INFRASTRUCTURE COMMITTEE MEETING

AGENDA

7 FEBRUARY 2023

Your attendance is required at an Infrastructure Committee meeting of Council to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 7 February 2023 commencing at 9:00am for transaction of the enclosed business.

CHIEF EXECUTIVE OFFICER
31 January 2023

Next Meeting Date: 07.03.23

Please note:

In accordance with the *Local Government Regulation 2012*, please be advised that all discussion held during the meeting is recorded for the purpose of verifying the minutes. This will include any discussion involving a Councillor, staff member or a member of the public.

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1 OPENING

1.1 Acknowledgement of Country

2 PRESENT

Members Present:

The Mayor, Councillor A P Williams (Chairperson)
Deputy Mayor, Councillor N K Fisher
Councillor S Latcham
Councillor C E Smith
Councillor C R Rutherford
Councillor M D Wickerson
Councillor D Kirkland
Councillor G D Mathers

In Attendance:

Mr E Pardon – Chief Executive Officer
Mr P Kofod – General Manager Regional Services

3 APOLOGIES AND LEAVE OF ABSENCE

4 CONFIRMATION OF MINUTES

Minutes of the Infrastructure Committee held 6 December 2022

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

Nil

7 PUBLIC FORUMS/DEPUTATIONS

Nil

8 PRESENTATION OF PETITIONS

Nil

9 COUNCILLOR/DELEGATE REPORTS

Nil

10 OFFICERS' REPORTS

10.1 PROJECT DELIVERY CAPITAL PROJECT REPORT - JANUARY 2023

File No:	**7028**
Attachments:	**1. Project Delivery Capital Project Report January 2023⇩**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**Andrew Collins - Manager Project Delivery**

SUMMARY

Monthly status report on all projects currently managed by the Project Delivery unit.

OFFICER'S RECOMMENDATION

THAT the Project Delivery Monthly Report for January 2023 be received.

The Project Delivery section submits a monthly project report outlining the status of capital projects managed by the Unit.

The following projects are reported on for the month of January 2023:

- Alliance Maintenance Facility
- Arthur Street SPS
- Botanic Gardens & Zoo Redevelopment
- Glenmore Water Treatment Plant Upgrade
- Glenmore Water Treatment Plant Solar Farm
- Gracemere & South Rockhampton STP Strategy
- Hail Damage Insurance Claim
- Mount Morgan Pool
- North Rockhampton Sewage Treatment Plant Upgrade
- Mount Morgan Water Treatment Plant
- Mount Morgan Water Supply Pipeline Project

PROJECT DELIVERY CAPITAL PROJECT REPORT - JANUARY 2023

Project Delivery Capital Project Report January 2023

Meeting Date: 7 February 2023

Attachment No: 1

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: January 2023

Scope

Deliver the annual capital works program, achieving a capital program within 95% of the budget.

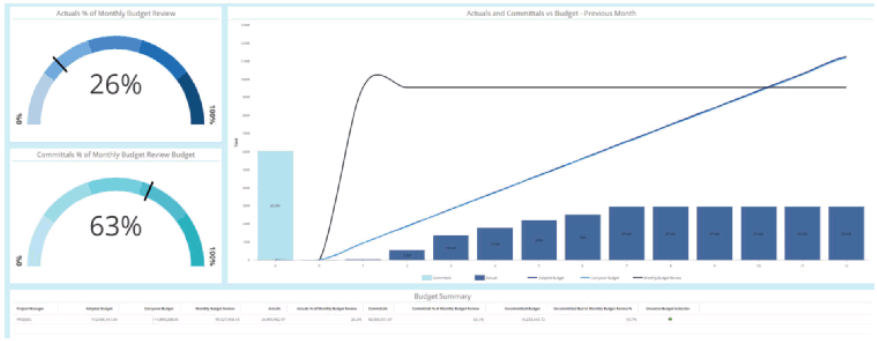
Ensure the delivery of infrastructure projects meet objectives set out in the 2022/23 Operational Plan.

BUDGET $95,527,958.

Traffic Light Reporting

Item	Last Month	This Month	Comments
Scope	A	A	Re-scoping Zoo project to suit budget allocation
Budget	G	G	No current budget issues.
Schedule	R	R	Delivery of Council funded works on AMF has been rescheduled to suit delivery method. Botanic Playground. Delays in Dingo Structure from OS. Arthur St PS. Over budget estimate

2022/23FY R1 Summary



Status Overview

Key Milestones & Deliverables This Month (January)

- **Alliance Maintenance Facility**
  Project in final completion stages.
- **North Rockhampton Sewage Treatment Plant**
  Construction of concrete structures to continue.
- **Mt Morgan Water Security**
  Orders placed for Pipes / Main contract tender close
- **Mt Morgan Pool**
  Pool construction tender close

Three Month Horizon

February	March	April
• **Mt Morgan Pool** D&C award • **Mt Morgan Water Security** Project site works commence, Adjudicate main contract. • **North Rockhampton Sewage Treatment Plant** Concrete structures to continue. • **GWTP Upgrade** Filter reconstruction continue. • **Botanic Gardens & Zoo Redevelopment** Re-Tender Visitor Hub, Playground installation finalised.	• **GWTP / Solar** Site works to commence end of month • **Mt Morgan Water Security** Pre-construction Activities • **North Rockhampton Sewage Treatment Plant** Concrete structures to continue. • **Alliance Maintenance Facility** Anticipated Official Opening • **Botanic Gardens & Zoo Redevelopment** Re-Tender Visitor Hub,	• **GWTP / Solar** Work underway • **Mt Morgan Water Security** Site works underway • **North Rockhampton Sewage Treatment Plant** Concrete structures to continue. • **Botanic Gardens & Zoo Redevelopment** Award contract (Visitor Hub)

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: January 2023

Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Alliance Maintenance Facility	Construction	G	G	A	• Project basically completed. Line marking to carpark and landscaping works outstanding. • Power connection still not complete Milestone 1 fund of $3.75M has been received. Milestone 2 fund of $7.5M has been received. Milestone 3 fund of $11.25M has been received.
Arthur Street Pump Station	Construction	G	G	A	Tenders closed. Offers received were more than available budget. Project put on hold.
Botanic Gardens & Zoo Redevelopment	Design	A	G	R	• Package 2 Visitor Hub Construction: Project and design documentation is currently being separated into two stages (Stage 1: Visitor Hub, Stage 2: Animal Operations Centre). A revised tender package will then be prepared for Stage 1 with a target release to market date of 3 March 2022. • Package 3 Playground: The Project Program has had a major change due to shipping delays of Custom Dingo equipment; The Dingo equipment is now scheduled for delivery to site on 7 February 2023. Civil works to cutting and retaining of site are completed. The installation of play equipment is 75% complete and is scheduled to be completed on 1st March. • Package 4 Enclosure Refurb: The Eagle enclosure design and construct contract was awarded on 2 November 2022, Procession of Site has been awarded and works started onsite with demolition, Detailed design is 75% complete.
Glenmore Water Treatment Plant Upgrade	Design & Construction	G	G	G	• Filter demolition works commenced. • Construction of Polymer dosing plant commenced • Vendor commissioning of MgO dosing system completed • Installation of Carbon Dosing system completed • New Control Room roof installed • Stage 2 Tender Submission for upgrade for the Design and Construction of Lamella Plates in Sedimentation Tanks, Sludge Removal System and UV System closes 8 February 2023

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: January 2023

Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Glenmore Water Treatment Solar Farm	Design & Construction	G	G	G	• Tracking system equipment has been secured and delivered to site. • Tender has closed, been adjudicated and awarded to GEM solar. Work to commence on site March / April • GEM solar are finalising detail design and Started procurement of long lead items. HV Kiosk and solar panels. • GEM Liaison with Ergon energy for connection to grid
Gracemere & South Rockhampton STP Strategy	Strategic Assessment	G	G	G	Current work relates to developing and implementation of stages to be able to realise the strategic plan. A consultant has been engaged to develop the design strategy for both Gracemere and South Rocky STP's. 1. Installation of Penstocks in bioreactors at SRSTP has been completed. 2. New Caustic soda dozing system at SRSTP completed, VO issued to Haslin. Priced VO rejected. Tender package being compiled. 3. Installation of recycled water PS at SRSTP underway, Chambers installed. 4. New Wet well for Sludge Pump Station (Planning works undertaken) 5. Condition assessments & replacement of diffusers (Condition Assessment being planned) 6. Condition assessments & upgrade of sludge digesters (investigation work underway) 7. Upgrade of Sludge Lagoons both at SR & G STPS (Gracemere works complete / NRSTP underway 20% scope increased / SRSTP underway 50%) 8. Missing effluent pipeline at GSTP (FRW works underway) 9. Sewer diversion; Gracemere to South R'ton STP (Geotech complete at GSTP, pipeline prelim design completed. PS design to commence.) 10. New SRSTP – (planning stage) 11. Variation order issued to Haslin for new aerator install at GSTP. Aerators procured anticipated install April 2023.
Hail Damage Insurance Claim	Construction	G	G	G	• Works to Dooley Street Depot is 100% Completed. • North Rockhampton Library is 100% Completed. • Boathouse Café hail damaged Solar Panels is 100% Completed. • Elfin House Childcare centre is 100% completed. • 152 Lakes Creek Road landfill is 100% completed. • Kershaw Gardens Precinct roof structures are 100% completed. • Victoria Park Shade structures is 100% completed. • North Rockhampton Sewage Treatment Plant is scheduled to be now to be completed by 28 February 2023.

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: January 2023

Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Mount Morgan Pool	Preliminary Evaluation	G	G	G	• Tender evaluation commenced
North Rockhampton Sewage Treatment Plant Upgrade	Construction	G	G	G	Following are the major activities recently undertaken on the project: • Construction of the concrete structures has continued on the inlet structure, which is now complete and ready for application of epoxy coatings in February; • Further sections of the oxidation ditch and reactor concrete walls have been FRP. Structure approximately 70% completed; • Footings and ring beams to clarifier 3 has now been completed; • New blower room footings and blade walls completed. Deck being formed. • Footings excavated and steel tied for HV building • Geotechnical investigation for Stage 2 blower room and new centrifuge building complete.; • 35% stage 2B electrical design now underway; • HV Transformers procured.
Mount Morgan Water Treatment Plant	Construction	G	G	G	Site Possession approved from 9th January 2023 and site established. Work commenced on condition assessment of plant and stripping of filter systems.
Mount Morgan Water Pipeline Project	Construction	G	G	G	Following are the major activities recently undertaken on the project: • Contract awarded and first order placed for the Supply & Delivery of Pipes, Fittings & Valves for Mt Morgan Supply Trunk Mains. • Tender package 15274 Design and Construction of Three Water Pump Stations for the Mount Morgan Water Supply Project was released to market on the 21 October 2022, site inspection completed. Tender closed on 25 January 2023 • Design development is now in its final stages. • Agreement being negotiated with Ed QLD for land lease / Order placed for fencing of the project laydown area at Lucas Street.

10.2 FOOD ORGANICS GARDEN ORGANICS (FOGO) TRIAL - PROJECT EVALUATION

File No:	**121**
Attachments:	**1. FOGO Trial - Project Evaluation Report⇩**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**George Meacham - Coordinator Strategy and Education** **Michael O'Keeffe - Manager Rockhampton Regional Waste and Recycling**

SUMMARY

The final evaluation report (FOGO Trial - Project Evaluation Report) is provided for Council's review and endorsement.

OFFICER'S RECOMMENDATION

THAT Council acknowledge and approve the report as final.

EXECUTIVE SUMMARY

The attached report provides an evaluation of the Rockhampton Regional Council's FOGO Trial (the trial) undertaken between October 2021 and September 2022.

Based on the trial findings, the report makes the following recommendations in respect of any future community wide service roll out:

1. Users should be offered a portfolio of alternative service options aimed at meeting a range of needs.
2. An immediate investment is required in a behaviour change plan to build and engage the community on the chosen service delivery model.
3. Regulatory mechanisms are required that provide for the imposition of penalties and sanctions on non-compliant users.
4. A simple to understand list of eligible materials needs to be adopted.
5. FOGO households should be issued with a free allocation of caddy liners at commencement of the service.
6. An immediate investment is required in building a community wide electronic contact database for the purposes of ongoing digital communication with future service users.
7. Multi-dwelling units should be excluded from the initial service roll-out.
8. A set of standard performance and data capture methods should be established.

BACKGROUND

Rockhampton Regional Council (Council) made a commitment in its Waste Strategy 2020-2030 to "develop an organics business case" with a view to then using the recommendations of this business case to "procure an organics kerbside collection service". This commitment aligns with Council's long term strategic goal of diverting 90% of its waste from landfill.

The implementation of an organics kerbside service is estimated to have the potential to divert over 8,500 tonnes per annum of organic materials currently going to landfill via the general waste bin. This would reduce Council's total waste to landfill by approximately 16%, whilst increasing Council's overall diversion from landfill to 50% based on 2022 activities.

In July 2020, as the first step in this planning process, an options analysis was prepared evaluating a range of potential service configurations against three high-level criteria:

- Diversion from landfill
- Cost to ratepayer
- Operational & commercial risk

Council subsequently identified two preferred service options to be fully developed into a detailed business case.

The FOGO trial comprising of 762 households was undertaken between October 2021 and September 2022 to further explore the viability of two preferred options.

PROJECT EVALUATION

The evaluation methodology employed a mix of quantitative and qualitative data capture, evaluated in an integrated manner to provide practical, whole of project insights.

The objective of this evaluation is to assess the efficiency, effectiveness, impact, and sustainability of a kerbside organics service and how it would perform when rolled out across the whole of the Rockhampton region. The findings and lessons learned will also be applicable to other local governments seeking to implement a similar service.

KEY FINDINGS

The trial demonstrated that both a FOGO and GO service configuration are operationally viable services, whilst offering no conclusions about the financial viability of either.

The key findings in respect of service effectiveness:

- **Seasonality** – total tonnes collected followed a seasonal pattern, being driven by the seasonal generation of garden organics.
- **Total waste generation** - the total waste presented at the kerbside increased by up to 30% compared with pre-trial, made up of additional garden organics previously dealt with by other means.
- **Garden organics recovery rate** - FOGO service areas achieved a garden organics (GO) recovery rate of 99%, the result of a reduced general waste bin capacity. The GO only service, where no such capacity constraint existed, achieved a lower recovery rate of between 90-96%.
- **Food organics recovery rate** - food organics (FO) recovery rates of between 55% was achieved where caddy liners were provided, dropping to 47% where liners were not provided.
- **Diversion rate** - an overall diversion from landfill rate of 49% was achieved by the FOGO service, on account of the reduced general waste service frequency/bin size, compared with 20% achieved by the GO only service area.

The key findings in respect of service efficiency:

- **Presentation rate** - the presentation rate of organic bins averaged 60% across both services, with seasonal highs of 70% in wet months, down to 50% in dry months.
- **General waste bin capacity** - for FOGO service areas, the reduced general waste bin capacity was a significant issue. 22% of households requesting an upsize bin, and up to 60% of all general waste bins in FOGO areas were presented full, compared with 39% pre-trial.
- **Contamination rate** – rates varied significantly between trial areas and between calculation methodologies, generally exceeding the target rate of 3%. The FOGO service areas achieved contamination rates of between 3% to 14%. The GO service areas achieved rates of between 1% to 4%.
- **Contaminated bins** - the majority of the contamination was found to be caused by a small minority of participants, between 1-8% depending on neighbourhood.
- **Multi-unit dwellings (MUDs)** – MUDs had much lower presentation rates than regular house blocks, with many bins remaining unused for duration of the trial.

The key findings in respect of long-term impact and sustainability of an organics service:

- **Support for the service** - There was very strong support for the GO only service, with 98% of GO participants indicating that they would continue using the service in the future.
- The support was less emphatic amongst the FOGO service users. Although between 84-89% of survey respondents indicated they would continue using the service, when required to opt in/out of the service post-trial, 33% of FOGO participants have opted out.
- **Willingness to pay** - Participants were not generally in favour of paying. 50% of survey respondents were opposed to paying for the service, 25% were non-committal, and 25% indicated they would be prepared to pay.

The key findings arising from program delivery:

- **Communications** - the most efficient communications channels with the best reach were found to be newsletters/flyers, website, bin hangers and customer services call centre.
- The participants' preferred channels were flyers/newsletters, email, rates notice, website and text messages.

CONCLUSIONS

The findings and recommendations of this report will be used to directly inform the final business case and subsequent Council decision on the future roll-out of an organics kerbside service.

FOOD ORGANICS GARDEN ORGANICS (FOGO) TRIAL – PROJECT EVALUATION

FOGO Trial - Project Evaluation Report

Meeting Date: 7 February 2023

Attachment No: 1

Rockhampton Regional Council

Kerbside Organics Trial 2021-23

Project Evaluation Report

DOCUMENT CONTROL

Prepared by:	George Meacham (Coordinator Strategy & Education, RRWR)
Authorised by:	Michael O'Keeffe (Manager RRWR)
Team:	Rockhampton Regional Waste & Recycling (RRWR)
Version number:	V1.0
Version date:	25/01/23
Status:	Current
Document Reference:	

DOCUMENT VERSION HISTORY

Version number	Date	Changed by	Nature of amendment
V1.0	25/01/23		

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1 EXECUTIVE SUMMARY

This report provides an evaluation of the Rockhampton Regional Council's FOGO Trial (the trial) undertaken between October 2021 and September 2022. The purpose of the trial was to test the viability of two specific service configurations of a kerbside organic bin service:

- **Garden Organics (GO):** a fortnightly 240L garden organics (GO) bin, supported with a weekly 240L general waste service
- **Food and Garden Organics (FOGO):** a weekly 240L food and garden organics (FOGO) bin, supported with a fortnightly 140L general waste service

The trial was delivered by Council staff with funding support from the Queensland Government, and using external service providers to manage the processing of collected organic material and to undertake three compositional waste audits.

The objective of this evaluation is to assess the efficiency, effectiveness, impact, and sustainability of a kerbside organics service and how it would perform when rolled out across the whole of the Rockhampton region. The findings and lessons learned will also be applicable to other local governments seeking to implement a similar service.

The evaluation methodology employed a mix of quantitative and qualitative data capture, evaluated in an integrated manner to provide practical, whole of project insights. The primary data was gathered from various sources, including daily weighbridge records, visual bin inspections, compositional waste audits and participant surveys.

