



Shire of Murray Waste Plan

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Part 1 - Services and Performance

1.0 Introduction

Part 1 of the Shire of Murray Waste Plan establishes the Shire's waste profile and baseline information in relation to the objectives and targets set out in the Waste Avoidance and Resource Recovery Strategy 2030 (Waste Strategy):

Avoid: Western Australians generate less waste

Recover: Western Australians recover more value and resources from waste

Protect: Western Australians protect the environment by managing waste responsibly

1.1 Background

The Shire of Murray is a member of Rivers Regional Council who in 2012 proposed the establishment of a Waste to Energy (WtE) facility which would allow Councils to meet the diversion targets set out in the Western Australian Waste Strategy '*Creating the Right Environment*' released in March 2012. At this time the State Government were supportive of energy from waste (EfW) and the Shire entered into a contractual commitment through Rivers Regional Council to send its municipal solid waste (MSW) from the current two-bin kerbside service to WtE providing a recovery rate of over 95% diversion from landfill.

The updated State Government's 'Waste Strategy 2030' subsequently changed the 2012 direction, and is now requiring all Perth and Peel local governments to implement a three-bin kerbside system to provide for the separation of food organics and garden organics (FOGO) by 2025.

With WtE contracts signed in 2013/14, the release and direction of the Waste Strategy 2030 has the potential to financially impact the Shire and its ratepayers as the diversion of FOGO will reduce the committed tonnes for which a penalty will be imposed along with the costs involved with the introduction of a third bin.

At the time of entering into the contractual commitment the Shire of Murray enacted a clause which allowed for up to a five-year delay commencing from the time the facility was operational, in sending its MSW to WtE. This clause provided the Shire with the ability to continue to provide our community with the optimal financial outcome.

As outlined in the Implementation Plan the Shire is committed to undertaking a feasibility assessment of the technical and financial implications of introducing a three bin FOGO system, incorporating the Shire's commitment to WtE which will be completed by December 2023.

The assessment will consider all available kerbside options across several criteria - economic, environmental, social and governance given that any change will have significant upfront and ongoing financial ramifications for the Shire's community.

The Shire of Murray is ranked 44th out of the 135 WA local governments in the Socio-Economic Index Summary 2016 and any additional impost placed upon the community must be prudently considered.

Until the completion of the feasibility assessment and the introduction of any recommendations from this, the Shire has the following options, which will be reviewed on an annual basis, to manage their MSW -

1. Continue sending this material to Dardanup landfill;
2. Assist other contractually obligated local governments through Rivers Regional Council to meet their committed volumes to WtE in the event of a shortfall; or
3. Should the landfill levy be extended to the regions consider sending the material to the WtE following a financial review.

Part 1 - Services and Performance

2.0 Integrated Planning and Reporting

All local governments plan for the future¹ through the development of a Strategic Community Plan and Corporate Business Plan. Waste plans form part of local government integrated planning and reporting as an issue-specific informing strategy.

Table 1: Links between plan for the future and waste management

Strategic Community Plan	
Title:	Shire of Murray Strategic Community Plan 2019 - 2030
Came into force:	2019
Date of next review:	2021
Waste-related priorities:	<i>Objective - Proactively manage resources and reduce our carbon footprint through responsible management of water, energy, fire management and waste. Waste related strategy commits to improving waste management practices through diversion, reuse and recycling.</i>
Corporate Business Plan	
Title:	2020-2024 Corporate Business Plan
Came into force:	2020
Date of next review:	2022
Waste-related priorities:	<i>Objective 3.2.4 - Improve waste management practices through diversion, re-use and recycling. Actions to support this objective are the development of a Waste Management Strategy that aligns to state objectives and the preparation and implementation of a waste education plan.</i>

¹ 'Plan for the future' means a plan made under section 5.56 of the Local Government Act 1995 and Division 1 and 3 of Part 5 of the Local Government (Administration) Regulations 1996.

Part 1 - Services and Performance

3.0 Avoid

Avoidance of waste generation is the preferred waste management option in the waste hierarchy. This section looks at waste generation rates and the reduction required to contribute to the state's waste generation reduction targets - **2025**: Reduction in MSW generation per capita by 5%, **2030**: Reduction in MSW generation per capita by 10%.

Reviewing this data is a critical element of waste planning as it can show how waste generation has changed, identify potential reasons for changes and indicate areas to target in Part 2 – Implementation plan (Table 21).

Table 2: Shire of Murray population, households and waste generation compared with state averages and targets for 2025 and 2030

	Actual					Targets	
	2014-15 (baseline)	2015-16	2016-17	2017-18	2018-19	2024-25	2029-30
Population ⁽¹⁾	16,290	17,090	17,328	17,566	18,531	19,496	21,248
Households ⁽¹⁾	6,516	6,836	6,931	7,026	7,412	7,798	8,499
Total domestic waste generated⁽²⁾	9,932	10,605	11,011	11,423	11,680		
Waste generation per capita/year (kg) ⁽²⁾	610	621	635	650	630	522	495

(1) Source (except 2014-15): *Western Australia Tomorrow Population Report No. 11* <https://www.dplh.wa.gov.au/information-and-services/land-supply-and-demography/western-australia-tomorrow-population-forecasts>. Population for 2014-15 from *Western Australia Tomorrow Population Report No. 10*. Population for intercensal years extrapolated. Households estimated using 'Average people per households' from 2016 ABS Census Quickstats.

