

City of Wanneroo

Waste Plan

2020-2025





Contents

Mayor's Message	3
1. Introduction	4
1.1 Aims and Objectives.....	4
1.2 The Requirement for a Waste Plan.....	4
2. Legislation, Policy Framework and Strategic Drivers.....	5
2.1 Federal Legislation and Regulation	5
2.2 State Legislation and Regulation.....	5
2.3 Policy Framework.....	6
2.4 Regional.....	8
2.5 City of Wanneroo Key Strategic Drivers	9
3. City of Wanneroo.....	10
3.1 About the City	10
3.2 City Profile.....	10
3.3 City Waste Services.....	11
4. Evaluation	15
4.1 Challenges and Opportunities.....	15
5. Review Process	18
6. Priorities for 2020-2025.....	23
7. Appendix A	28
8. Glossary & Abbreviations.....	29
9. References.....	31



Mayor's Message

The City of Wanneroo is proud to present our Waste Plan for 2020-2025.

The publication of this document follows an extensive review into how the City manages and reduces its waste, recycling and organic materials. Through this process, the City has identified areas of opportunity, and has subsequently set its sights on making significant improvement in the coming years.

This Waste Plan summarises how Council will deliver its waste management services over the next five years, and outlines the City's priorities and measurable targets with those detailed in existing federal, state and local government strategic and policy frameworks.

Developed in collaboration with the Department of Water and Environmental Regulation and the State Government's Waste Avoidance and Resource Recovery Strategy 2030, this document is further supported by valuable feedback received from the community and other vital industry stakeholders.

By endorsing this plan, Council is embarking on a journey characterised by new approaches and ambitious targets, starting with the delivery of a three-bin system that separates domestic waste and garden organics by the end of 2021.

As this document illustrates, Council is committed to minimising the amount of waste it generates; reducing the environmental impacts of waste generation and disposal; proving a cost-effective service to ratepayers; and providing the necessary infrastructure and service to support economic development in the City of Wanneroo.

The City looks forward to continuing its work with partners and the broader community to implement the actions outlined in this plan. Together, it is my hope that we can change our perspective around waste, continue to recover resources wherever possible, and build towards creating a more circular economic and sustainable future for all our residents.

Mayor Tracey Roberts JP



1. Introduction

In 2016, the City of Wanneroo (the City) released its Strategic Waste Management Plan (SWMP) 2016-2022 to deliver waste and recycling services that achieved a balance between accessibility, affordability and sustainability.

To avoid confusion, the City has renamed the 'SWMP' to the 'Waste Plan' to align with the Waste Authority's Waste Avoidance and Resource Recovery Strategy 2030 (Waste Strategy).

The previous Waste Plan provided guidance to the City for the delivery of waste services through a framework of priorities for improving waste management initiatives designed to divert waste from landfill and improve recycling practices. The overarching objectives of the Waste Plan were to:

- Promote the delivery of efficient and effective waste management solutions;
- Reduce the City's ecological footprint, where possible;
- Align operations and disposal options with the principles of the waste hierarchy;
- Foster a partnership approach with community and industry; and
- Develop a sound governance model for waste management for the City.

The current Waste Plan has been reviewed and updated to reflect contemporary initiatives and issues, to understand achievements to date, and to refresh actions based on change within the waste and recycling industry and the Western Australian State Government's future waste strategies.

This Waste Plan outlines how the City will manage its waste management services over the next five years. It sets the City's priorities and measurable targets in alignment with federal, state and local government strategic and policy frameworks.

This Waste Plan is structured around five key focus areas as follows:

1. Waste services;
2. Waste infrastructure;
3. Policies and procurement;
4. Data; and
5. Behaviour change programs and initiatives.

1.1 Aims and Objectives

With a focus on five key areas, this Waste Plan aims to define the City's current situation of 'where we are now' in regards to the management of waste and 'where we want to be'. By identifying the gaps between our current situation and future aspirations, the required actions have been developed and are listed in the Implementation Plan in Section 6: Priorities for 2020-2025.

Commitment to improving waste management practices significantly contributes towards achieving objectives, whilst enabling the City to responsibly provide a level of service that the community expect.

1.2 The Requirement for a Waste Plan

Local governments are required to implement waste plans that align waste processes with the Waste Strategy.

All local governments and regional councils located in the Perth metropolitan and Peel region (Perth and Peel regions), and major regional centres that provide waste services, are required to develop waste plans for the 2020-21 financial year, and perform waste management functions in accordance with their waste plan.

Waste plans provide a link between the targets and objectives of the Waste Strategy and local government waste management initiatives by:

- Aligning local government waste management activities with the Waste Strategy;
- Mapping current performance and establishing a benchmark to achieve Waste Strategy targets;
- Monitoring progress of local government achievements of Waste Strategy targets; and
- Designing programs and activities that support the implementation of the waste plan.



2. Legislation, Policy Framework and Strategic Drivers

Within Australia, each tier of government (federal, state and local) plays an important part in guiding how waste is managed. This Waste Plan aligns with all of these acts, policies, targets and objectives.

2.1 Federal Legislation and Regulation

The Federal Government possesses limited authority to introduce national legislation for waste management and resource recovery. The following is a summary of key documents that have been considered in development of this Waste Plan:

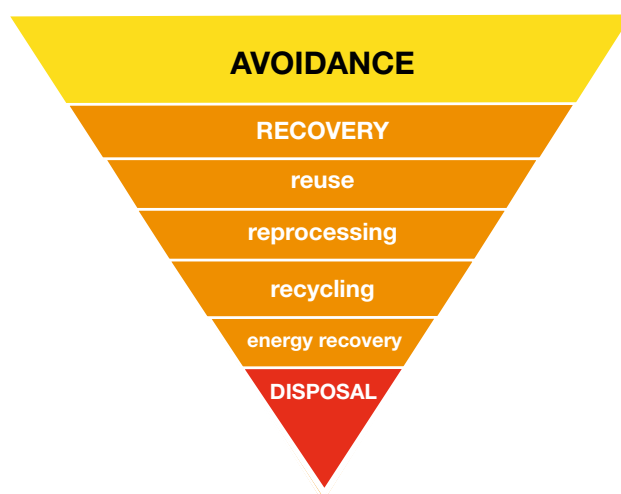
- Recycling and Waste Reduction Act 2020;
- Environmental Protection and Biodiversity Conservation Act 2016;
- National Greenhouse and Energy Reporting Act 2007;
- Clean Energy (Consequential Amendments) Act 2011;
- Clean Energy Legislation Amendment Act 2012;
- Product Stewardship Act 2011;
- National Waste Policy, 2018;
- Environmental Protection Act 1986; and
- The Litter Act 1979.

2.2 State Legislation and Regulation

The Local Government Act 1995 confers powers to the City, which include the provision of a waste removal service to the City's residents. The Waste Avoidance and Resource Recovery Act 2007 (WARR Act) is the major waste management legislation in Western Australia. The WARR Act established the Waste Authority and has a particular focus on prescribed local government mechanisms, including:

- Minimum level of waste services to be provided by local councils;
- Requirement for the development of waste plans by local councils;
- Requirement for waste local laws;
- Need for the permitting of facilities which receive certain waste materials; and
- Adherence to the principles of the waste hierarchy as shown in **Figure 1**.

Figure 1: Waste Hierarchy



Avoid producing waste: selecting products that require the least resources to produce.

Recovery: valuable materials from the waste stream, such as organics

Reuse: existing products, repair, sell or donate items

Reprocessing: using materials to make new products

Recycling: converting waste into a reusable material, such as composting

Energy Recovery: using waste to produce energy

Disposal: materials that can't be recovered, reused, reprocessed or recycled

Governments across Australia commonly adopt the waste hierarchy as the ideal structure for moving towards sustainable resource management. The waste hierarchy states that waste should be managed in order of preference: avoidance, recovery, reuse, reprocessing, recycling, energy recovery, with disposal as the last resort.

The Waste Avoidance and Resources Recovery Act 2007

The WARR Act was amended in 2018 to facilitate the implementation and operation of a container deposit scheme (CDS) in WA. The CDS is an extended producer responsibility scheme that allows consumers to return empty beverage containers to a refund point in exchange for a 10-cent refund. The CDS is intended to complement kerbside recycling and existing waste services. The refund encourages people to collect and recycle beverage containers consumed away from home.

Key features of WA's CDS align with the existing and proposed schemes in other states and territories in terms of structure, operations, labelling and value of the deposit.

The WARR Act is currently under review, and industry expects that changes will be made to strengthen the ability of the State Government to ensure that the newly set targets in the Waste Strategy are met.

The Waste Avoidance and Resource Recovery Levy Act 2007

The Waste Avoidance and Resource Recovery Levy Act 2007 is an economic instrument designed to reduce waste to landfill by imposing a levy on certain waste received at disposal premises. The levy dissuades the use of landfill by:

- Increasing the cost to dispose of waste to landfill;
- Modifying behaviour in the waste management sector; and
- Supporting programs that aim to reduce waste going to landfill.

One of the actions of the Waste Strategy is to review the scope and application of the waste levy and to establish a schedule of future waste levy rates, with the initial schedule providing a minimum five-year horizon.

The Waste Avoidance and Resource Recovery Regulations 2008

The WARR regulations require local governments to make and lodge annual returns with the CEO of the Department of Water and Environmental Regulation

(DWER) on or before 1 October each year. The annual returns must contain information for the most recently completed financial year relating to waste and recycling data.

2.3 Policy Framework

The City's Waste Plan has been developed to align with state and federal policy frameworks. Key state and federal policies are described in this section.