1.1 Summary Findings

The trial clearly demonstrated that both a FOGO and GO service configuration are operationally viable services, whilst not attempting to offer any conclusions about the financial viability of either.

The key findings in respect of service effectiveness:

- **Seasonality** – total tonnes collected followed a seasonal pattern, being driven by the seasonal generation of garden organics.
- **Total waste generation** - the total waste presented at the kerbside increased by up to 30% compared with pre-trial, made up of additional garden organics previously dealt with by other means.
- **Garden organics recovery rate** - FOGO service areas achieved a garden organics (GO) recovery rate of 99%, the result of a reduced general waste bin capacity. The GO only service, where no such capacity constraint existed, achieved a lower recovery rate of between 90-96%.
- **Food organics recovery rate** - food organics (FO) recovery rates of between 55% was achieved where caddy liners were provided, dropping to 47% where liners were not provided.
- **Diversion rate** - an overall diversion from landfill rate of 49% was achieved by the FOGO service, on account of the reduced general waste service frequency/bin size, compared with 20% achieved by the GO only service area.

The key findings in respect of service efficiency:

- **Presentation rate** - the presentation rate of organic bins averaged 60% across both services, with seasonal highs of 70% in wet months, down to 50% in dry months.
- **General waste bin capacity** - for FOGO service areas, the reduced general waste bin capacity was a significant issue. 22% of households requesting an upsize bin, and up to 60% of all general waste bins in FOGO areas were presented full, compared with 39% pre-trial.

- **Contamination rate** – rates varied significantly between trial areas and between calculation methodologies, generally exceeding the target rate of 3%. The FOGO service areas achieved contamination rates of between 3% to 14%. The GO service areas achieved rates of between 1% to 4%.
- **Contaminated bins** - the majority of the contamination was found to be caused by a small minority of participants, between 1-8% depending on neighbourhood.
- **Multi-unit dwellings (MUDs)** – MUDs had much lower presentation rates than regular house blocks, with many bins remaining unused for duration of the trial.

The key findings in respect of long-term impact and sustainability of an organics service:

- **Support for the service** - There was very strong support for the GO only service, with 98% of GO participants indicating that they would continue using the service in the future.
- The support was less emphatic amongst the FOGO service users. Although between 84-89% of survey respondents indicated they would continue using the service, when required to opt in/out of the service post-trial, 33% of FOGO participants have opted out.
- **Willingness to pay** - Participants were not generally in favour of paying. 50% of survey respondents were opposed to paying for the service, 25% were non-committal, and 25% indicated they would be prepared to pay.

The key findings arising from program delivery:

- **Communications** - the most efficient communications channels with the best reach were found to be newsletters/flyers, website, bin hangers and customer services call centre.
- The participants' preferred channels were flyers/newsletters, email, rates notice, website and text messages.

1.2 Summary Recommendations

Based on the findings of this evaluation, the following recommendations are made in respect of any future community wide service roll out:

1. Users should be offered a portfolio of alternative service options aimed at meeting a range of needs.
2. An immediate investment is required in a behaviour change plan to build and engage the community on the chosen service delivery model.
3. Regulatory mechanisms are required that provide for the imposition of penalties and sanctions on non-compliant users.
4. A simple to understand list of eligible materials needs to be adopted.
5. FOGO households should be issued with a free allocation of caddy liners at commencement of the service.

1. An immediate investment is required in building a community wide electronic contact database for the purposes of ongoing digital communication with future service users.
2. Multi-dwelling units should be excluded from the initial service roll-out.
3. A set of standard performance and data capture methods should be established.

2 INTRODUCTION

This report provides an evaluation of the Rockhampton Regional Council's FOGO Trial undertaken between October 2021 and September 2022. The purpose of the trial was to test the viability of two specific service configurations of a kerbside organic bin service:

- **Garden Organics (GO):** a fortnightly 240L garden organics (GO) bin, supported with a weekly 240L general waste service
- **Food and Garden Organics (FOGO):** a weekly 240L food and garden organics (FOGO) bin, supported with a fortnightly 140L general waste service

2.1 Background

Rockhampton Regional Council (Council) made a commitment in its Waste Strategy 2020-2030 to "develop an organics business case" with a view to then using the recommendations of this business case to "procure an organics kerbside collection service". This commitment aligns with Council's long term strategic goal of diverting 90% of its waste from landfill.

The implementation of an organics kerbside service is estimated to have the potential to divert over 8,500 tonnes per annum of organic materials currently going to landfill via the general waste bin. This would reduce Council's total waste to landfill by approximately 16%, whilst increasing Council's overall diversion from landfill to 50% based on 2022 activities.

In July 2020, as the first step in this planning process, an options analysis was prepared evaluating a range of potential service configurations against three high-level criteria:

- Diversion from landfill
- Cost to ratepayer
- Operational & commercial risk

Council subsequently identified two preferred service options to be fully developed into a detailed business case.

To further inform the project decision process, a trial comprising of 762 households was undertaken between October 2021 and September 2022.

2.2 Project Objective & Scope

During the options analysis phase, the following minimum performance targets were established as a benchmark against which to evaluate the viability of the service:

- A garden organics (GO) recovery rate of >95%
- A food organic (FO) recovery rate of > 50%
- A food and garden organic (FOGO) contamination rate of < 3%

Three representative sample groups, each comprising of approximately 250 residential households were selected. Participation in the trial was not optional, all households within the selected areas were required to accept the service provided.

The three areas were used to test the following three service configurations:

TABLE 1: TRIAL SERVICE CONFIGURATONS

Trial Area	Organic Bin	General Waste Bin	Commingled Bin	Kitchen Caddy & Liners
Gracemere	Weekly FOGO 240L bin	Fortnightly 140L bin	Fortnightly 240L bin	Kitchen caddy Caddy liners supplied
Southside	Weekly FOGO 240L bin	Fortnightly 140L bin	Fortnightly 240L bin	Kitchen caddy No liners provided
Northside	Fortnightly GO 240L bin	Weekly 240L bin	Fortnightly 240L bin	-

The trial ran for a 12-month period in order to capture the impacts of any seasonal variations.

The delivery of the trial comprised of the following major activities:

- Project management
- Communication and engagement with participants
- Procurement and distribution of bins and caddies
- Delivery of kerbside collection services
- Processing of collected organic materials
- Monitoring and evaluation of performance

The main project costs were the supply of bins and caddies, three compositional audits, cost of collection, and the cost to process the materials into a marketable product.

A significant proportion of the staff effort was dedicated to the design and delivery of a comprehensive education campaign, aimed at maximising the recovery of allowable materials and minimisation of contamination.

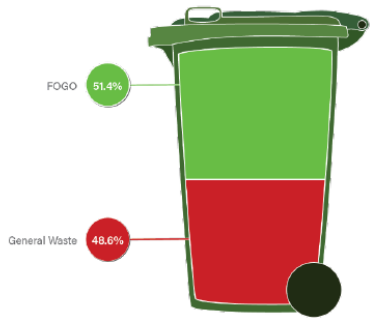
Primary evaluation data was gathered from a range of sources, including daily weighbridge records, visual bin inspection program, compositional waste audits and participant surveys.

The trial was part funded by the Queensland Department of Environment and Science as part of a package supporting a series of trials run concurrently during 2021-22. A total of $253,000 of funding was provided, covering off approximately 60% of the total project cost.

2.3 Expected Outputs, Outcomes & Impact

Compositional audit data gathered by Council over the period 2018 to 2021 identified that approximately 50% of the weight of the general waste bin is recoverable organic material, equating to 11,500 tonnes per annum. This consists of between half to two thirds of food organics (FO) by weight, with the remainder being garden organics (GO) and other putrescible organics.

FIGURE 1: PRE-TRIAL AUDIT OVERALL RECOVERABLE ORGANICS IN GENERAL WASTE BIN BY WEIGHT



The provision of a kerbside organics bin is therefore expected to divert a proportion of that organic material out of the general waste bin, thus making it available for processing into compost or similar value add product.

The benefits are expected to include reduced waste to landfill (leading to cost savings arising from reduced demand on landfill airspace and waste levy liability), reduced carbon emissions, and economic benefits derived from local recovery and reuse of valuable organic materials.

3 EVALUATION METHODOLOGY

The evaluation methodology employed a mix of quantitative and qualitative data capture, evaluated in an integrated manner to provide practical, whole of project insights.

3.1 Evaluation Objective

The objective of this evaluation is to assess the efficiency, effectiveness, impact, and sustainability of a kerbside organics service and how it would perform when rolled out across the whole of the Rockhampton region. The findings and lessons learned will also be applicable to other local governments seeking to implement a similar service.

3.2 Performance Measures

The following measures were used to evaluate performance during the course of this trial.

TABLE 2: TRIAL PERFORMANCE MEASURES

Performance measure	Proposed Metric
Tonnes diverted	Total mass of materials entering the organics processing facility using weighbridge data
Tonnes to Landfill	Total mass of materials entering landfill from general waste kerbside bins
Contamination Rate	Kilograms per household per week (kg/hh/wk) of non-eligible materials captured in organic bin
Contaminated Bins[1]	Organics bins found to be contaminated during visual inspection or bin audits, including proportion at low, medium, high, gross contamination.
Resource Recovery Rate	Eligible organics captured in organic bin as a % of total eligible organics captured in all bins
Presentation Rate	No. of bins being presented for collection in a given collection round
Household Generation Rate	Kg/hh/wk for each stream, calculated based on presentation rate and total tonnage
Community Perception/Participation	An evaluation of community support for the project using community attitudinal surveys and other data sources as available

3.3 Data Collection Methodologies

Primary data was gathered via the following capture methods.

TABLE 3: DATA GATHERING METHODS

Data Captured	Capture Method
Tonnages	Weighbridge records at receival sites, capturing: - Total weight of each daily organics load by trial area - Total weight of each daily general waste load by trial area - Total weight of contamination removed from each load
Bin counts	Collection vehicle onboard software system, capturing the total bin lifts for each load
Bin volume rating	Visual rating collected during periodic bin inspections at kerbside, capturing data on each of: - Organics bin - General waste bin - Commingled recycling bin

[1] *Optimising Kerbside Collection Systems*, Sustainability Victoria, (2017)

Data Captured	Capture Method
Contamination score	Visual rating collected during periodic bin inspections at kerbside, capturing data on each of: - GO/FOGO bin - Commingled recycling bin
Customer service enquiries	Collation of all incoming customer service enquiries, categorised by topic
Participant survey responses	Three participant surveys conducted, pre, mid and end of trial. - Surveys were delivered to mailbox, with option to return paper copy (postage paid) or use our online portal to respond. - Each survey was unique, but included several repeat questions used to measure change in attitudes and perceived behaviours over the period of the trial.
Waste composition	Three waste composition audits were conducted, pre, mid and end of trial. - Each audit sample comprised of 150 organics bins and 150 general waste bins for each of the three trial areas - Tailored categories were established, including the capture of the following trial specific data o Organic matter in compostable plastic o Organic matter in non-compostable plastic - The remaining categories comprised of summary by major material types, developed by DES on behalf of all funded FOGO trial councils e.g. all plastic types were captured under single category of plastics.

3.4 Limitations of the Evaluation

This project was not intended to provide a direct evaluation of the cost to implement a community wide service. The costs incurred in operating a trial of 750 households are not directly comparable to the cost of implementing a service at scale.

The processing component of this trial was contracted to local processor NuGrow. Whilst there were some valuable learnings for both parties, a full technical evaluation of the material processing or output product was beyond the scope of this trial.

4 RESULTS

4.1 Headline Performance against KPIs

TABLE 4: TRIAL KEY PERFORMANCE INDICATORS

Performance measure	Note	*Target*	Gracemere (FOGO)	Southside (FOGO)	Combined FOGO Areas	Northside (GO)
Tonnes Diverted	annual tonnes	-	106 tonnes	102 tonnes	**208 tonnes**	**65 tonnes**
Tonnes to Landfill	annual tonnes	-	84 tonnes	69 tonnes	**154 tonnes**	**172 tonnes**
Contamination Rate	full year data	*< 3%*	5.7%	2.5%	**4.1%**	**0.9%**
	mid-trial audit	*< 3%*	6.4%	4.6%	**5.5%**	**2.9%**
	end of trial audit	*< 3%*	14.3%	4.8%	**9.2%**	**3.6%**
Contaminated Bins		-	18%	10%	**15%**	**3%**
GO Recovery Rate*		*98%*	99%	99%	**99%**	**96%**
FO Recovery Rate*		*50%*	56%	49%	**53%**	**n/a**
Presentation Rate		-	63%	60%	**61%**	**61%**
Household Generation Rate	kg/hh/wk	-	14.8 kg	12.9 kg	**13.8 kg**	**17.8 kg**

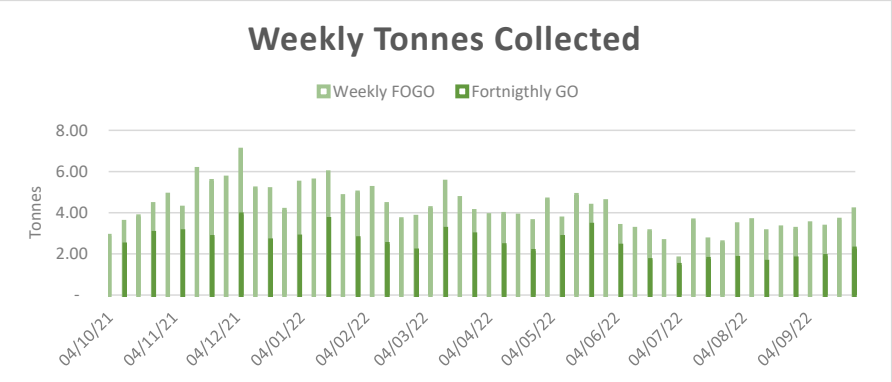
*As calculated from the end of trial compositional waste audit data

4.2 Service Effectiveness

4.2.1 Total Waste Presented

The weekly tonnes collected in both FOGO and GO services followed a seasonal path.

FIGURE 2: WEEKLY TONNES COLLECTED



Since the key driver to this seasonality is garden organics, the proportional composition of the materials also changes, with highest proportion of food organics present in the dry months. This volume and compositional variability across the annual cycle has several important impacts on service delivery, not least collection capacity and processing capacity requirements. The variation in composition also has a direct impact on the carbon/nitrogen balance at input material delivered to the processing facility.

The total tonnes presented at the kerbside compared to pre-trial increased in two of the three trial areas, assumed to be made up of garden organics that would normally have been disposed of by other means.

TABLE 5: TOTAL WASTE PRESENTED AT KERBSIDE

	UoM	Pre-trial	Trial Q1	Trial Q2	Trial Q3	Trial Q4	Full Year
Gracemere (weekly FOGO service)	kg/hh/wk	11.6	15.9	16.0	14.7	12.6	14.8
Southside (weekly FOGO service)	kg/hh/wk	12.8	13.5	14.2	13.0	11.1	12.9
Northside (fortnightly GO service)	kg/hh/wk	13.7	19.2	18.7	17.6	15.5	17.8
Gracemere % increase	**%**		**37%**	**39%**	**27%**	**9%**	**28%**
Southside % increase	**%**		**5%**	**11%**	**1%**	**-13%**	**1%**
Northside % increase	**%**		**40%**	**37%**	**29%**	**14%**	**30%**

These increases were seasonal, as high as 40%+ in the wet season but inevitably dropping of significantly in the dry season.

Whilst Gracemere (FOGO) and Northside (GO) both saw very similar increases, Southside (FOGO) had much lower upswing. There is no clear explanation for this, but the suburb did feature more mature gardens on generally larger blocks, so much of the garden waste may well have continued to be dealt with on the property.

In the mid-trial survey, the participants were asked "Where, in your opinion is this new waste coming from?". There was a near even split between:

- We used to put it on the garden beds, and
- We used to take it to the local Waste Transfer Station (WTS)

A small handful indicated that their garden contractor used to take it away. Further insights came in the narrative comments provided to this question:

"Service provider used to take it away"

"No longer using my own compost, it never broke down completely anyway"

"[we now] keep better control of the garden with more regular pruning and don't have to stockpile"

"Most of our garden waste still goes in a paid garden bag, we are using some to absorb odours in the FOGO"

Regardless of the underlying cause, this increase has important implications in terms of planning a future service roll-out:

- The additional quantity does not represent new diversion from landfill, so should be excluded from any calculated cost savings arising from reduced landfill consumption
- The increase will create an additional financial burden in terms of collection and processing costs over and above what was previously being collected at kerbside
- There may well be a reduction in operational costs due to lower quantities going to Council Waste Transfer Facilities.

4.2.2 Recovery Rates

During the options analysis, target recovery rates of 95% for GO and 50% for FO were established. These rates represented aggressive performance levels, that would place the service in the top performance quartile based on 2020 benchmarking data from NSW[2].

Compositional audits completed at the mid and end of trial revealed the following:

TABLE 6: FO & GO RECOVERY RATES IN THE FOGO SERVICE AREAS

	Gracemere		Southside		Northside	
GO & FO Recovery Rates	GO	FO	GO	FO	GO	FO
Mid-trial	99%	54%	99%	45%	90%	n/a
End of trial	99%	56%	99%	49%	96%	n/a

The FOGO trial areas had little difficulty in achieving the GO recovery rate. This was not a surprise; it is a waste stream that is intuitive and easy for participants to understand, and the general waste capacity reduction forced many households to more efficiently manage their bin usage.

By contrast, the GO only service provided in the Northside area failed to meet the 98% GO recovery rate at either mid or end of trial audits. There is no conclusive evidence as to the cause, but a reasonable assumption would be that since there was no reduction in the capacity of the general waste service, those not engaged in the trial had no incentive to participate. It is likely therefore that the 5-10% resource loss was from households that chose not participate in the trial.

The quantity of food recovery was significantly higher in Gracemere where caddy liners were provided than in Southside, where they were not. As a percentage of the total bin weight, food represented 15% in Gracemere and just 9% in Southside. This difference was further evidenced by the FO recovery rates, averaging 55% in Gracemere against 47% in Southside. Factors other than caddy liners may also have had an impact on these results, such as an observed (but not quantified) higher person per household ratio in Gracemere.

4.2.3 Diversion from Landfill

A target diversion rate was not specifically established in advance. However, to forecast the cost savings arising from reduced landfill consumption in a community-wide service roll-out, a forecast diversion from landfill rate will be a critical input.