(2) Source: Local Government Census data - domestic waste

Additional comments (local government to insert any additional comments that may be applicable)

The population for 2014-15 has been amended as it more accurately estimates the population rather than the original figure of 18066 as this would show an incorrect decline in population from 2014-15 to 2015-16. The number of households for 2014-15 has also been adjusted to reflect 2.5 persons per household.

Part 1 - Services and Performance

4.0 Recover

Where waste generation is unavoidable, efforts should be made to maintain the circulation of materials within the economy. Table 3 gives the overall recovery rate for your local government compared to Waste Strategy targets and the state average. This is broken down into the proportion of the recovery which was materials recovery (reuse, reprocessing or recycling) or energy recovery. The Waste Strategy includes a target that from **2020**, energy should only be recovered from residual waste (see Guidance Document – Table 1, for more information).

Table 3: Shire of Murray population, households and recovery rate compared with state averages and targets for 2020, 2025 and 2030

	2014-15	2015-16	2016-17	2017-18	2020 target	2025 target	2030 target
Population ⁽¹⁾	16,290	17,090	17,328	17,566			
Households ⁽¹⁾	6,516	6,836	6,931	7,026			
Overall recovery (%) ⁽²⁾	35%	33%	35%	35%	65%	67%	70%
Materials recovery	35%	33%	35%	35%	>80%	>80%	>80%
Energy recovery	0%	0%	0%	0%	<20%	<20%	<20%
Perth metro average ⁽³⁾	36%	38%	40%	41%			

(1) Source (except 2014-15): *Western Australia Tomorrow Population Report No. 11* <https://www.dplh.wa.gov.au/information-and-services/land-supply-and-demography/western-australia-tomorrow-population-forecasts>. Population for 2014-15 from *Western Australia Tomorrow Population Report No. 10*. Population for intercensal years extrapolated. Households estimated using 'Average people per households' from 2016 ABS Census Quickstats.

(3) Source: Waste Authority data fact sheets <http://www.wasteauthority.wa.gov.au/programs/data/data-fact-sheets/>

Additional comments (local government to insert any additional comments that may be applicable)

Change to population and households for 2014-15 to align with Table 2

Part 1 - Services and Performance

5.0 Protect

Objective 3 of the Waste Strategy is to protect the environment by managing waste responsibly, with targets for achieving better practice, reducing litter and illegal dumping. **By 2030 all waste is managed by and/or disposed to better practice facilities, by 2030 move towards zero illegal dumping and zero littering.**

5.1 Better Practice

Adoption of better practice approaches to waste management is an important way in which local government can better protect the environment from the impacts of waste, and contribute to achievement of the targets under objective 3 of the Waste Strategy. See *Guidance Document - 5.0 Better practice*, *Table 4* for a summary of the Waste Authority's current and planned better practice guidelines.

Table 4: Better practice approaches and programs adopted by the Shire of Murray

Waste management activity/service	Waste Authority better practice guideline or program	Date of adoption/implementation	Comment
Kerbside waste collection	Better Bins Program	Feb 2019	Waste bin lids changed to red
Waste Local Law	Model local law template used	Mar 2017	

5.2 Litter

The data in Table 5 was reported by the local government in the 2017-18 local government census. Additional information to be provided by the local government in Table 6 if available.

Table 5: 2017-18 litter data

	Response and comments
Litter hotspot used on a regular basis for littering in 17-18	Road verges
What are the main items littered at these hotspots?	Drink containers, fast food containers, items not secured on vehicles and trailers.
Current measures aimed at contributing towards the zero-littering target	Placement of public place bins in prominent areas which are emptied regularly, Ranger patrols and signs. Litter picks of high usage arterial roads are undertaken monthly.
Estimated cost of clean-up (due to collection, disposal, education, infrastructure and enforcement)	\$38,000p.a. for above monthly litter pick which is undertaken by contractors. Cost of litter picks undertaken by Parks & Gardens crews is not known.

Source: Local government Census data 2017-18

Is littering increasing or decreasing in your local government authority?	The Shire does not collect this data. The National Litter Index is the only consistent reporting method that is available to assess this.
How were the costs associated with cleaning up litter calculated? Employee time? Dollar value? Both?	Contractors monthly invoice
Does the city have a litter strategy? If not, what is the ETA for completing one?	There is no requirement for the Shire to have a litter strategy
Have any of the city's compliance and waste education officers undergone training on litter prevention? If so, what training?	The Shire does not have dedicated compliance and waste education officers and is unaware of any training currently available
What current policies and guidelines does your council enact to prevent litter? E.g. Event planning guidelines on the use of balloons in council facilities and the release of helium balloons; no cigarettes on the beach; no single use plastics at events.	While the Shire doesn't have any specific policies and guidelines in relation to litter, it is implementing a number of actions (see Table 5 and below) to reduce litter within its boundaries.
How does your local government measure the effectiveness and impact of programs designed to reduce littering and illegal dumping?	The Shire works to ensure that highly littered areas are cleaned up regularly. There is not currently a specific measurement.
Which division/unit/section of your organisation is responsible for litter management/prevention? Waste services? Compliance (e.g. Rangers)? Infrastructure?	Waste services manage the contracted monthly litter picks. Ranger services manage litter infringements.
How important is litter management to your organisation? (1 - Not at all important; 5 - Highly important).	Litter management is important, however this needs to be managed within resource and budgetary constraints.

5.3 Illegal Dumping

The data in Table 7 was reported by your local government in the 2017-18 local government census. Additional information to be provided by the local government in Table 8 if available.