Federal Policy

Recycling and Waste Reduction Act 2020

The new Recycling and Waste Reduction Act 2020 came in to force on 9 December 2020. The new legislation will implement the Australian Governments' (federal, states and territories) joint 2020 commitment to ban the export of glass, plastics, tyres and paper. From 1 January 2021, the export of waste glass was regulated. Rules for the export of waste plastics, tyres and paper will be phased in over time. Rules for waste plastics will come into effect on 1 July 2021 (stage 1), and 1 July 2022 (stage 2), tyres on 1 December 2021 and paper on 1 July 2024. Exporters of these materials will need a licence to export by the required date.

National Waste Policy 2018

The National Waste Policy 2018 sets a clear direction for Australia for the next 10 years. The policy encompasses wastes in the municipal, commercial, industrial, construction and demolition waste sectors. The policy provides a framework for collective action by businesses, government, communities and individuals until 2030. The aims of the National Waste Policy are to:

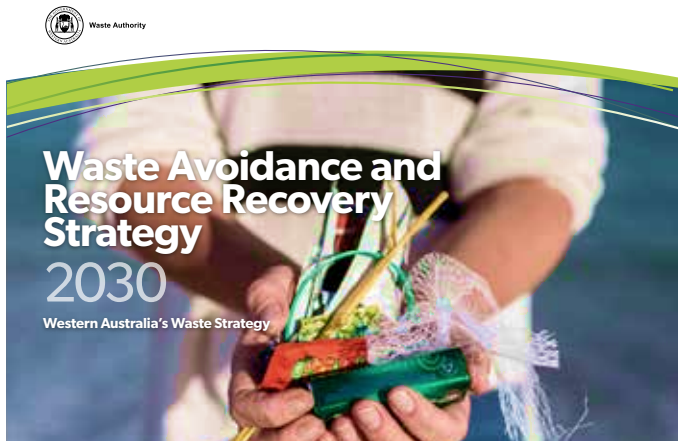
- Avoid waste – prioritise waste avoidance, encourage efficient use, reuse and repair; design products so waste is minimised and they are made to last;
- Improve resource recovery;
- Increase use of recycled material and build demand and markets for recycled products;
- Better manage material flows to benefit human health, the environment and the economy; and
- Improve information to support innovation, guide investment and enable informed consumer decisions.



State Policy

Waste Avoidance and Resource Recovery Strategy 2030

In February 2019, the WA Government released the Waste Avoidance and Resource Recovery Strategy 2030 (Waste Strategy).



The Waste Strategy aims to build on the progress of the first Western Australian Waste Strategy: Creating the Right Environment, 2012.

It provides a long-term strategy for the state, for the continuous improvement of waste management, benchmarked against best practice. Building on the previous strategy, which concentrated on landfill diversion, it now includes targets for waste avoidance, resource recovery and environmental protection, while maintaining the diversion of waste disposed to landfill.

The Waste Strategy's vision states, "Western Australia will become a sustainable, low-waste, circular economy in which human health and the environment is protected from the impacts of waste". The Waste Strategy places key emphasis on the omission of organics from the residual waste bin, encouraging all local governments to transition to a food organics and garden organics (FOGO) system by 2025, including the omission of organics from landfill and waste to energy.

The Waste Strategy's overall objectives and state targets are illustrated in **Figure 2**.

Other targets specified in the Waste Strategy, which are relevant to local governments, include:

- From 2020 - recover energy only from residual waste.
- 2025 - All local governments in the Perth and Peel regions provide consistent three bin kerbside collection systems for the collection of FOGO;
- 2030 - Move towards zero illegal dumping;
- 2030 - Move towards zero littering;

Figure 2: Waste Strategy Targets

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.
<ul style="list-style-type: none"> • 2025 – 10% reduction in waste generation per capita • 2030 – 20% reduction in waste generation per capita 	<ul style="list-style-type: none"> • From 2020 – Recover energy only from residual waste • 2025 – Increase material recovery to 70% • 2030 – Increase material recovery to 75% 	<ul style="list-style-type: none"> • 2030 – No more than 15% of waste generated in Perth and Peel regions is landfilled • 2030 – All waste is managed and/or disposed to better practice facilities



Increased media focus on waste

2017 and 2018 saw an increased media focus on how much society wastes as well as what actually happens to that waste after it has been collected.

Examples include:

- ABC's *War on Waste* television series and podcast;
- ABC's *Four Corners* investigation into how the waste sector works; and
- A great deal of media attention around the impact to Australia's recycling system resulting from implementation of China's National Sword Policy.



The heightened media attention has engaged new people in the community and deepened the understanding of those who were already engaged. Local governments across Australia, including the City, have responded to their communities by providing increased levels of information on the City's waste and other recycling services, and how to avoid waste and recycle more.

Changes to the recycling industry in WA

China introduced very stringent restrictions on the importation of waste through its National Sword Policy on 1 January 2018. This policy has significantly impacted the global market for processed recyclable materials, including recyclable material currently collected in WA. The policy aims to improve China's national environmental standards and strictly prohibits the importation of recyclable waste with contamination levels exceeding 0.5 per cent, compared to previous limits of approximately 10 per cent. Consequently, the State Government created the Waste Reform Advisory Group to advise on waste management issues in WA. The group comprises of representatives from DWER, the Waste Authority, local government, waste industry entities, material recovery operators, community groups and non-government organisations.

2.4 Regional

The City is one of seven member councils of Mindarie Regional Council (MRC). MRC's Corporate Business Plan 2018 – 2037 provides a shared vision for waste management in the region and demonstrates how MRC will deliver environmentally sustainable waste management for its communities. The plan mirrors the strategic direction adopted by all member councils.

In 2014, MRC commissioned a report into waste processing infrastructure options, to provide an assessment of the most appropriate regional waste infrastructure approach for its members.

The report modelled the application of different infrastructure scenarios for the region, their potential to reach diversion targets and recommendations on the most appropriate infrastructure for the region.

The report recommended the development of a 'waste precinct model' that includes a sorting shed, transfer station, materials recycling facility and a waste to energy plant. This development will assist member councils to increase their municipal solid waste diversion rate to 65 per cent or greater. To date, there has been no major progress on this recommendation.

Waste to energy

Turning waste into energy is an opportunity to extract value from waste that would otherwise be disposed to landfill. Generating energy from waste can add renewable energy to WA's energy mix and is in alignment with the Waste Strategy, if from 2020 the only waste that goes to the facility is residual waste.

There are currently two waste to energy facilities being built in the Kwinana/Rockingham areas. These are likely to come online from 2021/22. Given its control of member councils' residual waste materials (including the City's), MRC is likely to look to disposing of these materials at either of these facilities when they open. Assuming all member councils move to a three-bin FOGO collection system, when available, this will increase diversion rates.



2.5 City of Wanneroo Key Strategic Drivers

The City has prepared a number of key strategic documents that support its commitment to sustainable waste management which are:

1. Strategic Community Plan 2017/2018 – 2026/2027;
2. Corporate Business Plan 2017/2018;
3. Waste Management Policy 2017;
4. Strategic Waste Management Plan 2016-2022;
5. Waste Services Service Delivery Review 2018 Transition Plan; and
6. Waste Local Law 2016.

The City's Strategic Community Plan promotes 'reduce, reuse and recycle waste', as illustrated in the **Figure 3** below:

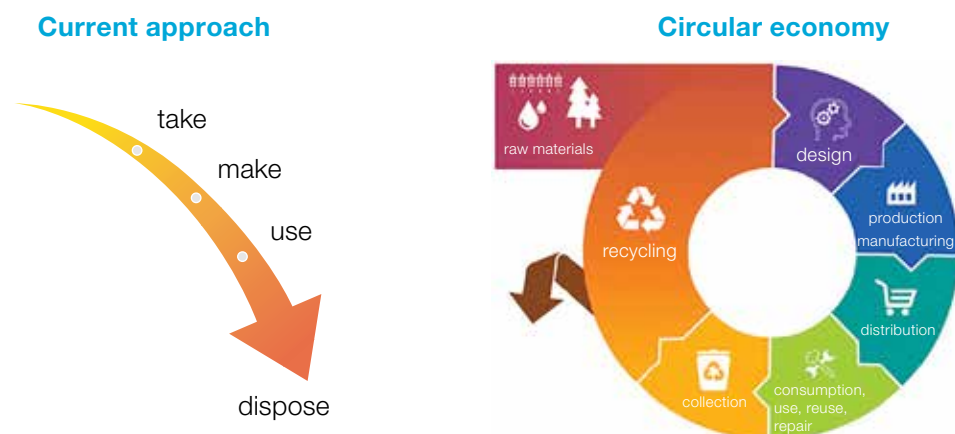
Figure 3: Reduce, reuse, recycle (Strategic Community Plan)

Outcome 3.3 Reduce, reuse, recycle waste	
Strategy How will we get there?	3.3.1 Treat waste as a resource 3.3.2 Foster a partnership with community and industry to reduce waste 3.3.3 Create and promote waste management solutions
Measures How will you know our progress?	Lead Measures: <ul style="list-style-type: none"> • Strategic Waste Management Plan 2016-22 • Delivery of Waste management Education programs Lag Measures: <ul style="list-style-type: none"> • Increase in customer satisfaction levels with recycling • Reduction in waste generated per capita in the City • Reduction of diversion rate of waste to landfill – kg per capita (65% by 2020) • Increase in total volume of recycled waste to residual waste ratio

The vision of the City's Waste Plan is to rethink our approach to managing waste, by viewing our waste streams as valuable material resources. Making better use of our resources and reducing the loss of materials, as wastes, from our economies will deliver benefits economically and environmentally to the City. The move to a circular economy (**Figure 4**), replacing out-dated industrial take-make-consume and dispose models, is essential if we are to make better use of our resources and become more resource efficient.

