



# WASTE PLAN 2030

Avoid, Recover, Protect 2020 – 2030

## About this document

The Waste Plan aims to achieve the objectives and targets set out in the Waste Avoidance and Resource Strategy 2030.

This plan is available in alternative formats such as large print, electronic, audio or Braille, on request.



*“The Shire of Waroona stretches from sea to scarp between the Indian Ocean and the Darling Scarp, featuring pristine beaches, coastal lakes, fertile farmlands and peaceful jarrah forests. Covering a total area of 835km<sup>2</sup>, the Shire includes the localities of Waroona, Hamel, Lake Clifton and Preston Beach”.*

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## Waroona – Past, Present & Into The Future

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Waroona has provided a home for generations, from the days when Indigenous Australians roamed the coastal areas in spring and summer, and the hills in autumn and winter.

Settlers began to arrive in the area in the late 1830's, although Drakesbrook (later to be known as Waroona) did not come into its own until the Pinjarra to Picton railway line was opened in 1893. The town catered to the needs of the mill workers with a post office, general store, blacksmith, a number of hotels come boarding houses, churches, doctor and dentist.

The farms supplied butter, fruit and vegetables for the men of the mills, and chaff for the horse teams that hauled the logs. As is many of the small towns of the time, dances, picnics and football formed the core of social life within the community and to this day Waroona still proves to be a successful sporting and extremely social community.

Today, agriculture, mining, manufacturing and tourism are important contributors to the local economy.

Waroona is an evolving district that services the diverse, social and economic needs of a growing community. The strong agricultural heritage will continue to guide any future district developments, particularly in Waroona and Hamel, and its enviable location on the Indian Ocean and along with the Yalgorup National Park will, influence future considerations for Preston Beach and Lake Clifton.

The population is expected to grow over the next thirty years. With this growth comes challenges, but smart planning and a focus on broadening the economic base will open up significant opportunities for tourism, commercial investment, employment and education.

The long term vision for Waroona is to create a district distinctive by its creativity, liveliness, activity and vibrancy, attracting new investment, seizing opportunities to develop and expand its business sector, and encourage innovation and collaboration, while providing an enticing array of lifestyle attractions.

The Shire of Waroona is excited about its future.

## Chief Executive Officer's Message

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The Shire has developed this plan in accordance with the *Waste Avoidance and Resource Recovery Act 2007* with the purpose of committing to reduce waste, increase resource recovery and protect the environment. This Plan includes a list of initiatives that are consistent with, and contribute to, the delivery of the targets and objectives of the State's Waste Avoidance and Resource Recovery Strategy 2030, including:

- By 2023 assessing the feasibility of implementing a three- bin system;
- Construct a community transfer station at the Buller Road Refuse Disposal Site;
- Implement a Waste Local Law;
- Develop and implement a Management Plan and Risk Plan for the Shire's waste management operations;
- Review and improve data relating to litter and illegal dumping; and
- Undertake an education campaign for residents on correct waste management behaviours to support the delivery of its bin audit.



This plan will be valid for a five year period and will be prove beneficial for budget purposes as the Shire moves towards the objectives of the State's Waste Avoidance and Resource Recovery Strategy 2030.

**Dean Unsworth**  
**Chief Executive Officer**







## About the Public Health Plan

The Waste Plan aims to achieve the objectives and targets set out in the Waste Avoidance and Resource Recovery Strategy 2030.

### Integrated Planning & Reporting Framework

<b>Strategic Community Plan</b>	Community vision, strategic direction, long and medium term priorities and resourcing implications with a horizon of 10 years.
<b>Corporate Business Plan</b>	Four year delivery program, aligned to the Strategic Community Plan and accompanied by four year financial projections.
<b>Annual Budget</b>	Financial plan for the current year.

### Informing Strategies

<b>Long Term Financial Plan</b>	10 year financial plan.
<b>Asset Management Plan</b>	Approach to managing assets to deliver chosen service levels.
<b>Workforce Plan</b>	Shaping the workforce to deliver organisational objectives now and in the future.
<b>Place &amp; Area Specific Plans</b>	Any other informing strategies.

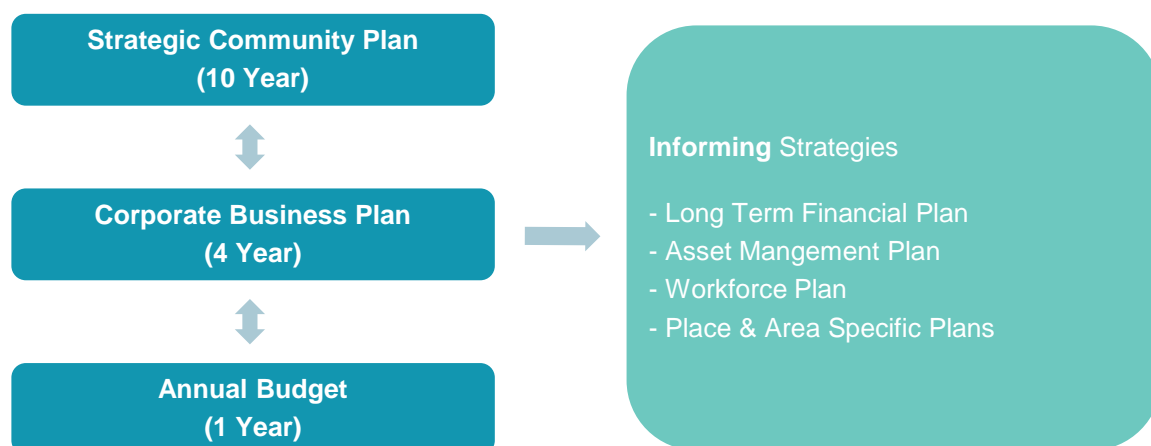


Figure 1: Elements of the Integrated Planning & Reporting Framework. Source: Department of Local Government, Sport & Cultural Industries.



