cardboard & paper). However, these materials were not part of the focus of the Pilot and therefore not looked into further as part of this work. Additionally, if these recyclables were to be diverted from the general waste bins, then food waste would make up a greater proportion of the general waste disposed by these businesses, further confirming the importance of the Pilot.

Average Composition of Cafe/Restaurant Business Waste

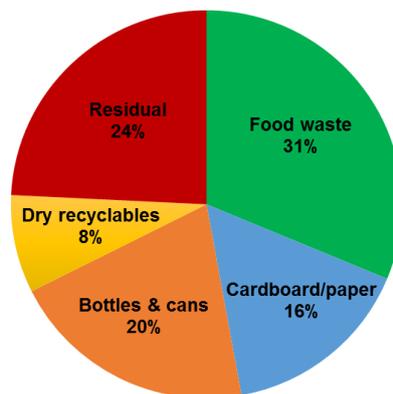


Figure 2-1: Average composition of cafe/restaurant bins identified during initial assessments

2.2 Total Tonnes Diverted

The total diversion of food waste achieved in the Pilot (tonnages collected between 27 March 2015 and 30 June 2015) was 14.54 tonnes. Figure 2-2 below illustrates the total tonnes diverted during the Pilot, including total tonnes diverted per precinct.

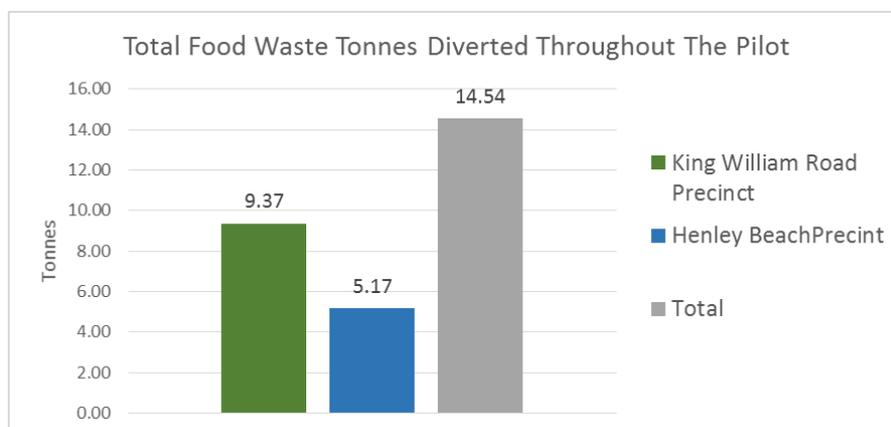


Figure 2-2: Total food waste tonnes diverted throughout the Pilot

2.3 King William Road Precinct

For the King William Road Precinct, an overall diversion rate of 9.37 tonnes was achieved, with an average of 1.34 tonnes diverted per business (for the businesses that actively participated in the Pilot). The average diversion rate does not include Business 8, due to only one collection taking place at the beginning of the Pilot for this business, with minimal tonnes collected. If this was a service that the business was paying for, it would have been cancelled within a short period of time.

Figure 2-3 below illustrates the total food waste diversion achieved by the participating businesses in the King William Road Precinct.

