



Ref: TW24045
Rev: 2.0

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Memorandum

Kerbside Organics Review

City of Greater Geraldton

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Date:	31 May 2024	

1 Background

The City of Greater Geraldton (the City) engaged Talis Consultants (Talis) to undertake a Kerbside Organics Assessment (Organics Assessment) in July 2023. The works included a desktop review of the City's Food Organics and Garden Organics (FOGO) two-bin system trial (FOGO Trial) and provided an analysis of the findings and its implications for a full roll-out within the City.

Prior to the Organics Assessment, Talis assisted the City with the FOGO Recycling Program Preliminary Feasibility Assessment (Feasibility Assessment), which included the financial modelling used to support the introduction of the FOGO trial. As part of the Organics Assessment, Talis was engaged to update the Feasibility Assessment financial modelling works, based on information collected during the FOGO trial, and industry developments, to introduce a full roll-out across the City to all residential properties.

The City has engaged Talis to prepare this memorandum to provide:

- an overview of the FOGO trial including an update following the Organics Assessment;
- a summary of capital and annual operational costs from the Organics Assessment for a full roll-out of a two-bin FOGO collection system; and
- Key conclusions on the FOGO trial and on the introduction of a Kerbside two-bin Organics collection system.

1.1 Food Organics and Garden Organics Trial

The FOGO trial was implemented to allow the City to better understand the impacts of introducing a FOGO system to its community. The FOGO trial commenced in 2020 and was rolled out over a 12-month period to 530 residential households and 11 commercial properties (of which only 3 commercial properties actively participated).

FOGO material was collected from the trial participants and taken to the Meru Waste Disposal Facility (WDF) for initial screening and sorting prior to being transported for processing at an Organics Recycling Facility near to the Perth metropolitan area.

The FOGO trial was initially planned to run for a one-year period, but due to the Covid-19 pandemic the trial was extended. The trial was also planned for expansion to include additional properties. However, due to the challenges experienced, referred to in

Table 1-1, the expanded trial was not pursued. Instead, the City opted to extend the duration of the FOGO trial and assess whether a full roll-out of FOGO bins would be feasible.

Table 1-1: FOGO Trial Challenges and Opportunities

Challenges	Opportunities for Improvement
<ul style="list-style-type: none"> • Low bin presentation rates – participants not using the FOGO bin; • High contamination rates – participants placing incorrect materials in the FOGO bin; • Development of a successful composting system in the City – due to high contamination levels and limited knowledge of the speciality requirements with FOGO composting; • Recruitment difficulties – finding an Education Officer; and • Increasing costs – due to additional decontamination measures and transport requirements to process FOGO near the Perth metropolitan area. 	<ul style="list-style-type: none"> • Increased waste education to improve participation rates and reduce contamination; • On-going requirement for provision of compostable liners; • Retaining weekly general waste collections; • Resourcing requirements to better manage the FOGO operations; • Requirements for improvement to the collection contact; and • Requirements for improvement to the processing contract.

The FOGO trial has continued running since the Organics Assessment was completed and based on discussions with the City the above-mentioned challenges have continued and highlighted the same ongoing opportunities for improvement.

Overall, the FOGO trial enabled the City to collect useful data on participant behaviour, resourcing, tonnages, contamination, processing of FOGO and education measures. In addition, it allowed the City to test the community's acceptance of a FOGO system and gain a greater understanding of the challenges associated with introducing a new kerbside collection system, and the benefits of improved local processing capabilities for FOGO material.

1.2 Financial Modelling

The financial modelling sought to provide guidance on the feasibility of a full roll-out of a two-bin Organics collection system within the City. This section provides a summary on the following kerbside collection systems, which were modelled over a 10-year period:

- One-bin collection system – business as usual (BAU); and
- Two-bin FOGO collection system – weekly FOGO collection.