## Our Shire

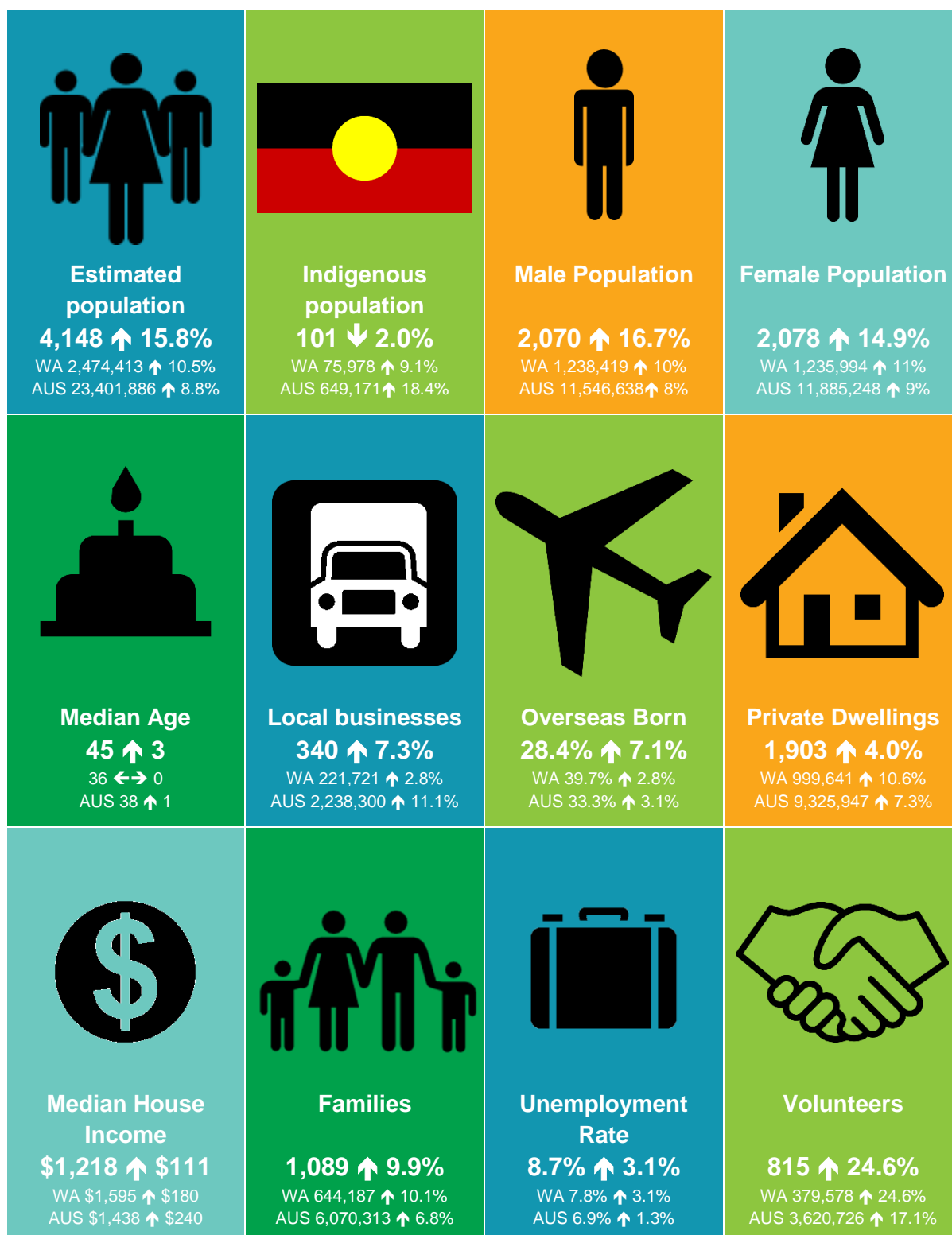


Figure 2: Shire of Waroona Statistics. Source: Australian Bureau of Statistics 2016 Census.

## Our Council

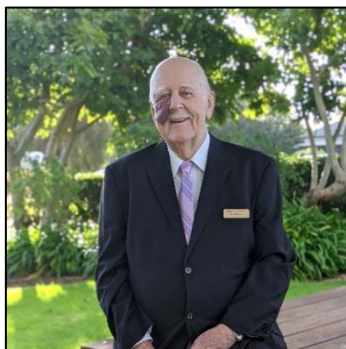
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**Cr Mike Walmsley**  
Shire President



**Cr Naomi Purcell**  
Deputy Shire President



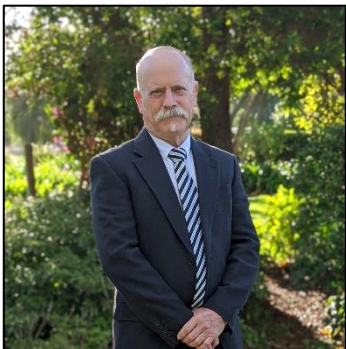
**Cr Noel Dew**



**Cr John Mason**



**Cr Karen Odorisio**



**Cr Larry Scott**



**Cr Laurie Snell**



**Cr Vince Vitale**





## Our Staff



**DEAN UNSWORTH**  
Chief Executive Officer

- Leadership & organisational strategy
- Elected member liaison
- Employee management
- Communications & marketing
- Partnerships management
- Investment attraction
- Emergency management



**ASHLEIGH NUTTALL**

**Director Corporate Services**

- Finance
- Governance
- Human resources
- Record keeping
- IT
- Customer service
- Library services
- Ranger services
- Licensing services



**PATRICK STEINBACHER**

**Director Infrastructure Services**

- Infrastructure services
- Technical services
- Operations
- Parks & gardens
- Waste services
- Environmental services



**ROD PEAKE**

**Director Planning & Sustainability**

- Strategic town planning
- Statutory town planning
- Building
- Health



**LIZ STORR**

**Director Place, Community & Economic Development**

- Place & community
- Economic development
- Recreation services
- Tourism

## Vision, Mission & Values

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### Vision

The Shire of Waroona will create a sense of place and identity, embracing creativity, our natural environment and a strong and diverse economy.

### Mission

We will be an organisation, with a can-do attitude that strives for service excellence, continued improvement and a commitment to outcomes.

### Values

Our values are A REALITY:

- A** – Accountable
- R** – Respect
- E** – Excellence
- A** – Accessible
- L** – Leadership
- I** – Innovative
- T** – Transparent
- Y** – Yours



## Focus Areas & Aspirations to 2030

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## Introduction

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Local governments are primarily waste managers that provide household waste collection and recycling services, manage and operate landfill sites, and deliver education and awareness programs.

Local governments will provide information, infrastructure and incentives that encourage behaviour change and they will plan for the management of waste within their districts. The issues faced by local governments vary, particularly between metropolitan and regional areas, so there will be a need to identify local, fit-for purpose solutions that reflect better practice, align with the Waste Avoidance and Resource Recovery Strategy 2030 and support a move towards becoming a circular economy.

Local governments also generate waste resulting from the range of services provided to the community and can influence purchasing and practices to increase avoidance and recovery and maximise protection of the environment. The Shire of Waroona Waste Plan establishes the Shire's waste profile and baseline information, and aims to achieve the objectives and targets set out in the Waste Avoidance and Resource Recovery Strategy 2030:





## Strategic Alignment

Strategic Community Plan	
<b>Title:</b>	Waroona 2030 – Shire of Waroona Strategic Community Plan 2020 – 2030
<b>Came into force:</b>	2020
<b>Date of next review:</b>	2022
<b>Waste related priorities:</b>	<p>Broadly addressed in all 5 key focus areas, however directly featured in Key Focus Area 3 - Our Environment.</p> <p><b>Aspiration:</b> To continually care for, protect and enhance our environment for the generations to come.</p> <p><b>Strategy 3.2.4:</b> Improve waste management practices through diversion, re-use and recycling.</p>
Corporate Business Plan	
<b>Title:</b>	Towards Waroona 2030 – Shire of Waroona Corporate Business Plan 2020 – 2024
<b>Came into force:</b>	2020
<b>Date of next review:</b>	2021
<b>Waste related priorities:</b>	<p>Broadly addressed in all 5 key focus areas, however directly featured in Key Focus Area 3 - Our Environment.</p> <p><b>Aspiration:</b> To continually care for, protect and enhance our environment for the generations to come.</p> <p><b>Strategy 3.2.4:</b> Improve waste management practices through diversion, re-use and recycling.</p> <p><b>Action 3.2.4.1:</b> Develop and implement a Waste Management Strategy that aligns to State objectives.</p> <p><b>Action 3.2.4.2:</b> Construct the Transfer Station at the Buller Road Refuse Site.</p> <p><b>Action 3.2.4.3:</b> Progress the closure of the liquid waste facility.</p>

Table 1: Links between plan for the future and waste management. Source: Shire of Waroona.

## 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 the Implementation Plan.

	Actual				Targets	
	2014/15	2015/16	2016/17	2017/18	2025	2030
<b>Population<sup>(1)</sup></b>	3,864	4,230	4,252	4,274	4,487	4,712
<b>Households<sup>(1)</sup></b>	1,546	1,692	1,701	1,710	1,795	1,885
<b>Total domestic waste generated<sup>(2)</sup></b>	4,487	3,514	3,418	4,008		
<b>Waste generation per capita/year (kg)<sup>(2)</sup></b>	1,161	831	804	938	1,103	1,045

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

Notes:

(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 2017/18

Using 2014/15 as the baseline, as in the original spreadsheet DWER provided, meant the Targets for 2025 and 2030 were higher than current waste generation rates for 17/18. To address this issue the Shire proposes to use the 2017/18 figures as a baseline for internal purposes.