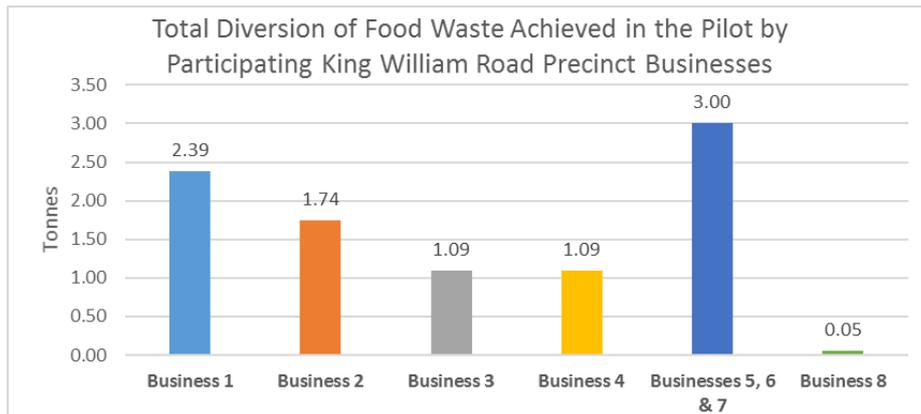


Figure 2-3: Total food waste diversion by King William Road Precinct businesses

2.4 Henley Beach Precinct

For the Henley Beach Precinct, an overall diversion rate of 5.17 tonnes was achieved, with an average of 1.03 tonnes diverted per business (for the businesses that actively participated in the Pilot). The average diversion rate does not include the Business 14 due to no collections taking place from the business throughout the Pilot, and if this was a service that they were paying for, it would have been cancelled after a short period of time. Additionally, Business 12 only received three collections during the Pilot and did not actively participate after the mid-pilot assessments. These considerations significantly lower the average diversion rate for Henley Beach Precinct businesses.

Figure 2-4 below illustrates the total food waste diversion achieved by the participating businesses within each precinct.

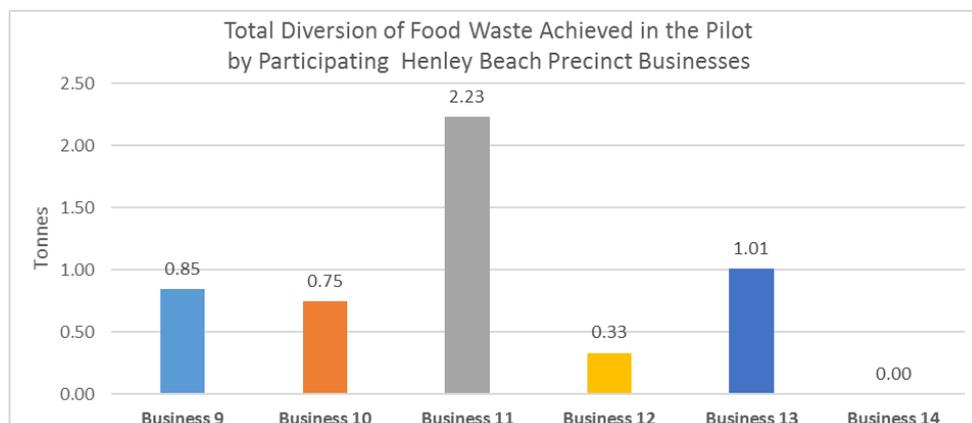


Figure 2-4: Total food waste diversion by Henley Beach Precinct businesses

2.5 Precinct Performance During Pilot

Analysis of the Pilot investigations and outcomes found that for the businesses from both precincts who actively participated in the Pilot, most businesses were diverting at least an estimated 30% of their total food waste generated (based on the initial assessments), and some businesses were diverting up to 80% of their food waste generated throughout the Pilot.

Figure 2-5 below illustrates the performance of both precincts per collection throughout the Pilot.