Table 7: 2017-18 Illegal dumping data

		Response and Comments		
Cost of cleaning up illegally dumped waste during 2017-18	\$ 36,000			
Sites used on a regular basis for illegal dumping in 2017-18. Where possible, please provide site address/es	3	Tonkin Drive, Fiegert Road and Woodland Parade		
What are the main items dumped at these sites?	Household items, asbestos, tyres, green waste			
Current measures aimed at contributing towards the zero illegal dumping target	Following a review of illegal dumping incidents it was apparent that these were predominantly household items most likely deposited by tenants who did not have access to tip passes. In September 2017 we introduced changes that allow tenants to obtain a tip pass free of charge. All tip passes now allow for unlimited entries to dispose of up to 1.5m at no cost rather than the previous 5 entries. This change in approach has seen a major reduction in our illegal dumping incidents and associated costs.			
Additional comments (local government to insert any additional comments that may be applicable)				
Change to population and households for 2014-15 to align with Table 2				

Table 8: Additional illegal dumping information

Is illegal dumping increasing or decreasing in your local government authority?	Steady
How does your local government measure the effectiveness and impact of programs designed to reduce illegal dumping?	Annual review of reported incidents
Which division/unit/section of your organisation is responsible for illegal dumping management/prevention? Waste services? Compliance (e.g. Rangers)? Infrastructure?	Rangers for compliance and infringements and Waste Services for collection and disposal

Table 9 indicates the type of detailed data local governments may collect to enable better targeted monitoring and enforcement of illegal dumping. Please provide this information here, if available.

Table 9: Detailed illegal dumping data collection by the Shire of Murray (**LG to complete the table if data available**)

Waste Type	# of incidents	Total approximate Weight (tonnes)	Change from previous year	Regulatory notices issued
C&I				
C&D				
E-waste				
Household waste				
Mulch and green waste				
Scrap metal				
Soil & excavated material				
Hazardous/problem waste				
Other				
TOTAL				
Cleaned up by	% of total incidents		Cleanup costs (\$)	
Local government				
Land owner				
Offender				
TOTAL				

Part 1 - Services and Performance

6.0 Waste Management Tools

6.1 Waste Services

Local government data relating to the waste collected, recovered and landfilled is presented in Table 10. It is important to review this data when developing *Part 2 – Implementation Plan*, as it can:

- Provide an understanding of how different systems are performing (e.g. recovery levels)
- Highlight the need for any new collection systems or infrastructure
- Identify the timing and capacity of any new collection systems or facilities required to meet the changing needs of local governments

In working towards alignment with the Waste Strategy, the local government should focus on the materials resources with the greatest potential to support the objectives and targets of the Waste Strategy.

NB: DWER is currently developing a range of better practice guidelines. Better practice rates will need to be updated as the guidelines are released.

Table 10: Significant sources and generators of waste in 2017-18

Service/Sources		Tonnes collected	Tonnes recovered	Recovery Rate	Better Practice Rate	Target rate 2025	Target rate 2030
Kerbside	Mixed waste	3,530	-	32%	% -		
	Comingled recyclables	1,846	1,698				
	Green waste	-	-				
	FOGO	-	-				

Verge Side	Green waste	507	507	72%	%	<p>55% major regional centres 67% Perth and Peel</p>	<p>60% major regional centres 70% Perth and Peel</p>		
	Hard waste	361	115						
Drop-off	Mixed waste	3,017	-	35%	%				
	Dry recyclables	92	92						
	Green waste	993	993						
	Hard waste	547	547						
	Hazardous waste	-	-						
Public Place	Mixed waste	525	-	0%	%				
	Comingled Recyclables	-	-						
Special Event	Mixed waste	5	-	0%	%				
	Comingled Recyclables	-	-						
Commercial	Mixed waste	716	-	5%	N/A				
	Comingled recyclables	38	35						
	Paper/cardboard	-	-						
Local Government Waste	Illegal dumping clean up				%				
	Street sweepings								
	Roadworks								
	Other C&D activities								
	Roadside pruning								
	Other								
Total		12,177	3,987	33%					

Source: Local Government Census Data 2017/18

Table 11 provides space for the local government to include bin audit information for kerbside waste services, if available. Bin audits can help local governments understand the material composition in kerbside bins, highlight where additional efforts are required to increase performance and assist in planning for future service options such as FOGO collection. **See Appendix for full breakdown of composition categories.**

Table 11: Compositional audit data for kerbside waste services

General Waste Bin	
Yield per household (kg/hhl/week)	8.8
Per capita (kg/per capita/week)	4.2
Audit year	2016/2017
Composition	
Recyclables (paper, cardboard, plastics, steel, aluminium, glass)	27.10
Organics (organics, wood/timber, textiles, earth)	58.70
Hazardous (medical, sanitary/ hygiene, nappies, chemicals, paint, batteries, fluorescent tubes, light bulbs, oil, building material)	5.41
Other (electronic waste, miscellaneous)	8.79
Recycling bin	
Yield per household (kg/hhl/week)	4.0
Per capita (kg/per capita/week)	1.9
Audit year	2016/2017
Composition	
Recyclables (paper, cardboard, plastics, steel, aluminium, glass)	92.30
Organics (organics, wood/timber, textiles, earth)	2.70
Hazardous (medical, sanitary/ hygiene, nappies, chemicals, paint, batteries, fluorescent tubes, light bulbs, oil, building material)	0.50
Other (electronic waste, miscellaneous)	4.50

Garden organics or FOGO bin	
Yield per household (kg/hhl/week)	
Per capita (kg/per capita/week)	
Audit year	
Composition	Total %
Recyclables (paper, cardboard, plastics, steel, aluminium, glass)	
Organics (organics, wood/timber, textiles, earth)	
Hazardous (medical, sanitary/ hygiene, nappies, chemicals, paint, batteries, fluorescent tubes, light bulbs, oil, building material)	
Other (electronic waste, miscellaneous)	