The financials for the kerbside collection systems were analysed using cost data provided by the City and estimates based on Talis’ industry knowledge from various procurement projects. The analysis considered the following costs:

- Operational:
 - Collection and Processing costs (BAU and FOGO);
 - Haulage to an Organics Processing Facility (FOGO);
 - Roll-out costs – additional City staff (education officer and project officer) to oversee the roll-out of the organics system and on-going education as required (FOGO);
- Capital:
 - Roll-out costs:
 - Additional Mobile Garbage Bins (MGBs) and lid replacement, as required, (FOGO);
 - Kitchen caddies and compostable liners (FOGO); and
 - Expansion of the concrete pad at Meru WDF for the initial screening and/or processing, including the associated approvals (FOGO).

A variety of other costs associated with the City’s waste management services were omitted including administration costs and overheads which were beyond the scope of the assessment. The full list of assumptions and inputs used in the financial modelling were included as an Appendix to the Organics Assessment. The Organics Assessment also modelled a two-bin GO option.

A summary of the capital and annual operational costs for the BAU and FOGO options are provided in Table 1-2.

Table 1-2: Capital and Annual Operational Costs per Option

Option	Year 1	Year 2	Year 3	Year 10	Average Annual Cost	Total Cost
	2023-24	2024-23	2025-26	2032-33		
One-bin system (current)						
Capital costs	\$-	\$-	\$-	\$-	\$-	\$-
Operational costs	\$1,802,393	\$1,886,839	\$1,975,304	\$2,724,664	\$2,234,955	\$22,349,555
Total	\$1,802,393	\$1,886,839	\$1,975,304	\$2,724,664	\$2,234,955	\$22,349,555
Two-bin FOGO System						
Capital costs	\$635,416	\$1,375,378	\$0	\$0	\$201,079	\$2,010,793
Operational costs	\$1,852,503	\$4,795,291	\$4,995,844	\$6,733,834	\$5,291,221	\$52,912,212
Total	\$2,487,918	\$6,170,669	\$4,995,844	\$6,733,834	\$5,492,301	\$54,923,005

The two-bin FOGO option is the most expensive, with the total system costs expected to be approximately \$54.93M over the 10-year lifetime of the model. The least expensive option is the BAU one-bin system, costing approximately \$22.35M over 10 years.

The contributing factors to the significant cost difference is the capital costs associated with the FOGO collection system including the additional MGBs, kitchen caddies and liners, and the collection and processing costs. The FOGO system also had the additional operational costs associated with haulage to the organics processing facility.

Whilst the one-bin general waste system, with tonnages disposed of to landfill, has the lowest costs over the 10-year life of the model. It should be noted that the Western Australian Government is currently undertaking a review of the geographical range of the State Waste Levy. The City, as one of the States Major Regional Centres¹, is within the geographical area being considered to have a potential levy applied to all waste disposed of to landfill², which would result in an increase in future costs.

2 Key Conclusions

Following the release of the previous report in July 2023, funding for a full roll-out of a kerbside Organics collection system has not been secured. Therefore, in the absence of funding to support a full roll-out of a kerbside Organics two-bin system the following conclusions have been reached:

- The Kerbside FOGO two-bin system trial should conclude;
- The City's current one-bin General Waste system to be retained until funding can be secured;
- The City should continue to explore technology/initiatives for on-site processing at the Meru WDF, including but not limited to:
 - engaging with commercial waste generators to understand who the key local organics waste generators are, their waste types and estimated tonnages they generate, with the view to increase the foundation feedstock to encourage investment from the market suppliers to establish a local FOGO processing facility or a City owned facility;
 - discussions with organics processing proponents which may include future trials at the Meru WDF; and
 - market sounding exercise and risk assessment to determine the financial and technical viability of a local FOGO processing facility.

¹ The Waste Authority Waste Avoidance and Recovery Strategy 2030: Western Australia's State Waste Strategy

² Department of Water and Environmental Regulation Review of the waste levy – Consultation summary report (<https://consult.dwer.wa.gov.au/waste-policy/review-of-the-waste-levy/>)