



## WASTE PLAN

2020-2025

DRAFT



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## 1 INTRODUCTION

In 2016 the City of Wanneroo (the City) released its first 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 Avoidance and Resource Recovery Strategy 2030*.

The previous Waste Plan aimed to provide guidance to the City in the delivery of waste services in a manner which provided a framework of priorities for improving waste management initiatives that are 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 Western Australian State Government's future waste strategies.

This revised Waste Plan outlines how Council will manage its waste management services over the next 5 years, and 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 and 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 identified and are listed in the Implementation Plan in *Section 6: Priorities for 2020-2025*.

Continued commitment to improving waste management practices will significantly contribute towards achieving objectives and will enable Council to responsibly provide a level of service that the community expects.

## 1.2 THE REQUIREMENT FOR A WASTE PLAN

The *Waste Avoidance and Resource Recovery Strategy 2030* (Waste Strategy) requires local governments to implement Waste Plans which align waste planning 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 their waste management functions in accordance with their Waste Plan.

Waste Plans will provide a link between the targets and objectives of the Waste Strategy and local government waste management initiatives via the following:

- Align local government waste management activities with the Waste Strategy;
- Map current performance and establish a benchmark to achieve Waste Strategy targets;
- Monitor progress of local government achievements of Waste Strategy targets; and
- Design programs and activities which will support the implementation of 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 Commonwealth 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:

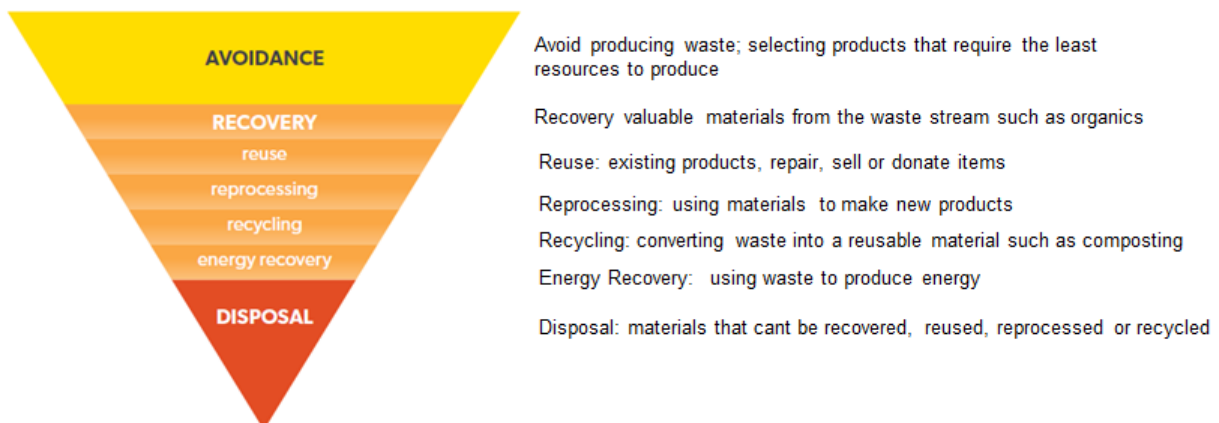
- *Environmental Protection and Biodiversity Conservation Act 2016;*
- *National Greenhouse and Energy Reporting Act 2007;*
- *Clean Energy (Consequential Amendments) Act 2011;*
- *Clean Energy Legislation Amendment Act 2012;*
- *Product Stewardship Act 2011;*
- *National Waste Policy, 2018;*

- *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 (WA). 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**

The Waste Hierarchy is commonly adopted by governments across Australia 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 which allows consumers to return empty beverage containers to a refund point and receive a 10 cent refund in exchange. The CDS is intended to complement kerbside recycling and existing waste services. The refund will encourage people to collect and recycle beverage containers consumed away from home. Key features of the WA CDS are expected to align with the existing and proposed schemes in other states and territories in terms of structure, operations, labelling and value of the deposit.

### ***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 which 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 to ensure it meets the objectives of the Waste Strategy and to establish a schedule of future waste levy rates, with the initial schedule providing a minimum five year horizon.

## **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***

#### ***National Waste Policy 2018***

The *National Waste Policy: Less Waste, More Resources 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 State 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.

It builds on the work done under the previous strategy, which concentrated on landfill diversion as its main metric, and now includes targets for waste avoidance, resource recovery and environmental protection, but still includes 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 WARR Act is currently under review, and industry expects that changes will be made which strengthen the ability of the State Government to ensure that the newly set targets in the Waste Strategy are met.

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

<b>Avoid</b> <i>Western Australians generate less waste.</i>	<b>Recover</b> <i>Western Australians recover more value and resources from waste.</i>	<b>Protect</b> <i>Western Australians protect the environment by managing waste responsibly.</i>
<ul style="list-style-type: none"> <li>⦿ 2025 – 10% reduction in waste generation per capita</li> <li>⦿ 2030 – 20% reduction in waste generation per capita</li> </ul>	<ul style="list-style-type: none"> <li>⦿ 2025 – Increase material recovery to 70%</li> <li>⦿ 2030 – Increase material recovery to 75%</li> <li>⦿ From 2020 – Recover energy only from residual waste</li> </ul>	<ul style="list-style-type: none"> <li>⦿ 2030 – No more than 15% of waste generated in Perth and Peel regions is landfilled.</li> <li>⦿ 2030 – All waste is managed and/or disposed to better practice facilities</li> </ul>

**Figure 2: Waste Strategy targets**

***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 about 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 the recyclable material

that is 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%, compared to previous limits of approximately 10%. As a consequence the WA State Government created a taskforce to advise on waste management issues in WA, in consultation with state and local governments, the waste industry and community stakeholders.

## 2.4 REGIONAL

Mindarie Regional Council's (MRC) *Corporate Business Plan 2018 – 2037 'Winning Back Waste'* provides a shared vision for waste management in the Region and demonstrates how the MRC will deliver environmentally sustainable waste management for its communities. The plan mirrors the strategic direction adopted by all member councils.

In 2014, the MRC commissioned a *Waste Processing Infrastructure Options Assessment Report* to provide an assessment of the most appropriate regional waste infrastructure approach for the members of the Mindarie Regional Council. The report modelled the application of different infrastructure scenarios for the region, their potential to reach diversion targets and made recommendations on the most appropriate infrastructure for the region. The report recommended the development of a Waste Precinct Model. The precinct may comprise of 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% or greater. As yet, 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. 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), the MRC is likely to look to disposing of these materials at either of these facilities when they open.