The table below gives diversion rates using both the audit data and the full year weighbridge data. These rates have been adjusted to account for the increase tonnages presented during the trial above pre-trial levels.

TABLE 7: DIVERSION FROM LANDFILL

Diversion Rates	FOGO Service	GO Service
Diversion Rate (mid & end of trial data)	55%	20%
Diversion Rate (full year weighbridge data)	49%	20%

In the table below, the lower diversion rates from above have been applied to the current general waste tonnages, adjusted down to 30,000 household (estimate based on current 34,000 household services, less multi-unit dwellings, CBD, and outlier rural properties) to

[2] *Analysis of NSW Kerbside Green Lid Bin Audit Data Report*, Rawtec Ltd. (March 2020)

arrive at a potential range of tonnes diverted that could be achieved in a future service roll-out.

TABLE 8: FORECAST DIVERSION FOR WHOLE OF COMMUNITY ROLL-OUT

	2022 General Waste Tonnes	2022 Households	Forecast Roll-out Households	Diversion Rate	Forecast Tonnes Diverted
GO Service	23,400	34,000	30,000	20%	4,049
FOGO Service	23,400	34,000	30,000	49%	10,096

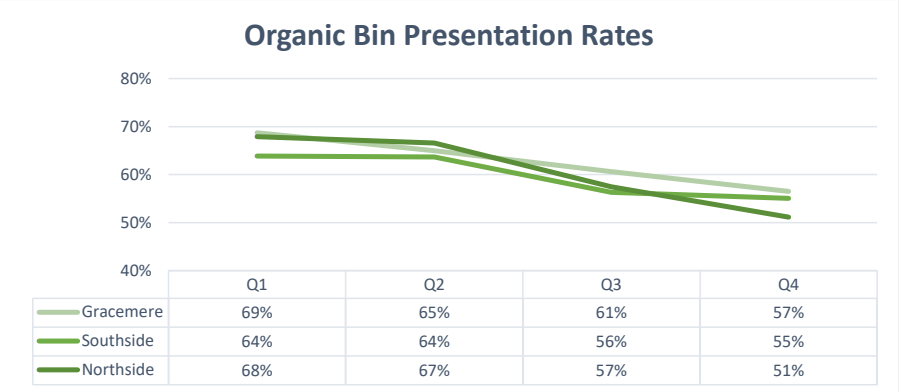
These rates are comfortably above our initial projections for both services.

4.3 Service Efficiency

4.3.1 Presentation Rate

Presentation rate (number of bins presented on any given collection day as a proportion of the total available bins) is an important determinant of operational costs, driving the level of effort required to collect materials, and the likely quantity required to be processed in any given week.

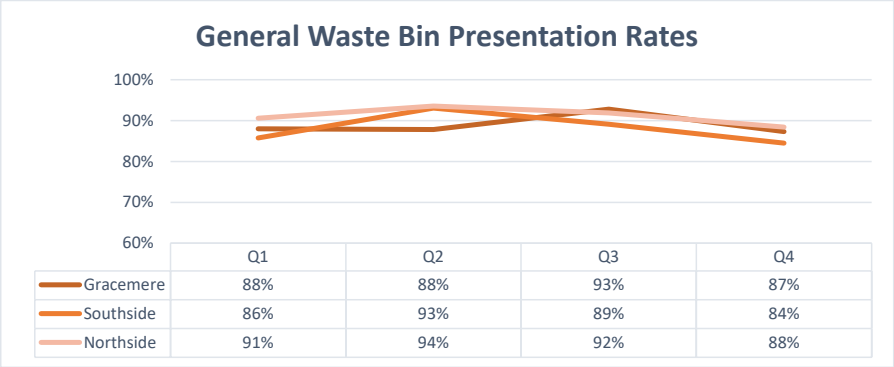
FIGURE 3: ORGANIC BIN PRESENTATION RATES



Presentation rates of the organic bins were found to be consistent across both FOGO and GO areas. At the commencement of the trial, rates were in the mid to high sixty percent range, dropping by the end of the trial to mid to low fifty percent range. The highest drop off was the Northside GO only service.

It is assumed that this trend was the result of seasonal demand, with the second half of the trial being much dryer period of the year, thus generating much lower demand for grass clippings and other garden organics. The 10% drop-off in the FOGO areas does further suggest that these households were likely not using the bin for food waste.

FIGURE 4: GENERAL WASTE BIN PRESENTATION RATES



The corresponding general waste presentation rates remained constant throughout the trial. This is not surprising given that:

- In the FOGO trial areas, the reduced capacity and frequency of the general waste bin left most households with little choice but to present it every fortnight
- In the GO trial area households still had to dispose of food in the general waste bin, thus retaining an imperative to put the bin out weekly to avoid odour and pests.

Participation rates (number of households actively participating in the program) was not directly measured as part of this trial. Participants were however surveyed on "How frequently they used the service?". Only 4% of respondents indicated that they had not used the service at all, with the remainder using either frequently or occasionally.

4.3.2 General Waste Bin Capacity

The trail was an opportunity to evaluate the impact of implementing a reduced general waste service within the two FOGO areas:

- The service frequency was dropped to fortnightly, a requirement of any future service roll-out in order to mitigate the additional cost of the new weekly FOGO service.
- The general waste bin size was reduced to 140L, aimed at establishing the general waste bin as the bin of last resort, thus maximising the recovery of materials via both the FOGO and commingled recycling bins.

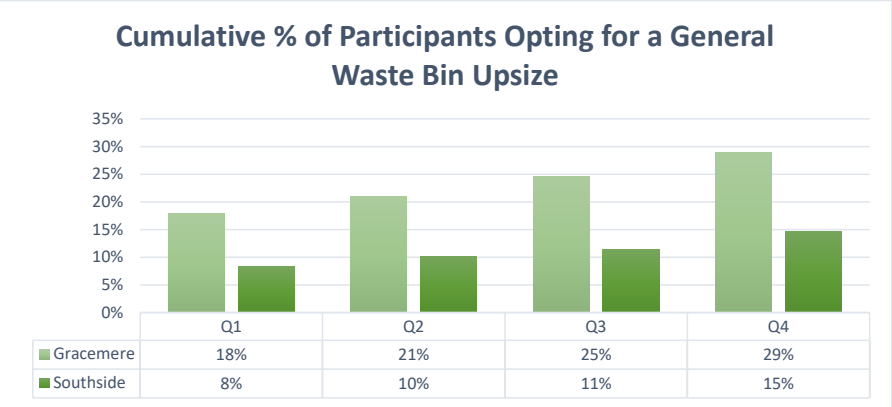
Whilst it was acknowledged that this would be a significant change for many households, across all kerbside bins, the total weekly bin capacity was in fact increased.

TABLE 9: WEEKLY BIN CAPACITY

Weekly Bin Capacity	UoM	Pre-trial	FOGO Trial Areas	GO Trial Area
GO/FOGO Bin	litres/week	-	240	120
General Waste Bin	litres/week	240	70	240
Commingled Recycling Bin	litres/week	120	120	120
Total Bin Capacity	**litres/week**	**360**	**430**	**480**

This change to bin capacity was the single most problematic issue for FOGO participant households.

FIGURE 5: FOGO PARTICIPANTS OPTING FOR GENERAL WASTE BIN UPSIZE



	Q1	Q2	Q3	Q4
Gracemere	18%	21%	25%	29%
Southside	8%	10%	11%	15%

29% of Gracemere households and 15% of Southside households had opted for a bin upsize, a total of 110 requests over the 12 months. The largest number of requests came in the first quarter, after which time requests continued at a steady but much slower rate.

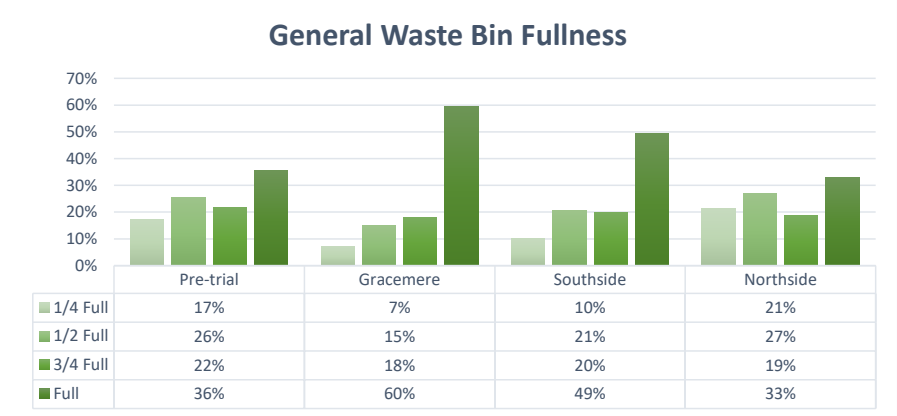
It is worth noting that 70-85% of FOGO participants accepted the 140L bin without issue. Whilst it is likely that some were not aware that the upsize option was available, a significant majority of participants adapted to the fortnightly 140L bin service.

Over the course of the trial, more than 11,000 bins were visually inspected. The fullness of each bin was recorded, a score being given based on how many quarters full the bin was

Pre-trial, the volume of general waste bins showed a relatively even spread, with 36% of bins presented 100% full. During the trial, there was a significant increase in general waste bin fullness in the FOGO service, with 50-60% now being presented as 100% full, of little surprise given the configuration changes.

In the GO (Northside) service, there was almost no change compared with pre-trial.

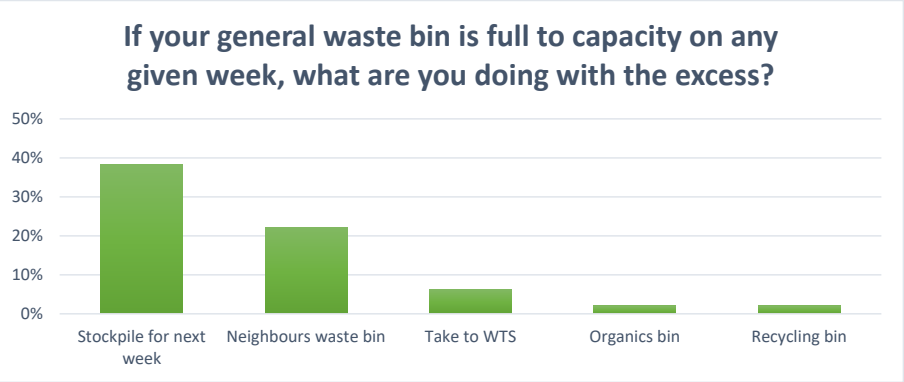
FIGURE 6: GENERAL WASTE BIN FULLNESS



	Pre-trial	Gracemere	Southside	Northside
1/4 Full	17%	7%	10%	21%
1/2 Full	26%	15%	21%	27%
3/4 Full	22%	18%	20%	19%
Full	36%	60%	49%	33%

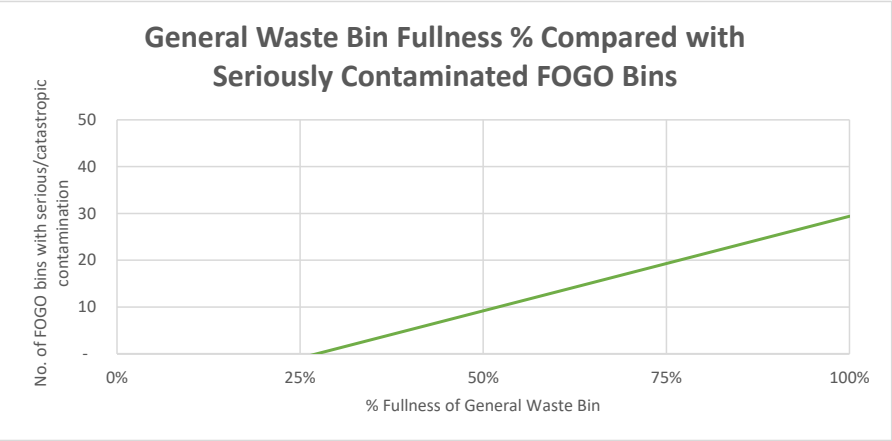
Participants were also asked in the survey how they were dealing with any excess waste that did not fit in the general waste bin in any given week.

FIGURE 7: PARTICIPANT SOLUTIONS FOR EXCESS GENERAL WASTE



The most common solutions were to stockpile it or to use a neighbour's bin. A small but significant proportion admitted to placing general waste in the organics and commingled recycling bin. That there was some overflow into commingled and organics bin was consistent with the bin inspection data. It was not uncommon to find bagged general waste in the top of organic and commingled bins, and as shown in the correlation chart below, more often than not, next to a 100% full general waste bin.

FIGURE 8: CORRELATION BETWEEN GENERAL WASTE BIN FULLNESS & FOGO BIN CONTAMINATION



The customer service enquiries and survey comments further demonstrate the significance of this issue for many.

"Everyone needs to receive a large bin or if only giving a small bin, they need to be emptied once a week (red bin)"

"General rubbish bin is inadequate, either the bin needs to go back to normal size or have weekly collections. With smaller bin, rubbish service has been quartered not halved as initially stated."

"I would have found this easier with a smaller bin emptied once a week or keep the larger bin once a fortnight. We found it a big ask to have a smaller bin emptied fortnightly, double whammy."

"If general waste to remain fortnightly it should be the larger bin in case influx of people in the house (birthdays etc)."

"Sometimes find the red bins too small, have to hold items for next fortnight collection or else add to neighbours red bin - would like the large red bin that we previously had."

"It's actually super inconvenient. The general waste red bin is half the size of a normal wheelie bin, and only gets collected once a fortnight. It actually cost me more in trips to the dump than green waste fees I was paying previously"

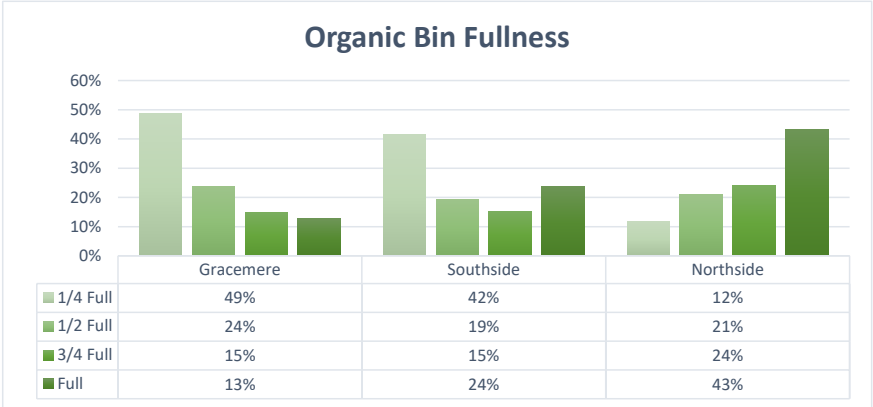
"I loved it but with 6 kids and 2 adults only getting the red bin emptied once a fortnight wasn't good for us. I hope if it comes in full time, the red bin stays and gets emptied weekly as its super hard for bigger families. I even tried making sure I put the recycling in the correct bin but then that fills up within a week, taking all scrunchie plastic to like Woolies and that really didn't do much either"

4.3.3 Organics Bin Capacity

In contrast to the general waste bins, the organic bins in the FOGO areas were mostly being presented less than half full (61-72%). This was not unexpected. In weeks where there was little or no garden organics generated, the weekly bin would often contain only a small quantity of food organics, presented in a handful of kitchen caddy liners.

The reverse was true in the Northside area where 67% of the fortnightly GO bins were presented over half full, where the fortnightly cycle meant there was a longer window to fill the bin with lawn clippings and other garden organics.

FIGURE 9: ORGANIC BIN FULLNESS



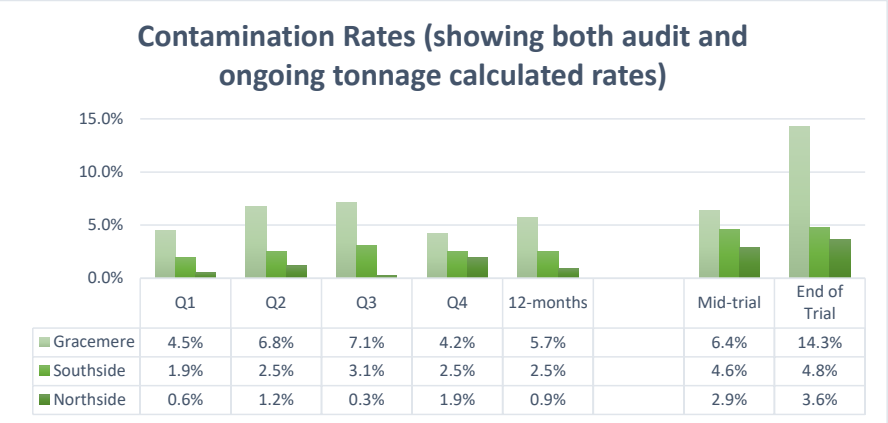
	Gracemere	Southside	Northside
1/4 Full	49%	42%	12%
1/2 Full	24%	19%	21%
3/4 Full	15%	15%	24%
Full	13%	24%	43%

4.3.4 Contamination Rate

A target contamination rate of <3% was established at the outset of the trial.

Contamination rates were monitored throughout the trial using weighbridge records of contamination removed from each load at the processing site. Separate calculations were also made using the data from the mid and end of trial compositional audits.

FIGURE 10: CONTAMINATION RATES



	Q1	Q2	Q3	Q4	12-months		Mid-trial	End of Trial
Gracemere	4.5%	6.8%	7.1%	4.2%	5.7%		6.4%	14.3%
Southside	1.9%	2.5%	3.1%	2.5%	2.5%		4.6%	4.8%
Northside	0.6%	1.2%	0.3%	1.9%	0.9%		2.9%	3.6%

The contamination rates shown in the chart above are taken from both methods, the quarterly and 12-month figures taken from the weekly weighbridge data, with the final two figures taken from the compositional waste audits.

Looking firstly at the calculation using the weekly data, performance was better than target for both Southside and Northside, ending the year at 2.5% and 0.9% respectively. Gracemere exceeded the 3% target, starting out at 4.5%, peaking at 7.1% before settling at a 12-month average of 5.7%.

Contamination rates did appear to get worse over the period of the trial, and there was a peak in contamination across the middle period of the trial. There is no clear explanation of these trends. Several contributing factors are recognised, including the impact on % rates increasing due to seasonal change in bin composition, and then potentially the educational interventions such as bin hangers adopted in the second half of the trial.