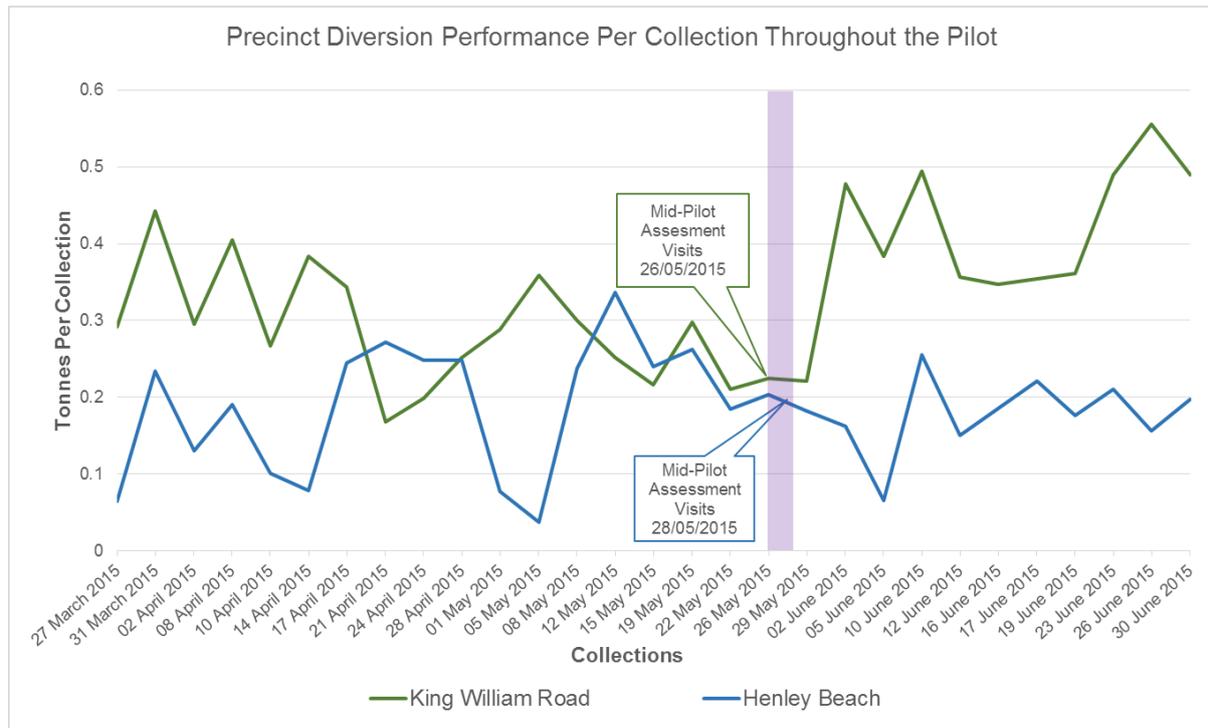


Figure 2-5: Precinct diversion performance per collection throughout the Pilot

2.6 Estimated Tonnes Diverted Per Annum

Analysis of the diversion performance of participating businesses (in Section 2.5 above), found that the combined precincts have the potential to divert an estimated 55.3 tonnes of food waste from landfill per annum. It was also identified that the average total amount of food waste diverted by each precinct (based on total tonnes divided by number of businesses) was relatively similar between the two precincts and, based on this assumption, the estimated average potential diversion for each actively participating business per annum was 4.61 tonnes.

2.7 Pilot Participation

Table 2-1 below shows a timeline of the progression of business participation throughout the Pilot.

Table 2-1: Participation in Pilot throughout Pilot stages

No. Businesses	Participated in the Initial Assessments	Supplied with collection services during the Pilot	Actively Participating in Pilot as per Mid-Pilot Assessments	Interested in Continuing with a Food Waste Collection Service as per Mid-Pilot Assessments	Confirmed as Continuing or likely to continue with a Food Waste Recycling Collection Service after Pilot Completion
King William Road Precinct	14	8	7	5	2-3
Henley Beach Precinct	12	6	5	3	3-4
Total	26	14	12	8	5-7

2.8 Businesses Continuing with a Food Waste Recycling Collection Service

Out of the 26 businesses that were initially participating in the Pilot through having an initial waste assessment, only 14 businesses received food waste collections during the pilot. Out of those 14 businesses that were supplied with food waste collections during the Pilot, three businesses have been confirmed as continuing (since the Pilot ended), and there are 3-4 additional businesses that have been identified as likely to continue with a food waste recycling collection service and are currently in negotiations with contractors. This equates to around a 42% likely retention of those that participated in the funded trial continuing with an ongoing service.