Part 1 - Services and Performance

6.0 Waste Management Tools

6.2 Waste Infrastructure

The number, type, capacity and location of key existing local government owned and/or operated waste and resource recovery infrastructure is required to understand the future need for different facility types. **This section is not relevant to local governments that do not own/operate waste facilities.**

Table 12: Current waste and resource recovery infrastructure operated by the local government

Facility Name (and licence number if applicable)	Facility Type	Location	Managed by	Licence category and approved production or design capacity	Material type	Service/activity	Remaining Capacity (if applicable)	Anticipated Closure (year)
Corio Road Waste Transfer Station L6976/1997/10	Transfer Station and Inert Landfill	Part Lot 11 on Diagram 66827 (834) Corio Road Ravenswood WA 6208	Anthony Pisconeri on behalf of Shire of Murray	57 - Used tyre storage - 300 tyres at any one time 62 - Solid waste depot - 5000 tonnes 63- Class I inert landfill site - 5000 tonnes	Putrescible Inert Comingled recyclables Cardboard Items for reuse Problem wastes: tyres, mattresses, paint tins, waste oil HHW Green waste Metal and whitegoods	Drop-off and landfill Drop-off and landfill Drop-off and storage prior to recycling Drop-off and storage prior to recycling Sold at tip shop Drop-off and storage prior to recycling Drop-off and storage prior to recycling/disposal Drop-off and mulching Drop-off and storage prior to recycling		

Facility Name (and licence number if applicable)	Facility Type	Location	Managed by	Licence category and approved production or design capacity	Material type	Service/activity	Remaining Capacity (if applicable)	Anticipated Closure (year)
Dwellingup Waste Transfer Station L8365/2009/2	Transfer Station	Lot 71 on Plan 91925 Holyoake Road Dwellingup WA 6213	Anthony Pisconeri on behalf of Shire of Murray	57 - Used tyre storage - 300 tyres at any one time 62 - Solid waste depot - 5000 tonnes per annual period	<i>Putrescible</i> <i>Inert</i> <i>Comingled recyclables</i> <i>Problem wastes:</i> tyres, mattresses, paint tins, waste oil <i>HHW</i> <i>Green waste</i> <i>Metal and whitegoods</i> <i>Putrescible</i> <i>Inert</i>	<i>Drop-off and landfill</i> <i>Drop-off and landfill</i> <i>Drop-off and storage prior to recycling</i> <i>Drop-off and storage prior to recycling</i> <i>Drop-off and storage prior to recycling/disposal</i> <i>Drop-off and mulching</i> <i>Drop-off and storage prior to recycling</i> <i>Drop-off and landfill</i> <i>Drop-off and landfill</i>		

Table 13 provides space for local governments to provide information about planned waste and resource recovery infrastructure, if relevant.

Table 13: Planned waste and resource recovery infrastructure

Location	Managed by	Licence category and approved production or design capacity (if known)	Waste type	Service/activity	Estimated operation start date

Part 1 - Services and Performance

6.0 Waste Management Tools

6.3 Policy and Procurement

6.3.1 Contracts

Information on your local government's existing waste contracts should be detailed in Table 14. When reviewing services, it is a good opportunity to evaluate how they are performing, opportunities for regional collaboration and to identify any opportunities for improvement, review or renegotiation.

Table 14: Existing waste management contracts

Contractor	Services		Notes/comments
Cleanaway	Kerbside collection	Mixed waste	Contract commenced 1 July 2018, due to expire 30 June 2025. Option to extend for a further 3 years.
		Co-mingled dry recycling	
Steann Pty Ltd	Verge Side collection	Hard waste	Contract commenced 1 July 2019, due to expire 30 June 2021. Option to extend for a further 2 years.
		Green waste	
Anthony Pisconeri	Management of Corio Road and Dwellingup Transfer Stations		Contract commenced 1 July 2018, due to expire 30 June 2023. Option to extend for a further 2 years.

6.3.2 Waste Local Laws and Policies

Information on your local government's existing local laws, strategies or policies that may complement/support this waste plan and contribute to the Waste Strategy objectives should be detailed in Table 15.

Table 15: Existing waste-related local laws, strategies and policies

Type of local law, strategy or policy	Name of local law, strategy or policy	Came into force	Comments
Waste local law	Shire of Murray Waste Local Law 2016	March 2017	N/A
Behaviour change initiatives	Bin Tagging Program	May 2018	Undertaken by waste contractor Cleanaway as part of tender contract.
Drop-off facilities and services	N/A	November 2019	Contract awarded for re-design of drop-off wall at Corio Road Transfer Station to enable increased recovery.

6.3.3 Land Use Planning Instruments

Information on your local government's existing local planning instruments which contribute to the management of waste should be detailed in Table 16.