This will increase the City's chances of meeting the new targets set in the Waste Strategy, if it transpires.

## 2.5 CITY OF WANNEROO KEY STRATEGIC DRIVERS

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

1. *City of Wanneroo Strategic Community Plan 2017/2018 – 2026/2027;*
2. *City of Wanneroo Corporate Business Plan 2017/2018;*



3. *City of Wanneroo 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.*

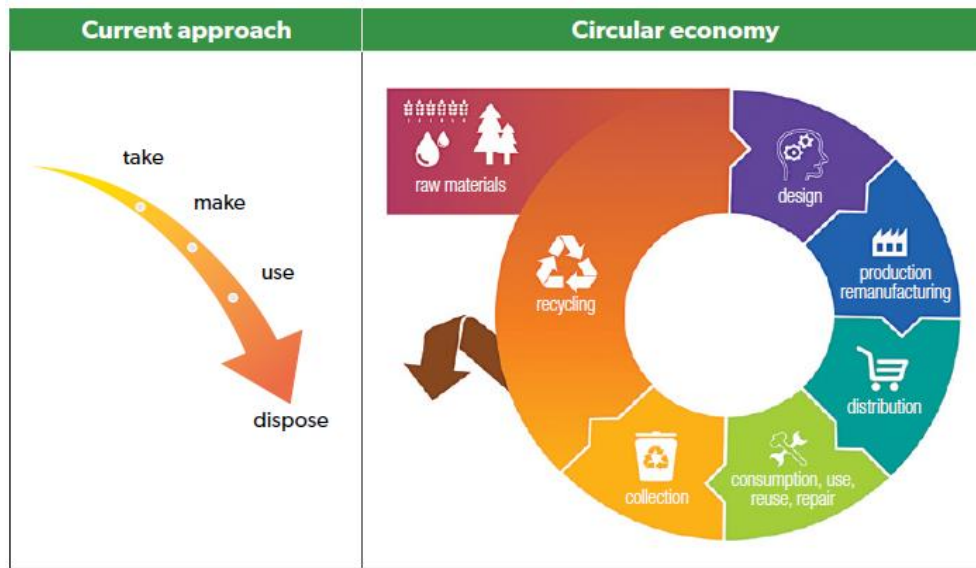
The City’s Strategic Community Plan promotes *reduce, reuse and recycle waste* as illustrated in the **Figure 3** below:

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

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

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 leakage 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 SMWP will strive to improve the recovery of organics by maximising the resource value embodied in residual waste.



**Figure 4: Circular economy approach (Waste Strategy)**

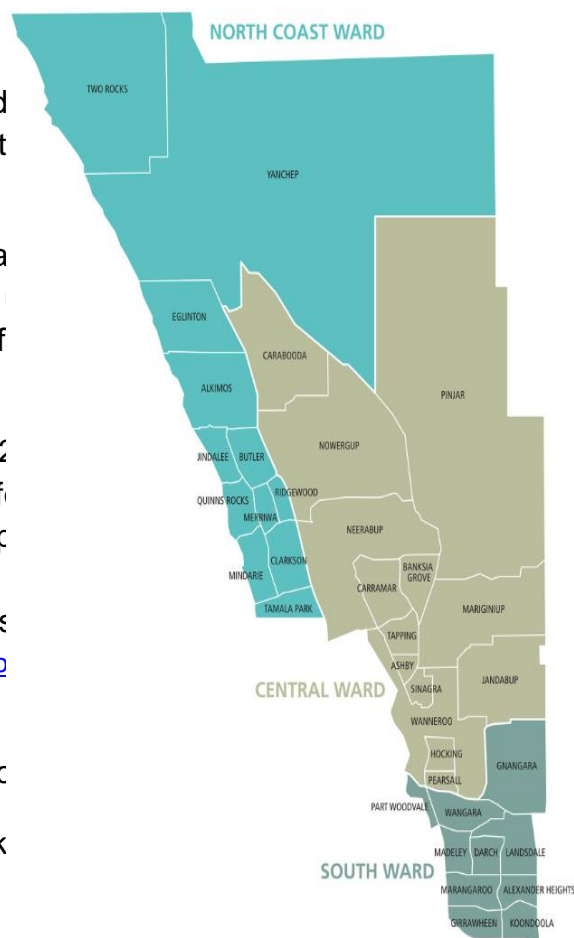
### 3 CITY OF WANNEROO

#### 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 684km<sup>2</sup>, has 32km of coastline and is made up of 36 suburbs. It is Western Australia’s fastest growing local government authority.

Data from id community indicates that in 2018 the population of Wanneroo was 204,788. The forecast increase in population up to 2029 is approximately 45,520 people and approximately 18,000 new dwellings that Council will need to provide (see <https://forecast.id.com.au/wanneroo/population-forecast>).



The majority of this growth is expected to occur in the following areas:

- Northern Coastal Growth Corridor (Alkimos, Yanchep and Two Rocks);
- East Wanneroo (Gnangara, Jandabup)
- Infill Growth Areas (Girrawheen, Koondoola, Marangaroo).

Population variables that impact on 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 2019 there were approximately 204,788 people residing in the City. The median age of residents is 33 years with:

- 30% aged under 20 years;
- 14% aged 60+;
- 40% of households are made up of couples with children;
- 1.9 children per family; and
- 3 people per dwelling.