The strategic approach of the Waste Plan places a stronger emphasis on preventing wastes and promoting material reuse activities. The Waste Plan will also focus on enhancing the collection of quality materials from discarded waste to build on the positive progress made in recycling. The Waste Plan will strive to improve the recovery of organics by maximising the resource value embodied in residual waste.

Figure 4: Circular Economy Approach (Waste Strategy)



3. City of Wanneroo

3.1 About the City

The City of Wanneroo is an expanding and thriving local government on the northern fringe of the Perth metropolitan area, located approximately 12km from the Perth CBD at its nearest point and 62km at its furthest point.

The City of Wanneroo covers an area of 685.1km², has 32km of coastline and is made up of 36 suburbs (Source: ABS Census Cat. 2001). It is Western Australia's fastest growing local government authority.

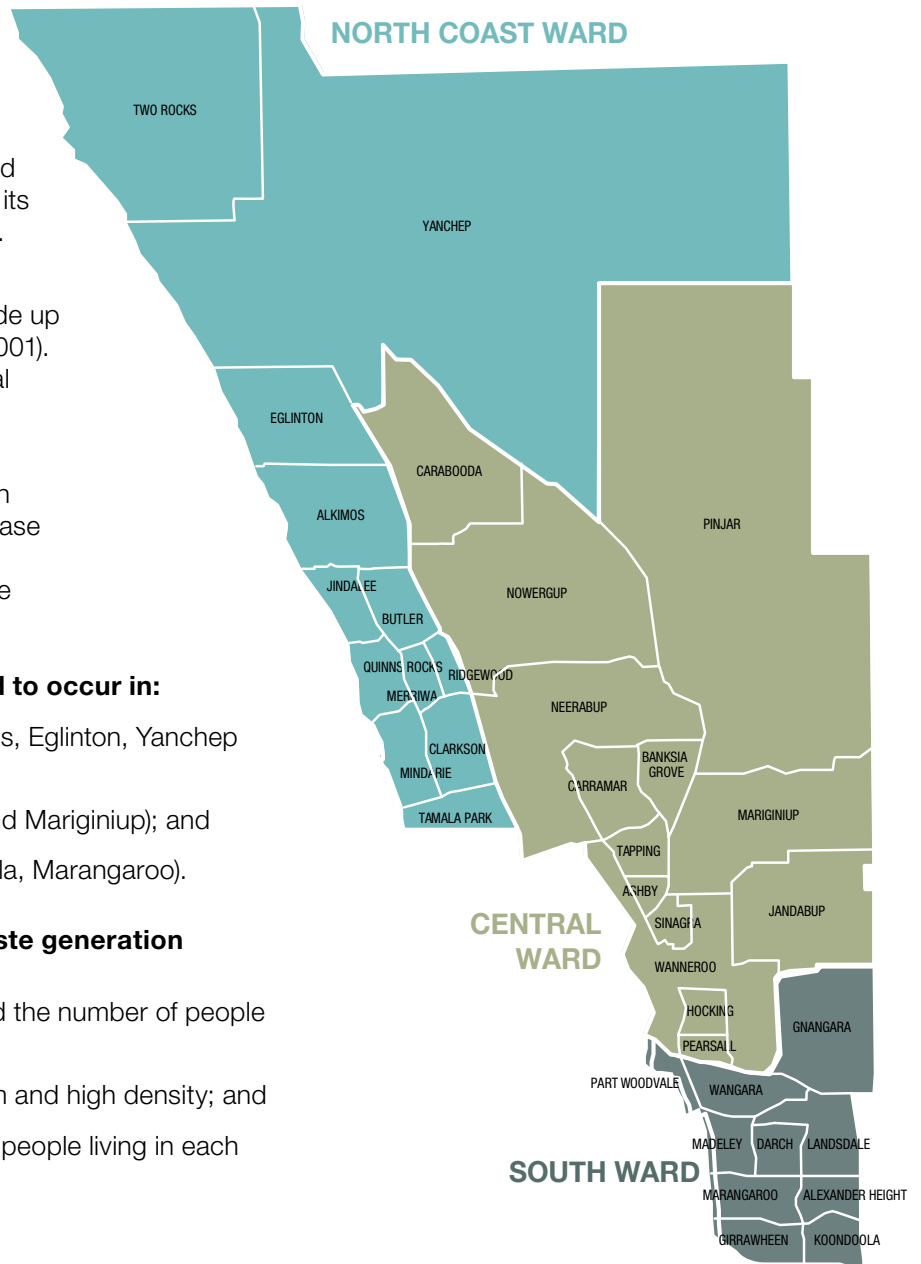
For 2021, the estimated population figure is 208,904. By 2031 the forecasted increase in population is 266,556 an approximate increase of 57,652 people and approximately 22,112 households that the City will need to provide services to¹.

The majority of this growth is expected to occur in:

- Northern coastal growth corridor (Alkimos, Eglinton, Yanchep and Two Rocks);
- East Wanneroo (Gnangara, Jandabup and Mariginiup); and
- Infill growth areas (Girrawheen, Koondoola, Marangaroo).

Population variables that influence waste generation include:

- Demographics – the age of residents and the number of people with children;
- Dwelling type – detached house, medium and high density; and
- Household composition – the number of people living in each household.



3.2 City Profile

In 2020, the estimated population figure in the City was 206,860¹. According to the 2016 Census², the median age of residents is 39 years with:

- 25% aged under 20 years;
- 21% aged 60+;
- 45% of households are made up of couples with children;
- 1.8 children per family; and
- Three people per dwelling.



¹idcommunity – demographic resources

²ABS 2016 Census QuickStats

3.3 City Waste Services

In 2018, the City completed an integrated review of Waste Services' operations to identify opportunities for improvements in waste management, an outcome of which was the Waste Services Service Delivery Review 2018 - Transition Plan. The Transition Plan (TP) (**Appendix A**) highlights the pathway required to move from current operations to proposed future operations. It is divided into four phases, illustrating the journey to be undertaken over a number of years. The TP concluded that the City should implement a separate organics kerbside collection service to maximise recovery of this valuable resource, as endorsed at the 2 July 2019 Ordinary Council meeting.

Waste is generated by all sectors throughout the community. Choices around consumption determine

the quantities and type of waste generated, whilst community behaviour, in partnership with infrastructure and services, determine how much waste is actually reused, recycled and recovered.

Current in-house waste and recycling kerbside collection services are provided to approximately 73,500 households within the City of Wanneroo, along with other waste disposal options for residents, the costs of which are covered by the annual Waste Service Charge. The average City household disposes of approximately one tonne of waste through kerbside collection bins each year.

Table 1 displays the number of requests for new bins at newly built properties alongside the number of bin repairs undertaken by the City in recent years.

Table 2 displays the waste management options available to the City's residents, disposal methodologies and tonnage for the most recent financial year 2019/20.

Table 1: Number of bin requests per year

Year	New bin requests (for new built homes)	Additional bin requests existing properties	Bin repairs
2014-15	3,208	100	3,875
2015-16	3,607	95	3,069
2016-17	2,558	84	3,992
2017-18	2,005	111	4,339
2018-19	1,420	102	4,210
2019-20	1,125	135	4,410

Table 2: City's waste management options

	Service availability	Waste materials	Waste disposal point	Disposal outcome	2019/20 Total tonnes generated per annum
General waste kerbside collection (Green lid bin)	Weekly	Food waste, green waste, non recyclables	MRC RRF	Soil conditioner manufacture/landfill disposal	58,950
Recycling kerbside collection (yellow lid bin)	Fortnightly	Card, paper, plastic, tins, glass	Suez	Reprocessing for commodities manufacturers	17,575
Bulk rubbish verge collection	Annual	Bulk junk	Suez Transfer Station	Recycled	6,777 (Collected) 3,059 (Recovered) 3,718 (Landfilled)
Bulk green waste verge collection	Annual	Green waste	Western Tree Recyclers	Mulch manufacture	4,152
Wangara Greens Waste Drop-Off	Weekends/ public holidays	Green waste	Western Tree Recyclers	Mulch manufacture	4,921
Council facilities and parks	As Required	Litter, vergeside dead animals	MRC Tamala Park Landfill	Landfill disposal	529
Litter/illegal dumping	As Required	Various	MRC Tamala Park Landfill	Landfill disposal	270



Kerbside general waste collection

Household general waste is treated at MRC’s Resource Recovery Facility (RRF) and processed into a soil enhancer. Residues from this process are sent to landfill at Tamala Park. In 2018/19, approximately 50 per cent of all materials received at the RRF were diverted from landfill. The City has seen a decrease in general waste from 2016/17 to 2018/19 (**Figure 5**).

This can be attributed to increased community awareness about waste avoidance through media stories, specific waste education carried out by the City and the effects of the current economic climate on residents’ spending habits, and therefore waste production. In 2019/20 waste generation increased which can be attributed to COVID-19 and more people staying at home.

Kerbside recycling collection

Plastic, glass, cardboard and metal recycling products are disposed of in yellow lidded bins. The waste is treated at a private materials recovery facility (MRF) where waste is separated for onward processing into new products. Kerbside recycling also increased in 2019/20 (Figure 6) due to COVID-19 restrictions and more people staying at home.