Table 16: Existing waste-related land use planning instruments related to waste management

Local Planning Strategy	TITLE:	N/A - The Shire does not have an endorsed Local Planning Strategy
	ENDORSED BY WAPC:	N/A
	NEXT REVIEW DUE:	The Shire is currently preparing a Local Planning Strategy
	Is waste considered and reflected in the Local Planning Strategy?	NO The Local Planning Strategy being prepared will consider the need for new waste facilities to support the expected population growth.
	Does the Local Planning Strategy identify current and future waste facility sites?	NO As noted, the Shire does not have an endorsed Local Planning Strategy, however the Local Planning Strategy currently being prepared will explore suitable locations for new waste facilities.
	Does the Local Planning Strategy identify buffers around existing and/or future sites to avoid land use conflict?	NO The Local Planning Strategy being prepared will consider the need for buffers around current and future waste facility sites.
Local Planning Scheme	TITLE:	Shire of Murray Local Planning Scheme No. 4
	GAZETTED:	1989
	NEXT REVIEW DUE:	The Shire is currently reviewing its Local Planning Scheme
	Are resource recovery facilities, waste disposal facility and waste storage facility defined as land uses (as per <i>Planning and Development (Local Planning Schemes) Regulations 2015</i>) and included in the council Local Planning Scheme zoning table, with either a P/I/D/A/X permissibility?	NO Due to the age of the Local Planning Scheme there are no land uses relating specifically to waste disposal in the Zoning Table.

	If these land uses are not defined and not in the zoning table, how does the Scheme deal with such land uses (i.e. is an alternative definition used to that in the <i>Regulations 2015</i> ? Or are these land uses zoned as "Use not listed")?	These types of land uses would most likely be classed as unlisted uses or industrial uses.
	Does the Local Planning Scheme identify statutory buffers as Special Control Areas for strategic waste infrastructure facilities to avoid encroachment by incompatible land uses?	NO The Shire's current review of the Scheme will investigate whether buffers are appropriate for the existing waste facilities and future sites identified for waste facilities under the new Local Planning Strategy.
Local planning policies	TITLE:	N/A - The Shire does not have any Local Planning Policies relating to the Waste Strategy
	ADOPTED BY COUNCIL:	N/A
	RELATIONSHIP TO WASTE STRATEGY OBJECTIVES:	N/A
	Does the local government have any local policies which relate to the objectives of the Waste Strategy (reduce generation, increase recovery, protect the environment)?	NO If YES please provide comments:
Other	TITLE:	
	ADOPTED BY COUNCIL:	
	RELATIONSHIP TO WASTE STRATEGY OBJECTIVES:	

6.3.4 Sustainable procurement

Local governments can be significant consumers whose purchasing decisions and procurement policies can have positive impacts. This section reviews activities relating to procurement of infrastructure, goods and services that avoid waste, promote resource recovery or encourage greater use of recyclable and recycled products. Information on existing sustainable procurement policies or practices that may contribute to the Waste Strategy objectives should be detailed in Table 17.

Table 17: Existing sustainable procurement policies and practices

Sustainable procurement policy or practice	Date adopted by council	Actions implemented e.g. switching to recycled printer paper	Alignment with Waste Strategy targets, objectives or focus materials

Additional comments (local government to insert any additional comments that may be applicable)

The Shire does not have a specific policy in place. One initiative we have introduced is that bottled water is no longer purchased for functions, Council and other meetings, instead using jugs and glasses.

Part 1 - Services and performance

6.0 Waste Management Tools

6.4 Behaviour Change Programs and Initiatives

Communication and engagement with waste generators and managers underpins many local government waste management activities, and are vital in driving behaviour change needed to achieve the objectives and targets of the Waste Strategy.

Behaviour change programs and initiatives refers to activities that increase awareness, skills and knowledge; provide consistent messaging; help people to use waste infrastructure; and encourage the adoption of specific, positive waste behaviours and attitudes.

Most local governments have existing behaviour change programs and initiatives and it is important to evaluate their effectiveness. This section includes an opportunity for a high-level qualitative assessment process to understand what has worked and what has not. The results can be used to inform actions for Part 2 – Implementation plan (Table 21).

Information on the local government's existing waste behaviour change programs or initiatives should be detailed in Table 18. This may include participation in Waste Authority funded programs, or programs/initiatives run by the local government.

Local government program/initiative	Description	Outcomes achieved as a result of the program (Qualitative/quantitative)	Evaluation method	What's worked/not worked	Suggested improvements
Waste education	Cleanaway undertakes recycling education program within schools	Increased knowledge of correct recycling behaviour	Parent completed surveys	Not all schools take up the offer	

Waste education	Cleanaway undertakes bin tagging of 100 waste and recycle bins per fortnight	The results from July 2019 to January 2020 showed fluctuations in results but no definitive ongoing reduction in contamination levels	Monthly reports from Cleanaway outlining the number of properties with incorrect items in each bin and the type of material	Trying to cover too many suburbs at one time with limited resources	Focus on one suburb for a longer period to embed behaviour change
Waste education	Annual Waste and Recycling calendar	Residents reminded of recycling guidelines	Resident feedback	Evaluated annually	Improvements included in following year's calendar

Additional comments (local government to insert any additional comments that may be applicable)

The bin tagging program ceased in February 2020 due to the COVID-19 pandemic and is to resume in October 2020. A review of the program is being undertaken with a view to achieving constant downward levels of contamination rather than the fluctuating results we have seen to date.

Rivers Regional Council do not provide any waste education function to the Shire of Murray.

6.5 Data

Table 19 provides an opportunity to assess existing waste data practices, identify strengths and gaps and consider the kinds of data activities which could be included in the Part 2 – Implementation Plan to improve the local government’s waste data. It should be completed based on the data/information covered in Part 1 of this document, as well as the individual experience of the officer/s responsible for collecting and using waste data.