### 3.3 CITY WASTE SERVICES

In 2018 the City completed an integrated review 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 concludes that the City should implement a separate organics kerbside collection service to maximise recovery of this valuable resource as endorsed at 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 Rates Waste Service Charge. The average City household disposes of approximately 1 tonne of waste through kerbside collected 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 1: Number of bin requests per year**

Year	New Bin Requests (for new built homes)	Additional bin requests existing properties	Bins Repairs
2014-15	3208	100	3875
2015-16	3607	95	3069
2016-17	2558	84	3992

<b>2017-18</b>	2005	111	4339
<b>2018-19</b>	1420	102	4210
<b>2019-20</b>	1125	135	4410

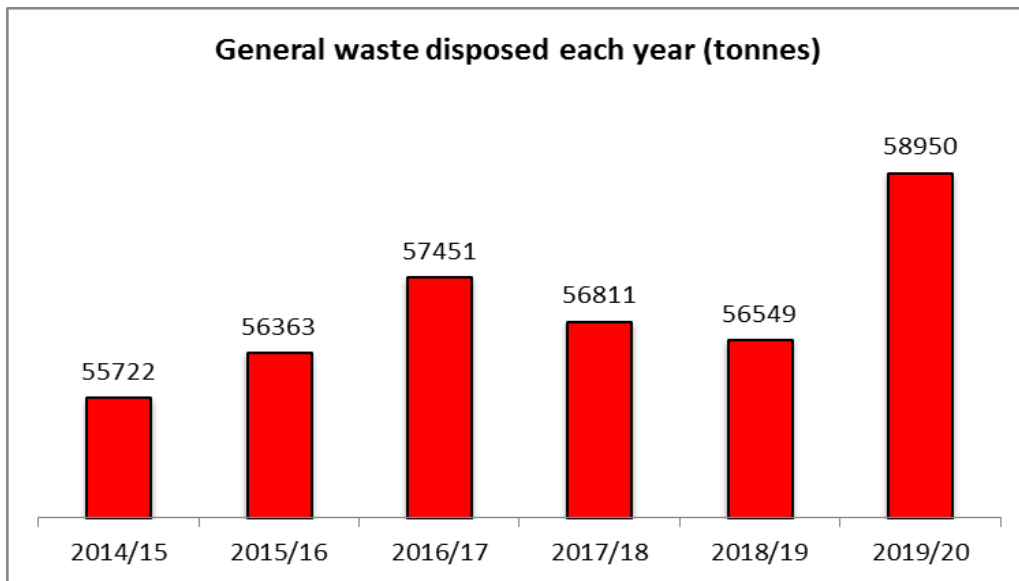
**Table 2** displays the waste management options available to the City's residents, disposal methodologies and tonnage for the most recent financial year 2019/20:

**Table 2: City's waste management options**

	Service Availability	Waste Materials	Waste Disposal Point	Disposal Outcome	2019/20 Total tonnes generated per annum
<b>Domestic Rubbish Kerbside Collection (Green Bin Lid)</b>	Weekly	Food Waste, Green Waste	MRC RRF	Soil Conditioner Manufacture/ Landfill Disposal	58950
<b>Recycling Kerbside Collection (Yellow Bin Lid)</b>	Fortnightly	Card, Paper, Plastic, Tins, Glass	Cleanaway MRF	Reprocessing for Commodities Manufacturers	17681
<b>Bulk Rubbish Verge Collection</b>	Annual	Bulk Junk	MRC Tamala Park Landfill/Suez Transfer Station	Landfill Disposal & Recycled	6115 (3060 recycled )
<b>Bulk Green Waste Verge Collection</b>	Annual	Green Waste	Grass Growers	Mulch Manufacture	4152
<b>Green Waste Drop-Off</b>	Weekends/ Public Holidays	Green Waste	Western Tree Recyclers	Mulch Manufacture	4921
<b>Council Facilities &amp; Parks</b>	As Required	Litter, Vergeside Dead Animals	MRC Tamala Park Landfill	Landfill Diposal	529
<b>Litter/Illegal Dumping</b>	As Required	Various	MRC Tamala Park Landfill	Landfill Diposal	271

### ***Kerbside general waste collection***

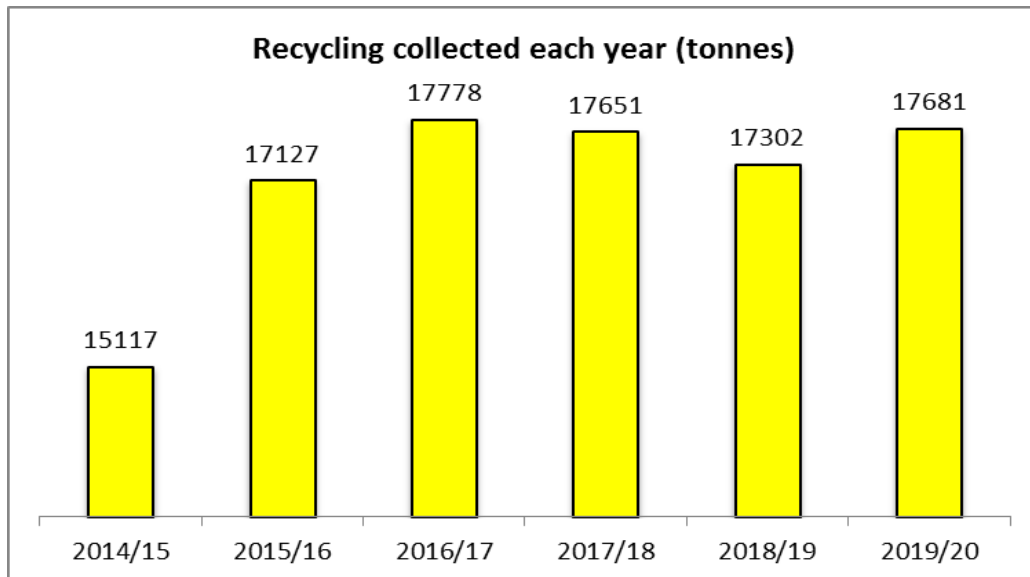
General waste disposed of in dark green lidded bins, is treated at MRC's Resource Recovery Facility (RRF) and processed in to a soil enhancer. Residues from this process are sent to landfill at Tamala Park; in 2018/19 approximately 50% of all materials received at the RRF were diverted from landfill. The City has seen a decrease in domestic waste from 2016/17 to 2018/19 (**Figure 5**) which may be attributed to a mix of 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.



**Figure 5: General waste**

***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 and baled before shipping to be recycled into new products. The City has experienced a similar drop in general waste when compared to the volume of kerbside recycling collected (**Figure 6**) from 2016/17 to 2018/19.