3 Summary of Collection Costs and Savings

3.1 Cost for Waste Collection

The cost for waste collection is made up of the costs for the collection of bins, as well as the disposal of waste to landfill. Currently (and historically) waste collection contractors charge for their services on a per lift basis (i.e. every time the collector picks up the bin), rather than per tonne of material picked up. The rate charged for collection of an organics recycling bin per lift is slightly higher on average than the collection of a general waste bin per lift.

However, the density of diverted food waste material can be as much as 3 times that of mixed general waste material and, if removed from general waste bins, would reduce the cost for disposal for collection contractors. As a result of current service pricing based on collection per lift (rather than per tonne), for a business to be able to achieve immediate savings on their waste and recycling collection costs through the implementation (or continuation) of a food waste collection service, they need to be able to:

- Reduce the number of general waste bins rented and collected;
- Reduce the collection frequency of the general waste bins collected; and/or
- Reduce the cost per lift for general waste service, through negotiations with collection contractors based on a lower general waste weight due to the removal of food waste.

Furthermore, if waste and recycling was collected on a per tonne basis (rather than per lift), then the costs for the collection of an organics bin would most likely be lower than the costs for the collection of a general waste bin, due to the cost of recycling food waste material, being lower than the cost for sending waste to landfill.

The service arrangement for waste and recycling collection from a business also determines their options for being able to reduce collection costs. Businesses that manage their own waste and recycling collection services or contracts have much more flexibility in altering arrangements (e.g. bin sizes or collection frequency) or costs for collection per bin. Businesses that have their waste and recycling collected as part of a shared arrangement (i.e. retail complex) or through council collection have fewer options for reducing collection costs. In these arrangements, any changes to a collection service (e.g. introduction of a new recycling stream collected, such as food waste recycling service), usually requires agreement from all businesses that are involved in the shared services.

3.2 Food Waste Collection Service Costs (During the Pilot)

The cost for implementing a food waste recycling collection service during the Pilot included the collection costs (bin rental and collection), as well as the costs of bin liners (optional costs). Figure 3-1 below presents a chart showing a breakdown of these costs.



Figure 3-1: Breakdown of costs for a food waste collection service

The average costs for the bin liners used during the Pilot was:

- \$0.36 for one 35L liner;
- \$0.71 for one 80L liner; and
- \$0.98 for one 140L liners.

Based on the analysis of the data provided by the food waste collection contractor providing services throughout the Pilot, it was identified that the costs for implementing a food waste collection service for most of the businesses could range between approximately \$700 to \$2,300 (or an additional 35% to 46% on top of current waste collection costs) per year. This range was estimated without:

- Including the costs for bins lines (as they are deemed to be an optional cost).
- Decreasing either the collection frequency of general waste bin collected.
- Decreasing the number of general waste bins collected.
- Decreasing the cost of the remaining general waste collection

If the cost mitigation methods identified above were utilised by the businesses and waste contractors, the additional cost for a food waste recycling service would be minimised, or potentially reduce the costs for a general waste collection service.

3.3 Identified Savings for Businesses

The site visits and interviews conducted during the assessments identified that:

- 9 businesses had their waste and recycling collected by private contractors and had individual waste contracts in place; and
- 5 businesses had their waste and recycling collected as part of a shared complex, landlord arrangement or council collection arrangement.

With businesses who manage their own waste collection contracts there is much more scope to reduce waste collection costs, through the implementation of a food waste recycling service. However, only one business (Business 10 from the Henley Beach precinct) was found to have the potential to achieve immediate savings on their total waste and recycling costs during the Pilot.

For this business, there was the opportunity to reduce the number of general waste bins collected each week from 6 x 240L bins to five. For this business, through implementing a food waste collection service, there would be opportunity for estimated saving of around \$200 per annum on their waste and recycling costs (based on estimated market rates). Investigating an alternative service arrangement for general waste (i.e. moving to using 1 x 660L bin collected 1-2 times per week) could also yield potential further savings on their costs for general waste collection.