Where ‘no’, please comment on:

- The kinds of data that is missing, where data gaps exist
- Barriers to collecting or accessing adequate data
- The kinds of data collection, analysis or reporting practices that are not currently in place which would assist local government waste management functions

Table 19: Assessment of waste data

	Please ✓		Comment
	YES	NO	
Does the local government have access to adequate waste data to complete Part 1 of the waste plan?	✓		The Shire has implemented improved data capture over the past four years however is always reviewing how this can be further enhanced.
Does the local government use waste data when undertaking planning activities for waste projects/programs?	✓		The capture of waste data allows informed decisions when considering infrastructure upgrades or the provision of enhanced services.
Does the local government have access to adequate waste data for this purpose?	✓		
Does the local government use waste data when monitoring or assessing waste projects/programs?	✓		Waste data allows for the ongoing review of waste services.

Does the local government have access to adequate waste data for this purpose?	<input checked="" type="checkbox"/>		
Does the local government use adequate waste data to measure progress toward the targets and objectives of the Waste Strategy?	<input checked="" type="checkbox"/>		Waste data allows trends to be shown and tracking against targets and objectives.
Does the local government have access to adequate waste data for this purpose?	<input checked="" type="checkbox"/>		
Does the local government have access to adequate waste data to fulfil annual data reporting obligations under the WARR Regulations? (previously undertaken through the Waste and Recycling Census)	<input checked="" type="checkbox"/>		Data capture from internal sources and contractors provides adequate information to enable completion of required reporting.
Are there any types of waste data that the local government does not currently collect or have access to that would be helpful/useful?	<input checked="" type="checkbox"/>		The Shire does not currently collect data on the litter collected by the Parks and Gardens teams however this is included as an Action within the Implementation Plan
Are there any ways which local government waste data collection, storage or use could be improved?	<input checked="" type="checkbox"/>		Improved litter collection data.
Is the data collected by the local government accurate? Are any new strategies needed to improve accuracy?	<input checked="" type="checkbox"/>		Where available actual tonnes are used, however in some areas of our data collection it is necessary to use volume and calculate weight by conversion. The Shire has consistently used these methods for a number of years which allows for accurate comparison
Does the pre-filled data provided in this template align with the data the local government has? i.e. is this pre-filled data accurate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change has been made to the 2014-15 baseline population in Tables 1 & 2 but all other data remains unchanged.
Any additional comments?		<input checked="" type="checkbox"/>	

Part 1 - Services and performance

7.0 Summary

The purpose of Part 1 of the waste plan is to consolidate information about current waste management practices, to enable you to assess and identify:

- Current waste management performance
- Alignment between current waste management practices and the Waste Strategy
- Strengths and successes, as well as gaps and opportunities for improvement

Table 20 provides space to analyse the data and information presented in Part 1, and should be used to determine waste management priorities for the short, medium and long term, and translate these priorities into actions in Part 2 – Implementation plan (Table 21).

Waste management achievements (for example, performance/achievement against Waste Strategy targets or objectives or where particular waste management objectives have already been met)	<ul style="list-style-type: none">• Introduction of 140L general waste bins in 2002• Reduction in illegal dumping due to tenants being able obtain a tip pass at no cost. All tip passes allow unlimited visits to dispose of up to 1.5m³ per entry• Computerised data entry system introduced at one of the Shire's transfer stations. Visits are logged against each property and shown on Intramaps (mapping system) along with a breakdown of materials disposed
Opportunities for improvement (for examples, where performance against Waste Strategy targets or objectives could be improved or where waste management objectives have not been met)	<ul style="list-style-type: none">• Improved litter data collection• Education to encourage behavioural change

<p>Priority areas for action in Part 2 – Implementation plan</p>	<p>Ongoing (activities currently under way and/or continuously undertaken)</p> <ul style="list-style-type: none"> • Bin tagging program • Data capture and review • Implementation of waste plan • Identification of opportunities to expand collection points for HHW
	<p>Short term (within the next 1-2 years)</p> <ul style="list-style-type: none"> • Undertake compositional audit • Deliver upgrade works at Corio Road Transfer Station • Improve litter data collection • Undertake community engagement research
	<p>Medium term (within the next 3-5 years)</p> <ul style="list-style-type: none"> • Undertake assessment of FOGO introduction • Develop Waste Strategy and Education Plan • Develop Waste Wise Events guidelines • Investigate options for efficient waste transportation • Include waste management in emergency management planning
	<p>Long term (more than five years)</p> <ul style="list-style-type: none"> • Ongoing education to encourage and sustain behavioural change • Review 2017 Waste Infrastructure Plan

Part 2 - Implementation Plan

This implementation plan outlines the actions which your local government will take over the next 5+ years to contribute to the achievement of relevant Waste Strategy targets and objectives. It is where the priorities described in the summary (Part 1 – 7.0 Summary, Table 20) are translated into actions. Please refer to the Guidance Document under sections: 4.0 How to complete Part 2 – implementation plan, 5.0 Better practice and 6.0 Waste management tools, when developing this implementation plan.