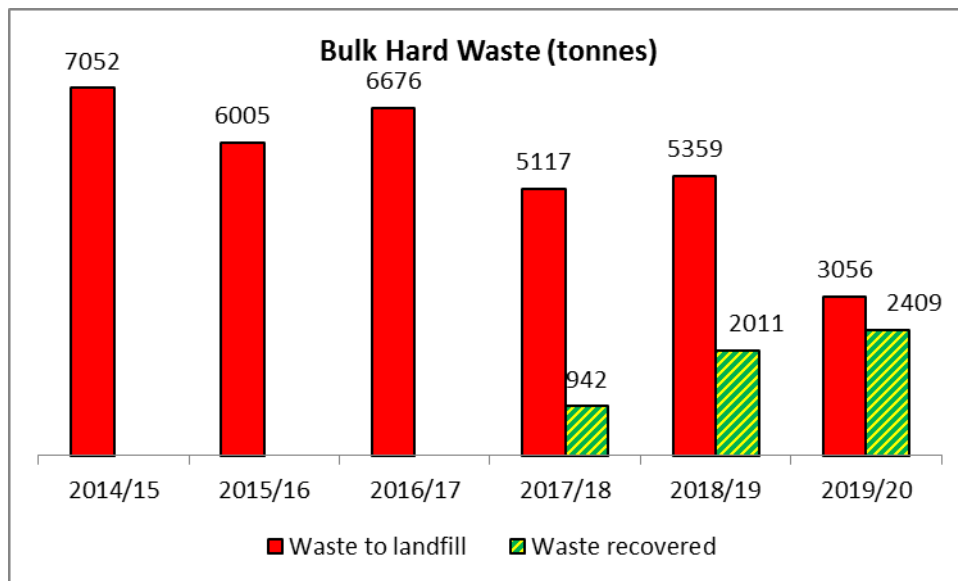


**Figure 6: Recyclables**

***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 within 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. The recovery rate for the nine weeks was 18%. The

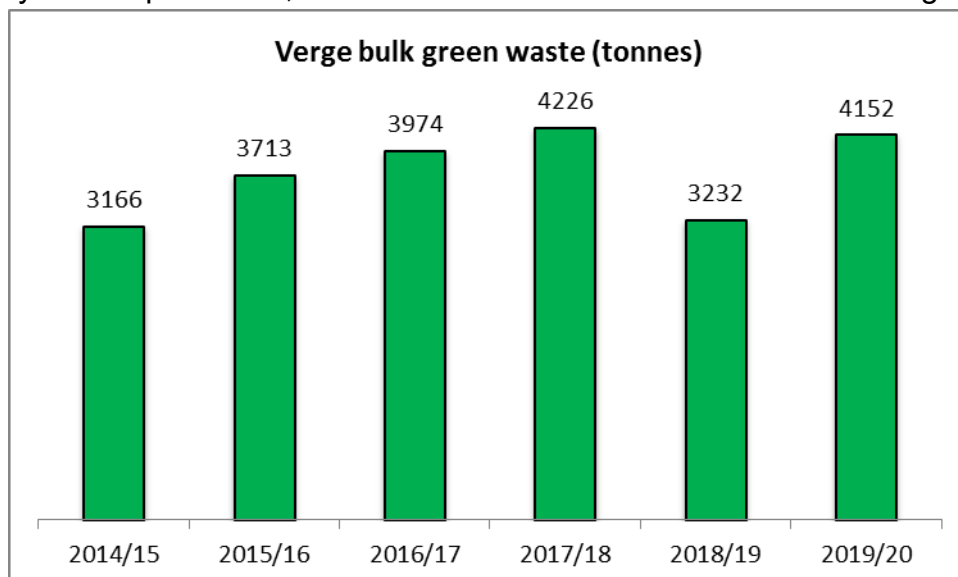
2018/19 bulk hard waste was processed through the MRF for the full bulk collection cycle of 28 weeks and a recovery rate of 39% was achieved. Similarly for 2019/20 a full collection cycle was processed through the MRF achieving a recovery rate of 50%.



**Figure 7: Bulk hard waste**

***Vergeside bulk green waste collection***

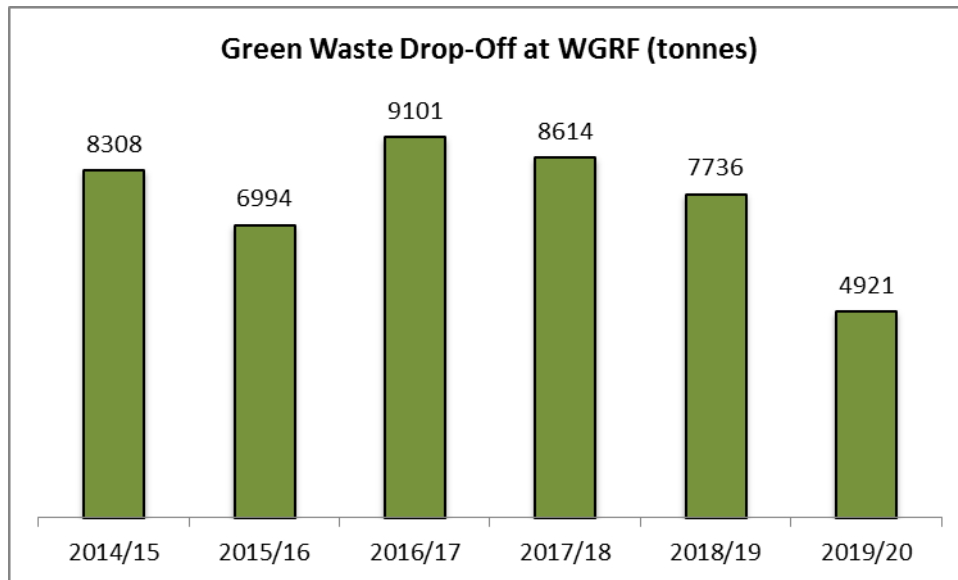
Residents receive one bulk green waste collection per year, which allows disposal of larger quantities of garden waste unable to be disposed of within their kerbside bin. This material is compacted in rear-loading trucks and delivered to a private facility, which produces mulch. The decrease in tonnage highlighted in **Figure 8** is counter to previous years' experiences, the reasons for which are unclear at this stage.