Vergeside bulk hard waste collection

Residents receive one bulk hard waste collection per year, which allows disposal of bulky materials unable to be disposed of via their kerbside bins. In 2017/18 bulk hard waste was managed through a MRF for a period of nine weeks to increase recycling rates and divert waste from landfill. Scrap metal and mattresses were also separated out on the vergeside to allow unique recycling processes to be applied. The recovery rate for the nine weeks was 18 per cent. The 2018/19 bulk hard waste was processed through the MRF for the full bulk collection cycle of 28 weeks and a recovery rate of 39 per cent was achieved. Similarly, for 2019/20 a full collection cycle was processed through the MRF, achieving a recovery rate of 45 per cent.

Figure 5: General waste

General waste disposed each financial year (tonnes)

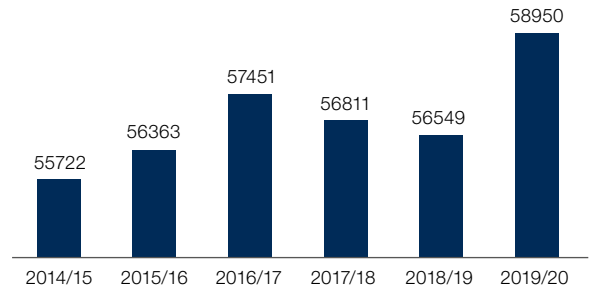


Figure 6: Recyclables

Recycling collected per financial year (tonnes)

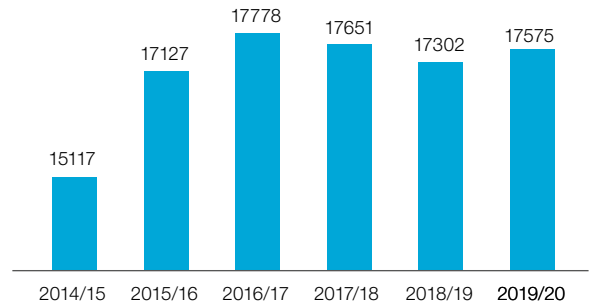
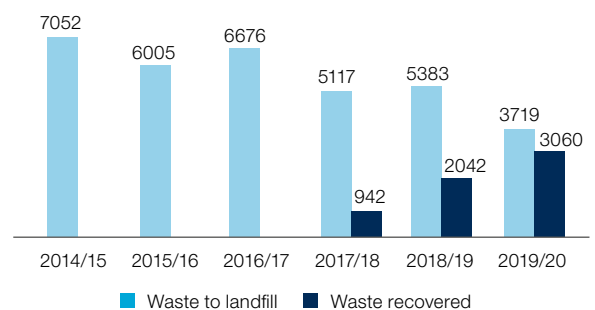


Figure 7: Bulk hard waste

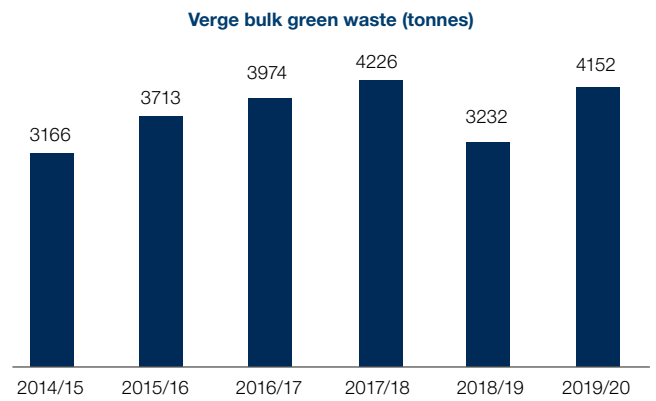
Bulk Hard Waste (tonnes) landfilled and recovered per financial year



Vergeside bulk green waste collection

Residents receive one bulk green waste collection per year, which allows for the disposal of large quantities of garden waste that are unable to be disposed of in their kerbside bin. This material is compacted in rear-loading trucks and delivered to a private facility, where it is shredded into green waste.

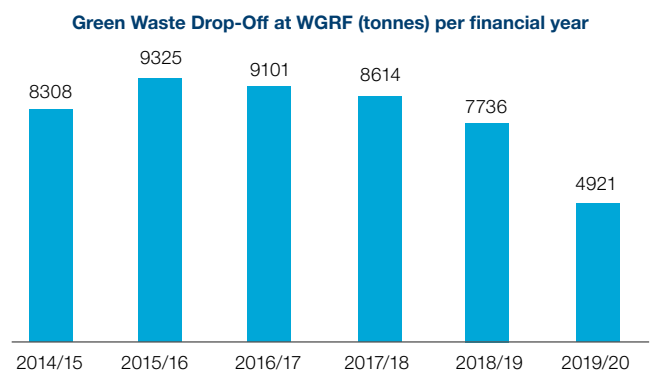
Figure 8: Vergeside bulk green waste



Green waste drop-off

Residents can also dispose of green waste at the Wangara Greens Recycling Facility (WGRF), which is owned and operated by the City. The green waste is removed from site and processed into shredded green waste and made available to residents.

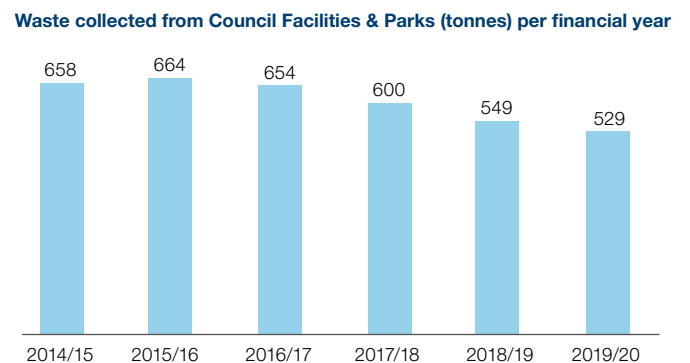
Figure 9: Green waste drop-off at WGRF



Council facilities and parks

The City collects general waste from bins in public parks, major bus stops and City facilities. Tonnages collected in recent years are illustrated in Figure 10.

Figure 10: Council facilities and parks



Illegal dumping and litter

Illegal dumping refers to the unauthorised disposal of large quantities of rubbish on the City's verges or roadways. Litter picking is undertaken to maintain amenity in the community space and protect the environment where possible. In recent years, the City has undertaken illegal dumping/litter initiatives in an attempt to stop continuous annual increases that were experienced previously, employing various strategies to reduce illegally dumped waste. As a result, the City has reduced illegal dumping from 757 tonnes 2015/16 to 270 tonnes in 2019/20 as illustrated in **Figure 11**.

Annual drop-off day

The City runs an annual drop-off event at Ashby Operations Centre for e-waste, tyres, textiles and cardboard. The event targets problematic waste items that either should not be disposed of via kerbside bins or need to be taken to a specialised drop off location for recycling. Since 2018, the City has included the opportunity for residents to drop off a maximum of four tyres per household in a successful effort to reduce the impact of illegally dumped tyres on City managed land. In 2019 and 2020, a total of 30 tonnes of tyres were responsibly dropped off for disposal.

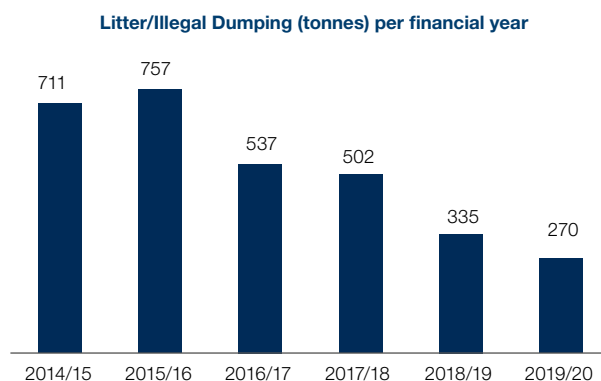
Mindarie Regional Council (Tamala Park)

As mentioned previously, the City is one of seven member councils of Mindarie Regional Council (MRC). The City's residents can dispose of the following items free of charge at Tamala Park community drop off; cardboard, polystyrene, glass bottles and jars, aluminium cans, metal items, white goods, electronic items, batteries, waste oil and household hazardous waste (paints, chemicals, aerosols).

Waste education

Since 2017, the City has employed one dedicated waste education officer and collaborated with a number of education program providers that engage schools and the community. The City has developed a Waste Education Plan 2018/19–2022/23 to provide the foundations for community education and communication programs in relation to waste, and aligns with the objectives of the Waste Authority's Waste Strategy (avoid, recover, protect).

Figure 11: Litter and illegal dumping



4. Evaluation

4.1 Challenges and Opportunities

Population growth³

The City of Wanneroo is one of the fastest growing local governments in WA and the fifth fastest growing in Australia. Data suggests that the City will grow in population by 1.6 per cent each year until 2026. The number of City residences is expected to grow on average by 3,420 per annum. An increase in population growth ultimately leads to an increase in waste generation.

Community consultation

The City recognises that engaging with the community results in increased community participation and support. By providing information to and consulting with individuals and organisations, a more collaborative decision making process can be achieved.

As part of the Waste Services Service Delivery Review 2018, a community survey was undertaken over a 29-day period during May and June 2018. The survey received 1,280 responses and assisted the City in understanding what its residents, customers and stakeholders required and valued in relation to the future of waste management. The feedback collected from the survey informed the recommendations and targets detailed within this Waste Plan.