## Recover

Where waste generation is unavoidable, efforts should be made to maintain the circulation of materials within the economy. Table 3 outlines the overall recovery rate for Shire of Waroona 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.

	Actual				Targets	
	2014/15	2015/16	2016/17	2017/18	2025	2030
<b>Population<sup>(1)</sup></b>	3,864	4,230	4,252	4,274		
<b>Households<sup>(1)</sup></b>	1,546	1,692	1,701	1,710		
<b>Overall recovery<sup>(2)</sup></b>	10%	24%	24%	38%	67%	70%
<b>Materials recovery</b>	10%	24%	24%	38%	>80%	>80%
<b>Energy recovery</b>	0%	0%	0%	0%	<20%	<20%
<b>Perth metro average<sup>(3)</sup></b>	36%	38%	40%	40%		

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

### Notes:

- (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 2017/18.
- (3) Source: Waste Authority data fact sheets <http://www.wasteauthority.wa.gov.au/programs/data/data-fact-sheets/>

The data provided to the Local Government Census is not based on weighbridge data, instead estimates are used based on the number of truck, car and other vehicles received at the Landfill.

## 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.**

### 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. Table 4 outlines better practice approaches and programs which may be considered by the Shire of Waroona.

Waste management activity / service	Waste Authority better practice guideline or program	Date of adoption / implementation	Comment
<b>Kerbside waste collection</b>	Better bins	N/A	Currently 2 bin system that does not include FOGO.
<b>Behaviour change programs and initiatives</b>	WasteSorted	2019	WasteSorted toolkit used for community education.
<b>Drop-off facilities and services</b>	N/A (guideline yet to be developed)	N/A (guideline yet to be developed)	Planned construction of transfer station in line with guidelines.

Table 4: Better practice approaches and programs adopted by Shire of Waroona. Source: Shire of Waroona.

### Litter

The data in Table 5 was reported by the Shire of Waroona in the 2017/18 local government census. Additional information to be provided by the local government in Table 6.

Data	Response and comments
<b>Litter hotspot used on a regular basis for littering in 2017/18.</b>	Identified certain areas which have higher levels of litter and are consequently the focus of the Shire's clean-up activities. These areas are Drakesbrook Weir, Preston Beach and road intersections.
<b>What are the main items littered at these hotspots?</b>	This information is not collected.
<b>Current measures aimed at contributing towards the zero littering target.</b>	Weekly/fortnightly litter picks at the areas identified.
<b>Estimated cost of clean-up (due to collection, disposal, education, infrastructure and enforcement).</b>	\$10,000 for litter collection and illegal dumping clean-up.

Table 5: 2017/18 litter data. Source: Local Government Census Data 2017/18.



Data	Response and comments
<b>Is littering increasing or decreasing in the Shire of Waroona?</b>	No data collected. The National Litter Index is the only consistent reporting methodology that is available to assess this.
<b>How were the costs associated with cleaning up litter calculated? Employee time?</b>	This covers employee time in undertaking the collection and clean-up of illegal dumping.
<b>Does the Shire have a litter strategy? If not, what is the ETA for completing one?</b>	The Shire's current focus is on improving its litter data. This could potentially inform the development of a litter strategy with the Shire of Murray in due course due to the resource sharing of the Ranger Services department.
<b>Have any of the Shire's compliance and waste education officers undergone training on litter prevention? If so, what training?</b>	The Shire is unaware of any training currently available.
<b>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.</b>	The Shire does not have any current policies or guidelines in relation to litter.
<b>How does your local government measure the effectiveness and impact of programs designed to reduce littering and illegal dumping?</b>	The Shire works to ensure that highly littered areas are cleaned up regularly, currently there is not a specific measurement.
<b>Which division/unit/section of your organisation is responsible for litter management/prevention? Waste services? Compliance (e.g. Rangers)? Infrastructure?</b>	The Technical Services team (Works, Parks & Gardens and Waste services) undertake the litter collection.
<b>How important is litter management to your organisation? (1 - Not at all important; 5 - Highly important).</b>	3

Table 6: Additional litter information. Source: Shire of Waroona.

The Shire is constantly looking at ways to improve data collection in this area.

## Illegal Dumping

The data in Table 7 was reported by the Shire of Waroona in the 2017/18 local government census. Additional information to be provided by the local government in Table 8.

Data	Response and comments
<b>Cost of cleaning up illegally dumped waste during 2017/18.</b>	\$10,000 – includes litter pick up and illegal dumping clean-up.
<b>Sites used on a regular basis for illegal dumping in 2017/18.</b>	2 – Drakesbrook Weir and Hamel Pine Plantation.
<b>What are the main 4 items dumped at these areas?</b>	No data collected.
<b>Current measures aimed at contributing towards the zero illegal dumping target.</b>	Regular clean-up of material.

Table 7: 2017/18 illegal dumping data. Source: Local Government Census Data 2017/18.

Data	Response and comments
<b>Is illegal dumping increasing or decreasing in the Shire of Waroona?</b>	No data collected. The Shire has started a database to record illegal dumping.
<b>How does your local government measure the effectiveness and impact of programs designed to reduce illegal dumping?</b>	The Shire works to ensure that illegal dumping on local government property is cleaned up promptly.
<b>Which division/unit/section of your organisation is responsible for illegal dumping management/prevention? Waste services? Compliance (e.g. Ranger)? Infrastructure?</b>	Rangers, compliance and infringements / waste collection, and disposal.

Table 8: Additional litter information. Source: Shire of Waroona.

The majority of illegal dumping that occurs within the Shire's boundaries is not on Shire land. For example the Pine Plantations are an illegal dumping hot spot but are managed by the Department of Biodiversity, Conservation and Attractions.



## Waste Management Tools

### Waste Services

Local government data relating to the waste collected, recovered and landfilled is presented in Table 9. It is important to review this data when developing and actioning the 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; and
- 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, local government should focus on the materials resources with the greatest potential to support the objectives and targets of the Waste Strategy. Department of Water and Environmental Regulation is currently developing a range of better practice guidelines. Better practice rates will need to be updated as the guidelines are released.

	Service / Sources	Tonnes Collected	Tonnes Received	Recovery Rate	Better Practice Rate	Target Rate 2025	Target Rate 2030
Kerbside	Mixed waste	1,456	0	16%	%	55% major regional centres  67% Perth and Peel	60% major regional centres  70% Perth and Peel
	Comingled recyclables	336	287				
	Green waste	0	0				
	FOGO	0	0				
Verge side	Green waste	0	0	0%	%		
	Hard waste	0	0				
Drop-off	Mixed waste	550	0	33%	%		
	Dry recyclables	198	227				
	Green waste	870	0				
	Inert waste	609	456				
	Hazardous waste	0.7	0.7				
Public Place	Mixed waste	4	0	0%	%		
	Comingled recyclables	0	0				
Special Event	Mixed waste	3	0	0\$	%		
	Comingled recyclables	0	0				
Commercial	Mixed waste	150	0	4%	%		
	Comingled recyclables	6	6				
	Paper / cardboard	0	0				

	Service / Sources	Tonnes Collected	Tonnes Received	Recovery Rate	Better Practice Rate	Target Rate 2025	Target Rate 2030
Local Government waste	Illegal dumping clean-up	1.5	0	95%	%		
	Street sweepings	6	6				
	Roadworks	0	0				
	Other C&D activities	0	0				
	Roadside pruning	21	21				
	Other	0	0				
<b>TOTAL</b>		4,212	1,054	25%	%		

Table 9: Significant sources and generators of waste in 2018/19. Source: Local Government Census data 2017/18.