**Figure 8: Vergeside bulk green waste**

### **Green waste drop-off**

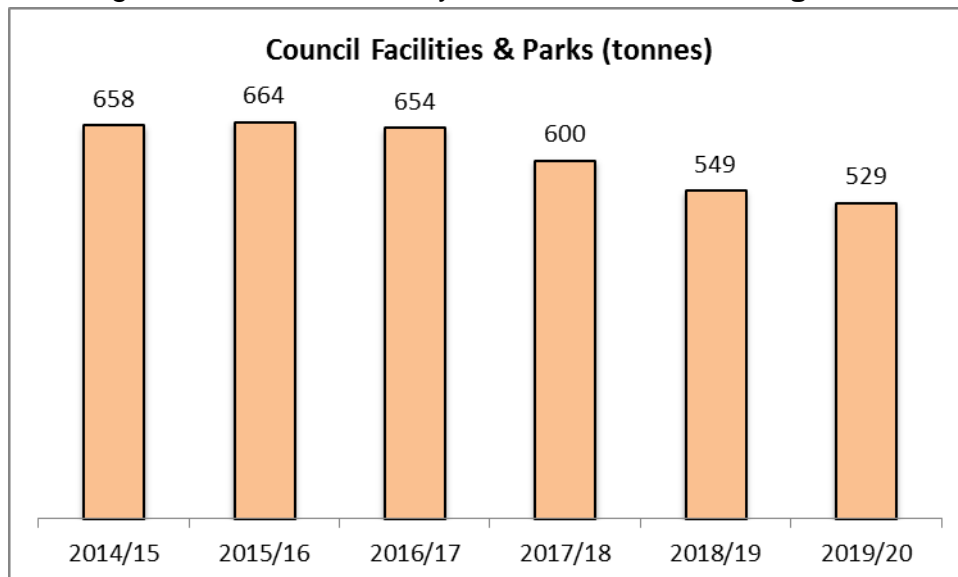
Residents drop-off green waste at Wangara Greens Recycling Facility (WGRF), which is owned and operated by the City. The green waste is removed from site and processed into mulch and made available to residents.



**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**.

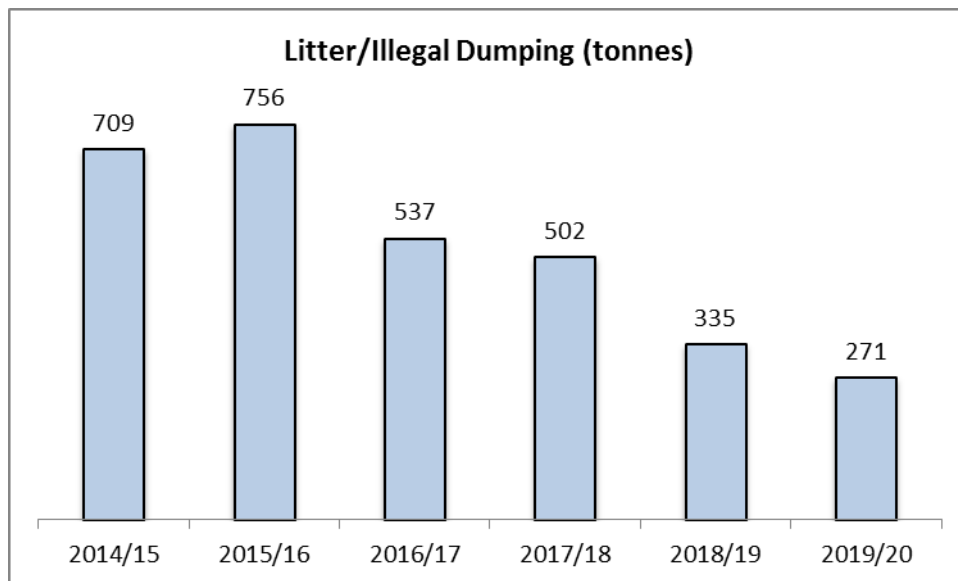


**Figure 10: Council facilities and parks**

### **Illegal dumping and litter**

Illegal dumping refers to the unauthorised dumping 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 rises that were experienced previously, employing various strategies to reduce illegally dumped waste. As a result, the City has reducing illegal dumping from 756 tonnes 2015/16 to 271 tonnes in 2019/20 as illustrated in **Figure 11**.



**Figure 11: Litter and illegal dumping**

### ***Annual drop-off day***

The City runs an annual drop-off event at Ashby Operations Centre for e-waste, tyres, textiles and cardboard.

### ***Mindarie Regional Council Tamala Park***

The City is one of seven Member Councils of Mindarie Regional Council. 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***

The City currently partners in a number of education programmes 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 State Waste Strategy (avoid, recover, protect).



## 4 EVALUATION

### 4.1 CHALLENGES AND OPPORTUNITIES

#### **Population growth**

The City of Wanneroo is the fastest growing local government in WA and fifth fastest growing in Australia. Data suggests that the City will grow in population by 1.6% each year until 2026. The number of City residences is expected to grow on average by 3,420 per annum.

#### **Community consultation**

Council 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 informs the recommendations and targets within this Waste Plan.

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 seen as the key channels to distribute waste information effectively.

89% of residents stated that they wanted the City to separate food and garden (FOGO) waste to promote greater recycling. 75% of those surveyed also confirmed their approval of an additional kerbside collection service to dispose of the separately collected FOGO materials.

85% of respondents confirmed that they thought it was very important to increase recycling. Only 15% of respondents indicated that they wanted an increased size bin to deal with the ever growing volumes of recyclable packaging they buy. An even smaller number (5%) indicated that they wanted an additional 240L recycling bin. 59% indicated that they would prefer a weekly pick up service for the recycling bin. However, when those respondents were questioned upon whether they would pay extra costs to receive a weekly service, they very strongly argued against this and 78% now indicated that they would prefer a larger recycling bin.

The apparent preference from a large section of the community for a larger recycling bin was validated in May/June 2020 when residents were asked if they would prefer a larger 360 ltr recycling bin; 33,800 households indicated that they did.