The survey also indicated that waste is seen to be an important issue amongst the community with school programs and advert campaigns seen as the most appropriate means to educate the community. There is an appetite for additional waste communications and education with rates letters, email and social media perceived as the key channels to distribute waste information.

Nearly nine out of ten residents (89 per cent) who responded to the City's 2018 Waste Services community survey expressed a desire for the City to separate food and garden (FOGO) waste in an effort to promote recycling.

Three-quarters (75 per cent) of those surveyed stated their approval of an additional kerbside collection service to dispose of the separately collected FOGO materials.

The vast majority of respondents (85 per cent) felt it was important to increase recycling efforts, but only 15 per cent were in favour of larger recycling bins to accommodate for greater volumes of recyclable packaging and materials.

³ Population and household forecasts, forecast.id, May 2020.



Only five per cent of residents who completed the survey signalled a desire to receive an additional 240L recycling bin, while 59 per cent expressed a preference for weekly recycling bin collections – however, these same residents were strongly against paying more to receive weekly recycling collections.

Among those against a fee increase, 78 per cent indicated a preference for a larger recycling bin.

In May/June 2020, approximately 28,800 360L recycling bins were rolled out across the City.

Waste Targets

The City seeks to set targets which not only align with those specified for local governments in the Waste Strategy, as a minimum, but also with the stated environmental sustainability aspirations of the majority of residents, as highlighted in the City's recent Climate Change Adaptation and Mitigation Strategy community engagement consultation process.

In response to this community feedback, the City has decided to set waste reduction targets that align with the overall state targets of 10% reduction per capita by 2025, and 20% reduction per capita by 2030, as set out in **Table 3**. These exceed the Waste Strategy's local government targets.





Table 3: Waste targets

Key document	Target	City's performance against targets
WA Waste Strategy: Creating the Right Environment	50% waste recovered by 2015	Target met in 2014, 2015, 2016, 2017, 2018, and 2019 with an average diversion rate of 54%
	65% waste recovered by 2020	
Waste Avoidance and Resource Recovery Strategy 2030	<ul style="list-style-type: none"> • Increase Municipal Solid Waste (MSW) recovery to 65% in the Perth and Peel regions by 2020 • Increase MSW recovery to 67% in the Perth and Peel regions by 2025 • Increase MSW recovery to 70% in the Perth and Peel regions by 2030 • 10% reduction in MSW generation per capita by 2025* • 20% reduction in MSW per capita generation by 2030* <p><small>*Based on 2014/15 generation rates</small></p>	The City will research and implement new programmes over the next five to ten years to assist the City to meet these targets.

Note: The Waste Strategy MSW generation targets for LGAs are a minimum of 5% & 10% reduction in MSW per capita by 2025 and 2030, respectively. The City will meet these targets and aims for 10% and 20% reductions in MSW per capita, aligning it to the State's overall waste reduction target. The City met the 10% reduction target in 2018/19, well in advance of Waste Strategy requirements.

General waste and recycling audit

Throughout 2017-2019, an audit was conducted of waste samples collected from the City's kerbside general waste and recycling bins, to gain a deeper understanding of their material composition.

The audit results concluded that 27 per cent of material in general waste bins was in fact commingled recyclable material that should have otherwise been disposed within the yellow-lid recycling bin (illustrated in **Figure 12**).

Plastics, paper and cardboard made up the largest fraction of commingled recyclable material in audited general waste bins, as illustrated in **Figure 13** below.

Figure 12: Composition of general waste bin

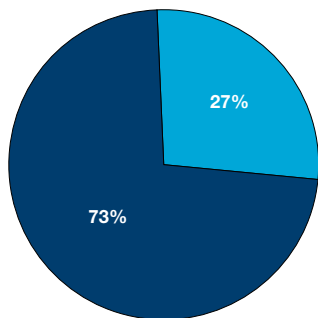
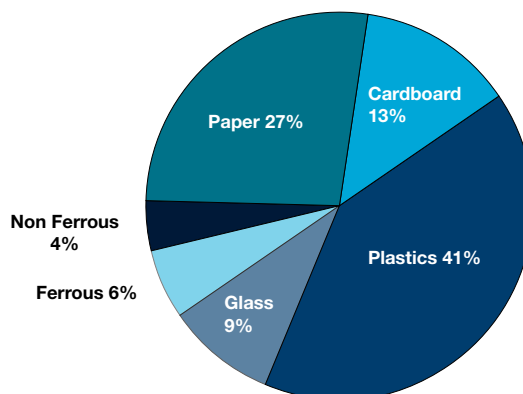
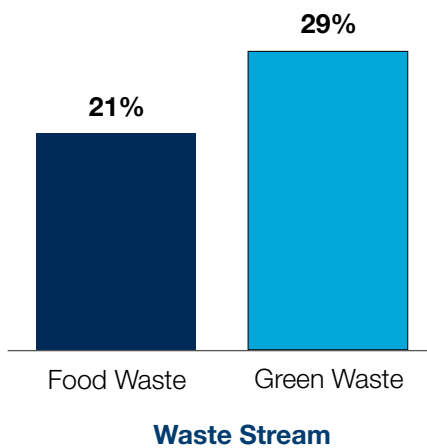


Figure 13: Recyclables in general waste bin



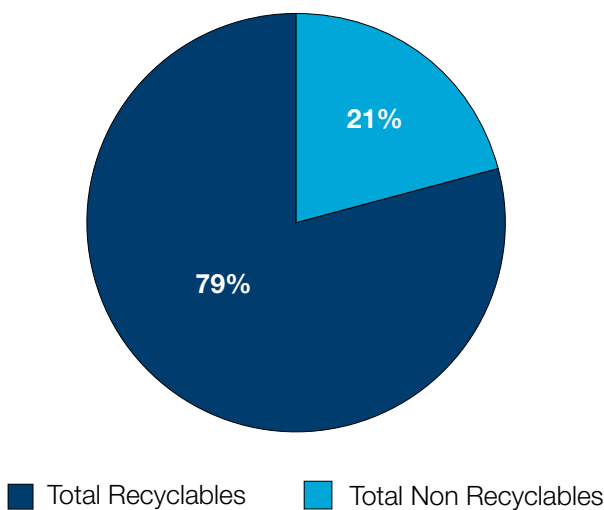
■ Total non-recyclables ■ Total Recyclables

Figure 14: Composition of organic material in general waste bin



Audited bins also comprised 29 per cent garden organics (GO) and 21 per cent food organics, indicating that 50 per cent of general waste bin material was available for FOGO processing (**Figure 14**).

Figure 15: Composition of recycling bin

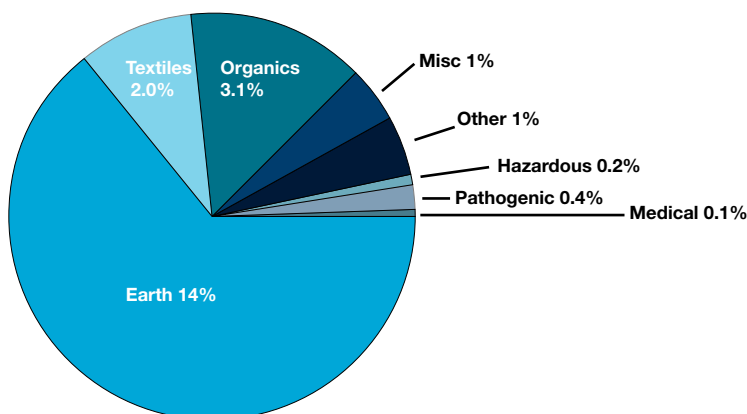


As illustrated by **Figure 15**, the City's audit of yellow-lid recycle bins returned a contamination level of 21 per cent. Contaminant materials comprised earth, textiles and organics.

There is now greater pressure to increase sorting of materials to ensure low contamination rates. The City's Great Recycling Challenge indicated that causes of contamination can be because households believe they are sorting correctly but not fully understanding what is accepted. This is the case with soft plastics and polystyrene, which were once accepted in the recycling bin by MRFs, but are now considered contamination.

Figure 16 provides a snapshot of other types of materials that contaminate yellow-lid recycling bins. Impacts of contaminants can vary and are not always best identified, purely by volume present. For example, disposing of textiles within this bin damages the recycling plant and equipment during processing as it can be caught in the working mechanical parts. Moreover, as the waste is picked and sorted on conveyor belts, medical and pathogenic waste can expose sorting personnel to increased risk of incident or injury. Both forms of contamination significantly impact the efficiency of a MRF.

Figure 16: Non-recyclables in recycling bin



5. Review Process

The Waste Plan 2016-2022 was developed to provide guidance to the City in the delivery of its waste management services.

During this time, the external regulatory environment had a significant impact on economic instruments used to advance particular outcomes at state and local levels, such as an increase in the landfill levy and also an increase in landfill gate fees. The Waste Strategy was also reviewed with a greater emphasis on organics recovery.

This Waste Plan, together with previous achievements, confirms the City’s approach for resource recovery improvements to meet new targets allied with the Waste Strategy. There are a number of high-level principles that have been carried over and underpin this new plan:

- Minimising waste generation and avoiding wasteful consumption;
- Recovering more value from waste and treating it as a resource, ultimately improving recycling performance; and
- Shared responsibility, embracing a low waste producing society requires behavioural changes across the City.

Table 4 outlines the status of the recommendations from the previous Waste Plan.