Verge side Hard waste: The Shire only undertakes hard waste verge collections every 2 years with the last collection being completed in FY 19/20 given this the data hasn't been added to the table above however it is likely to increase the material recovery in the hard waste section to 219 Tonne with half of that being recovered. In the Shire's Licence conditions for the landfill, the burning of green waste is included. Previously this was reported through the LG Census as being recovered (on the basis it was not landfilled). The Shire acknowledges that this is not material or energy recovery in line with the definitions included in the Waste Strategy, therefore has amended Table 9 to show that green waste was not recovered. The tonnage data included has been updated to 18/19 figures.

## 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. The range of infrastructure used by the Shire of Waroona to manage MSW is detailed in Table 10.

<b>Facility Name (and Licence Number if applicable)</b>	Buller Road Refuse Disposal Site L6756/1996/11
<b>Facility Type</b>	Landfill and resource recovery centre
<b>Location</b>	Lot 1701 on Plan 214632, 702 Buller Road, Waroona
<b>Managed By</b>	Contractor
<b>Licence Category and Approved Production or Design Capacity</b>	61 – Liquid waste facility 64 – Class II or III putrescible landfill site (Class II – 550t/a, Liquid Waste – 850t/a)
<b>Material Type &amp; Service/Activity</b>	Inert – Drop off at facility
	Domestic – Drop off a facility
	Mattress – Drop off a facility
	Tyres – Drop off a facility
	Carcass – Drop off a facility
	Green waste – Drop off a facility
	Asbestos – Drop off a facility
<b>Remaining Capacity</b>	25 – 30 years of capacity
<b>Anticipated Closure (Year)</b>	Current licence to 2030

Table 10: Current waste and resource recovery infrastructure operated by the Shire of Waroona. Source: Shire of Waroona.



The Shire is planning to create a community transfer station at the current site 702 Buller Road, Waroona. The purpose of the community transfer station is to remove the risk involved with day to day users of the facility being within the active cells. It is also expected that the Shire may need to have a transfer station once the current licence expires.

## Policy & Procurement

### Contracts

Contractor	Services		Notes / Comments
Cleanaway	Kerbside	Mixed waste	3 years on contract (joint contract with Shire of Murray).
		Comingled dry recyclables	
		Green waste	
In-house	Verge side	Green waste	Nil.
		Hard waste	
AM Pisconeri	Landfill	Landfill	Contract entered on 1 July 2020. Expires 30 June 2021.

Table 11: Existing waste management contracts. Source: Shire of Waroona.

### Waste Local Laws & Policies

Type of Local Law, Strategy or Policy	Name	Came into Effect	Comments
Policy	WKS002 – Bulk Rubbish Collection Policy & Guidelines	18 December 2018	The Shire of Waroona provides a biennial (alternate years) hard waste rubbish collection. This policy guides what can be taken and the process whereby residents can take advantage of the collection.
Local Law	Shire of Waroona Waste Local Law 2021	Expected to be adopted in 2021	Nil.

Table 12: Existing waste related local laws, strategies and policies. Source: Shire of Waroona.

### Land Use Planning Instruments

Information on the Shire of Waroona's existing local planning instruments which contribute to the management of waste are detailed in Table 13.

Local Planning Strategy	Title:	Shire of Waroona Local Planning Strategy 2009.
	Endorsed by WAPC:	Yes.
	Next review date:	2021.
	Is waste considered and reflected in the LPS?:	No.

	Does the LPS identify current and future waste facility sites?:	No.
	Does the LPS identify buffers around existing and/or future sites to avoid land use conflict?:	No.
<b>Local Planning Scheme</b>	Title:	Shire of Waroona Local Planning Scheme No. 7.
	Gazetted:	17 December 1996.
	Next review date:	2021.
	Are resource recovery facilities, waste disposal facility and waste storage facility defined as land uses (as per Planning and Development (Local Planning Schemes) Regulations 2015) and included in the council Local Planning Scheme zoning table, with either a P/I/D/A/X permissibility?:	No. Not defined as such, but could be incorporated into an Industrial land use or addressed as a 'use not listed'.
	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 Regulations 2015? Or are these land uses zoned as "Use not listed"?:	See above.
	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. Currently does not, however is intended to show buffers in the review of the existing scheme.

Table 13: Existing waste related land use planning instruments related to waste management. Source: Shire of Waroona.

## 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. The Shire does not have a specific policy in place however the Shire limits the impact of single use plastic by reducing the purchasing of single use plastic products and participating in the collection of bottle tops etc. that the local school collect. The Shire will also be working with Community Recycling WA to have a mobile CDS and it is possible that the Shire will collect containers for this initiative.

## Behaviour Change Programs & 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 in the Implementation Plan.

Information on the local government's existing waste behaviour change programs or initiatives are detailed in Table 14.

Program / Initiative	Description	Outcomes Achieved	Evaluation Method	What's Worked / Not Worked?	Suggested Improvements
Waste Education	School education program	Provided information to students about recycling	Recycling Education Report provided from a parent survey	Refer to additional comments	Conduct more school education programs and provide education material for newsletters

Table 14: Behaviour change programs and initiatives, including Waste Authority programs and other initiatives. Source: Shire of Waroona.

In 2019, Council's contractor Cleanaway undertook a school base waste education as per the rubbish collection agreement. Students from the St Joseph's Primary School from Pre-Primary to year 6 participated in the program. Questionnaires were given out and a total of 38 were returned. The report received from Cleanaway provided extra insight into how much students and their families knew about recycling and if they were happy with the services provided by the Shire. The response was that 87% were happy with Council's waste and recycling services. However the results showed that 61% don't refer to the Shire website for information about recycling services which shows an area for improvement. The end of the report itemises a few suggestions from families as to how the Shire could improve the waste services in the Waroona area. This provided some insight into what is wanted and majority of the ideas were in relation to providing a local recycling drop off for batteries, more recycling information, smaller general waste bin and larger recycling bin plus more recycling information on the shire website. The program is offered to both schools however only St Joseph's Primary School took the opportunity to participate. If the program continues it will be offered to both schools.

## Data

Table 15 assesses existing waste data practices, identifies strengths and gaps and considers the kinds of data activities to include in the Implementation Plan to improve the Shire of Waroona's waste data. It has been completed based on the data/information covered in this document, as well as the individual experience of the officers responsible for collecting and using waste data.

	Yes	No	Comment
Does the Shire have access to adequate waste data to complete the waste plan?	X		The Shire implemented an electronic waste records system in 2019/20 to capture the data at real time.



	Yes	No	Comment
Does the Shire use waste data when undertaking planning activities for waste projects / programs?	X		Nil.
Does the Shire have access to adequate waste data for this?	X		Nil.
Does the Shire use waste data when monitoring or assessing waste projects / programs?	X		Nil.
Does the Shire have access to adequate waste data for this?	X		Nil.
Does the Shire use adequate waste data to measure progress toward the targets and objectives of the Waste Strategy?	X		Nil.
Does the Shire have access to adequate waste data for this?	X		Nil.
Does the Shire have access to adequate waste data to fulfil annual reporting obligations under the WARR Regulations? (Previously undertaken through the Waste and Recycling Census)	X		Nil.
Are there any types of waste data that the Shire does not currently collect or have access to that would be helpful / useful?	X		The Shire implemented a new data capture system at the landfill to more clearly and consistently identify the different material types and sources of waste disposed. A weighbridge is not an economically viable option for the landfill and that would be the more accurate option.
Are there any ways which the Shire waste data collection, storage or use could be improved?	X		The Shire implemented an electronic waste records system in 2019/20 to capture the data at real time.
Is the data collected by the Shire accurate? Are any new strategies needed to improve accuracy?	X		Data collection will improve through the introduction of the electronic waste records system.
Any additional comments?	X		The Shire is using the best data available, given resourcing constraints and existing systems and practices in place.

Table 15: Assessment of waste data. Source: Shire of Waroona.