The calculations that used the audit data returned similar overall trends, but with much higher all-round rates. The biggest contrast in the two methodologies was observed in Gracemere, with recorded contamination calculated at 14.3% in the end of trial audit.

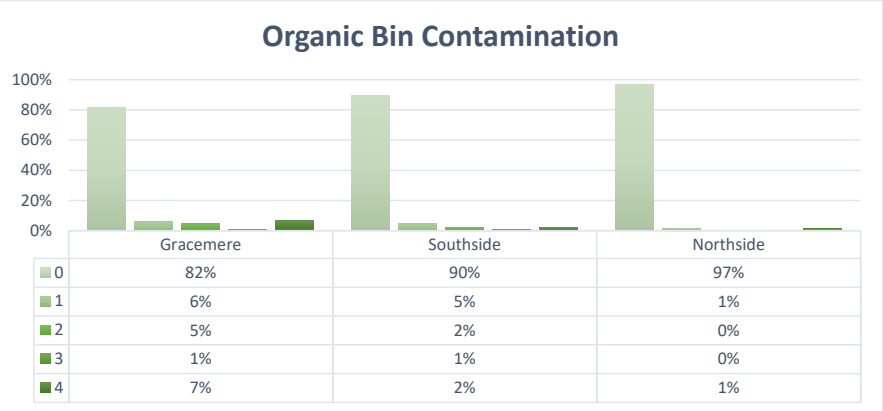
It is to be expected that an audit process would be more vigorous in identifying contamination since it categorises every last item, whereas the processor is seeking only to get the load to an acceptable quality standard. The scale of the difference between the two data sets is however a surprise, particularly in Gracemere, and has no definitive explanation.

4.3.5 Contaminated Bins

The bin inspection program was used to record the occurrence of contamination on a bin-by-bin basis. A bin with no contamination was scored nil, minor/modest contamination 1-2 and serious/catastrophic 3-4. Scoring was based on visual inspection without disturbing the bin contents.

80% of all organic bins were presented with zero contamination. Of the remainder, just 8% in Gracemere, 3% in Southside and 1% in Northside were scored serious or catastrophic.

FIGURE 11: ORGANIC BIN CONTAMINATION BIN SCORES



	Gracemere	Southside	Northside
0	82%	90%	97%
1	6%	5%	1%
2	5%	2%	0%
3	1%	1%	0%
4	7%	2%	1%

This finding provides a critical insight in terms of the educational approaches to reducing contamination. Whilst a contamination rate of between 6-14% is a serious problem, it is being generated by two broad categories of households:

- 7-11% of total households are presenting minor/modest contamination, which commonly included failure to remove soft plastic packaging, or inclusion of one-off items such as textiles (seen as organic) or plant pots (seen as garden items)
- 3-8% of total households are presenting serious/catastrophic contamination, this would typically be bags of overflow general waste (general waste capacity issues), or the bin simply being used as a second general waste bin (wilful disregard).

It was further observed during bin inspections that the occurrence of these worst offending households would often be clustered in streets with one or more of the following prevailing characteristics:

- large, younger families
- lower socio-economic demographic
- ATSI demographic
- higher proportion of rental properties

In such areas, waste streams were significantly bulkier, comprising of higher volumes of consumer packaging (polystyrene, plastics, large cardboard), prevalence of cheap/disposable goods and high quantities of fast food and takeaway packaging.

Most of the worst offending households were also observed to have a very low care factor for how they presented and maintained all their bins, with bins commonly left on kerbside all week, overfull and at the mercy of crows, litter left to blow down street, and many bins maggot infected and odorous.

> *"The trial was a shit show with rentals in the street. As rubbish was always blowing through the street and into my yard not to mention the smell of the bins around my property."*
>
> *"Bins blow away in strong winds, spill waste down the street"*
>
> *"FOGO program has been beneficial in stopping local dumping of green waste in creek lines around our local area. Has also seen some bin sharing between neighbours who have more or less need. Ensures that waste is removed and not incorrectly piled or stored creating site for rats etc. to utilise."*

4.3.6 Caddies and Caddy Liners

Gracemere participants were provided with a kitchen caddy and a free roll of 200 caddy liners at the beginning of the trial, Southside participants were provided with a kitchen caddy but no liners.

Whilst there may have been other influencing factors also at play, the compositional audit data does shows that area Gracemere recovered up to 58% more food waste than the Southside. This is further reflected in the FO recovery rates discussed earlier, where Gracemere achieved a rate of 55% compared with the Southside rate of 47%.

TABLE 10: FOOD RECOVERY IN FOGO TRIAL AREAS

Food Recovery	UoM	Mid-trial		End of trial	
		Gracemere	Southside	Gracemere	Southside
Recoverable Food Organics	kgs	272	172	279	190
Total Food Organics	kgs	501	378	499	389
FO Recovery Rate	**kgs**	**54%**	**45%**	**56%**	**49%**

Many Southside residents did choose to purchase their own compostable liners. A small number of participants were observed using some of the recommended alternative methods of wrapping their food, such as the use of newspaper shown in Figure 12 below.

FIGURE 12: FOOD WASTE WRAPPED IN NEWSPAPER

Despite strong educational messaging instructing users that the FOGO bin only accepted certified compostable liners (AS4736), the most common contaminant in the FOGO bin was organic materials presented in non-compostable liners. This contamination was equally prevalent across both areas.

Whilst not the only driver, it was certainly observed that the caddy liner purchasing process is not easy to navigate. In September 2022, a sudden spike was observed in the use of a specific non-compostable liners. A visit to the local supermarket revealed a very prominent eye level display promoting a new “50% plant based” range of liners. This product, whilst not compliant, was almost indistinguishable in both colour and packaging from the certified compostable products allowable in a FOGO bin.

FIGURE 13: COMPOSTABLE & NON-COMPOSTABLE BAGS ON SALE AT SUPERMARKET

Several survey respondents were also critical of the quality and utility of their caddy liners.

"Bags that don't disintegrate before you get to the bin cost a fortune"

"Freezing seafood scraps & they stick to the plastic so not easily separated on bin day. FOGO compliant liners are too flimsy for seafood scraps to freeze"

"The bin liners could also be a bit thicker. I know they are biodegradable but a bit more strength would be perfect"

"The little food scrap bin was useless, fills too soon and our climate with flies etc. makes it a smelly maggot fest"

4.3.7 Multi-unit Dwellings (MUDs)

Multi-unit dwellings (MUDs) were not an intended focus of this trial, but the designated trial areas did include several unit complexes comprising of between 2-8 unit. It was observed that there was a low participation in the trial at these properties.

The number of MUDs in this trial was too small to provide definitive evaluation. However, it was observed that many of the bins were retrieved unused from these properties at the end of the trial. Comments received from residents included the lack of responsibility for the communal gardens, and the low occupant density (one or two residents per unit) meaning there was much lower demand.

A further potential issue for many MUDs is the lack of storage space to accommodate additional bins.

4.3.8 Household Behaviours

In the final quarter of the trial, a previously unplanned behaviour change campaign was run to directly addressing two performance issues emerging from the mid-trial data:

- high contamination rates, particularly in the Gracemere FOGO service
- below target food recovery rates in the two FOGO service areas

The campaign was designed around four key themes, aimed at addressing observed barriers to change. The campaign design borrowed heavily from the NSW Scrap Together FOGO Education Project[3].

[3] NSW EPA (2021). *Scrap Together FOGO 'Deep Dive' Education Project Evaluation Report.* Environmental Protection Authority, NSW

TABLE 11: BEHAVIOUR CHANGE CAMPAIGN – FOUR KEY THEMES

Key Theme	Identified Barrier/Desired Behaviour
Get your bin set up right	A one-off behaviour identified as an essential precursor. If waste is not being source separated in the home, then mixed bags of waste end up in any kerbside bin that has capacity, leading to the catastrophic contamination in both organics and commingled bins.
Plastic does not make compost	The biggest individual contaminant observed in the FOGO bin was soft plastics, normally food packaging such as bread bags or plastic wrap. This messaging was therefore used to drive home that the contents of this bin are used to make compost for use on farmland, so putting plastic in the bin is contaminating soils and the future food on your plate.
If its food, it's in	The food organics (FO) recovery rate at the mid trial was falling short of the 50% target, so this was a direct strategy to simplify what had previously been a complicated list of allowable/non-allowable materials. The messaging here was that all food, whatever type, however small the amount, was allowable and a benefit.
Everyone does it different	From the various customer service enquires and other engagement with participants, a range of nuisance factors such as caddy/bin odour, maggots, flies etc. were dissuading many people using the bin for food recovery. This messaging sought to promote the various solutions to these nuisance problems, using best practice examples being employed by other participants.

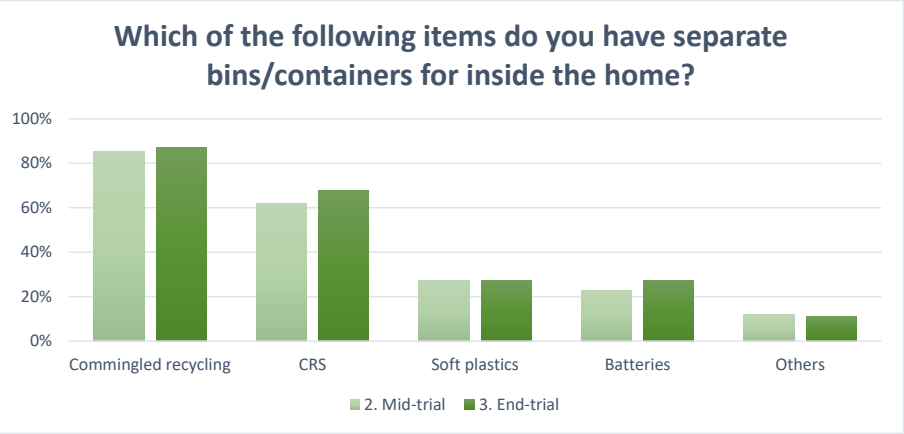
A campaign brand was developed (see below), focused on the journey of FOGO from kitchen to paddock, intended to establish a strong environmental motivation for engaging with the service, as well as specifically address the issue of plastic contamination in the bin.

FIGURE 14: BEHAVIOUR CHANGE BRANDING USED TO EMBED BIN TO PADDOCK CONCEPT

The campaign messaging was then pushed out using a range of communication channels, included the trial's first attempt to use targeted social media and electronic direct mailing. Bin inspections, compositional audit data, and a series of repeated survey questions were all used to measure any change in behaviours.

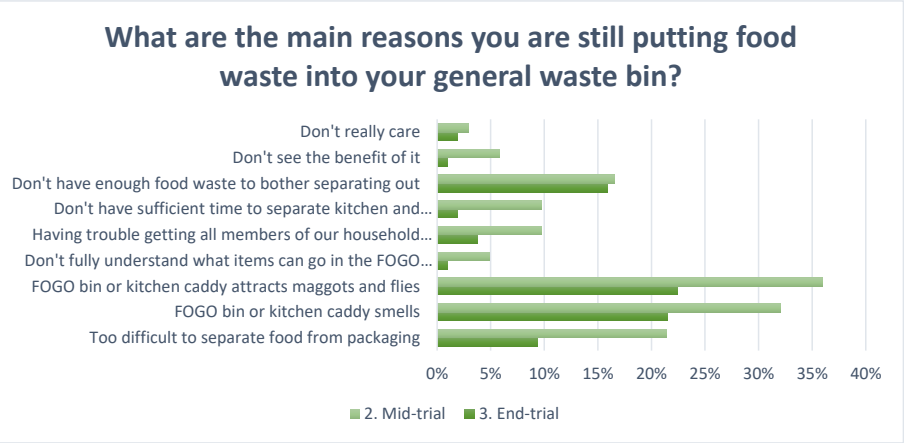
The first of these questions was the extent to which participants were separating their waste at source. This is an important initial barrier to effective kerbside diversion. Once waste is mixed in a single bin or bin bag, sorting into three bins at the kerbside become very unlikely.

FIGURE 15: IN-HOME BINS FOR SOURCE SEPARATION



The separation of waste steams inside the home were found to be relatively high amongst survey respondents, with the highest numbers separating commingled recycling and CRS containers. A significant minority are also separating soft plastics and batteries from their general waste stream. The most common "other" was separation of clothes and household items to go to the charity shop. The modest increase in all categories over the campaign period suggests that this kind of campaign can have an incremental positive impact on behaviours.

FIGURE 16: REASONS PARTICIPANTS CONTINUE NOT TO RECOVERY FOOD



In terms of barriers to increased food recovery, the most prevalent and persistent barriers were found to be

- flies/maggots, odour
- separating packaging from food
- the perceived lack of value in recovering only small quantities of food.

All of these barriers appeared to have been reduced over the campaign period.

The narrative comments to this question provided a range of further insights.

"Huge inconvenience"

"Bin is always full and has maggots"

"I could not bring myself to put bones in the green bin"

"Juicy scraps tend to eat through compostable bags, bin is sometimes smelly, fly ridden. We try hard to comply"

"Maggots & flies still an issue when warm"

"Meal prep waste was taken out to FOGO bin, but small amounts of waste were easier to just put in general waste - not a lot in comparison"

"Mouse problem"

"Sometimes I would forget about fruit/veg in the fridge and it would go mouldy. I didn't think it safe to open the container and extract the mouldy food"

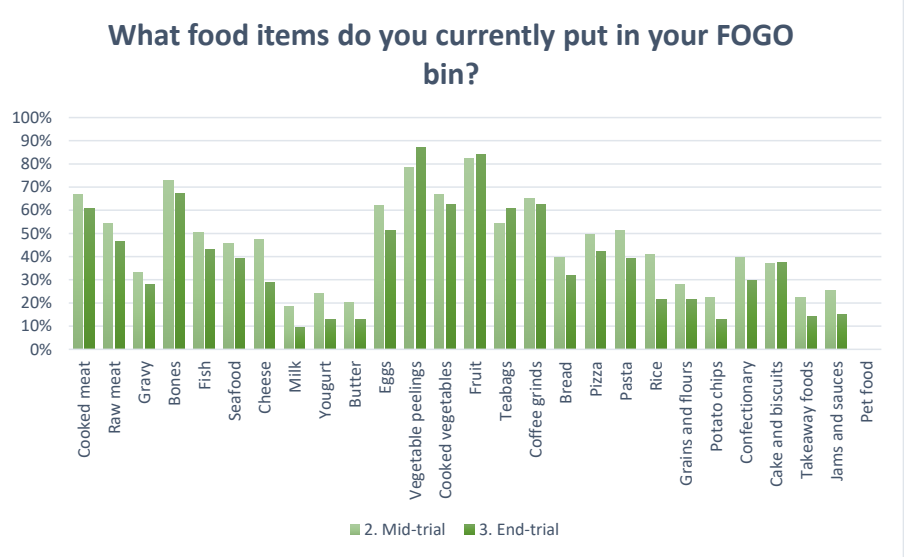
"Sometimes it's just forgetting to separate"

"Visitors sometimes mess the recycling regime"

"Issues separating scraps like cooked chicken bags, put pretty much most things in FOGO"

"Some household members don't care"

FIGURE 17: FOOD ITEMS GOING INTO FOGO BIN



The most common food items successfully being recovered were fruit and vegetables bones, meat, eggs, teabags and coffee grinds. The least likely items to be recovered included milk, yogurt, butter, grains, takeaway food, sauces and pet food. This appeared to indicate that liquid wastes in particular are more problematic for participants. Due to the short campaign timeframe, there was little evidence of it directly increasing recovery, with the overall pattern remaining relatively constant between the two surveys.

"Material was fluid or runny and would be in plastic bag - too much mess in bin"

"It's been an interesting trial which has highlighted our attention to what we waste in food. Therefore, we have reduced our expenditure a little, thankfully prior to price hikes."

This approach to identifying barriers provided critical insights and is seen as the first step in informing subsequent education campaign content. For example, participants can be directly encouraged in the use of garden waste to absorb liquid food waste, or to adopt easier separation techniques in the kitchen to encourage all family members to participate.

4.4 Impact & Sustainability

4.4.1 Participant Support

Participants were asked in both pre-trial and end of trial survey how likely they would be to continue to use an organics service in the future.

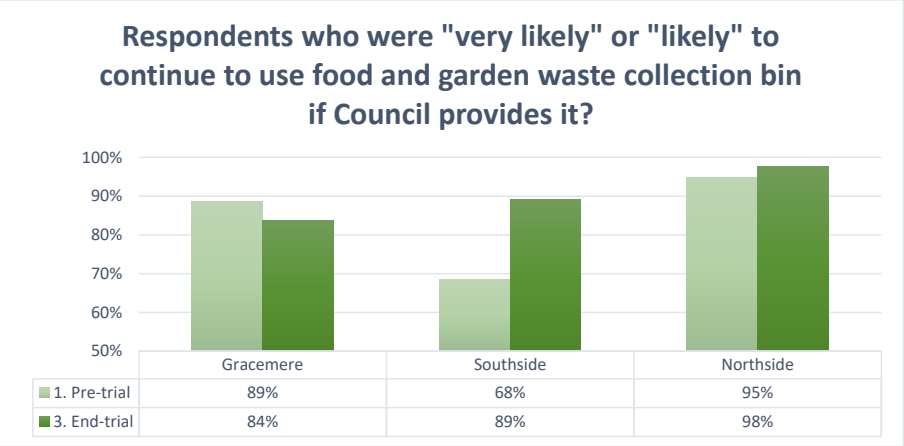
By end of trial, there was very strong support for the GO only service, with 98% of GO participants indicating that they would continue using the service in the future.

The support was less emphatic amongst the FOGO service users. Although between 84-89% of survey respondents indicated they would continue using the service, when required to opt in or out of post-trial service, 33% of FOGO participants opted out.

In the FOGO areas, there were also two separate trends identified. In the Southside area there was a significant increase in support from 68% pre-trial to 89% by end of trial. In contrast, in Gracemere support dropped 89% to 84%. This contrast between the areas is consistent with other findings. Gracemere had higher contamination rates, twice as many participants requesting general waste bin upsize, and twice as many opting out of the service at the end of the trial.

When surveyed as to how easy the service was to use, 91% of respondents answered “very easy” or “easy”, with the remainder answering “not easy or difficult” or “don’t know”.