Table 4: Waste Plan 2016-2022 objective/achievement

Recommendation	Output	Indicative timeframe/ status	Achievement/conclusion
1. Measure and understand our waste sources			
Investigate waste volumes and variable waste practices per suburb	Undertake bin composition audits	2016-2017 Completed	<ul style="list-style-type: none"> • General waste and recycling bin audits were completed throughout 2017-2019 and will be continued. The outcome of these audits have informed the Waste Plan 2020-2025
Analyse audit results	Document bin composition findings and integrate into waste future planning initiatives	2017-2022 Completed	<ul style="list-style-type: none"> • A full suite of analytical data has been developed and is reported regularly. The outcome of which has informed the Waste Plan 2020-2025. • Understanding the composition of materials in kerbside bins has allowed the City to develop a high-level service delivery review and business case, which informs future waste management objectives. • Material composition findings of kerbside bin audits have informed Council of the need for a third bin for the source separation of organic materials, allowing the endorsement and implementation of a three-bin kerbside collection system. • The Great Recycling Challenge (GRC) initiative was completed in December 2019. The GRC was a six-week initiative whereby residents were randomly selected and their bins visually audited to establish an understanding of recycling and contamination. Results concluded that contamination reduced in yellow-lid recycling bins during the six-week initiative.

Recommendation	Output	Indicative timeframe/ status	Achievement/conclusion
2. Reduce waste to landfill 65% by 2020			
Research alternative waste disposal options	Review, with MRC and other potential partners, alternative waste management and disposal options (landfill, source segregation, recycling, waste to energy, advanced processing technologies)	Ongoing	<ul style="list-style-type: none"> The City continues its close relationship with MRC to determine long-term waste management solutions within the City. Administration continues to build strong relationships with third party waste management industry to fully understand new and emerging waste solutions available to the City.
	Review of bulky waste collection/disposal options (on call, separate materials, drop-off, etc)	2016-2017 Completed/ continuing	<ul style="list-style-type: none"> In 2018, a nine-week trial was carried out whereby bulk hard waste was recovered at a MRF. In 2019, material from the bulk hard waste collection cycle (28 weeks) was recovered at a MRF. 39% of the material from this service was diverted from landfill. 4,859 mattresses and 31 tonnes of scrap metal were separated out at the vergeside and recycled. Further analysis and feasibility studies are required in terms of services and increased waste drop off locations. Round reviews were carried out as a result of severe bush fires in Yanchep National Park in December 2019. All future collections in the suburbs of Neerabup, Carabooda, Nowergup, Alkimos, Eglinton, Yanchep and Two Rocks are now carried out in August/September, instead of November/December when there is a high fire risk.





Recommendation	Output	Indicative timeframe/ status	Achievement/conclusion
Research alternative waste disposal options	Review of alternative options for recycling bin services (bin size, frequency of service, disposal methodologies)	2016-2017 Completed	<ul style="list-style-type: none"> A business case was developed aligned to the introduction of a third kerbside organics bin. The business case researched all bin sizes available for kerbside collected waste and concluded residents should be allowed to swap to a smaller general waste bin (140L) and/or upsize to a larger capacity recycling bin (360L). Round reviews for recycling collections were carried out in 2019 leading to efficiencies in kerbside collected material.
	Review of general waste management options (bin size, frequency of services etc)	2016-2017 Completed	<ul style="list-style-type: none"> A business case was developed aligned to the introduction of a third kerbside organics bin. The business case researched all bin sizes available for kerbside collected waste, and concluded residents should be allowed to swap to a smaller general waste bin and/or upsize to a larger capacity recycling bin. Round reviews for general waste collections were carried out in 2019, leading to efficiencies in kerbside collections
Assess performance within each service unit	Review of greens waste collection methods/options (drop-off, disposal options, etc)	2016-2017	<ul style="list-style-type: none"> Conversations took place with industry to gauge the interest of private waste contractors collecting verge green waste. Industry responded that it could not compete with the service offered by the City. No round reviews for verge greens collections were carried out as the service was running efficiently.



Recommendation	Output	Indicative timeframe/ status	Achievement/conclusion
Encourage improved recycling practices (segregation) by the local community	Develop Communications Plan on waste management/ minimisation for residents and wider City community (waste guides, leaflets, mobile communication solutions (apps), City Waste Services webpages update, etc)	2017-2018 Completed	<ul style="list-style-type: none"> A robust Waste Education Plan (WEP) was developed, setting out the City's future direction in terms of education and behavioural change. The City has commenced the development of key waste educational messages. Council adopted the WEP in 2018.
3. Adapt waste solutions for the City's community			
Review data against set targets	Cyclical reporting of operational and strategic information	Completed	<ul style="list-style-type: none"> A robust suite of data, reporting and analytics have been developed and reported on regularly, both internally and externally. Data measurement has concluded the following results for MSW diverted from landfill and recycling rates: <ul style="list-style-type: none"> 2016/17 MSW diversion rate 54.1%, recycling rate 86%; 2017/18 MSW diversion rate 55.9%, recycling rate 85%; 2018/19 MSW diversion rate 54.9%, recycling rate 85%. <p>Note: the percent of commingled recyclable material diverted from landfill is an average of materials received at the MRF, which is diverted away from landfill and recycled in to other products.</p>
Assess performance within each service unit	Business model review of individual service lines and set key management indicators in line with industry standards.	2016-21 Completed	<ul style="list-style-type: none"> A Waste Services Service Delivery Review (WSSDR) was undertaken in 2018. The WSSDR considered all waste services undertaken by the business unit and the current state of waste management and operations. In-depth research was undertaken into other options/ solutions available to the City in terms of waste management and operations. As part of the WSSDR, the City adopted a Waste Services Transition Plan that discussed the current versus future state of waste management within the City. Appendix A discusses in detail.

Regularly engage with City of Wanneroo residents	Determine customer satisfaction levels via programmed interaction (surveys, etc)	Ongoing	<ul style="list-style-type: none"> The City engaged with the community via a waste survey to understand the individual needs and wants of households in relation to all waste services offered by the City. The outcome of the survey informed the WSSDR and subsequent three-bin kerbside collection business case. A biannual community survey is undertaken engaging City residents to provide feedback on all services offered by the City, including waste.
4. Plan for future waste solutions for the City's community			
Investigate the feasibility of ward/household type specific waste delivery services	Consider service delivery opportunities dependent upon household characteristics (following bin composition audits and results))	2019-2022 Completed	<ul style="list-style-type: none"> In 2018, a Waste Services Service Delivery Review (WSSDR) was undertaken. The WSSDR considered all waste services undertaken by the business unit and the current state of waste management and operations. In depth research was undertaken in to other options/solutions available to the City in terms waste management and operations. Following on from this, the City developed a business case for the introduction of third kerbside bin for at source separation and collection of organic materials. Research included household demographics and results from the waste composition audits.
5. Increase community awareness regarding waste management and environmental sustainability			
Communicate reduce, reuse, recycle waste education message to the local community	Develop and implement a five-year Waste Education Plan	2016-2022 Completed	<ul style="list-style-type: none"> A robust Waste Education Plan was developed and endorsed by Council in 2018.
	Partnership working with local schools	2017-2022 Ongoing	<ul style="list-style-type: none"> The City continues to forge long-term relationships with local schools.
	Partnership working with local community groups	2017-2022 Ongoing	<ul style="list-style-type: none"> The City continues to forge long-term relationships with local community groups.
Regularly engage with City of Wanneroo residents	Determine customer satisfaction levels via programmed interaction (surveys, etc)	Ongoing	<ul style="list-style-type: none"> The City engaged with the community via a waste survey to understand the individual needs and wants of households in relation to all waste services offered by the City. The outcome of the survey informed the SDR and subsequent three-bin kerbside collection business case. A biannual community survey is undertaken engaging City residents to provide feedback on all services offered by the City, including waste.

6. Priorities for 2020-2025

The Implementation Plan is shown on the following pages and outlines the key priorities, targets and timeframes that will form the focus of the City's efforts over the next five years. Target measures are important to ensure the success of this Waste Plan as they assist the City to measure the effectiveness of actions, examine triggers for changes in performance, and place the City in a better position to manage performance proactively. This implementation plan aligns with the requirements of the DWER's Waste Plan guidelines and satisfies the harmonisation of consistent reporting across Western Australia.