## Implementation

Waste Management Tool	Action	New or Existing	Details / Actions	Milestones	Target (SMART)	Timeframe	Cost of Implementation incorporated into Annual Budget and Corporate Business Plan	Aligns to Waste Strategy Objective			Responsibility for Implementation	Identified Risks
								Avoid	Recover	Protect		
Waste Services	Conduct a visual bin audit.	New	Construct a visual bin audit on the kerbside bins within the Waroona townsite. Visual bin audit to be conducted annually for a 5 year period. Record the data to get a clear picture of the type of material being disposed. Compare the data over the 5 year period. Data collected will be used to measure the success of behavioural changes through the waste education and will provide an insight for the FOGO investigation.	First audit is scheduled for FY 20/21 and will repeat the audit on an annual basis.	Conduct annual audits of kerbside bins in March of each year. Record the data collected consistently in a data base to allow comparisons. An estimated 50-100 residential properties will be part of the inspection zone.	2021	Yes	Yes	Yes	No	Technical Officer, Shire of Waroona	<b>Risk</b> All of the projects require some degree of budget allocation, the risk is that the funds will not be available. <b>Consequence</b> Funding is essential for these activities to go ahead. <b>Mitigation Strategies</b> By taking a clear, evidence based approach for the strategies proposed, and providing Council with costs/benefits of the actions, funding has the greatest likelihood of being allocated.
	Investigate the feasibility of implementing a 3 bin systems including FOGO.	New	Investigate the current organic waste generation by residents through bin audit. Determine specifications for three bin FOGO system as per the better practice FOGO kerbside collection guidelines. Review the information and seek costings to implement FOGO in the Shire, taking into consideration a cost that would be realistic to residents and as the Shire is classified as Rural. Seek Community Input/ Feedback - Requested feedback would be in relation to the need of a	Based on a review of information collected and costs and community consultation, provide a report to Council on whether to progress FOGO.	Provide a report to Council recommending whether to progress FOGO.	2023	No, part of the Management and Risk Plan	Yes	No	No	Technical Officer, Shire of Waroona	

Waste Management Tool	Action	New or Existing	Details / Actions	Milestones	Target (SMART)	Timeframe	Cost of Implementation incorporated into Annual Budget and Corporate Business Plan	Aligns to Waste Strategy Objective			Responsibility for Implementation	Identified Risks
								Avoid	Recover	Protect		
			FOGO system, Cost to rate payers, alternative methods already in place and the overall response to the actual proposal.									
Waste Infrastructure	Construct a community transfer station at the BRRDS.  <i>Aimed at removing the facility users from the active landfill cell. This will reduce the risk of the facility and allow for improved material recovery. The project is a 5 year project.</i>	New	Review the concept design. Construct the hardstand area and investigate material recovery options. Construct the waste bund area for transfer of waste from the drop off zone to the active landfill. Community transfer station completed and risk reduced with additional material recovery commencing.	1. Finalise concept design. 2. Lodge a works approval to DWER for the design. 3. Receive the works approval and commence construction of community transfer station. 4. Commence material recovery trials. 5. Data collection with data showing improvements in material recovery.	Monitor the recovery material rates at the drop off location. Aim to improve the recovery rate from 25% to 30% by 2025.	2025	Yes	No	Yes	No	Technical Officer, Shire of Waroona	<b>Risk</b> All of the projects require some degree of budget allocation, the risk is that the funds will not be available. <b>Consequence</b> Funding is essential for these activities to go ahead. <b>Mitigation Strategies</b> By taking a clear, evidence based approach for the strategies proposed, and providing Council with costs/benefits of the actions, funding has the greatest likelihood of being allocated. In addition the community use and education would be required and could prove to be a risk especially in a small rural town.
	Improved material recovery at the active landfill site.	New	Review the current material that is being disposed at the landfill to identify if there are additional materials that can be separated to increase the recovery rate. For example cardboard bins. Commencing source separation with the current site will assist in the future with the source separation of material at the Transfer Station.	Investigate which of the materials currently collected could be separated and viably recovered. Based on investigation, put in additional source separation processes.	Implement and manage viable options by 2025 with trial material recovery commencing in 2021.	2025	Yes	No	Yes	No	Technical Officer, Shire of Waroona	
	Investigate a possible partnership with Shire of Murray for material recovery.	New	Review the current material that is being disposed to see if recovery of target material types can be done by resource sharing.	Investigate material recovery streams and viability to implement strategies.	Review of policies, local laws and WALGA better practices to see if the Shire can align as part of the resource sharing strategy. Material Recovery at the Cario Road	2023	No	No	Yes	No	Technical Officer, Shire of Waroona	



Waste Management Tool	Action	New or Existing	Details / Actions	Milestones	Target (SMART)	Timeframe	Cost of Implementation incorporated into Annual Budget and Corporate Business Plan	Aligns to Waste Strategy Objective			Responsibility for Implementation	Identified Risks
								Avoid	Recover	Protect		
					transfer station and the Buller Road Refuse Disposal Site may be open to resource sharing to help reduce the transport cost.							
Policies & Procurement	Implement Waste Local Law.	New	Review WALGA Template Waste Local Law and revise to reflect the Shire's specific context. Plan out the process the Local Law will need to go through, including the DWER and Local Government Act 1995 process, including seeking Council approval. Implement the waste local law development process.	Review and tailor WALGA Template Waste Local Law for Shire. Seek approval from Director General of DWER regarding the Local Law. Meet Local Government Act process for making a Local Law.	Monitor the recovery material rates at the drop off location. Aim to improve the recovery rate from 25% to 30% by 2025.	2022	Yes	No	Yes	No	Director Infrastructure Services, Shire of Waroona  Technical Officer, Shire of Waroona	<b>Risks</b> All of the projects require some degree of budget allocation, the risk is that the funds will not be available. The Local Law development process may not be accepted by the Joint Standing Committee on Delegated Legislation and therefor the Shire will need to seek feedback from DWER to mitigate the risk. <b>Consequence</b> Funding is essential for these activities to go ahead. <b>Mitigation Strategies</b> By taking a clear, evidence based approach for the strategies proposed, and providing Council with costs/benefits of the actions, funding has the greatest likelihood of being allocated.
	Develop and implement a Management Plan and Risk Plan for the Shire's waste management operations.	New	Research, develop and implement a plan to address corporate and operational risks and procedures in relation to waste management.	1. Risk management plan scope developed. 2. Stakeholders identified. 3. Assessment conducted. 4. Recommended options presented to Council. 5. Seek funding. 6. Recommendations implemented.	Commence - 2022 Implement - 2023/24	2024	No	No	No	Yes	Director Infrastructure Services, Shire of Waroona  Manager Works Services, Shire of Waroona  Technical Officer, Shire of Waroona	
Data	Implement a waste records system.	New	Determine what data is required and how best to capture the data. Develop and implement system. Review system after 6 months of operation. Review data on a monthly basis.	Implement system - February 2020 Review system - 6 monthly	Implement 2020 and 6 monthly review process.	2021/22	No, part of 2019/20 budget.	Yes	Yes	Yes	Manager Works Services, Shire of Waroona  Technical Officer, Shire of Waroona	<b>Risks</b> All of the projects require some degree of budget allocation, the risk is that the funds will not be available. <b>Consequence</b> Funding is essential for these activities to go ahead. <b>Mitigation Strategies</b> By taking a clear, evidence based approach for the strategies
	Review and improve data relating to litter	New	Review current system to allow the recording of	Develop and implement a data capture system for	Database to be created for data to be recorded by	2022	Yes	No	No	Yes	Technical Officer,	