FIGURE 18: PARTICIPANT SUPPORT FOR FUTURE SERVICE PRE-TRIAL & END OF TRIAL



There was significant interest in the trail from the wider community, with many enquires and comments wanting to know when the FOGO service would be extended to their area. There was also periodic social media attention on the trial, which was again generally favourable, with the negative comment generally coming from Council naysayers rather than any genuine issue with the service.

> *“Getting green waste to the dump is impossible without a trailer, so I used to guiltily put it in my general waste bin. The green bins are so easy, wonderful, make a huge difference for our environment/habitat. Thank you for the trial and allowing us to keep the bin. My friends in town are excitedly awaiting theirs in the near future.”*

"Loved being part of this initiative! So great to see the council being progressive and proactive with its waste management program"

"I love this idea! I also think that the recycling bin needs to be taken weekly. I now have more to recycle than rubbish"

"I'm so annoyed we missed out by one street"

"I wish we had the full FOGO option, but we only got the GO part. During summer we fill it each fortnight with yard grass. Would love to be able to chuck our food organics in as well"

"Good luck. I support the principle and thinking behind this endeavour."

"Great Idea, please keep it. Handy for people that do not have a ute/trailer to take green waste to the dump."

"Great service - Hoping it continues in our neighbourhood. Current FOGO user and supporter."

"Love FOGO thank you!"

"It's a great idea. Keep up the good work. Thankyou."

"Please continue and expand to whole community."

"Please keep FOGO permanent. Every house should be having the 3 bins and all houses educated as some things are difficult. Council staff explained, they were excellent (Gracemere)."

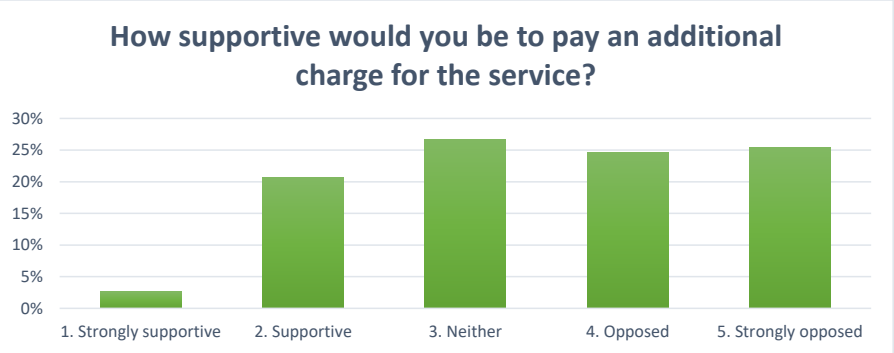
"We have been exceedingly pleased with the FOGO trial and would like it to continue. Thanking you."

"We appreciate for FOGO trial and service. We have a lot of garden waste and need to collect every week. It is a good opportunity for household to educate the importance of house waste."

4.4.2 Willingness to Pay

In the end of trial survey, participants were asked their level of support for paying for a future service. 50% of survey respondents were opposed to paying for the service, 25% were non-committal, and 25% indicated they would be prepared to pay.

FIGURE 19: SUPPORT FOR ADDITIONAL CHARGE FOR AN ORGANICS SERVICE



In preparation for the period immediately following the trial but prior to any commitment to a full community roll-out, participants were surveyed as to their preferred interim service option. The choices provided where for a mandatory/option service, and whether a nominal charge would be acceptable. Whilst 69% were happy for it to be mandatory, 79% did not want to pay.

Willingness to pay is difficult attitude to fully evaluate given that most people will generally rather not pay for a product or service. It was however very common for participants to indicate that whilst they supported the service, they also did not believe they should have to pay additional rates for it. A further recuring perception from participants was that Council

already make money out of selling waste materials such as organics, so charging the householder is double dipping.

"If I had to pay for this service, I think I would opt out, as the extra work required for the FOGO bin would not be worth it."

"Would like to keep my green bin but not if I have to pay"

"Support paying for FOGO bin as long as it is not too costly as we are pensioners"

"Fantastic idea, especially with raising awareness of what goes into our bins but with the rising cost of living at the moment it is another cost we all have to budget for with the increase to our rates and the cost most certainly has been included in our rates."

"Only people who are passionate would use FOGO correctly. I reckon 75% of the time you would still be picking out what shouldn't be in there or it would be wasted. Let those who want it, have it and pay if necessary as I don't want to pay for something I don't use."

"We will be forced into paying for a service I personally don't require. Make garden waste free or minimal cost to dump"

"We have continued with the FOGO service. We see some benefit in the program. We will withdraw from the program if a cost is incurred for the service"

4.5 Project Delivery

4.5.1 Service Roll-out

Service roll-out progressed without significant issue, with the following observations made in respect of a full community roll out:

- **Critical procurement and lead times** - suppliers largely chose to ignore initial order requests to provide suitable lead time, instead prioritising their own scheduling needs and delivering the order on a "just in time" basis. This left the project with no schedule float, an unnecessary risk transfer onto Council that needs not to be repeated at scale.
- **Bin storage** – for the trial, storing an additional 1,250 bins was not a significant issue, but for a full community roll out of 30,000+ bins, caddies and liners, this will be a factor that will need suitable advanced planning.
- **Bin distribution to property** - bin and caddy distribution to the property was undertaken by external contractor. This worked very effectively, with the contractor bringing high level of expertise and efficiency to what otherwise would have been a complex logistical component of the project for the small project team to deal with.

4.5.2 Service Delivery

The most significant findings in respect of service delivery were:

- **Driver engagement** - the trial was undertaken by in-house collections team, which was a critical factor in the success of the service delivery. The team provided on-ground support with bin deliveries, customer service enquires, scheduling flexibility to periodically deal with logistical challenges, and the identification of problem households was also heavily reliant on driver knowledge and active participation.
- **Asbestos contamination** – during the trial, one entire load was rejected by the processor due to the presence of asbestos. This proved to be a very costly unbudgeted event for the project, incurring costs for removal and transportation of hazardous waste, and the disposal fee at landfill. This issue was exasperated by heavy rainfall, which considerably increased the total load weight, and thus the cost of clean-up and disposal. An advance plan for such events had not at that time been put in place.

- **Weather events** - there were two occasions during the trial ware the collections vehicles could not access the processing facility due to flooding. There was no specific backup plan for such an event, so the loads were disposed of to landfill.

4.5.3 Education & Communications

The level of effort required for this component of the project, even at the scale of this trial was found to be much higher than anticipated, including:

- The design and deployment of communication materials
- Delivery of educational campaigns
- Maintenance and update of information sources such as the website, educational collateral and other campaign materials
- Ongoing delivery of customer support, resolving issues, service requests, etc.

This workload required contribution from several internal officers from across education, media, customer service and project administration, as well as reliance on several external contractors to assist with design, printing and distribution.

The development of the key messaging content was a relatively straight forward, being largely guided by best practice adopted elsewhere. It comprised of the following general components:

- How the service would work
- Allowable materials in each bin
- Collection calendar
- Top tips for dealing with nuisance factors
- Frequently asked questions

A dedicated brand identity was developed for the project.

FIGURE 20: EXAMPLE OF TYPICAL COLLATERAL AND THE MIX OF CHANNELS ADOPTED

The most significant challenge however was finding a combination of cost-effective channels that could deliver ongoing messaging to the largest number of participating households.

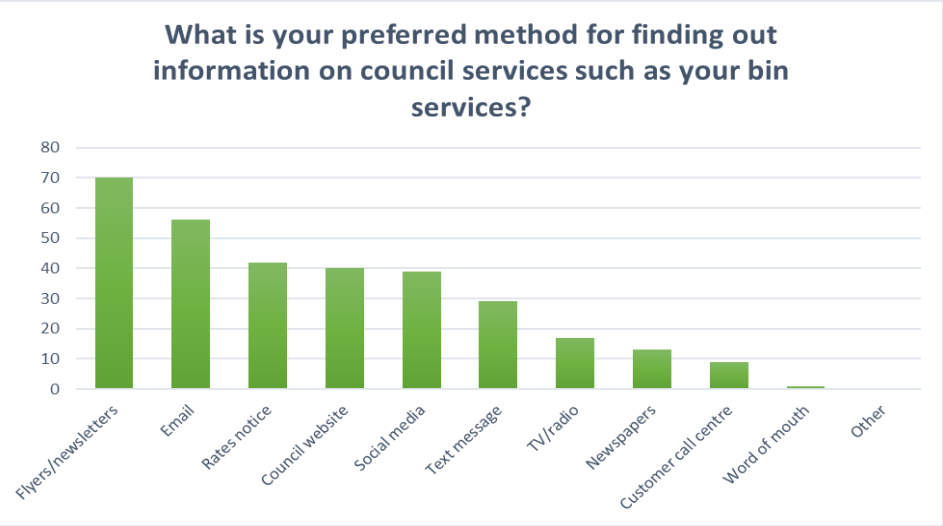
TABLE 12: COMMUNICATIONS EMPLOYED

Communication Channels	Purpose & Content	Evaluation
Pre-trial notification letter – mailed	Providing formal notification to property owner and to residents (where different) that household had been selected in trial	Costly, but essential first step to share obligatory information with both property owners and resident (where different).
Start-up information pack – hand delivered to property with bin and kitchen caddy	Information pack on how the service would work, allowable materials lists, collections calendar, magnetic bull clip to hang the collateral in prominent place in kitchen	The distribution cost was mitigated by combining with the distribution of bins and caddies. This was a critical method for putting all the important information in the hands of the resident at the very beginning of the service roll-out.
Pop-up events	Face to face engagement with participants in advance and during the trial, providing face to face explanation of the trial, how it works, answering questions, etc.	These events offer great face to face engagement opportunities, well received by attendees seeking detailed information. They are not however suited to broad scale communications, rather being best deployed as part of a targeted neighbourhood campaign.
Corflute signage	Ringfencing each trial area, signs identified the trial areas, and were periodically updated with important messaging such as Christmas collection information, survey notifications, etc.	Very effective visual triggers in the community that lent themselves to putting out quick and simple messaging. They were however expensive and required ongoing maintenance. Their applicability for community wide roll-out is likely limited, although the bin distribution contractor saw them as ideal to have moving ahead of the bin roll out to prepare residents.
Website	All trial information including how to guides, FAQs, calendars, etc.	Used as the central information hub to which all other collateral sent users back to. It is a flexible and relatively cheap channel that can be quickly adapted to promote different messaging as required. It does however rely on other channels to direct the audience there in the first instance.
Customer service centre	Response to participant enquires, offering them either scripted answers, or referring them to member of the team for expert advice and problem resolution	Very effective way of providing immediate communication with participants, resolving problems, dealing with service issues, etc. Service team already embedded within Council, so with suitable advanced planning, this is a very important and cost-effective channel.
Newsletters/flyers – hand delivered to the mailbox	Several newsletters and information flyers were distributed direct to mailbox, providing important information and updating participants with trial progress	Very effective and flexible method of direct communication, but extremely expensive and time consuming to produce and particularly to distribute. It was also observed that between 10-20% of households no longer use their mailbox.
Bin hangers	Left behind on bin handles during bin inspections, to communicate with participants about the quality of their bin presentation, and to flag any contamination issues	Very effective method of educating on allowable materials, as well as tool to affirm good behaviours and offer advice on how to correct wrong behaviours. They also provide a social norming function, with the whole street receiving messaging all at once.

Social media and direct electronic direct mailing (email and text messaging) are cost effective and timely channels of communication, but were not specifically used in this trial due to the lack of a suitable contact database across our target audience. This is identified as a significant barrier given the popularity of these channels. This is specifically addressed in the recommendations of this report.

During the mid-trial survey, participants were asked to select their three preferred methods of communication. The respondents provided a broad spread of channels with a stronger preference for flyers, email, rates notice, council website and text messaging.

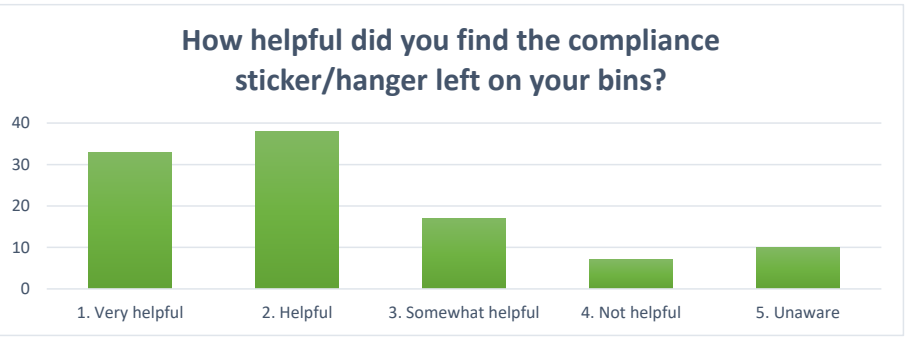
FIGURE 21: PARTICIPANTS PREFERRED METHOD OF COMMUNICATION



Survey respondents were also positive towards the bin hangers, with over 70% finding them helpful or very helpful.

"Bin stickers/hangers were fun, like being at school, but also, we knew we'd got it right."

FIGURE 22: PARTICIPANT RESPONSE TO BIN HANGERS USED IN BIN INSPECTION PROGRAM



4.5.4 Survey Bias

Participant surveys were deployed at beginning, middle and end of trial. This deployment of these surveys was specifically designed to optimise the response rate, including hand delivery of paper copy to every mailbox, online submission options, and using a mix of channels to encourage participant responses.

Despite this, there is evidence that participants who were generally supportive of kerbside organics service were more inclined to respond to the participant surveying. This became apparent at the end of the trial, when the proportion of participants that opted out of the post-trial FOGO service was significantly higher than was anticipated based on survey responses.

TABLE 13: COMPARISION BETWEEN SURVEY RESPONSES AND ACTIVE OPT-IN HOUSEHOLDS

Support for Organic Service	Gracemere (FOGO)	Southside (FOGO)	Northside (GO)
Survey respondents who don't want service	16%	11%	2%
Participants who opted **out** of service post-trial	38%	28%	2%
Difference	**-22%**	**-17%**	**0%**

It can be seen that 20% more FOGO participants opted out than was suggested in the survey responses. There is no such gap for the GO participants, not surprising since there is very little reason for participants to opt out of a service that only provides additional value in the form of an extra bin.

Whilst there may be several possible explanations for this gap, of importance here is that the bias exists, so caution should be exercised when interpreting the survey responses, and they certainly should not be used in isolation to arrive at any conclusions.

4.5.5 Audit & Evaluation

Several issues were identified during the trial relating to inconsistencies in audit definition and performance measures.

For the purposes of this audit, five specific audit categories for organic materials were established at the outset by DES, in consultation with the trail councils. These categories were:

- Putrescible garden/vegetation
- Putrescible food/kitchen
- Other putrescibles
- Organic matter in compostable plastic
- Organic matter in non-compostable plastic

This final category was intended to capture data on non-eligible liner use and prevalence of plastic containerised food presented in the FOGO bin. However, by assigning materials to this category, any attempt to accurately measure FO and GO recovery rates required a further sub-audit of the contents of these bags, which unfortunately fell outside of our contractual scope of work with the audit contractors.

To overcome this issue, sub-auditing was subsequently undertaken using Council staff, but this had to be presented as an unverified addendum to the compositional audit reporting.

Further inconsistencies were encountered during the trial in the interchangeable use of terminology, plus variability in the definition and calculation methodology of certain metrics.

4.5.6 Engagement Activities

Whilst the main focus during this trial was on participant households, some broader engagement was undertaken.

The most significant direct engagement was with the three local garden bag service providers operating in our region. Any community wide roll-out of a kerbside organics service will directly compete with these businesses. Although these operators will likely retain a proportion of their customer base, it will be significantly reduced and less concentrated, seriously compromising the commercial viability of their service.

Council is not able to offer any specific solution to these operators, but has acknowledged the importance of ensuring that they are kept informed of plans as far in advance as possible so that they can start the process of restructuring their business. This is an issue that is likely going to need to be similarly managed by most councils.

5 CONCLUSIONS

The trial demonstrated that both a FOGO and GO service configuration are operationally viable services, whilst offering no conclusions about the financial viability of either.

5.1 Service Effectiveness

5.1.1 Waste Generation

The volume of waste presented at the kerbside increased by up to 30%. This increase is assumed to be from garden organics that would otherwise have been dealt with, either around the property or disposal at local waste transfer station. The main significance of this is in calculation of potential costs and benefits of any future service delivery. The additional volume will increase the cost of collections and processing, whilst it will need to be excluded from the calculation of any cost benefits arising from diversion from landfill.

5.1.2 Recovery Rates

A GO recovery rate of 99% was achieved by the FOGO service, driven by the reduction in the general waste bin capacity. A GO recovery rate achieved by the GO service was lower at 90-96%, the result of not having any similar incentive in place to drive behaviours.

A FO recovery rate of 55% was achieved by the FOGO service where caddy liners were provided. A FO recovery rate of 47% was achieved by the FOGO service where no liners were provided.

5.1.3 Diversion from Landfill

The FOGO service diverted up to 49% of the total kerbside general waste from landfill, whilst the GO service diverted up to 20%. In a full community roll out, this would represent diversion of 4,049 tonnes in a GO only service, and 10,096 tonnes in a FOGO service.

5.2 Service Efficiency

5.2.1 Presentation Rates

Annual presentation rates for organic bins of 60% were achieved across all trial areas, with seasonal high of 70% during summer months, dropping to as low as 50% in winter.

General waste bin presentation rate was consistently around 90% across the whole year, with no significant change compared with pre-trial levels.

5.2.2 Bin Capacity

The capacity of the general waste bin in the FOGO service was an issue for a significant minority of participants. Upsize requests was received from 22% of households in the FOGO service, with a strong correlation between this level of contamination and the fullness of the corresponding general waste bin.

There was no capacity issue observed with the FOGO bin, with less than 25% being presented full. For the GO only service, 43% of the bins were presented full, this higher rate being the direct result of the longer fortnightly collection cycle.

5.2.3 Contamination

Contamination rates were highly variable, both between the two service configurations and between the calculation methods used.

The highest rates were recorded by the Gracemere FOGO service, between 6-14% contamination depending on methodology. This area had the highest number of households

requesting a general waste bin upsize (30%) and was observed to have a much lower care factor in terms of the way it presented its bins. 8% of all bins in this area were observed to be presented with serious or catastrophic contamination.