Analysis also found that a number of businesses could potentially reduce the costs of a continued food waste collection service through reducing their general waste collection costs. These businesses were all located in the King William Road precinct, and included:

- Business 3 – Although no immediate savings could be found (due to the costs of the business currently using around 2-4 compostable liners per day), if food waste recycling was to continue, then there was the opportunity for this business to reduce the number of 240L general waste bins collected (from three to two). In doing so, this business could potentially reduce the collection costs for a continued food waste recycling service from an estimated \$1,900 to around \$1,000 per annum. Investigating an alternative collection arrangement for collection of their general waste (e.g. moving to using 1 x 660L bin instead of 3 x 240L bins), could also identify further potential savings for the business on their general waste collection costs.
- Businesses 5, 6 and 7 (shared collection services) – These businesses were provided with 2 x 660L food waste bins for the Pilot based on estimated potential diversion, however, only one was used during the Pilot. Moving to only 1 x 660L food waste bin could potentially halve the costs for introducing a food waste recycling service for these businesses.

For the businesses where savings could not be found, the main reasons identified were:

- Most businesses were not diverting enough food waste volumes during the Pilot to significantly reduce their general waste collection frequency or bin sizes, and due to waste collection contractors charging on per lift basis rather than per tonne, any reduction in the weight of general waste bins was not taken into account in collection costs.
- A number of business paid for their waste collection services as part of their rental fees (i.e. within a shopping centre complex or through their landlord), where bins and collection costs are shared between a numbers of businesses. This means that any reduction in general waste volumes due to food waste recycling did not necessarily equate to a reduction in collection costs (i.e. bin sizes or collection frequency). Therefore, if the business was to continue/begin with the food waste collection service, the costs associated with the collection would most likely be on top of their rental costs. This also applies for any business utilising a Council waste service for general waste where the food waste collection is an additional cost on top of their Council rates.

3.4 Collection Frequency

Throughout the Pilot, most businesses received collection of their food waste recycling bins twice a week, and one business received collection three times a week. Visual inspections of the bins, as well as recorded volumes by the collection contractor, indicated that most bins were usually less than half full when collected. This meant that most businesses could reduce the collection of their food waste recycling bins to once a week, reducing the costs of a continued food waste collection service significantly.

3.5 Need for Bin Liners

With most businesses going through 1-2 liners per day, and the bin liners making up approximately 1/3 of the costs for a food waste recycling collection service, the costs for using bin liners ended up being a significant proportion of the precinct businesses' food waste recycling collection costs.

Site inspections and discussions with the business owners/managers found that bin liners were not necessarily needed in many cases (e.g. for businesses where the majority of food waste is coffee grounds), and that there was the potential for businesses to recycle their food waste without purchasing compostable bin liners. By not using bin liners, businesses would be able significantly reduce the costs for a food waste recycling collection service. This could be achieved if appropriate management (cleaning) systems were put in place, which were similar to the treatment and cleaning of general waste bins.

4 Challenges Identified, Further Opportunities for Increased Diversion of Food Waste from Landfill and Key Learnings from the Pilot

4.1 Summary of Current and On-going Challenges Experienced During the Pilot

Most businesses recognised that there were some challenges in implementing a food recycling system within their establishments. These can be summarised as:

- Waste disposal habits of staff for some businesses sometimes proved difficult to change, and staff were regularly putting the wrong materials in the food waste bins. A number of businesses found challenges with providing ongoing training/reminding for staff on what materials can go into the food waste bin.
- Some of the businesses participating in the pilot had their waste collection costs covered within their rental fees;
- A handful of businesses felt that the compostable bin liners to be too thin compared to the black plastic liners they were used to dealing with, and believed the compostable bin liners were prone to splitting or tearing when full, which could potentially increase the number of liners used, increasing costs.
- One business had an issue where access to their bins was locked during public holidays meaning that waste had to be stored in-house during that period.
- A large proportion of business owners/managers were time poor and had a high number/turnover of staff and as such, implementation of a food waste recycling system was difficult.