Waste Management Tool	Action	New or Existing	Details / Actions	Milestones	Target (SMART)	Timeframe	Cost of Implementation incorporated into Annual Budget and Corporate Business Plan	Aligns to Waste Strategy Objective			Responsibility for Implementation	Identified Risks
								Avoid	Recover	Protect		
	and illegal dumping collections and monitor the need for a litter strategy.		locations, waste type and time taken to collect/ dispose of litter and illegal dumping. Investigate the need for a litter strategy.	litter and illegal dumping. Investigate options for Programs to target key areas/problematic materials. Data to be used for possible litter strategy	2021. Twelve month review of data to be completed by 2022 prior to the recommendation of a litter strategy.						Shire of Waroona	proposed, and providing Council with costs/benefits of the actions, funding has the greatest likelihood of being allocated.
Behaviour Change Programs & Initiatives	Undertake an education campaign for residents on correct waste management behaviours to support the delivery of the Bin Audit program.	New	Using information from the results of the visual audit, tailor key education messages for the community. The education messages will be promoted through various mediums including website and social media.	1. Conduct visual bin audit. 2. Conduct community surveys. 3. Review data collected. 4. Implement education programs that are in line with WALGA best practices and the Waste Sorted toolkit.	Based on the annual visual bin audit data, aim for a 1% reduction in the contamination rate on an annual basis. Decrease the rate by 1% per year to reduce from current rate of 16% to 11%.	2022	Yes	Yes	Yes	Yes	Technical Officer, Shire of Waroona	<b>Risks</b> All of the projects require some degree of budget allocation, the risk is that the funds will not be available. In addition the delivery of behaviour change not being consistent with best practice guidelines or that they are not tailored to the community needs and requirements. <b>Consequence</b> Funding is essential for these activities to go ahead. <b>Mitigation Strategies</b> By taking a clear, evidence based approach for the strategies proposed, and providing Council with costs/benefits of the actions, funding has the greatest likelihood of being allocated.
	Review Shire website to ensure waste management information is up to date and relevant.	Existing	Review the Shire website and create an easy to navigate website with improved information for ratepayers on waste management options for the Shire.	Based on results from the bin audit, review the Shire website and update with improved information. Improve information on website regarding options for disposal of HHW. Upload information related to the behaviour change program.	Upgrade the Shire website with information relevant to the bin audit by 2021 and the behaviour change program by 2022.	2021 for bin audit information, 2022 for the behaviour change program initiative.	No, minor project with improvements to be minimal cost.	Yes	Yes	Yes	Technical Officer, Shire of Waroona	
	Improve the recovery of specific Household Hazardous Waste (HHW) at the Community Centre.	Existing	Work with the Community Centre to improve the recovery of materials such as mobile phones and batteries. Make the programs more accessible for all. Investigate an improved infrastructure, including appropriate signage, for a more convenient drop off of materials to prevent these materials being disposed in kerbside bins.	Investigate which materials can be collected safely at the Community Centre and have free or low cost disposal/recycling costs. Seek costings to develop new infrastructure and signage for material drop off. Incorporate amount of material collected into existing data capture system. Increase public awareness of drop off	Increase the scope and amount of materials collected by the Community Centre above the 2019/20 baseline.	2024	No, part of the education stream.	Yes	Yes	Yes	Technical Officer, Shire of Waroona  Waroona Community Resource Centre	

Waste Management Tool	Action	New or Existing	Details / Actions	Milestones	Target (SMART)	Timeframe	Cost of Implementation incorporated into Annual Budget and Corporate Business Plan	Aligns to Waste Strategy Objective			Responsibility for Implementation	Identified Risks
								Avoid	Recover	Protect		
			Increase advertising of what materials can be disposed of at the community centre. Capture data on how much material is collected from the Community Centre. Seek future opportunities to host a HHW Program Temporary Collection event.	opportunity by promoting it on the Shire website and other publications / education interventions. Monitor and evaluate material collected against 19/20 baseline.								



## Resourcing the Waste Plan

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To facilitate the achievement of the community's long term goals and aspirations as expressed in Waroona 2030 and the Corporate Business Plan, informing strategies have been developed to ensure the required financial strategies, infrastructure and workforce are in place.

### Long Term Financial Plan

The Long Term Financial Plan is Council's ten year financial planning document with an emphasis on long term financial sustainability.

Financial sustainability is one of the key issues facing local government due to several contributing factors including ageing infrastructure and constraints on revenue growth. This document tests the community aspirations and goals against financial realities. Included within the Long Term Financial Plan are:

- Assumptions used to develop the Plan;
- Projected income and expenditure, balance sheet and cash flow statements; and
- Methods of monitoring financial performance

Balancing expectations, uncertainty of future revenue and expenditure forecasts are some of the most challenging aspects of the financial planning process.

As such, the longer the planning horizon, the more general the plan will be in the later years. Every effort has been taken to present the most current estimates and project scopes to be included in the Plan.

### Asset Management Plan

The Asset Management Plan assists Council to provide the required level of service in the most cost effective manner through the creation, acquisition, maintenance, operations, rehabilitation and disposal of assets to provide for present and future generations.

The Plan is part of an overall framework that aims to present information about assets, provide evidence of responsible asset management and compliance with regulatory requirements, and summarise information with regard to funding aimed at maintaining assets at the required levels of service

Council utilises integrated decision making to ensure that built, social, economic and natural impacts of asset provision and maintenance are properly considered throughout the asset management lifecycle.

Council's strategic financial planning will ensure that:

- Funding requirements are assessed; and
- Additional funds are identified where appropriate for the investment in new and upgraded assets.

### Workforce Plan

The Workforce Plan provides a framework and strategy to address the human resourcing requirements for Council's Corporate Business Plan, and as such, has a four year horizon.

The Plan recognises that Shire employees need to bring commitment, energy and flexibility to the workplace. In return, staff need clarity regarding how their personal goals align with organisational goals and priorities. This requires an investment in developing leaders, managers and employees with the right skills for our diverse businesses. It also requires clear learning pathways linked to performance development and an ongoing investment in attracting and retaining talented people, while maintaining a focus on workplace health and wellbeing.

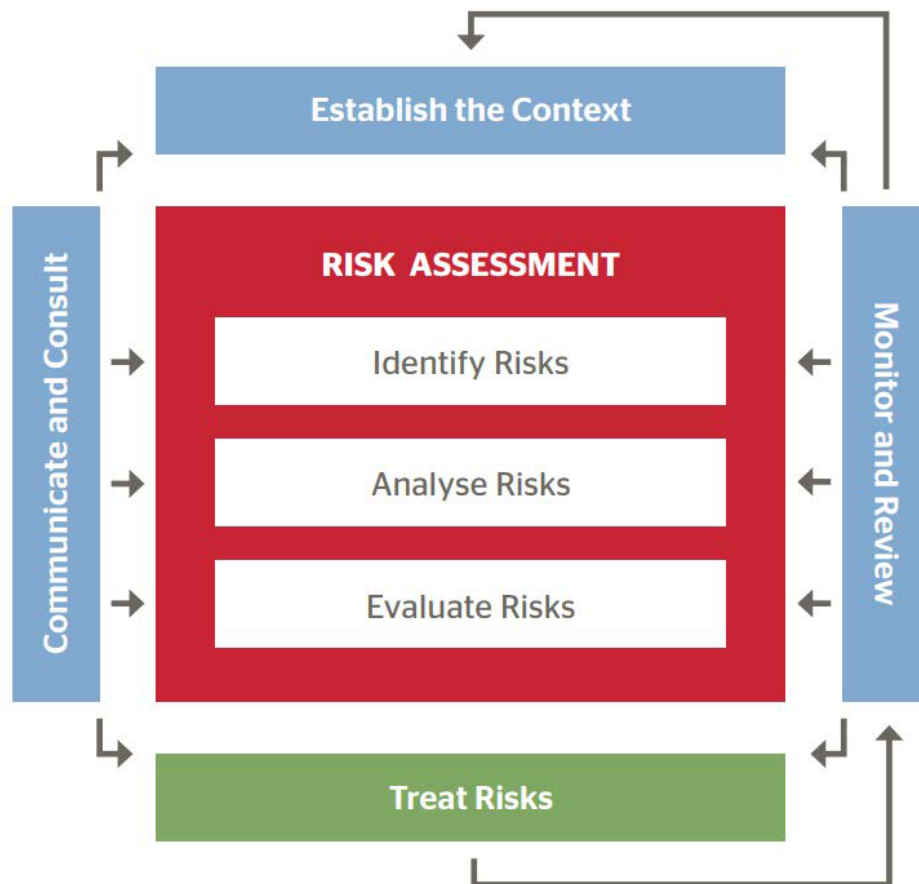
The Shire is committed to the ongoing identification of efficient operating methods and is increasingly using technology to automate processes. The need to minimise financial impact to ratepayers is priority, and therefore, no additions to the workforce are planned over the next four years.