The Southside FOGO area recorded rates of between 3-5% depending upon methodology used. In this area, 15% of households requested a bin upsize, and whilst there were also some poorly presented bins, there was a much lower prevalence. 3% of all bins in this area were observed to be presented with serious or catastrophic contamination.

The GO service recorded between 1-4% depending upon methodology. Just 1% of bins in this area were observed to be presented with serious or catastrophic contamination.

Bins scored as serious or catastrophic contamination contained large quantities of bagged or loose general waste. Such behaviours were observed to stem from either of two causes, a lack of available space in the general waste bin, or a wilful act of defiance by disengaged participants determined to use the additional bin as a second general waste bin. These bins were responsible for nearly all of the contamination created, a finding that will have a significant impact on the way education, incentives and penalties need to be designed.

5.2.4 Caddy Liners

The provision of caddy liners appears to significantly improve the quantity of food waste recovered in the FOGO bin. Participants in the Southside FOGO area that was not provided with caddy liners were observed to seek out various other means, mainly the purchase of their own liners from local retailers. There was a high incidence of the use of non-compostable liners observed in both FOGO areas.

5.2.5 Multi-unit Dwellings

Although there was only a small sample of MUDs in the trial, they generally had much lower participation rates. In particular, several unit blocks were found to have unutilised organic bins and caddies at end of trial. This is intuitively unsurprising, delivering four or more bins to a property that has only one communal garden space is clearly overcapacity.

5.2.6 Other Household Behaviours

Participants reported that the most significant barriers to improved recovery of food waste were odour, flies and maggots, difficulty in separating food from packaging, and disposing of small amounts of food assuming they are not significant.

The most common food items that are being recovered are fruit, vegetables, (cooked and peelings), teabags, coffee grinds, bones, eggs and cooked meat. The least likely items to be recovered are gravy, milk, yogurt, butter, bread, takeaway food, sauces and pet food.

5.3 Impact & Sustainability

5.3.1 Level of Support

There was very strong support from the GO service participants, with 98% of GO participants indicating that they would continue to use the service in the future.

The support was less emphatic amongst the FOGO service users. Although between 84-89% of survey respondents indicated they would continue to use the service, when asked to opt in or out of post-trial service, 33% of FOGO participants opted out.

5.3.2 Willingness to Pay

The appetite to pay for an organics service is not strong. 50% of survey respondents were opposed to paying for the service, 25% were non-committal, and 25% indicated they would be prepared to pay.

5.4 Service Delivery

5.4.1 Service Roll-out

Service roll-out proceeded without major incident. Some risk factors were highlighted during this project phase included management of critical procurement contracts. The project employed external contractor to distribute bins and caddies to household, which was found to be an efficient use of project resources.

5.4.2 Services Delivery

Overall, collection services were delivered without major incident. Several manageable issues did emerge during the trial, including a rejected load due to asbestos contamination and wet weather limiting access to the processing site. The team was also required to respond to a relatively high number of overflowing general waste bins early in the trial, which included offering an additional service over the Christmas period.

5.4.3 Education & Communications

A range of communication and engagement channels were tested during the trial.

The mailing of information direct to participating households was an important initial introduction to the service roll-out, but is a very expensive exercise.

Hand delivery of printed flyers/newsletter during the trial also proved effective in terms of reach, but were also very costly, so are only really practical in a whole of community roll-out as a method for distribution of starter packs when there is already bin and caddy delivery taking place.

The most cost-efficient channels proved to be the website, used as a central hub for participant information, bin hangers left behind by bin inspectors, and Council's customer call centre for dealing with individual participant queries.

Participants' preferred communication channels included flyers/newsletters, email, rates notice, website and text messages.

The primary barrier for Council to using electronic newsletters distributed via email or text is the lack of a suitable contact database.

5.4.4 Audit & Evaluation

Ongoing weighbridge data and periodic compositional audits provided a strong quantitative evaluation base for this project. The bin inspection data in particular provided valuable insights into household behaviours that would not otherwise have been apparent.

The scope of work agreed for the compositional audit for this project, whilst being compliant with the technical requirements required by DES, did not facilitate the measurement of accurate recovery rates for FO and GO. Sub auditing was undertaken during the end of trial audit to mitigate this issue, but a more robust set of audit standards is required going forward

5.4.5 Stakeholder Engagement

Stakeholder engagement was a key component of the successful delivery of this project, including with internal stakeholders such as customer services team, collections team, data management teams, etc. who will all be required to bring expertise to the project.

There was also important engagement with a range of external stakeholders. The most significant of these was the small number of businesses currently delivering garden bag services who will have their own businesses severely impacted by the introduction of a kerbside bin service.

6 RECOMMENDATIONS

The following recommendations are made in response to the findings of this evaluation.

6.1 Portfolio of Service Options

Recommendation #1: Users should be offered a portfolio of alternative service options aimed at meeting a range of needs.

The trial demonstrated that the reduced general waste service frequency and bin size achieved the desired levels of diversion. It was further true however that a significant minority of participants struggled with the reduced general waste capacity, which in turn lead directly to increased levels of contamination in the FOGO bin.

Whilst education campaigns on waste avoidance and improved recycling habits can in part alleviate these issues, it does not fully resolve the problem for many users such as large families, those with nappies, adult diapers, medical waste, etc. A common practice observed in other jurisdictions is to offer a menu of service options, which often includes a discount or premium services, pricing being based on the general waste capacity being provided. Larger commingled recycling bins can also be used to increase kerbside capacity.

6.2 Investment in Behaviour Change

Recommendation #2: An immediate investment is required in a behaviour change plan to build and engage the community on the chosen service delivery model.

The trial has been invaluable in starting the process of identifying several key behaviours and barriers to change within different demographic groups in our community. The most efficient deployment of limited educational resources will be to deploy focused campaigns that meet these identified needs:

- A broadscale informational approach can be used to address the educational needs of the majority who are engaged and positive minded towards implementing change
- Targeted campaigns can be used to address specific identified barriers, including:
    - Audience specific - language, large households
    - Behaviour specific – lack of in-home source separation, pest and odour
- Penalties and incentives can then be applied to the disengaged minority who have no intention of engaging in the change process. This might include variable pricing on different service configurations, or in extreme circumstances, the withdrawal of certain services.

Whilst this is an approach that has general support from within State Government, there is not yet a full understanding of the level of investment and on-ground resources required at local level to develop and deliver such a suite of campaigns:

- Identifying the barriers to change that are relevant to local populations
- Crafting and testing suitable campaigns to address each identified barrier/target audience
- Delivery of campaigns
- Monitoring and evaluation of ongoing behaviours, including compositional audits, audits, ongoing bin inspection programs, participant engagement, etc.

6.3 Regulatory Sanctions for Non-compliance

Recommendation #3: Regulatory mechanisms are required that provide for the imposition of penalties and sanctions on non-compliant users.

The trial demonstrated that just 3-8% of households were responsible or nearly all the contamination in the FOGO bins. It is acknowledged that there was a complex mix of factors driving these behaviours, including:

- General waste bin capacity issues
- Perceived barriers to the FOGO service such as odour and pest
- Lack of engagement/care factor on behalf of some or all of the household residents

The first two factors above can be addressed with well-crafted education and engagement campaigns, alongside a suite of suitably priced service options that incentivise good behaviours and disincentivise high waste generation.

There will however be a residual audience that remain wilfully non-compliant. For these households, Council needs to have the regulatory power in place to refuse/withdraw service provision so as to mitigate the disproportionate cost of contamination being caused.

6.4 Standardisation of Allowable Materials

Recommendation #4: A simple to understand list of eligible materials needs to be adopted.

A simple, standardised list of allowable materials in the FOGO bin will provide clear and consistent messaging in order to reduce the risks associated with contamination. Ensuring it is easy to understand an implement will avoid the mistakes and the confusion of the yellow top bin.

These fundamental rules should align with an adopted state-wide standard. Whilst the Queensland government is still working through this process, the recently reconfirmed NSW approach[4] restricts allowable materials to:

- Food waste
- Garden organics
- Paper caddy liners
- Certified compostable (AS4736) caddy liners

This takes a much simpler approach than that taken in this trial, excluding items such as dog faeces, pizza boxes, tissues and paper towel. It would also specifically exclude compostable packaging, thereby mitigating the risk of introducing PFAS into compost product.

With such an allowable materials list, the primary contamination risk will come from the use of incorrect non-compostable caddy liners. Whilst this will never be completely mitigated, Council providing residents with allowable caddy liners, at least in the start-up phase of the service, would establish strong normative behaviours and familiarity.

This approach also benefits the processing end of the supply chain. At present, packaging such as takeaway bags are being used to wrap food waste, but frequently mixed with other general waste items such as plastic containers, cartons and bottles, so have to be discarded as contamination by the processor.

6.5 Provision of Caddy Liners

Recommendation #5: FOGO households should be issued with a free allocation of caddy liners at commencement of the service.

A free allocation of caddy liners provided to each household at the beginning of the trial will significantly increase food recovery rates. Whilst there will be a purchase cost, the initial delivery will be at minimal additional cost, included as part of the kerbside bin and kitchen caddy roll-out. An allocation of 150 liners is generally considered to be sufficient for one

[4] https://mraconsulting.com.au/kerbside-fogo-needs-a-national-standard/

year's supply. This will ensure that good food recovery behaviours are encouraged and embedded at the outset.

Once the first year is complete, further free allocation of liners can be made available, but with participants required to collect from designated Council pickup locations such as customer service centres. This will mitigate costs, both in terms of distribution and lower stock purchase costs (other jurisdictions have indicated that only approximately one third of eligible households will actually collect liners).

Advanced consideration will need to be given to the relative merits of compostable plastic versus paper liners. Once a position has been agreed, a comprehensive education campaign will be required to minimise the use of non-allowable liners.

6.6 Electronic Contact Database

Recommendation #6: An immediate investment is required in building a community wide electronic contact database for the purposes of ongoing digital communication with future service users.

A community wide digital contact database is required, built for the specific purpose of dissemination of educational campaigns to as wider domestic audience as possible. This needs to be substantial in scale by the time of a community wide service roll-out, this making it an immediate priority for Council.

The trial has shown a clear correlation the communication channels that the community prefers and those that are also the most cost effective and provide the greatest reach. These channels are predominantly digital, including newsletters, text messaging, email and website.

In anticipation of this need, a "Zero Waste" newsletter has already been developed, and will be a central vehicle used to gather contact details and to keep subscribers engaged. Prizes and other marketing devices are proposed to be deployed to build mailing list numbers.

6.7 Multi-Unit Dwellings

Recommendation #7: Multi-dwelling units should be excluded from the initial service roll-out.

Multi-unit dwellings (MUDs) should generally not be included in initial service roll-out. A minimum threshold can be applied to include properties with a small number of flats or units, but to exclude larger complexes. There are very specific factors influencing the service delivery to MUDs, including the quantity of waste generation, waste composition, availability of suitable bin storage space, etc. Specific services can be rolled-out in subsequent phases, using a more adaptive approach to meeting the specific service requirements of these properties.

6.8 Definition of Standard Measures

Recommendation #8: A set of standard performance and data capture methods should be established.

A specific set of performance measures and audit standards were adopted for this trial at the behest of DES, being informed by published guidance from Victoria and NSW. Whilst this provided a good general framework, some issues around definitions and terminology emerged, in particular during the compositional audits.

It is recommended that Queensland government establish a set of audit and reporting standards, giving specific consideration to definition of audit categories and to standard performance measures.

10.3 GLENROY ROAD PROJECTS STATUS REPORT

File No:	**12534**
Attachments:	**1. Glenroy Road ROSI Works Locations⇩** **2. QBC Booklet⇩** **3. QBC Projects Overview⇩** **4. QBC Map⇩**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**Martin Crow - Manager Infrastructure Planning**

SUMMARY

Council Officers reporting on the status of a proposed program of works on Glenroy Road that is receiving Federal Government funding support.

OFFICER'S RECOMMENDATION

THAT the Glenroy Road Projects Status report be "received"; and

1. Council endorse the continued inclusion of Glenroy Road in the Queensland Beef Corridors priorities on the basis of 80% Federal Government and 20% Council funding split; and
2. Council include funding within the 2023/24 Long Term Financial Forecast for the Queensland Beef Corridors Program.

COMMENTARY

Council have been successful in securing funding commitments under two different Federally funded grants programs for the Glenroy Road corridor. This report provides and update on the status of the proposed projects under each funding stream.

Roads of Strategic Importance (ROSI) Pilot Program

Council has been successful in securing a funding commitment from the Federal Government for upgrades to sections of Glenroy Road and the Glenroy Crossing of the Fitzroy River. The Glenroy Road Upgrade Project has been pursued by Council under the ROSI funding program since 2018 with further submissions resulting in "in-principle" support in 2021 accompanied by Federal Budget support in 2022.

The project includes formation widening, pavement overlay and sealing of approximately 9.5 kilometers of road, widening of floodways through the upgraded sections, horizontal curve improvements and the upgrade of the Glenroy Crossing. The upgrade of the Glenroy Crossing has been nominally set as a 230m long single lane bridge with Q2 immunity. A plan highlighting the proposed sections of Glenroy Road to be upgraded has been included as attachment 1.

The estimated cost of this project is $25 million with an allocation of $20 million for the Glenroy Crossing and $5 million for the road improvements. The funding split for this project is $20 million (80%) provided by the Federal Government and $5 million (20%) provided by Council.

The basis of Council's submission was primarily that the Glenroy Road corridor upgrade project was aimed at improving safety, capacity, high productivity vehicle use and flood immunity along Glenroy Road. Glenroy Road is considered a rural arterial road within Council's road hierarchy consisting of both sealed and unsealed pavements. Glenroy Road passes through and provides the transport backbone for the agricultural areas of South Yaamba, Ridgelands, Garnant, Morinish and Glenroy. The sealed sections in total form approximately 12.2km of varying sealed width between 3.6m single lane to 7m dual lane. The remaining 30kms of unsealed pavement also varies in available pavement width from 4m to 8m.

This corridor services existing agricultural developments and will be required to service the anticipated agricultural industry development associated with Rookwood Weir (completed and operational in 2023). Critical to servicing the western end of the Glenroy Road Corridor is the Glenroy Crossing of the Fitzroy River. This crossing is a single lane concrete floodway structure of minimal flood immunity and has been rated as being in poor condition in Council's Bridges and Major Culverts Asset Management Plan. The crossing services 12-14 properties on the western side of the river requiring access through to Rockhampton and has significant agricultural development potential.

Funds under this program are available until 27/28. The following cashflow formed part of Council's submission.

ROSI Submission

Proposed funding	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	Total ($)
AG	280,000	400,000	2,200,000	2,200,000	7,720,000	7,200,000	$20,000,000
LG	70,000	100,000	550,000	550,000	1,930,000	1,800,000	$5,000,000
Total ($)	350,000	500,000	2,750,000	2,750,000	9,650,000	9,000,000	$25,000,000

This program essentially allowed for project development and design works and delivery of the roadworks portion between 22/23 to 25/26 and delivery of the Glenroy Crossing through 26/27 and 27/28. Delivery timeframes are currently being reviewed as part of the project development process.

Funds have been allocated for this project across year 1 (22/23) to year 6 (27/28) of the current capital program.

A funding agreement has recently been received and is being reviewed by Council Officers. It is anticipated that the funding agreement will be entered into by the end of January 2023.

Queensland Beef Corridors Program

The Queensland Beef Corridors group (QBC) is a collaborative advocacy group made up of seven Central and Western Queensland Councils, industry stakeholders and primary producers. The QBC was launched at Beef 2021 with our Council joining that group in late 2021.

The QBC has been successful in securing a $400 million funding commitment from the Federal Government for upgrades to various Central and Western Queensland road corridors. The overall program comprises the sealing of approximately 457 kilometers of unsealed road and upgrades or improvements to a further 195 kilometers of sealed road. Council's Glenroy Road Corridor is the only local road in the project schedule with all of the remaining corridors being State Controlled Roads. The Glenroy Road project represents 30 kilometers (6.5%) of the unsealed road component of the program. The most recent advocacy documentation has been included as attachments 2 to 4.

It is envisaged that Council's Glenroy Road project will include formation widening, floodway widening, pavement overlay and sealing of the remaining unsealed sections of road on completion of the ROSI funded works.

The estimated cost of this project is $15 million. There is little detail around the program at this point in time however a nominal funding split of $12 million (80%) provided by the Federal Government and $3 million (20%) provided by Council has been assumed.

The basis of Council's support for the QBC program was primarily in relation to the significance of the Beef Industry to the Rockhampton and wider Central and Western Queensland economies, the continued advocacy and support by Council for the upgrading of the Glenroy Road corridor and the identified benefits of improving safety, capacity, high productivity vehicle use and flood immunity along Glenroy Road that were established through the ROSI process.

The Federal Government have allocated $50 million in the 25/26 forecast and $350 million in the 26/27 "onwards" forecast. No further advice has been provided with regard to the expected expenditure profile for 26/27 onwards. Previous advocacy work was seeking delivery of these works over a 7-year time period commencing in 22/23 however the allocation of the Federal funding from 25/26 onwards casts doubt on that proposal.

Advocacy work is currently underway on securing the State Government funding required to meet their 20% commitment and any shortfall in Federal funding in the lead up the State budget. The QBC are also advocating that the State funding be made available from 23/24 to allow a start on the program. It is presumed that any early release of State Funds will go to the State controlled network. On this basis, it is likely that any works on the Glenroy Road Corridor would commence at the earliest in 26/27, however availability of Council funds may see this start later, potentially in 28/29. The following cashflow is indicative of what may be sought through Council's budget process.

Indicative Qld Beef Corridors Cashflow

Proposed funding	2028-29	20294-30	2030-31	2031-32	2032-33	2033-34	Total ($)
AG	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	$12,000,000
LG	500,000	500,000	500,000	500,000	500,000	500,000	$3,000,000
Total ($)	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	$15,000,000

This program essentially allows for a consistent level of design works and delivery of the roadworks over a 6 -year period. This will be subject to further discussion during the development of the project.

Discussions are currently being held between the QBC and the Department of Transport and Main Roads in relation to project governance and delivery methodology.

Currently no funds have been allocated for this project in the current capital program. It is anticipated that funding allocations will be incorporated into the 10-year Long Term Financial Forecast from 2028/29 onwards during the development of the 2023/24 capital budget.