Table 21: Implementation plan

Waste Management Tool	Action (OR link to existing local government plan/document that details this activity)	Is the action new or existing?	Detailed actions (OR link to existing local government plan/document that details this activity)	Milestones (SMART - Specific, Measurable, Achievable, Relevant, Timed)	Targets (SMART - Specific, Measurable, Achievable, Relevant, Timed)	Timeframe for delivery (completion date)	Cost of implementation incorporated into annual budget and Corporate Business Plan? Y/N - (if not, why?)	Aligns to Waste Strategy Objective/s			Responsibility for implementation (branch, team or officer title, not the names of individual officers)	Identified risks (Impact/consequences and mitigation strategies)
								Avoid	Recover	Protect		
Waste services	Undertake an assessment of the technical and financial implications of introducing a three bin FOGO system, incorporating the commitment to the Waste to Energy facility through Rivers Regional Council	New	1. Review Better Bins: Kerbside Collection Guidelines 2. Complete assessment report 3. Complete evaluation of options 4. Recommendations to Council for endorsement 5. Implement chosen solution	1. Completion of assessment and evaluation 2. Council endorsement of recommendations 3. Timeline for implementation of recommendations developed and included in annual review of implementation plan	Report completed and adopted by Council Updated actions included in annual review of implementation plan	Dec-23	No, will utilise existing in-house staff resources		X		Infrastructure Services	Risk: lack of consistency with Waste Strategy 2030 or inability to meet contractual requirements Mitigation: engagement with stakeholders
	Undertake a compositional audit to identify current performance against audit undertaken in 2017	New	1. Specifications for compositional audit developed 2. Audit conducted 3. Compare results from 2017 and 2022 audit 4. Recommendations developed 5. Implement recommendations	1. Specifications developed and provided to contractor February 2022 2. Audit conducted March 2022 3. Results compared and recommendations developed 4. Prepare a timeline and information release to the community	Delivery of compositional audit report and recommendations developed Completion of timeline and information release to the community	Jun-22	Yes, to be allocated in 2021/22 budget	X	X	X	Infrastructure Services, Contractor	Risk: inaccurate data Mitigation: detailed specifications for audit

Waste services	Diverting waste from landfill to waste to energy which will include general waste from 140L kerbside bin and Corio Road Transfer Station. The diversion rate of waste to waste to energy will be dependent upon the outcome of the FOGO feasibility assessment and the Council's subsequent decision	Existing	<p>1. Contract with Avertas waste to energy facility signed</p> <p>2. Conclusion of FOGO feasibility assessment</p> <p>3. Council decision regarding outcome of FOGO feasibility assessment</p> <p>4. Establish timeframe for implementing any changes to services</p> <p>5. Commencement date for delivery of waste to waste to energy facility will be subject to outcome of FOGO feasibility assessment and Council approval of recommendation, likely after December 2023</p>	<p>1. Contract with Avertas waste to energy facility signed - 2013</p> <p>2. Completion of FOGO feasibility assessment - December 2023</p> <p>3. Council endorsement of recommendations - March 2024</p> <p>4. Changes to Shire services, if relevant - dependent upon the outcome of the FOGO feasibility assessment with a timeframe for implementation likely to be up to 2 years</p> <p>5. Likely delivery of waste to waste to energy facility - this will depend on Council's endorsement of the recommendations from the feasibility assessment and the implications for the Shire's waste services. The Shire of Murray has a clause that allows a delay in sending waste to the waste to energy facility for a period of up to five years from when the plant becomes operational. Any change to this delay period would be considered in conjunction with</p>	Report completed and adopted by Council Waste to Energy contractual commitment met	<p>Apr 24 – Dec 27</p> <p>This will depend upon the FOGO assessment outcomes or the enactment of the five-year delay clause and will be subject to annual review</p>	<p>Yes, will be allocated in the Operational and Capital budgets dependent upon Council's decision</p>		X	Infrastructure Services	<p>Risk: lack of consistency with Waste Strategy 2030 (as per requirements of the Waste Avoidance and Resource Recovery Act 2007) or inability to meet contractual requirements</p> <p>Mitigation: engagement with stakeholders</p>

				outcome of the FOGO feasibility assessment and Council decision								
Waste infrastructure	Upgrade Corio Road Transfer Station drop-off wall to maximise resource recovery and operational efficiencies	Existing	1. Appoint consultant to deliver detailed design 2. Undertake the procurement process for the construction works 3. Project manage the construction work	1. Consultant appointed December 2019 2. Tender to be advertised October 2020 3. Construction complete June 2021	Upgrade works completed	Jun-21	Yes, included in 2020/21 budget	X	X	Infrastructure Services, Consultant, Contractor	Risk: procurement process and contractor delays Mitigation: map and adhere to timelines, effective project management and communication with the contractor	
	Engage with adjoining Local Governments to investigate mutually beneficial waste transportation outcomes	New	1. Meeting between LG's to discuss use of existing facilities and transport options 2. Engage with current contractors for feedback 3. Prepare a cost benefit analysis 4. Implement outcomes if financially beneficial	1. Meeting held between LG's 2. Contractor feedback reviewed 3. Cost benefit analysis prepared 4. Cost benefit analysis reviewed and outcomes determined	Improved efficiencies associated with transportation of waste in terms of financial and vehicle movement environmental impacts	Jun-23	No, will utilise existing in-house staff resources	X	Infrastructure Services	Risk: no cost-effective options reached Mitigation: continue with current arrangements but continually review possible options		
	Continue to reduce the impact of hazardous waste through the existing community drop-off points and investigate opportunities to expand drop-off points	Existing and ongoing	1. Promote current options for disposal of household hazardous waste that are available within the Shire through social media and print 2. Promote the Household Hazardous Waste program 3. Investigate increasing drop-off points for existing items so these are more readily available 4. Investigate options for the acceptance of e-waste and aerosols at Transfer Stations	1. Advertising campaign developed 2. Review current location of drop-off points against community population nodes and determine additional locations 3. Engage with e-waste recyclers and adjoining LG for acceptance of aerosols 4. Engage with DWER regarding licence conditions 5. Additional drop-off points established and where viable	Promote existing drop-off points and increase drop-off points and items where financially viable	Jun-25 and ongoing	No, will utilise existing in-house staff resources	X	Infrastructure Services	Risk: unable to source financially viable options for additional items Mitigation: Continue to promote existing items and investigate future opportunities		