**State Government recycling targets**

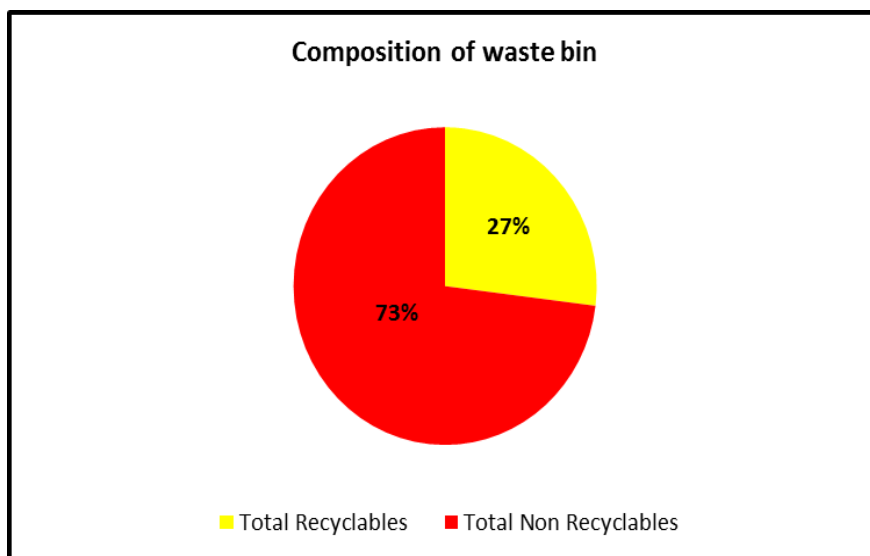
Targets identified for this Waste Plan align with the State Government’s waste recovery targets for the Perth Metropolitan area as set out in **Table 3**:

**Table 3: State Government waste recovery targets**

Key document	Target	City’s performance against Targets
WA Waste Strategy: <i>Creating the Right Environment</i>	50% waste recovered by 2015	Target met in 2014,2015,2016, 2017,2018 with an average diversion rate of 54%
	65% waste recovered by 2020	The City will research and implement new programmes over the next five to ten years to assist the City to meet these targets.
Waste Strategy 2030	70% waste recovered by 2025	
	75% waste recovered by 2030	

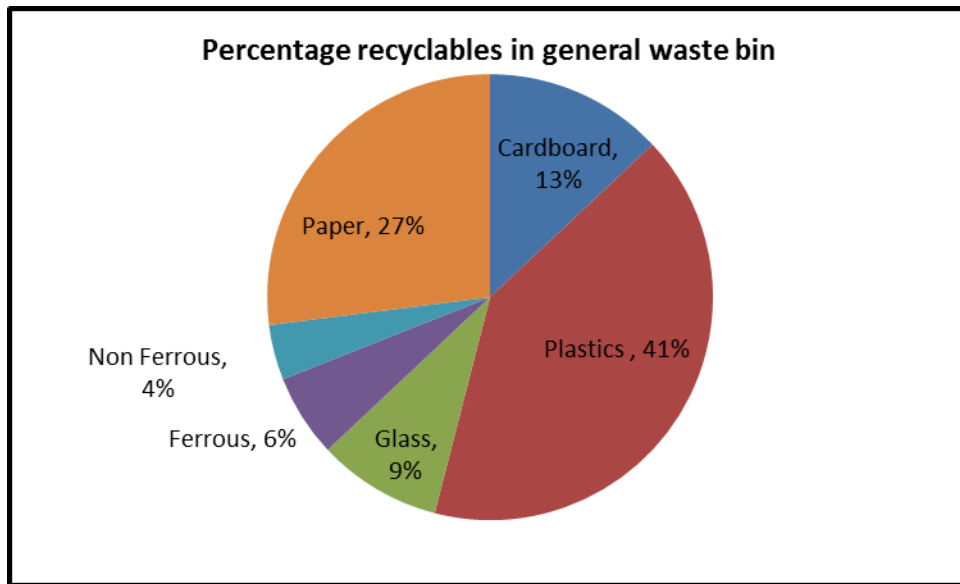
**General waste and recycling audit**

Throughout 2017-2019, waste samples were collected from the City’s kerbside general waste and recycling bins and audited to gain an understanding of the material composition in the bins. The audit results concluded that 27% of the material in the general waste bin was in fact commingled recyclable material that should have otherwise been disposed within the yellow lidded recycling bin (illustrated in **Figure 12**).



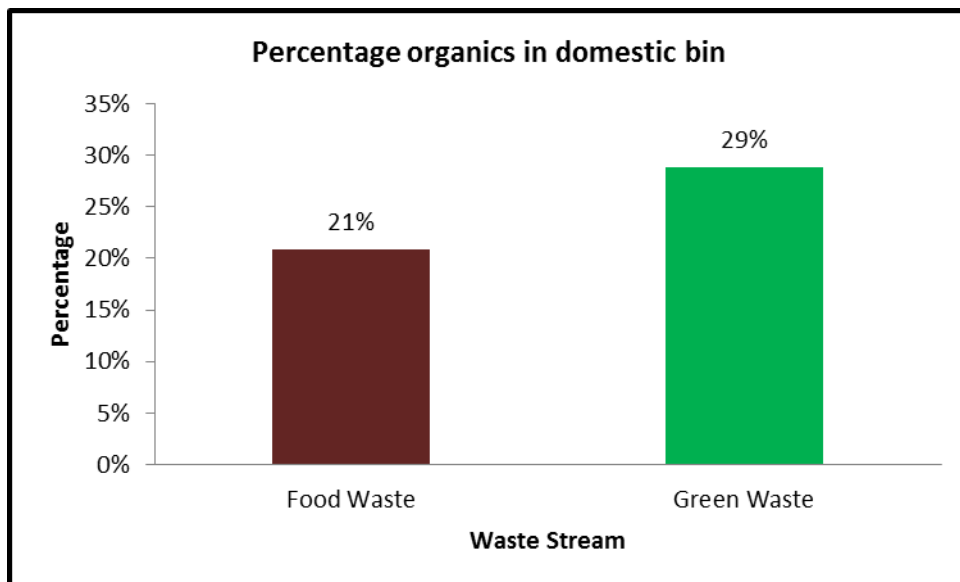
**Figure 12: Composition of general waste bin**