## Risk Management

The Shire of Waroona is committed to identifying, measuring and managing risks in order to capitalise on opportunities and achieve the objectives of the Council's strategic plans.

To achieve this, the Shire has adopted a risk management framework aligned to AS/NZS ISO 31000.2018 Risk Management – Principles and Guidelines. The framework, which is comprised of a Risk Management Policy and Strategy, provides a coordinated and systematic process for managing risks, integrating risk management into everyday decision making and business planning.

A Business Continuity Plan also compliments this framework, ensuring that the Shire can continue to provide essential services to stakeholders in the event of a crisis or major incident.





## Reviewing & Reporting

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The Shire of Waroona has a robust reporting framework in place that tracks key performance indicators at the individual, service area and organisational level. The Chief Executive Officer has targets and objectives that are set and revised by Council to deliver on key Council priorities.

The Shire's performance data is captured in our corporate database, ensuring that appropriate responsibilities, timeframes, measures and progress are accounted for. The Shire is also required to report on statutory key performance indicators listed in the table below:

### Annual Report

The annual report is produced at the end of each financial year and highlights the operations and achievements of the Shire during the prior 12 month period. It contains an indication of key priorities from the Strategic Community Plan, Corporate Business Plan, and informing strategies such as this plan.

### Financial Performance

The proportion of programs and projects funded by the Shire's annual budget will indicate how well the Shire is progressing with the completion of the strategy for a finance and resource perspective.

### Key Performance Indicators

The Shire will measure success and progress of the Waste Plan through the following mechanisms:

- Staff survey undertaken every year;
- Community perception survey undertaken every four years;
- Delivery of projects on time and on budget; and
- Progress on the delivery of the Waste Plan may be reported in the Shire's Annual Report.

## Glossary

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<b>Avoidance</b>	Avoidance refers to the prevention or reduction of waste generation and is the most preferred option in the waste hierarchy.
<b>Better Practice</b>	Better practice refers to practices and approaches that are considered by the Waste Authority to be outcomes-focussed, effective and high performing, which have been identified based on evidence and benchmarking against comparable jurisdictions.
<b>Commercial and Industrial (C&amp;I)</b>	Solid waste generated by the business sector, State and Federal Government entities, schools and tertiary institutions.
<b>Commercial Waste Services</b>	Refers to drop-off, kerbside, verge side or other waste services provided by the local government to commercial premises. Discretionary service, not offered by all local governments.
<b>Construction and Demolition Waste (C&amp;D)</b>	Solid waste produced by demolition and building activities, including road and rail construction and maintenance, and excavation of land associated with construction activities.
<b>Disposal</b>	Disposal refers to the discharge of waste into the environment, either into landfill or another disposal route. Disposal is the least preferred option in the waste hierarchy.
<b>Drop-off Facilities and Services</b>	<p>Drop-off collections are where reportable waste is delivered to the waste depot (drop-off facility) by the residents of the local government i.e. self-hauled waste.</p> <p>Services are provided to collect waste or recyclable materials. May be temporary or permanent standalone drop-off points for one or more materials, or may form part of other waste facilities (such as landfills or transfer stations).</p> <p><i>Note: this does not include HHW drop-off points</i></p>
<b>Energy Recovery</b>	The process of extracting energy from a waste stream through re-use, reprocessing, recycling or recovering energy from waste.
<b>Household Hazardous Waste (HHW) Facility</b>	<p>Refers to facilities for the drop-off and storage of HHW. Includes consideration of the drop-off and storage procedures and infrastructure, staffing and resourcing, layout, operation and management HHW facilities, etc.</p>
<b>Illegal Dumping</b>	<p>Illegal dumping is the unauthorised discharging or abandonment of waste and is an offence under Section 49A of the <i>Environmental Protection Act 1986</i>. Illegally dumped waste is generally considered to have the following attributes:</p> <ul style="list-style-type: none"><li>• Volume - &gt; 1 cubic metre.</li><li>• Environmental impact - contains items/substances that are potentially noxious or hazardous; potential for environmental harm if material leaks, spreads or degrades.</li></ul>

- Type of waste - commercial or industrial waste; larger-scale household waste.
- Reason for offence - premeditated decision; commercial benefit or avoidance of fee.
- Mode of deposition - deposited using a vehicle.

***Kerbside Waste Services***

A regular, containerised collection service (often a wheelie bin) where the waste or recycling is collected from outside a resident's dwelling.

Can apply to either recycling or general waste (and in a few instances green waste).

***Landfill***

Refers to inert or putrescible waste, registered or licenced landfills.

Activities related to the layout, operation, management and post closure of a landfill.

Includes consideration of the technology and infrastructure on site, staffing and resourcing, and any other waste facilities or services at the landfill site (e.g. green waste or recycling drop off, mulching, tip shop, etc.).

***Litter***

Litter is defined in the *Litter Act 1979* as including:

- All kinds of rubbish, refuse, junk, garbage or scrap; and
- Any articles or material abandoned or unwanted by the owner or the person in possession thereof, but does not include dust, smoke or other like products emitted or produced during the normal operations of any mining, extractive, primary or manufacturing industry.

Litter is generally considered to have the following attributes:

- Volume - < 1 cubic metre.
- Environmental impact - nil or minor actual or potential environmental impact.
- Type of waste - personal litter.
- Reason for offence - unpremeditated, convenient disposal.
- Mode of deposition - deposited by hand (includes dropping by hand from a vehicle).

***Local Government Waste Management***

Refers to waste generated by a local government in performing its functions.

Includes materials such as construction and demolition waste from road and footpath building and maintenance; green waste from parks maintenance; waste generated at local government offices, depots, and facilities.

***Municipal Solid Waste (MSW)***

Solid waste generated from domestic (residential) premises and local government activities.

***Peel Region***

The Peel region is the area defined by the Peel Region Scheme.

***Perth Metropolitan Region***

The Perth metropolitan region or the Perth region is the area defined by the Metropolitan Region Scheme.