PREVIOUS DECISIONS

Glenroy Road ROSI Program

On 28th February 2022, Council resolved the following.

THAT Council confirms it's commitment of $5 million to the Glenroy Road Corridor Upgrade project under the Federal Government's Roads of Strategic Importance Initiative.

Queensland Beef Corridors Program

On 12th October 2021, Council resolved the following.

THAT Council:

(a) endorse Rockhampton Regional Council becoming a member Queensland Beef Corridor

Councils and agree to making an initial financial contribution of $12,000 and to providing in-kind support; and,

(b) seek to have Glenroy Road upgrades and a new bridge at Glenroy Crossing included in the Queensland Beef Corridors priorities.

BUDGET IMPLICATIONS

The ROSI funded Glenroy Road Upgrade Project is currently funded within Council's current Capital Works Program and Long Term Financial Forecast. Additional works on Glenroy Road undertaken under the Queensland Beef Corridors Program will require the allocation of an additional $3 million over an expected period of 6 years commencing nominally in 2028/29.

CORPORATE/OPERATIONAL PLAN

GOAL 3.1 - We plan for growth with the future needs of the community, business and industry in mind.

- We have a greater understanding of the Region's economic strengths, opportunities and challenges.
- Our strategic planning supports the Region's growing population and enables economic Development.

GOAL 3.4 - We support our Region's economy through our projects and activities.

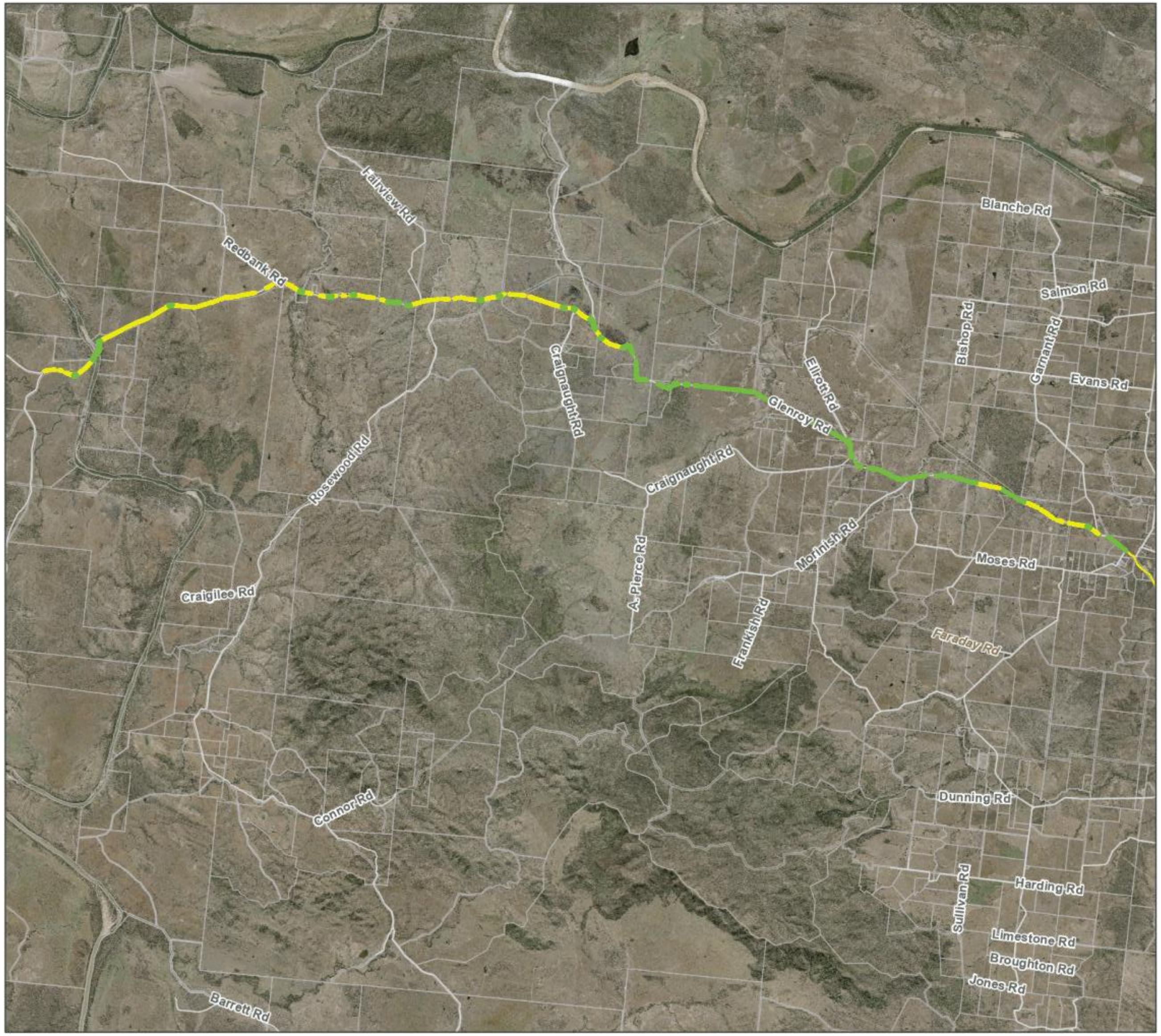
- We plan and deliver significant projects that deliver ongoing, sustainable economic benefits for the Region.
- Our infrastructure and community assets support the growth of the Region's economy.

GLENROY ROAD PROJECTS STATUS REPORT

Glenroy Road ROSI Works Locations

Meeting Date: 7 February 2023

Attachment No: 1



Legend

Proposed Works

Proposed Works

Scale @A3 1:128,586

0 1,750 3,500 7,000 Metres

Rockhampton Regional Council

Roads of Strategic Importance

Glenroy Road
Location of Proposed Works

Version 25 MAR 2021

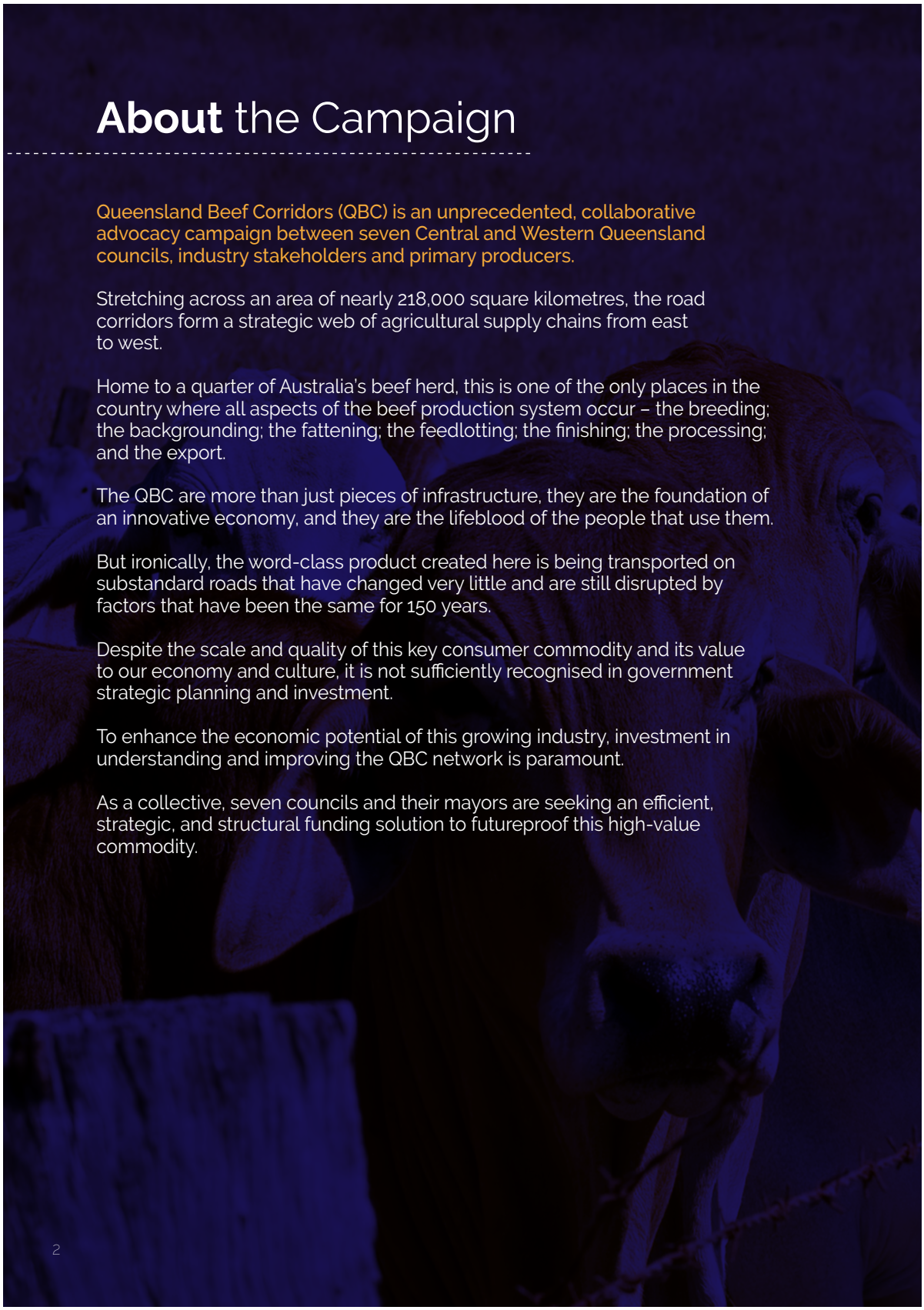
GLENROY ROAD PROJECTS STATUS REPORT

QBC Booklet

Meeting Date: 7 February 2023

Attachment No: 2


Queensland
BEEF CORRIDORS
CONNECTING THE DOTS FOR
QUEENSLAND'S BEEF INDUSTRY
ROAD
TRAIN



About the Campaign

Queensland Beef Corridors (QBC) is an unprecedented, collaborative advocacy campaign between seven Central and Western Queensland councils, industry stakeholders and primary producers.

Stretching across an area of nearly 218,000 square kilometres, the road corridors form a strategic web of agricultural supply chains from east to west.

Home to a quarter of Australia's beef herd, this is one of the only places in the country where all aspects of the beef production system occur – the breeding; the backgrounding; the fattening; the feedlotting; the finishing; the processing; and the export.

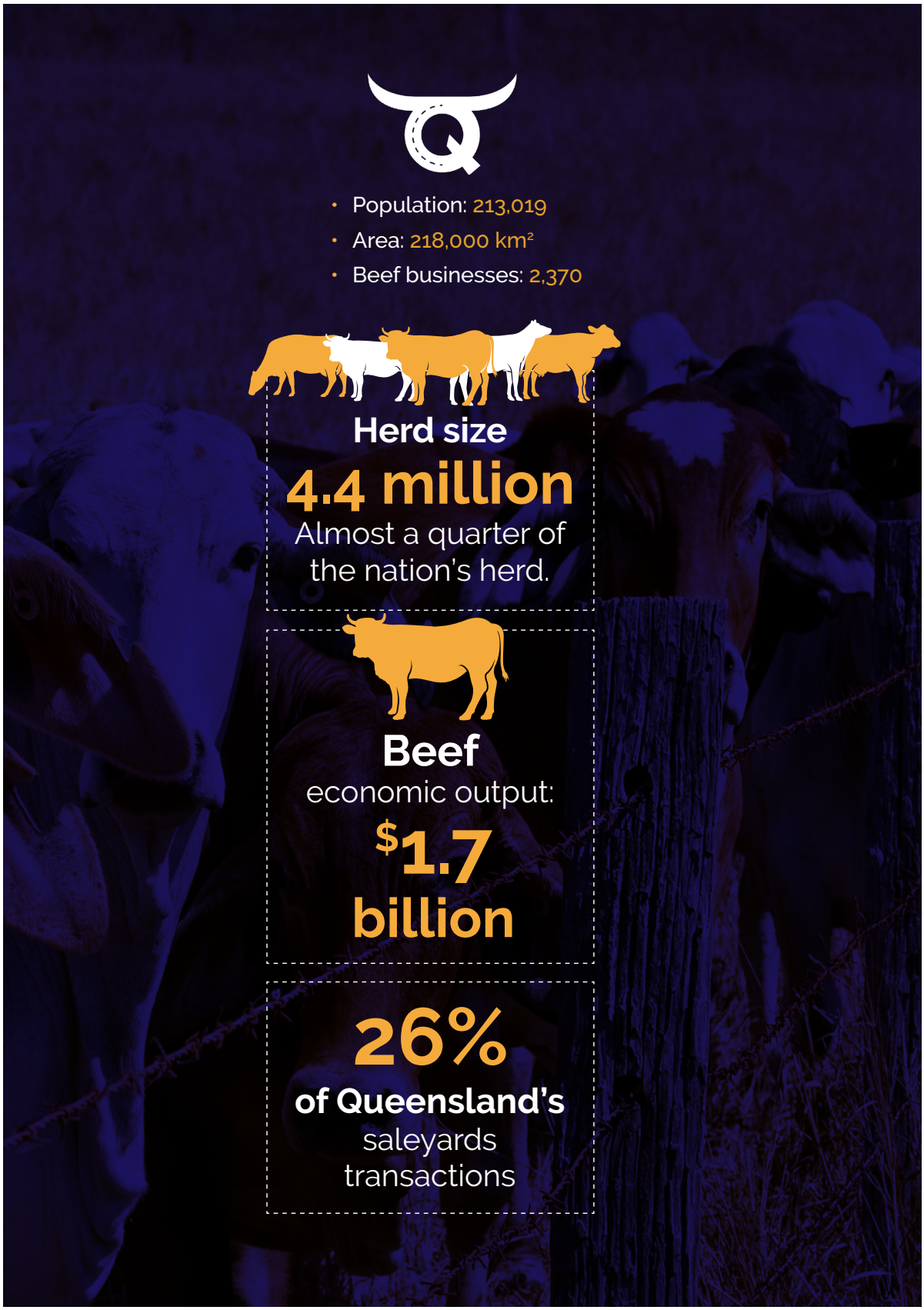
The QBC are more than just pieces of infrastructure, they are the foundation of an innovative economy, and they are the lifeblood of the people that use them.

But ironically, the word-class product created here is being transported on substandard roads that have changed very little and are still disrupted by factors that have been the same for 150 years.

Despite the scale and quality of this key consumer commodity and its value to our economy and culture, it is not sufficiently recognised in government strategic planning and investment.

To enhance the economic potential of this growing industry, investment in understanding and improving the QBC network is paramount.

As a collective, seven councils and their mayors are seeking an efficient, strategic, and structural funding solution to futureproof this high-value commodity.


• Population: 213,019
• Area: 218,000 km²
• Beef businesses: 2,370
Herd size
4.4 million
Almost a quarter of the nation's herd.
Beef
economic output:
$1.7 billion
26%
of Queensland's saleyards transactions

Barcaldine Regional Council

This project, when funded and delivered, will see the key capacity constraints on Central Queensland's biggest agricultural commodity eliminated and begin to deliver certainty that producers need to commence upscaling their operations.

- Mayor Sean Dillon

- Population: 2,849
- Area: 53,400 km²
- Ag industry employment rank: 1
- Beef businesses: 207
- Herd size: 385,000
- Production focus: Backgrounding, breeding, live export, finishing.

Beef economic output:

$137 million

Banana Shire Council

There are three meat processing plants in Central Queensland, two in Rockhampton and one in Biloela. Between them they employ about 2,000 people and rely on delivery of up to 3,000 head per day. We need to be able to get road trains from western Central Queensland to the Gladstone Port via the Capricorn, Burnett and Dawson Highways via Dululu, Biloela and Gladstone.

- Mayor Nev Ferrier

- Population: 14,156
- Area: 28,500 km²
- Ag industry employment rank: 1
- Beef businesses: 687
- Herd size: 541,000
- Production focus: Feedlotting, backgrounding, breeding, processing, finishing, live export.

Beef economic output:

$534 million


035 MF I
'The beef industry of today, and the one that
our children will inherit
is no longer about producing a low value commodity. It's time that the Dawson Development Road is upgraded to a standard that the growing, flourishing industry requires.'
- Bernadette Paine, Myola, Springsure
5

Rockhampton Regional Council

As the Beef Capital of Australia, Rockhampton depends on the transport of cattle for breeding, backgrounding, sales and meat processing. Ensuring reliable transportation is vital to the beef supply chain and the growth of local jobs.

- Mayor Tony Williams

- Population: 81,999
- Area: 6,575 km²
- Ag industry employment rank: 9
- Beef businesses: 281
- Herd size: 958,300 (incl. 840,000 processing capacity)
- Production focus: Backgrounding, breeding, finishing, live export, processing.

Beef economic output: **$63 million**

Central Highlands Regional Council

Reliability creates confidence. Confidence drives opportunity. Opportunity creates investment and employment. Despite our resilience, innovation and early adoption of 21st century technology and our incredible superiority in genetics, we are burdened with uncertainty and unnecessary cost that comes from an inexplicable lack of investment in road infrastructure.

- Mayor Kerry Hayes

- Population: 28,701
- Area: 59,800 km²
- Ag industry employment rank: 2
- Beef businesses: 624
- Herd size: 1.37 million
- Production focus: Feedlotting, breeding, backgrounding, finishing, live export.

Beef economic output: **$576 million**


'To me this is about opening up the west. If we
can get better roads, we can put more families in
these remote towns and regions that are dying.
It's a beautiful place, that produces
so much of Australia's beef.
How can we help it thrive?'
- Fred Appleton, *Appleton Cattle Company*,
Islay Plains Station, Alpha

Isaac Regional Council

We are calling on the government to establish a robust direct focus on cross regional council advocacy to direct taxpayer dollars north to upgrade our beef corridor road network. The agricultural industry continues to keep Queensland moving during the COVID-19 pandemic. However, this cannot be maintained without critical road infrastructure such as our beef roads.

- Mayor Anne Baker

- Population: 20,886
- Area: 58,700 km²
- Ag industry employment rank: 2
- Beef businesses: 363
- Herd size: 866,000
- Production focus: Feedlotting, backgrounding, breeding, processing, live export.

Beef economic output: **$283 million**

Gladstone Regional Council

The current method of decoupling road trains on the Dawson and Capricorn Highway network hampers the productivity and efficiency of transport supply chains. Accessing the Port of Gladstone can open the door for beef export, as well as agricultural exports, straight to Asian markets and improved supply chains for agricultural imports and consumables.