Waste management tool	Action	Is the action new or existing?	Detailed actions	Milestones (SMART - Specific, Measurable, Achievable, Relevant, Timed)	Target	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)
								Avoid	Recover	Protect	
Waste services	Implement a three bin kerbside collection system for organic materials	New	<ul style="list-style-type: none"> Develop and implement a third lime green bin for the disposal of garden organics (GO) material. Third bin will be rolled out to all properties on lots >400m² Standardise bin lid colours in line with AS4123.7-2006 Mobile Waste Containers- Colours, markings and designation requirements. Allow residents the option to swap the general waste bin for a reduced capacity bin (240L to 140L) and increase the capacity of the recycling bin from (240L to a 360L). Preparation of all associated tender documentation. 	<ul style="list-style-type: none"> All households will have received waste bins in line with the colours stipulated by AS AS4123.7-2006 Mobile Waste Containers - Colours, markings and designation requirements. Properties on lots greater than 400m² will receive a lime green bin (66,000). All other properties will have the option to opt in to receive a garden organics bin. 56,000 properties greater than 400m² will have access to a GO bin Align objectives for kerbside collection in line with the Waste Strategy. The implementation will be fully rolled out by end of August 2021. 	The roll commenced in second quarter of 2020/2021 financial year (FY)	30 June 2021	Yes	✓	✓	✓	Waste Services
	Review of waste industry FOGO Options	New	Liaise with the waste industry to procure a FOGO processor.	Source a FOGO processor with capacity to process the City 30,000 tonnes of FOGO material.	Secure FOGO processor by 2025	Annual review	Yes	✓	✓	✓	Waste Services
Risks/ mitigations	<p>Community/reputation Community opposition/lack of buy in as location and storage of bins in laneways and small properties is considered an issue.</p> <p>Mitigation Provide a robust education and engagement program advising "who, why, what, where, when" including associated diagrams in relation to bin size and extra storage space required for the third bin.</p> <p>Environment The GO Three Bin System meets the objectives of State Strategy 2030 only in part, but does meet the upper waste hierarchy.</p> <p>Mitigation The City undertook a full procurement activity to secure FOGO processing in the first instance; however, third party industry proved it was not ready to accept large quantities of FOGO material at present. The City has committed to a transition to the implementation of a FOGO system in line with the objectives of the WARR Strategy 2030 and when third party FOGO processing matures.</p> <p>Financial The community may believe that the implementation of a three-bin system may increase their annual Waste Service Charge.</p> <p>Mitigation Research and analysis concludes that GO processing is a reduction in cost than the current disposal methodology, providing cost savings that will offset any costs required to implement the lime green-lid GO organics bin/lid changes and all associated project costs. Communications will be published to reinforce this point to the community.</p> <p>Product contamination/saleability As this is a new service, there may be increased risk of contamination in the lime green-lid GO bin and a misunderstanding of the GO material.</p> <p>Mitigation A comprehensive community education and communications plan will be developed to engage and educate residents on the correct methodology for GO bins, in addition to the impact of contamination on the end product.</p>										

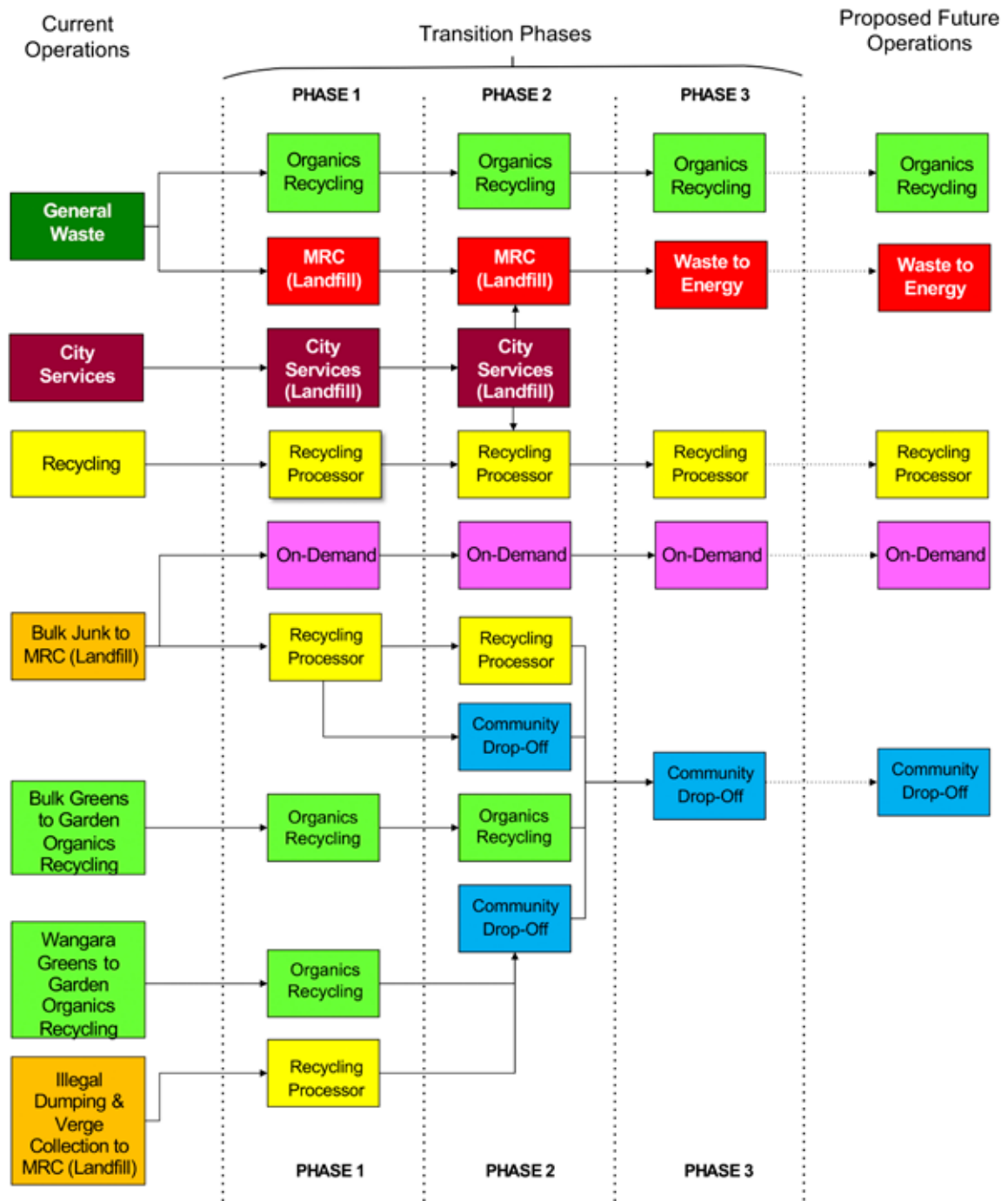
Waste management tool	Action	Is the action new or existing?	Detailed actions	Milestones (SMART - Specific, Measurable, Achievable, Relevant, Timed)	Target	Timeframe for delivery (completion date)	Cost of implementation incorporated into annual budget and Corporate Business Plan? Y/N - (if not, why?)	Aligns to Waste Strategy objective/s			Responsibility for implementation (branch, team or officer title, not the names of individual officers)
								Avoid	Recover	Protect	
Waste infrastructure	Investigate feasibility of community drop-off facilities	New	<ul style="list-style-type: none"> Review existing bulk verge collection service Determine number of drop off sites required per head of population Develop business case for Council 	<ul style="list-style-type: none"> Determine efficiently located sites to facilitate easy disposal for residents Explore alternative options such as on-demand service 	<ul style="list-style-type: none"> Sites identified by 2022 First site operational 31 December by 2025 	31 December 2025	Yes	✓	✓	Waste Services	
Risks/ mitigations	<p>Community/reputation There is potential for community opposition due to planned change in vergeside collection.</p> <p>Mitigation The City will engage early with all stakeholders to gain buy-in to all solutions considered in terms of community drop off and all community feedback will be considered when recommending a solution to Council.</p>										
Waste infrastructure	Facilitate the development of a resource recovery precinct within the City of Wanneroo to process waste from the City's waste operations	New	<ul style="list-style-type: none"> Identify appropriate land bank Prepare feasibility study Gain necessary approvals (planning and environmental) for chosen site Liaise with potential industry partners on options for the City 	<ul style="list-style-type: none"> Feasibility study completed Ensure necessary land use is approved on site Identify any necessary environmental approvals and ensure these are in place, where possible 	<ul style="list-style-type: none"> Resource Recovery Precinct operational 	31 December 2025	No	✓	✓	City of Wanneroo	
Risks/ mitigations	<p>Community/reputation There is potential for community opposition for resource recovery infrastructure in the local area, especially Waste to Energy solutions located within the City. There could also be community concern for health and safety in terms of localised waste to energy solutions.</p> <p>Mitigation A full feasibility study will be undertaken giving consideration to the City's built, personal and natural environment ensuring a safe and healthy environment for residents, business, flora and fauna. The City will engage early with all stakeholders to understand community concerns before any solution to Council.</p>										
Policies and procurement	Integrate minimum waste service delivery guidelines into planning decisions	New	<ul style="list-style-type: none"> Liaise with Planning Department to formally develop waste management guidelines for various dwelling types Determine most appropriate waste storage solution for constrained plots with limited frontage and/or rear access laneways. 	<ul style="list-style-type: none"> Determine most appropriate way to manage waste and recycling generated in Multi Unit Dwellings (MUDs) and Mixed Use Developments Develop and enforce planning policy for waste management infrastructure requirements for MUDs and Mixed Use Developments Explore options to minimise waste transport plant access issues in laneways 	<ul style="list-style-type: none"> Develop waste management planning guidelines for waste infrastructure requirements for new MUDs and Mixed Use Developments 	31 December 2025	Incorporated into 2020-2021 financial budget	✓	✓	Waste Services and Planning Department	
Risks/ mitigations	<p>Health, safety and governance There may be a perception that there is no sufficient storage capacity to introduce varying bin systems in MUDs and Mixed Use Developments;</p> <p>Mitigation Communications and stakeholder engagement plans will be developed to fully understand concerns of MUD residents and Mixed Use Developments. A detailed methodology will be provided with the overarching aim to educate residents on the City's three-bin kerbside collection system and that no extra waste is created but merely split into different categories that could result in differing bin colour, size and type.</p>										