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



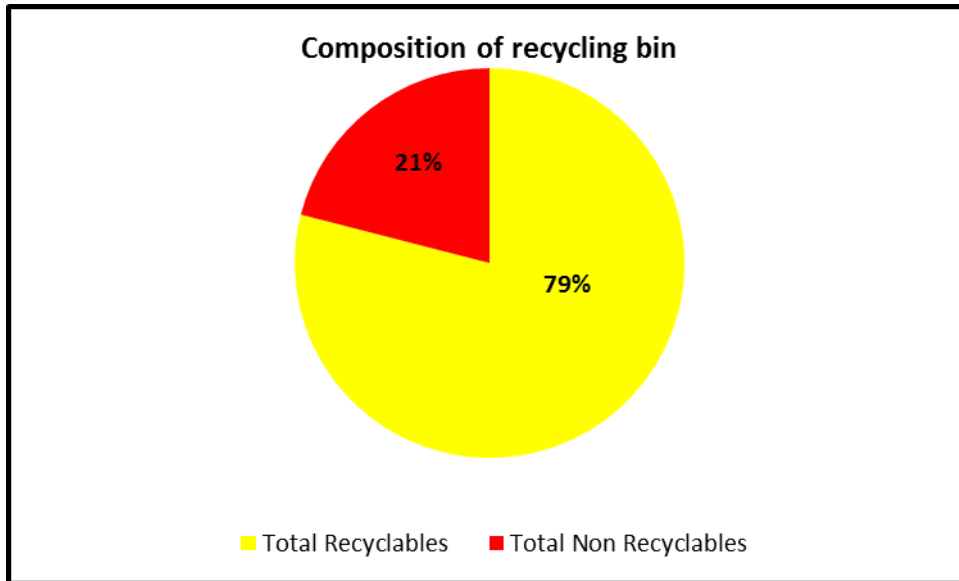
**Figure 13: Recyclables in general waste bin**

Audit results concluded that the City’s general waste bin comprises 29% garden organic (GO) and 21% food organic material, indicating that 50% of the general waste bin is available for FOGO processing (**Figure 14**).



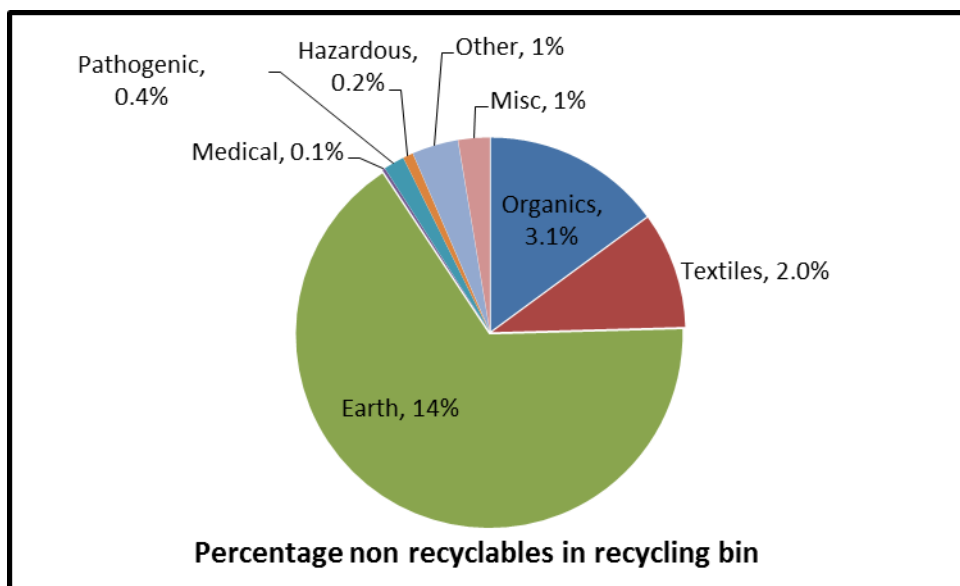
**Figure 14: Composition of organic material in general waste bin**

As illustrated in **Figure 15** and **16** the composition of the yellow lidded recycling bin indicates that there is 21% contamination in the bin. This comprises mainly of earth, textiles and organics.



**Figure 15: Composition of recycling bin**

There is now greater pressure to increase sorting of materials to ensure low contamination rates. Research has 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 which were once accepted in the recycling bin by MRFs but are no longer allowed.



**Figure 16: Non recyclables in recycling bin**

**Figure 16** provides a snapshot of other types of materials that contaminate the yellow lidded recycling bin. For example, disposing of textiles within this bin damages the recycling plant and equipment during processing as it gets caught in the working mechanical parts. As the waste is picked and sorted on the conveyor belts, medical and pathogenic waste exposes sorting personnel to increased risk of incident/injury.

## 5 REVIEW PROCESS

The previously adopted Waste Plan 2016-2022 was developed to provide guidance to the City in the delivery of its waste management services. 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 remain the same and which underpin this new plan:

- Minimising the waste generation and avoiding wasteful consumption;
- Recovering more value from waste and treating it as a resource and ultimately improve recycling performance; and
- Shared responsibility, embracing a low waste economy 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 objectives/achievement**

Recommendation	Output	Indicative Timeframe/Status	Achievement/Conclusion
<b>1. Measure and Understand our Waste Sources</b>			
Investigate waste volumes and variable waste practices per suburb	Undertake bin composition audits	2016-2017 Completed	<ul style="list-style-type: none"> <li>General waste and recycling bin audits completed throughout 2017-2019 and will continue, ongoing. The outcome of these audits have informed the Waste Plan 2020 -2025</li> </ul>
Analyse audit results	Document bin composition findings and integrate into waste future planning initiatives	2017-2022 Completed	<ul style="list-style-type: none"> <li>A full suite of analytical data has been developed and is reported regularly. The outcome of which has informed the WastePlan 2020 -2025.</li> <li>Understanding the composition of materials in the kerbside bins has allowed the City to develop a high level Service Delivery Review and Business Case that informed the City's future waste management objectives.</li> <li>Material composition findings of the kerbside bin audits has 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.</li> <li>The Great Recycling Challenge (GRC) initiative was completed in December 2019. The GRC was a 6 week initiative whereby residents were randomly selected and their bins visually audited to establish and understanding of recycling and contamination. Results concluded that contamination reduced in participants yellow lidded recycling bins over the 6 week initiative.</li> </ul>
<b>2. Reduce Waste to Landfill 65% by 2020</b>			
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"> <li>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.</li> </ul>
	Review of bulky waste collection/disposal options (on call, separate materials, drop-off, etc)	2016-2017 Completed/continuing	<ul style="list-style-type: none"> <li>In 2018 a nine week trail was carried out where bulk hard waste was recovered at a Materials Recycling Facility (MRF).</li> <li>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.</li> <li>Further analysis and feasibility study are required in terms on services and increased waste drop off locations.</li> <li>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.</li> </ul>
	Review of alternative options for recycling bin services (bin size, frequency of service, disposal methodologies)	2016-2017 Completed	<ul style="list-style-type: none"> <li>A Business Case (BC) was developed aligned to the introduction of a third kerbside organics bin. The BC researched all bin sizes available for kerbside collected waste and concluded residents should be allowed to swap to a smaller general waste bin (140L) or upsize to a larger capacity recycling bin (360L).</li> <li>Round reviews for recycling collections were carried out in 2019 leading to efficiencies in kerbside collected material.</li> </ul>
	Review of general waste management options (bin size, frequency of services etc)	2016-2017 Completed	<ul style="list-style-type: none"> <li>A Business Case (BC) was developed aligned to the introduction of a third kerbside organics bin. The BC researched all bin sizes available for kerbside collected waste and concluded residents should be allowed to swap to a smaller general waste bin or upsize to a larger capacity recycling bin.</li> <li>Round reviews for general waste collections were carried out in 2019 leading to efficiencies in kerbside collections</li> </ul>
	Review of greens waste collection methods/options (drop-off, disposal options, etc)	2016-2017	<ul style="list-style-type: none"> <li>Conversations took place with industry to gauge the interest of private waste contractors collecting verge green waste. Industry responded that they could not compete with the service offered by the City.</li> <li>No round reviews for verge greens collections were carried out as the service was running efficiently.</li> </ul>
Encourage improved recycling practices (segregation) by the local community	Develop Communications Plan on waste management/minimisation for residents and wider City	2017/2018 Completed	<ul style="list-style-type: none"> <li>A robust Waste Education Plan (WEP) was developed setting out the City's future direction in terms of education and behaviours' change. The City has commenced the development of key waste educational messages and</li> </ul>