- Mayor Matt Burnett

- Population: 63,412
- Area: 10,500 km²
- Ag industry employment rank: 16
- Beef businesses: 204
- Herd size: 125,000
- Production focus: Backgrounding, breeding, live export, finishing.

Beef economic output: **$96 million**

10

Woorabinda Aboriginal Shire Council

Ideally, we will generate an invested interest from both state and federal governments on improving beef corridors and limit problems encountered in getting stock and products for sale. For Woorabinda Shire this would mean flexibility to haul cattle and produce to relevant sales and increased numbers of cattle hitting the market from the region overall. .

- Mayor Josh Weazel

- Population: 1,016
- Area: 390 km²
- Ag industry employment rank: 5
- Beef businesses: 4
- Herd size: 5,700
- Production focus: Backgrounding, breeding, feedlotting.

Beef
economic output:
$1.9 million


Central Highlands Regional Council
Banana SHIRE SHIRE OF OPPORTUNITY
BARCALDINE REGIONAL COUNCIL
Woorabinda Aboriginal Shire Council
GLADSTONE REGIONAL COUNCIL
Rockhampton Regional Council
ISAAC REGION
Queensland
BEEF CORRIDORS
qldbeefcorridors.com

GLENROY ROAD PROJECTS STATUS REPORT

QBC Projects Overview

Meeting Date: 7 February 2023

Attachment No: 3

Projects Overview

Roads with sections to be sealed	State road*	Local road*	Start chainage (km)	End chainage (km)	Length to be sealed (km)	Cost to seal (AUD)	Existing funding (AUD)	Funding source	QBC funding request (AUD)
Clermont - Alpha Rd	✓		42	109	60	72,500,000	6,000,000	QTRIP	66,500,000
May Downs Rd	✓		9	40	31	72,000,000	8,000,000	IRRP	64,000,000
Kilcummin - Diamond Downs Rd	✓		20	68	48	50,000,000	Nil		50,000,000
Alpha - Tambo Rd	✓		various	various	43	32,070,000	Nil		32,070,000
Dawson Developmental Rd	✓		63	172	109	91,000,000	50,000,000	ROSI	41,000,000
Fitzroy Developmental Rd (Bauhinia - Duaringa)	✓		26	47	21	26,000,000	6,000,000	ROSI	20,000,000
Fitzroy Developmental Rd (Taroom - Bauhinia)	✓		13	115	92	86,000,000	8,000,000	QTRIP	78,000,000
Duaringa - Apis Creek Rd	✓		3	26	23	17,000,000	Nil		17,000,000
Glenroy Road Corridor (incl. crossing)		✓	12	42	30	40,000,000	25,000,000	ROSI	15,000,000
Totals					**457**	**486,570,000**	**103,000,000**		**383,570,000**

*Road classification state vs. local government controlled.

Queensland
BEEF CORRIDORS

Heavy vehicle corridors to be extended for increased route capacity	Length (km)	Cost to upgrade (AUD)	Existing funding (AUD)	Funding source	QBC funding request (AUD)
Gladstone Port Access Rd	3	125,000,000	125,000,000	IRRP	Nil
Dawson Hwy	118	125,000,000	Nil		125,000,000
Leichhardt & Burnett Hwy	74	72,500,000	Nil		72,500,000
Totals	**195**	**322,500,000**	**125,000,000**		**197,500,000**

GLENROY ROAD PROJECTS STATUS REPORT

QBC Map

Meeting Date: 7 February 2023

Attachment No: 4


Queensland Beef Corridors
qldbeefcorridors.com
$486.6m
to seal 457km
$103m existing strategic funding support*
$197.5m
to upgrade and support commodity value parity
$125m
existing strategic funding support for road train access*
*incl. ROSI, IRRP, QTRIP
Port of Townsville
Charters Towers
Kilcummin
Diamond Downs Rd -68km
Unsealed: 48km
Cost to seal: $50m
Funding allocation: None
Moranbah
May Downs Rd - 70km
Unsealed: 31km
Cost to seal: $72m
Funding allocation: $8m
Dysart
Clermont
Duaringa Apis Creek Rd - 24km
Unsealed: 23km
Cost to seal: $17m
Funding allocation: None
Glenroy Rd Corridor - 42km
Unsealed: 30km
Cost to seal and upgrade crossing: $40m
Funding allocation: $25m
Clermont Alpha Rd - 254km
Unsealed: 66km
Cost to seal: $72.5m
Funding allocation: $6m
Alpha
Jericho
Barcaldine
Blackall
Tambo
Springsure
EMERALD
Foleyvale
Duaringa
Woorabinda
Rolleston
Dawson Developmental Rd - 245km
Unsealed: 109km
Cost to seal: $91m
Funding allocation: $5m
Alpha Tambo Rd - 121km
Unsealed: 43km
Cost to seal: $32.07m
Funding allocation: None
ROCKHAMPTON
Port Alma
Gogango
Dululu
Banana
Bauhinia
Gladstone Port
Gladstone Port Access Rd - 3km
Funding allocation: $125m
Dawson Hwy - 118km
Extend heavy vehicle corridor: $125m
Biloela
Leichhardt and Burnett Hwy - 74km
Road train upgrade: $72.5m
Funding allocation: None
Taroom
Injune
Roma
Fitzroy Developmental Rd - 218km
Bauhinia - Duaringa section
Unsealed: 21km
Cost to seal: $26m
Funding allocation: $6m
Taroom - Bauhinia section
Unsealed: 92km
Cost to seal: $86m
Funding allocation: $8m
Partially sealed roads
Sealed road with varying heavy vehicle access
Meat processing plant locations
Saleyards *30% of Queensland's transactions
Live export

10.4 REMOTE ROADS UPGRADE PILOT PROGRAM

File No:	**12534**
Attachments:	**1. Federal Government Notification⇩** **2. Stanwell-Waroula Concept Plan⇩**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**Martin Crow - Manager Infrastructure Planning**

SUMMARY

Council Officers reporting on the securing of funding under the Federal Government's Remote Roads Upgrade Pilot Program for Stanwell–Waroula Road.

OFFICER'S RECOMMENDATION

THAT Council endorse the submission and delivery of the Stanwell-Waroula Road project under the Federally funded Remote Roads Upgrade Pilot program.

COMMENTARY

Council have been successful in securing a funding commitment under the Federally funded Remote Roads Upgrade Pilot Program for sections of the Stanwell-Waroula Road (see attachment 1).

The project includes formation widening, pavement overlay and sealing between chainages 9650-14400 and 18670-18930 (5.01km), replacing one floodway, drainage widening for 11 minor culverts and one major culvert. A plan has been attached for Council's reference (see attachment 2).

The estimated cost of this project is $2,133,500 with a funding split of $1,706,800 (80%) provided by the Federal Government and $426,700 (20%) provided by Council.

The basis of Council's submission was primarily that the upgrades to Stanwell-Waroula Road will improve access and travel times for properties adjacent to the corridor but also for the residents of Morinish, Ridgelands, Dalma and Alton Downs who use this as an alternate connection to Rockhampton and Gracemere in times of flood. The project will improve connectivity between two rural townships of Alton Downs and Stanwell and their shared community facilities. This project will deliver a safer road environment with upgraded geometrics, improved pavement surfacing and drainage. The combination of these improvements will reduce potential conflicts between motorists and heavy vehicles, reduce the potential of run off road crashes and increase pavement resilience by reducing potholing and rough surfaces.

Under the program guidelines, detail design is to be completed within 12 months of entering into a funding agreement with construction completed within 24 months of entering into a funding agreement.

A funding agreement has recently been received and is being reviewed by Council Officers however Council endorsement for the funding submission is still required. It is anticipated that the funding agreement, with Council's support, will be entered into by mid-February 2023.

Funds have been allocated for this project in year 2 (23/24) of the current capital program.

BACKGROUND

The Remote Roads Upgrade Pilot program was released by the Federal Government on 21 December 2021 with applications closing on 20 February 2022. This was subsequently extended until 2 March 2022.

The program was targeted at projects that upgraded a significant length of road that is unsealed or degraded with low safety rating: The length of road in the project application was to be of significant length, with program objectives targeting projects of 20 kilometres or more as an indicative guide. In the application Council needed to address the current condition of the road and associated risks and provide a current risk rating using a recognised standard such as the Australian National Risk Assessment Model (ANRAM) or the Australian Road Assessment Program (AusRAP).

Council Officers initially commenced preparing an application for Glenroy Road but were advised towards the end of the application period that Glenroy Road would be ineligible due to the Federal government funding commitment under the Roads of Strategic Importance program. As a result, Council Officers assessed alternative projects and switched the application to Stanwell-Waroula Road as it best met the program criteria, had been supported in the past for various funding programs and had Council funding within the capital program that could be used to leverage the Federal Government funding.

Council Officers were not in a position to seek Council's support for the grant submission prior to the closing date and now seek Council's support retrospectively. Council had been advised by the previous Federal Government in April 2022 that it's application had been successful just prior to the May 2022 Federal election but a funding agreement had not been entered into. The previous Federal Government advice was relied on for the inclusion of the project in the current capital program. The Federal Government has confirmed it's commitment to this program and to Council's Stanwell-Waroula Road Project and a funding agreement has now been made available to Council for completion.

BUDGET IMPLICATIONS

Stanwell-Waroula Road had been allocated $616,000 over the period 23/24 to 25/26 in the 21/22 capital program. This allocation was relied upon to develop the submission under the Remote Roads Upgrade Pilot Program. The submission developed by Council Officers involved expenditure of $2,133,500 with grants revenue of $1,706,800 requiring a Council contribution of $426,700. The submission was supported by the Federal Government resulting in the appropriate funding being allocated in Council's 22/23 capital program.

CORPORATE/OPERATIONAL PLAN

GOAL 3.4 - We support our Region's economy through our projects and activities.

- We plan and deliver significant projects that deliver ongoing, sustainable economic benefits for the Region.
- Our infrastructure and community assets support the growth of the Region's economy.

CONCLUSION

Council have been successful in securing a funding commitment under the Federally funded Remote Roads Upgrade Pilot Program for sections of the Stanwell-Waroula Road. Council has successfully leveraged allocated funds with the capital program to be able to deliver more extensive road improvements along the Stanwell-Waroula Road corridor.

REMOTE ROADS UPGRADE PILOT PROGRAM

Federal Government Notification

Meeting Date: 7 February 2023

Attachment No: 1

40177766 - 03/01/2023

The Hon Catherine King MP

Minister for Infrastructure, Transport, Regional Development and Local Government
Member for Ballarat

Ref: MS22-002216

ROCKHAMPTON REGIONAL COUNCIL
File: 12534 Doc:
Links:
Action Officer: 22+ Mayor's PA
03 JAN 2023
GRDS 1113 7.

Councillor Tony Williams
Mayor
Rockhampton Regional Council
232 Bolsover Street
ROCKHAMPTON QLD 4700

via: tony.williams@rrc.qld.gov.au

Dear ~~Mayor~~ Tony,

The Australian Government has recognised the need to support local roads across Australia, particularly those in regional and remote Australia, by continuing to support the Remote Roads Upgrade Pilot Program (RRUPP).

I understand that earlier in the year you received advice that your project has been found suitable for the RRUPP. Unfortunately, the previous government did not finalise arrangements for this program prior to the election. I have now confirmed approval for this project and have arranged that my department contact you shortly to organise the necessary Funding Agreement paperwork. These documents will set out the terms and conditions for your project. My department will also be working with your state government to include RRUPP projects in the schedule to the National Partnership Agreement on Land Transport Infrastructure Projects, which will ensure payments can be made to you upon completion of milestones.

You should not accept tenders for, or commence construction of, the project until a completed Funding Agreement has been signed and returned to the Department. Projects are to be delivered by December 2024.

I look forward to seeing your organisation's contribution to regional road safety and community access, and the subsequent positive impact on economic development in your area.

Yours sincerely

Catherine King MP

15 /12/2022

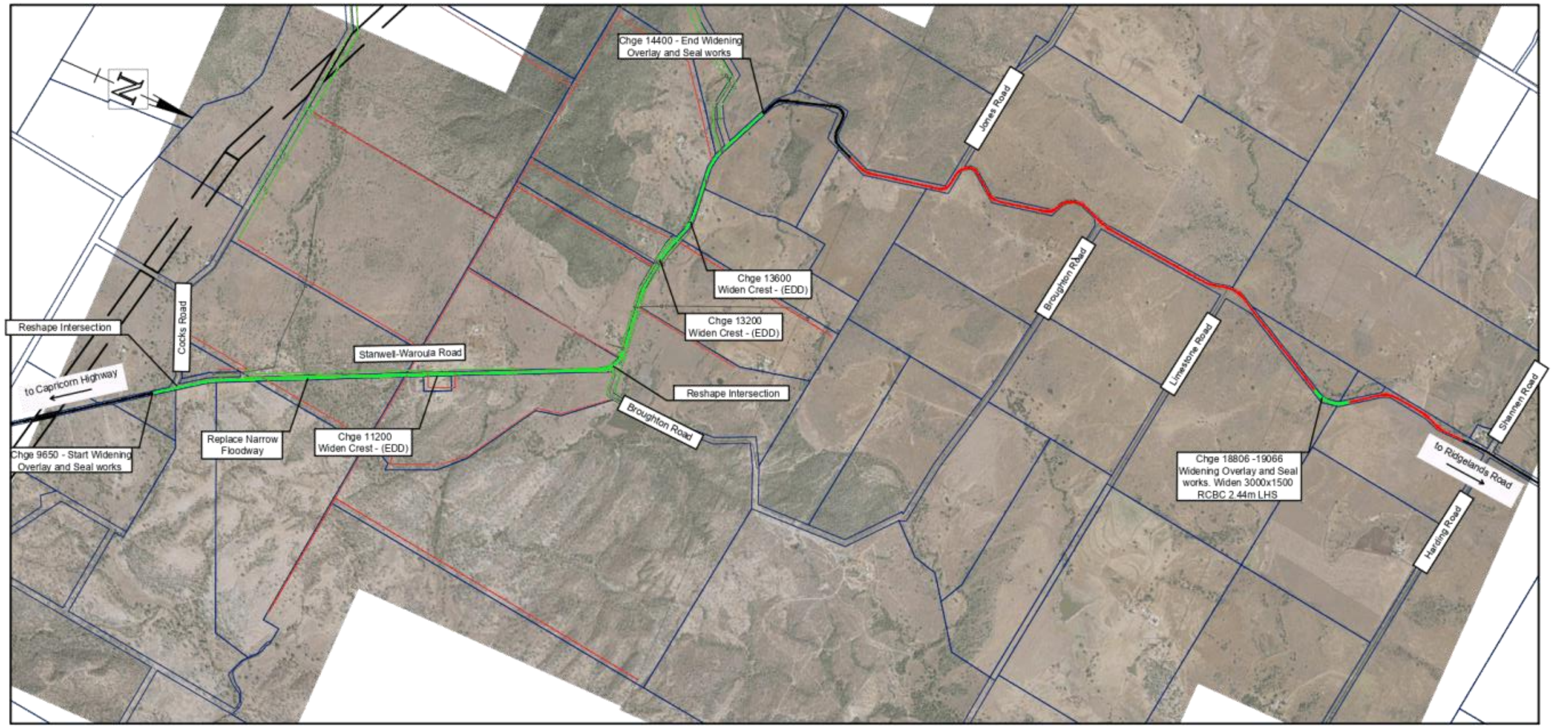
PO Box 6022 Parliament House, Canberra ACT 2600 | Tel: (02) 6277 7520

REMOTE ROADS UPGRADE PILOT PROGRAM

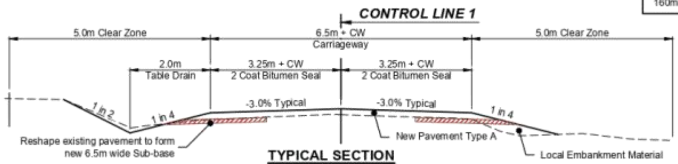
Stanwell-Waroula Concept Plan

Meeting Date: 7 February 2023

Attachment No: 2



NEW PAVEMENT:TYPE A
2 Coat Bitumen Seal (16mm/10mm)
160mm Base Course T2.3 or Equivalent



TYPICAL SECTION
Scale 1:100

NOTES:

1. Desirable Speed: Environment: 100km/h
2. Design Speed for Individual Elements: 80km/h (minimum)
3. AADT 83 vpd, Commercial Vehicles 26%
4. Ensure table drains have minimum 0.5% grade longitudinally
5. Provide guide posts in accordance with MUTCD Part 2 Clause 4.2.4.
   - Straights nominal 150m spacing (both sides)
   - Culvert locations (both sides)
   - Horizontal curve tangent points (both sides)
   - Curves:
     R100-R199 = 10m outside curve, 20m inside surve
     R200-R299 = 15m outside curve, 30m inside curve
     R300-R399 = 20m outside curve, 40m inside curve
     R400-R599 = 30m outside curve, 60m inside curve
     R600-R799 = 40m outside curve, 60m inside curve

LEGEND:

Existing Seal
Proposed Seal
Existing Unsealed

CONCEPT
11/07/2022

Surveyed: Date:		AMENDMENTS DESCRIPTION	DRAWN	APPR'D	DATE	
Ref Mark: R.L.						
Datum: Horiz.GDA 2020 Vert.	0 250 500m 1:25000 DESCRIPTION					
Zone: Survey Book:						
XREF:						
Aux Plans:	SCALES FULL SIZE A3	A Original Issue				

Rockhampton Regional Council

Designed	SJS	JUL'22
Checked		
Examined		
Recomm.		

APPROVAL______________
RPEQ No________ DATE ________
MANAGER INFRASTRUCTURE PLANNING

STANWELL-WAROULA ROAD
(PARISH OF DALMA)
ROADWORKS CONSTRUCTION
GENERAL LAYOUT PLAN

Dwg No. SWR-SK-01
Sheet No. 1 of 1
Job No:
A

11 NOTICES OF MOTION

Nil

12 QUESTIONS ON NOTICE

Nil

13 URGENT BUSINESS/QUESTIONS

Urgent Business is a provision in the Agenda for members to raise questions or matters of a genuinely urgent or emergent nature, that are not a change to Council Policy and can not be delayed until the next scheduled Council or Committee Meeting.

14 CLOSURE OF MEETING