Waste management tool	Action	Is the action new or existing?	Detailed actions	Milestones (SMART - Specific, Measurable, Achievable, Relevant, Timed)	Target	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)
								Avoid	Recover	Protect	
Data	Develop new data management system	New	<ul style="list-style-type: none"> Improve and update current waste data collecting and recording systems Liaise with information management systems to develop database 	<ul style="list-style-type: none"> Consider developing standard procedures for data entry Staff training in the requirements and data collection Generate waste reports Obtain waste statistics in a more user friendly way 	<ul style="list-style-type: none"> Ensure all data is collected on a monthly basis 	31 December 2021	No, utilise existing in house staff		✓		Waste Operations
	Understand material composition of kerbside bins	Existing	<ul style="list-style-type: none"> Conduct kerbside bin audits to determine trends and identify opportunities to reduce contamination Carry out GO bin audits during summer and winter months 	<ul style="list-style-type: none"> Data analysed and reported to community through waste education plan Data reported in the City's Annual Waste return to DWER 	<ul style="list-style-type: none"> Reduce contamination in the City's kerbside waste stream in line with state targets 	31 December annually June 2022 and annually thereafter	Yes Yes	✓ ✓			Waste Operations Waste Operations
Risks/mitigations	<p>Management systems/operations Waste data could be recorded and stored inaccurately, leading to poor waste management decision making. Not all data required to be reported under the WARR Act may be being collected at the moment.</p> <p>Mitigation The City will invest in robust systems to manage the accuracy and storage of information, it will also be accountable for regular audit both internal and external City auditors. Explanation for all data recording methodologies will required ensuring the City is researching, developing and recording the most up to date, accurate and beneficial data.</p> <p>Community/reputation Residents may not want to participate in kerbside collection as they feel they are under scrutiny as to what they dispose of within their bins.</p> <p>Mitigation The City will communicate with its residents the need for kerbside bin audits, clearly advising the background, the current need for kerbside waste bin audits and what the information will be used for. The audit information will result in a clearer education messages and ultimately targets communication campaigns.</p>										
	Continue to deliver 'The Great Recycling Challenge'	Existing	<ul style="list-style-type: none"> Conduct bin tagging with selected residents as part of the kerbside education program 	<ul style="list-style-type: none"> Implement bin tagging program Communicate outcomes to participants and broader community 	<ul style="list-style-type: none"> 95% of selected residents participate Increase level of low to no contamination by program end 	31 December biannually	Yes		✓		
Behaviour change program and initiatives	Deliver	New	<ul style="list-style-type: none"> Implement communication, education and engagement programs focussed on the new Better Bins collection service 	<ul style="list-style-type: none"> Develop and deliver marketing and communication plans utilising the Waste Sorted toolkit Develop and deliver education and engagement programs in alignment with the Waste Sorted toolkit Collect data to evaluate success Modify program where improvement is identified as being required 	<ul style="list-style-type: none"> Less than 5% contamination in new kerbside GO service 	31 December annually	Yes		✓		Waste Education Officers

Behaviour change program and initiatives	Action	Is the action new or existing?	Detailed actions	Milestones (SMART - Specific, Measurable, Achievable, Relevant, Timed)	Target	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)
								Avoid	Recover	Protect	
Behaviour change program and initiatives	Review the City's Waste Education Plan	Existing	<ul style="list-style-type: none"> Continue to deliver actions of existing Waste Education Plan Analyse data to identify priority areas for action Revise and update plan Design a range of promotion and education campaigns and programs Implement campaigns and programs Collect data to measure campaign and program success 	<ul style="list-style-type: none"> Revised Waste Education Plan adopted by Council by December 2021 Implementation of revised plan commences following adoption Ongoing evaluation of program, with feedback provided via the Waste Management Advisory Committee Modify and re-deliver actions, as necessary 	<ul style="list-style-type: none"> Increase overall diversion of waste from landfill to 70% by 2025 in line with Waste Strategy 2030 	A five year timeframe will be allocated for the delivery of all actions, to be finalised by 31 December 2025	Yes	✓	✓	Waste Education Officers	
	Continue existing illegal dumping tapping initiative	Existing	<ul style="list-style-type: none"> Collect data to analyse success Evaluate success of initiative Modify the initiative if required Continue implementation of program in existing or revised form 	<ul style="list-style-type: none"> Evaluation of initiative Revision of initiative, if required 	<ul style="list-style-type: none"> Reduce illegal dumping by 5% (based upon 2019/20 figures) 	31 December 2025	Yes	✓	✓	Waste Operations	
Risks/ mitigations	<p>Community/reputation/financial Lack of stakeholder commitment/engagement with City to develop and participate in City led behaviour change programs and initiatives;</p> <p>Mitigation Develop clear, robust communications and educational material, setting clear intentions, objectives and outcomes. Ensure interactions are transparent and engaging, and if there are perceived costs associated with the activity they will be clearly identified.</p>										

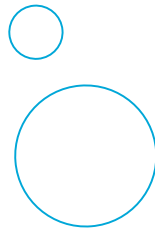
7. Appendix A

Waste Services Service Delivery Review 2018 – Transition Plan



8. Glossary & Abbreviations

CDS	Container Deposit Scheme
Community	Residents/rate payer of the City of Wanneroo
Contamination	Refers to any material placed in a bin (recycling or organics) that is not specified as accepted for recycling by the waste processing facility
E - waste	Electronic waste typically waste consisting of circuitry such as televisions, computers and associated technology
EPA	Environmental Protection Authority
FOGO	Food Organics and Garden Organics
GO	Garden Organics
General Waste	Refers to all waste materials that have not been separated out for recycling and are destined for landfill
GRC	Great Recycling Challenge
Illegal Dumping	The deliberate and unauthorised dumping/tipping or burying of waste on land that is not licenced or fit to accept the waste
Landfill	An engineered facility for the disposal of waste material by burial
MRC	Mindarie Regional Council
MRF	Materials Recycling Facility
MUDs	Multi Unit Dwellings are premises that contain three or more dwellings on a single plot of land
Recycling	Materials are processed in to new material or new product
Reuse	The practice of using an item more than once without processing the material



RRF	Resource Recovery Facility
SDR	Service Delivery Review
Source Separation	The practice of segregating materials into discrete material streams prior to collection
SWMP	Strategic Waste Management Plan
The City	City of Wanneroo
TP	Transition Plan
WA	Western Australia
WARR Act	Waste Avoidance and Resource Recovery Act 2007
Waste Strategy	Waste Avoidance and Resource Recovery Strategy 2030
Waste Audit	A physical analysis of the contents of a bin
Waste Bins	Waste receptacles located in/at households, parks, council facilities
WEP	Waste Education Plan
Waste Minimisation	The concept of, and strategies for, waste generation to be kept to a minimum level in order to reduce the requirement for waste collection, processing and disposal.
Waste to Energy	The terms 'waste to energy' or 'energy from waste' can be used interchangeably to describe a number of thermal treatment processes and technologies used to generate a usable form of energy from waste materials.
WGRF	Wangara Greens Recycling Facility



9. References

Australian Renewable Energy Agency: Kwinana Waste to Energy Project

<https://arena.gov.au/projects/kwinana-waste-to-energy-project/>

Department of Environment and Energy: 2018 National Waste Policy

<https://www.environment.gov.au/protection/waste-resource-recovery/national-waste-policy>

Department of Environmental Regulation (2013) Guidelines for the design and operation of facilities for the acceptance and storage of household hazardous waste. Government of Western Australia.

https://www.der.wa.gov.au/images/documents/your-environment/waste/household_hazardous_waste_guidelines.pdf

Department of the Environment, Water, Heritage and the Arts (2009) National Waste Policy: Less Waste, More Resources, Australian Government.

<https://www.environment.gov.au/protection/national-waste-policy>

Hyder Consulting (2015) Waste Processing Infrastructure Options Assessment. Prepared for the Mindarie Regional Council, Perth.

A copy can be obtained from City of Wanneroo Waste Services Department, Please telephone 9405 5627

Mindarie Regional Council (2013) Strategic Community Plan 2013/14 – 2033/34: Winning Back Waste. Mindarie Regional Council.

http://www.mrc.wa.gov.au/Documents/Strategic-Plans/AMP-2014-FACING-PP_Layout-1.aspx

Product Stewardship Act 2011

<https://www.legislation.gov.au/Details/C2011A00076>

The Environment Protection and Biodiversity Conservation Act 1999

<https://www.environment.gov.au/epbc>

Local Government Act 1995

https://www.slp.wa.gov.au/legislation/statutes.nsf/main_mrtitle_551_homepage.html

Waste Avoidance and Resource Recovery Act 2007 (WARR Act)

https://www.slp.wa.gov.au/legislation/statutes.nsf/main_mrtitle_2758_homepage.html

WALGA Household Hazardous Waste Program,

<http://www.wastenet.net.au/household-hazardous-waste-program.aspx>.

WALGA (2014) b Better Practice Verge Collection Guidelines, WALGA, Perth.

http://www.wastenet.net.au/Assets/Background_Paper_Better_Practice_Vergeside_Collection.pdf

Waste Authority (2019) Western Australian Waste Strategy: Waste Avoidance and Resource Recovery Strategy Australia, Perth.

https://www.wasteauthority.wa.gov.au/media/files/documents/Waste_Avoidance_and_Resource_Recovery_Strategy_2030.pdf

Waste Authority (2012) Western Australian Waste Strategy: Creating the Right Environment. Government of Western Australia, Perth.

https://www.wasteauthority.wa.gov.au/media/files/documents/WA_Waste_Strategy.pdf

Waste Authority (2014) Better Bins Kerbside Collection Guidelines Government of Western Australia, Perth.

http://www.wasteauthority.wa.gov.au/media/files/documents/Better_Bins_Kerbside_Collection_Guidelines.pdf



City of Wanneroo

23 Dundebur Road, Wanneroo, WA 6065

Locked Bag 1, Wanneroo WA 6946

T (08) 9405 5000 **F** (08) 9405 5499

After Hours 1300 13 83 93

E enquiries@wanneroo.wa.gov.au

www.wanneroo.wa.gov.au