Some of these challenges were addressed by business owners/managers by:

- Only half filling compostable bags; and
- Providing on-going training and signage for what materials are allowed in the food waste bins.

Contamination of food waste recycling bins with other material (e.g. plastic bags) was identified by businesses during the initial assessments as a potential challenge to introducing a food recycling system. However, discussions with the food waste collection contractor providing the collection services throughout the Pilot indicated that contamination was not an issue, and the contractor was relatively satisfied with the high quality and low contamination levels of the food waste collected for recycling from the businesses. Furthermore, any contamination observed during the assessment visits was clearly identified as a contaminate by the accompanying staff member, and was promptly removed from the food waste recycling bins.

4.2 Summary of Benefits

Most of the businesses participating in the Pilot found some benefits from participating in the program. These can be summed up as:

- A noticeable reduction in waste in general waste bins, which can potentially reduce general waste bin sizes and collection frequency;
- Reducing the number of trips required to dispose of waste in the external bins;
- Employee appreciation with the business recycling food waste and knowing where their food waste is going; and
- The environmental benefits for both employees and customers, which could become a selling point for the business' products and services.

4.3 Suggestions and Feedback from Businesses

Most of the businesses provided some valuable suggestions and feedback for improving of the pilot and food waste recycling systems. These include:

- Simple marketing/advertising to display on the shop doors to show customers what the business is doing to recycle food waste. This would also be to initiate conversation about the recycling that the business does.
- Bigger food waste bins as the 140L bin filled up quickly.
- Continue with free pickup.
- Providing internal food and general waste bins with appropriate labelling and colours to make it easier for staff to distinguish between bins.
- More advertising (i.e. social media, newspaper etc.) regarding the Pilot and outcomes of the Pilot (i.e. amount of food waste diverted from landfill) to initiate conversation with customers.
- Thicker/stronger compostable liners.
- More training on how to get involved/implement food waste recycling systems.
- A list of businesses participating, statistics and information about where the food waste is going to tell customers (i.e. small sticker/poster etc.) to display in the businesses.

4.4 Importance of Continued Communication with Businesses

The Pilot included a number of visits to and communication with participating businesses:

- Engagement visits (by KESAB and the food waste collection contractor providing services throughout the Pilot);
- Bin delivery (by the food waste collection contractor);
- Follow-up calls (by the food waste collection contractor); and
- Initial and mid-Pilot assessment/review visits (by Rawtec).

These visits and communication played an important role in the success of the Pilot program, and contributed to the high food waste diversion rates and the absence of any contamination issues. The visits and communication helped provide an opportunity to discuss the systems and resolve any issues or challenges that businesses were encountering, and were an opportunity to reinforce correct use of the system. Evidence of this is shown in the diversion rates in Figure 2-5 on page 9, which also highlights the mid-pilot visits/review points.

4.5 Key Learnings

The following key learnings should be considered if this type of pilot program was to take place again.

- It is possible for a future Pilot to be conducted with fewer stakeholders (i.e. a local council and a food waste collection provider). Additionally, the contractor may be willing to fund food waste collections for a short period (i.e. 2 weeks/month), if businesses demonstrated a high enough level of interest. However, it would still be beneficial for a state government agency (such as Green Industries SA), to play a role in any new pilot program to assist with marketing, promotion etc.
- There should also be more consultation and input from food waste collection contractors:
 - This would ensure that the businesses identified for a pilot have a higher chance continuing with food waste collection services;
 - Contractors would have more consultation with the businesses, which would encourage increased diversion and food waste recycling system efficiency; and
 - This would also allow for increased discussions regarding waste collection contracts.
- More emphasis should also be placed on the education and promotional aspects of a pilot program, to create greater awareness among members of the public and potential customers.
- Encourage businesses to transition away from using the compostable bin liners to reduce the costs of providing a food waste collection service.
- For the businesses continuing with a food waste recycling collection service, their collection frequency and bin sizes should be periodically analysed to potentially reduce the number of bin lifts that have empty bins, and also to provide a more accurate estimation for the on-going/future costs of implementing a food waste recycling system.