<b>Public Place Services</b>	Public place waste services refers to permanent bins provided by local government in public places to collect waste and/or recycling.
<b>Recovery</b>	The process of extracting materials or energy from a waste stream through re-use, reprocessing, recycling or recovering energy from waste.
<b>Reuse</b>	Reuse refers to using a material or item again.
<b>Reprocessing</b>	Reprocessing refers to using an item or material that might otherwise become waste during the manufacturing or remanufacturing process.
<b>Recycling</b>	The process by which waste is collected, sorted, processed (including through composting), and converted into raw materials to be used in the production of new products.
<b>Residual Waste</b>	Waste that remains after the application of a better practice source separation process and recycling system, consistent with the waste hierarchy as described in section 5 of the WARR Act. Where better practice guidance is not available, an entity's material recovery performance will need to meet or exceed the relevant stream target (depending on its source - MSW, C&I or C&D) for the remaining non-recovered materials to be considered residual waste under this waste strategy.
<b>Special Event Waste Services</b>	Special event waste management refers to temporary bins and/or waste collection services provided by local government to manage waste generated at events such as fireworks displays, music festivals, sports events, markets etc.
<b>Sustainable Procurement</b>	Sustainable procurement involves meeting a need for goods and services in a way that achieves value for money and generates benefits not only to the organisation, but also to society and the economy, while minimising damage to the environment.
<b>Transfer Station</b>	Refers to facilities which undertake large scale consolidation of waste or recyclable materials for transfer to another facility for processing or disposal. Activities related to the layout, operation and management of a transfer station. Includes consideration of the technology and infrastructure on site, staffing and resourcing, and any other waste facilities or services available at the site (e.g. green waste or recycling drop off, mulching, tip shop, etc.).
<b>Verge side Waste Services</b>	Verge side collection services are bulk, infrequent (~every 4-6 month or on demand) services. Material is collected from residential 'verge sides' either non-containerised or in a skip provided by the local government. Verge side services may relate to green waste or hard waste.

Includes waste and/or recyclable materials that may be mixed or separated and the source and can include green waste or hard waste.

### **Waste Services**

Waste services are defined by the *Waste Avoidance and Resource Recovery Act 2007* as the:

- Collection, transport, storage, treatment, processing, sorting, recycling or disposal of waste; or
- Provision of receptacles for the temporary deposit of waste; or
- Provision and management of waste facilities, machinery for the disposal of waste and processes for dealing with waste.

## Appendix 1 – Bin Audit Composition Categories

### Recyclable Components

Category	Component	Sub-component	Material	Descriptors
Recyclables	Paper	Recyclable paper	Newspaper	Newspapers, newspaper like pamphlets
			Glossy paper	Magazines (glossy), pamphlets, present wrapping paper
			Office paper	A4 documents paper, writing pads, letters, stationery papers, print/writing paper, envelopes
			Coloured paper	Coloured paper
		Non-recyclable paper	Composite paper	Composite paper items where the weight of the paper is estimated to be greater than the weight of the other materials e.g. envelopes with transparent windows
			Contaminated paper	Paper towel, paper napkins, contaminated paper (soiled, not recyclable)
			Other paper	Non-recyclable paper, greaseproof paper, paper with wax coating, high wet strength papers, telephone books
	Cardboard	Recyclable cardboard	Corrugated cardboard	Corrugated cardboard boxes
			Packaged flat cardboard	Packing boxes, cereal boxes, business cards, folding cartons
			Liquid paper board foil lined and other	UHT/Long life milk cartons, soy milk cartons, some fruit juice cartons, carbon barriers, milk cartons, cardboard with wax coating, paper/disposable cups including biodegradable cups
		Non-recyclable cardboard	Composite cardboard	Composite cardboard items where the weight of the cardboard is estimated to be greater than the weight of the other materials e.g. Pringle boxes
			Contaminated cardboard	Contaminated cardboard e.g. pizza boxes
			Other cardboard	Non-recyclable cardboard
	Plastics	Recyclable plastics	PET #1	Soft drink bottles, juice bottles, some food and mouthwash containers (jam and sauce bottles, peanut butter jars), coloured PET
			HDPE #2	Milk and cream bottles, shampoo and cleaner bottles, HDPE bottles, coloured HDPE
			PVC #3	Cordial and juice bottles, blister packs, plumping pipes and fittings, PVC labels
			LDPE #4	Ice cream container lids, cream bottle lids, squeeze bottles, lids, builder's black plastic, black mulch film, plant nursery bags
			Polypropylene #5	Ice cream containers, drinking straws, pot plant pots, some bottle caps, plastic garden settings, potato crisp bags, compost bins
			Polystyrene #6	Yoghurt/Sour cream containers, hot drink cups, take away containers, plastic cutlery, video/CD boxes, packaging foam, any foam
			Plastic #7 other	Tupperware, mixed unidentifiable plastics, all other resins and multi-blend plastics
		Non-recyclable plastics	Plastic bags	Shopping bags, produce/food bags, resealable bags, bin liners, garbage bin liners, compostable bags
			Plastic film	Cling film
			Composite (mostly plastic)	Composite plastic items where the weight of the plastic is estimated to be greater than the other material items
	Glass	Recyclable glass (CDS glass)	Glass bottles	Beer/Cider/Mixed drinks, soft drink bottles, not broken glass
		Recyclable glass	Glass other	Wine bottles, food and sauce jars
		Non-recyclable glass	Miscellaneous/Other glass	Plate glass (window and windscreen), broken light globes, glass particles, black or ceramic lined glass, broken glass that is more than 50mm in size

Category	Component	Sub-component	Material	Descriptors
	Ferrous (Steel)	Steel	Steel cans	Food cans, pet food cans, tins, empty paint tins
			Steel aerosols	Aerosol cans
			Composite ferrous (mostly ferrous)	Composite ferrous items where the weight of the metal is estimated to be greater than the other material items
			Ferrous other	Beer bottle tops, 100% ferrous items that are not cans/tins/packaging materials
	Non-ferrous (Aluminium)	Aluminium	Aluminium cans	Beer and soft drink cans
			Aluminium aerosols	Aluminium aerosol cans
			Aluminium foil	Clean foil
			Composite non-ferrous (mostly non-ferrous)	Composite ferrous items where the weight of the metal is estimated to be greater than the other material items
			Non-ferrous other	Copper/Brass/Bronze items, other metals (not ferrous/aluminium), aluminium tamper proof seals

### Contaminants / Non-recyclable Components

Category	Component	Sub-component	Material	Descriptors
Organic	Organic	Organic	Food waste	Vegetable scraps, meat scraps, animal food, leftover food, food particles, bones
			Green waste	Grass clippings, tree trimmings/pruning, flowers, tree wood
			Packaged food waste	Liquid containers (quarter full or more), food waste in containers or bags
			Other putrescible	Animal excrement, mixed compostable items
	Other organics	Other organics	Wood/Timber	Milled wood/timbers, wooden skewers
	Textiles	Textiles	Textiles	Natural/Synthetic apparel and bedding, leather, rubber
			Other textiles	Shoes, handbags, millinery
	Earth	Earth	Soil/Dust, inert and broken glass, coal	Vacuum bag contents, soil, rocks, dirt, grit, mud, broken glass less than 50mm in size
			Ceramics, rocks/stones, bricks, concrete	Bricks and stones, cups, bowls, pottery items, concrete
Hazardous	Medical	Medical waste	Pharmaceuticals	Unused prescription medicine, vitamins and minerals
			Medical waste	Band aids, bandages, used surgical gloves, surgical instruments, medical aids/kits, medical devices and radioactive materials, any solid waste generated from a diagnosis, treatment of humans or animals, medical other
			Hypodermic syringes	Hypodermic syringes, epi pens
			Sanitary/Hygiene	Items with bodily fluids, used tissues, tampons/pads, cotton buds
	Pathogenic infectious	Pathogenic infectious	Nappies	Adult and child disposable nappies
			Chemicals	Bleach, shampoo, cleaning products, where the weight of the product is estimated to be greater than the weight of the container
	Hazardous	Hazardous	Paint	Wet/Dry paint
			Batteries household	Batteries (single use and rechargeable), mobile phone batteries
			Batteries other	Vehicle batteries, industrial batteries e.g. UPS
			Fluorescent tubes / light bulbs	
			Oil household, motor and other	
			Building material	
			Hazardous other	Uncategorised hazardous waste
	Electronic waste	Electronic waste	Toner cartridges	Toner cartridges
			Computer equipment	Computer components, peripheral devices, computer printer, photocopier
			Mobile phones	Mobile phones
			Electrical items	Electrical products
Other	Miscellaneous	Miscellaneous	Miscellaneous (specify)	Any items not applicable to other categories