			5. If viable options available implement drop-off points	additional items accepted							
Policies and procurement	Embed waste management into local emergency management planning	New	1. Review WALGA Local Waste Management Arrangements for Emergency Events guidelines 2. Internal and external stakeholder engagement 3. Draft waste management guidelines 4. Review of draft guidelines by all stakeholders 5. Update guidelines incorporating feedback	1. WALGA guidelines reviewed 2. Stakeholder engagement undertaken 3. Waste management guidelines drafted 4. Guidelines updated following feedback and included in Local Emergency Management Plan	Waste management guidelines included in Local Emergency Management Plan	Jun-24	No, will utilise existing in-house staff resources	X	X	Infrastructure Services, Governance - Emergency Services	Risk: lack of stakeholder commitment Mitigation: communication with stakeholders to promote guideline benefits
Data	Continue to capture comprehensive data on waste and recycling services to monitor Shire performance	Existing and ongoing	1. Regular engagement with staff and contractors to ensure that waste is being recorded consistently and accurately 2. Undertake comparison of data with previous years to monitor trends 3. Continually seek improvements to data reporting	1. Quarterly meetings with staff and contractors 2. Review of monthly reporting 3. Implement improved data capture where identified 4. Waste data collection meets State reporting requirements	Data collection and reporting of the Shire's waste and recycling services meet the State's reporting requirements	Ongoing	No, will utilise existing in-house staff resources	X	X	Infrastructure Services, Contractors	Risk: lack of data collection due to poor stakeholder commitment Mitigation: actively establish and manage stakeholder relationships

	Improve litter collection data	Existing and ongoing	<ul style="list-style-type: none"> 1. Review KABC Litter Prevention Strategy 2020-2025 2. Engage with internal stakeholders involved with litter collection to outline reasons for data collection 3. In consultation with internal stakeholders develop a litter collection sheet 4. Data collected used to monitor trends and to determine priorities and programs 	<ul style="list-style-type: none"> 1. Meeting held with internal stakeholders 2. Litter collection sheet drafted 3. Feedback from employees incorporated into litter collection sheet 4. Litter collection sheets received monthly for review 	Recording system and data collection framework established. Improved accuracy of litter reporting and composition	Jun-22	No, will utilise existing in-house staff resources		X	Infrastructure Services	Risk: lack of data collection due to poor stakeholder commitment Mitigation: actively establish and manage stakeholder relationships
Behaviour change programs and initiatives	Undertake community engagement research to understand the barriers and challenges around waste reduction and correct recycling	New	<ul style="list-style-type: none"> 1. Engage research company 2. Undertake street waste audit - 8 households 3. Ideation group discussions with community waste pioneers 4. Community survey completed 5. Outcomes to inform the development of a Waste Strategy and Education Plan 	<ul style="list-style-type: none"> 1. Research company engaged 2. Street waste audit completed 3. Ideation group discussions completed 4. Community survey completed 5. Receipt of research report 	Completion of Community Engagement Research report	Jun-21	Yes allocated in 2020/21 budget	X	X	Infrastructure Services, Communications and Marketing, Consultants	Risk: lack of stakeholder commitment Mitigation: work with stakeholders to promote the benefits of participating in the research
	Develop a Waste Strategy and Education Plan to engage with the community and encourage sustainable waste behaviour	New	<ul style="list-style-type: none"> 1. Prepare a Waste Strategy and Education Plan incorporating outcomes within the community engagement research 2. Review of draft document by internal and external stakeholders 3. Update document incorporating feedback 	<ul style="list-style-type: none"> 1. Draft strategy and plan prepared 2. Stakeholder engagement and feedback incorporated 3. Submit strategy and plan for Council approval 	Waste Strategy and Education Plan adopted by Council	Jun-22	Yes, to be allocated in 2021/22 budget	X	X	Infrastructure Services, Communications and Marketing, Consultants	Risk: lack of stakeholder engagement and interest Mitigation: actively encourage feedback and promote the benefits of the document

			4. Submit for Council approval									
	Develop a 'Waste Wise Events' guidelines for all council and community events	New	1. Engage with internal and external stakeholders 2. Draft Waste Wise Events guidelines 3. Review of draft document by all stakeholders 4. Update document incorporating feedback 5. Promote the guidelines to event organisers and stallholders	1. Stakeholders consulted 2. Guidelines completed 3. Promotion of the guidelines to all event organisers	Publication and circulation of 'Waste Wise Events' guidelines to promote events with a sustainable focus. 80% of event organisers and individual stallholders adhere to the guidelines.	Jun-23	No, will utilise existing in-house staff resources	X	X	X	Infrastructure Services, Communications and Marketing, Community Development	Risk: lack of stakeholder commitment Mitigation: engage with stakeholders to promote guideline benefits Consider incentives for compliant stakeholders
	Continue bin tagging and auditing program	Existing	1. Review the WALGA Bin Tagging Program guidelines 2. Ongoing engagement with the contractor 3. Review of monthly reports 4. Evaluate reports and provide feedback to communities on their behaviour	1. Incorporate WALGA guidelines into existing program 2. Contractor to focus on one suburb at a time 3. Quarterly meetings with contractor to review program 4. Monthly report evaluated to show trends 5. Results provided to communities 6. Develop communications to support lower contamination levels	Contamination rate lower than 8% by June 2024	Ongoing	Yes, to be allocated in ongoing budgets	X	X	X	Infrastructure Services, Contractor	Risk: lack of stakeholder commitment Mitigation: clear communication of program objective and results

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