4.6 Summary of the Pilot Experience

Although there were a number of challenges recognised for businesses that participated in the Pilot, many of these have the potential to be overcome through the suggestions and feedback outlined above. Additionally, all the businesses that were actively involved in the food waste assessments were generally positive about their participation in the Pilot and the benefits participation provided.

The assessments found that the ratio of diversion (tonnes/no. of businesses) was quite balanced between the two precincts. This supports the view that the outcomes and experiences from this Pilot give a good indication of the tonnages that could be expected to be diverted by these types of businesses in other locations/precincts, and demonstrate that:

- The precinct wide food waste recycling model can be an excellent method to encourage food waste recycling among businesses.
- There is the potential for precincts to use a precinct wide food waste recycling as an environmental selling point for precinct businesses, products and services; and
- The close geographical location of precinct based businesses encourages contractor competition and lower rates from collection contractors.

5 Appendix 1: King William Road Precinct Summary

For the King William Road Precinct, 8 businesses received food waste collections services as part of the Pilot. Table 5-1 below summarises the performance of these businesses and their estimated potential diversion tonnes per annum.

Table 5-1: King William Road Precinct – Final Assessment Summary

Business	Food Waste Performance (Low/Medium/High)	Avg. No. Staff Per Day	Volume of Food Waste Diverted Through Pilot - 27 March 2015 and 30 June 2015 (Tonnes)	Estimated Volume of Material Diverted Per Annum Based on Pilot Performance (Tonnes/Year)	Estimated % Of Organics Diverted	Comments (Based On Feedback During Mid-Pilot Assessments)
Business 1	Medium	8-10	2.386	9	50-70%	Food waste recycling system worked well
Business 2	High	5-6	1.744	6.6	60-80%	Food waste recycling system worked well
Business 3	High	3-4	1.092	4.1	60-80%	Food waste recycling system worked well
Business 4	Low-Medium	5-6	1.092	4.1	30-50%	Business began recycling food waste discontinued early in the Pilot due to system issues.
Business 5	High	5-6	3.004	11.4	60-80%	Food waste bin was shared between these businesses and food waste recycling system worked well
Business 6		2-4				
Business 7		4-5				
Business 8	Low	NA	0.0521	0.2	<20%	Business began recycling food waste but decided not to continue early in the Pilot

6 Appendix 2: Henley Beach Precinct Summary

For the Henley Beach Precinct, 6 businesses received food waste collections services as part of the Pilot. Table 6-1 below summarises the performance of these businesses and their estimated potential diversion tonnes per annum.

Table 6-1: Henley Beach Precinct - Final Assessment Summary

Business	Food Waste Performance (Low/Medium/High)	Avg. No. Staff Per Day	Volume of Food Waste Diverted Through Pilot- 27 March 2015 and 29 May 2015 (Tonnes)	Estimated Volume of Material Diverted Per Annum Based on Pilot Performance (Tonnes/Year)	Estimated % Of Organics Diverted	Comments
HB Business 9	High	4-6	0.848	3.227	60-80%	Food waste recycling system worked well
HB Business 10	Medium	3-4	0.746	2.840	50-70%	Food waste recycling system worked well
HB Business 11	High	3-4	2.227	8.475	60-80%	Food waste recycling system worked well
HB Business 12	NA	12	0.335	1.273	<20%	Business began recycling food waste at start of the Pilot, but discontinued shortly after due to food waste system issues
HB Business 13	High	6	1.009	3.838	60-80%	Food waste recycling system working well
HB Business 14	NA	8-10	NA	NA	NA	Business was initially going to participate but decided not to at the beginning of the Pilot