	community (waste guides, leaflets, mobile communication solutions (apps), City Waste Services webpages update, etc)		continues to present key waste messages within schools and community groups. The WEP was adopted by Council in 2018.
<b>3. Adapt Waste Solutions for the City's Community</b>			
Review data against set targets	Cyclical reporting of operational and strategic information	Completed	<ul style="list-style-type: none"> <li>A robust suite of data, reporting and analytics have been developed and reported on regularly both internal and externally.</li> <li>Data measurement has concluded the following results for Municipal Solid Waste (MSW) diverted from landfill and Recycling rates: <ul style="list-style-type: none"> <li>2016/17 MSW diversion rate 54.1%, recycling rate 86%;</li> <li>2017/18 MSW diversion rate 55.9%, recycling rate 85%;</li> <li>2018/19 MSW diversion rate 54.9%, recycling rate 85%.</li> </ul> </li> </ul> <p>Note: the percent of commingled recyclable material diverted from landfill is an average of materials received at the Materials Recycling Facility (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 performance indicators in line with industry standards.	2016-21 Completed	<ul style="list-style-type: none"> <li>A Waste Services Delivery Review (SDR) undertaken in 2018. The SDR 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 of waste management and operations.</li> <li>As part of the SDR 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 greater detail.</li> </ul>
Regularly engage with City of Wanneroo residents	Determine customer satisfaction levels via programmed interaction (surveys, etc)	Ongoing	<ul style="list-style-type: none"> <li>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.</li> <li>The outcome of the above waste survey informed the Service Delivery review and subsequent three bin kerbside collection business case.</li> <li>A biannual community survey is undertaken engaging City residents to provide feedback on all services offered by the City including waste.</li> </ul>
<b>4. Plan for Future Waste Solutions for the City's Community</b>			
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"> <li>In 2018 a Waste Services Delivery Review (SDR) was undertaken. The SDR 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.</li> <li>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.</li> </ul>
<b>5. Increase Community Awareness Regarding Waste Management &amp; Environmental Sustainability</b>			
Communicate reduce, reuse, recycle waste education message to the local community	Develop and implement a 5 year Waste Education Plan	2016-2022 Completed	<ul style="list-style-type: none"> <li>A Robust Waste Education Plan was developed and fully endorsed by Council in 2018.</li> </ul>
	Partnership working with local schools	2017-2022 Ongoing	<ul style="list-style-type: none"> <li>The City continues to forge long term lasting relationships with local schools.</li> </ul>
	Partnership working with local community groups	2017-2022 Ongoing	<ul style="list-style-type: none"> <li>The City continues to forge long term lasting relationships with local community groups.</li> </ul>
Create/implement targeted initiatives for the community	Information specific, based upon feedback i.e. waste drop-off days, Garage Sale Trail	Ongoing	<ul style="list-style-type: none"> <li>Annual drop off days are held at Ashby operations centre for the collection of tyres, clothing, e-waste, cardboard.</li> <li>Ad-hoc drop off days have been undertaken, some in partnership with the MRC for whitegoods, cardboard, household hazardous waste and clothing.</li> <li>The City have partnered with Paintback allowing residents and businesses to dispose of excess paint reducing the risk of paint being disposed within landfill.</li> </ul>

## 6 PRIORITIES FOR 2020-2025

**Table 5** outlines the key priorities, targets and timeframes that will form the focus 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 and examine triggers for any 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 Plans guidelines and satisfies the harmonisation of consistent reporting across Western Australia.

**Table 5: Implementation Plan**

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"> <li>Develop and implement a third lime green bin for the disposal of garden (GO) material.</li> <li>Third bin will be rolled out to all properties on lots &gt;400m<sup>2</sup></li> <li>Standardise bin lid colours in line with AS4123.7-2006 Mobile Waste Containers-Colours, markings and designation requirements.</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>Properties on lots greater than 400m<sup>2</sup> will receive a lime green bin (56,000) all other properties will have the option to opt in to receive a garden organics bin.</li> <li>56,000 properties greater than &gt;400m<sup>2</sup> will have access to a GO bin</li> <li>Align objectives for kerbside collection in line with the Waste Strategy.</li> <li>The implementation will be fully rolled out by end of June 2021</li> </ul>	The roll out will commence 2 <sup>nd</sup> quarter of 2020/2021 financial year (FY)	30 June 2021	Yes	✓	✓	✓	Waste Services
Risks/ Mitigations	<p><b>Community/reputation</b> Community opposition/lack of buy in as location and storage of bins is considered an issue;</p> <p><i>Mitigation</i> 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><b>Environment</b> The GO Three Bin System meets the objectives of State Strategy 2030 only in part, but does meet the upper waste hierarchy;</p> <p><i>Mitigation</i> The City undertook a full procurement activity to secure FOGO processing in the first instance; however third party industry proved they are not ready to accept large quantities of FOGO material at present. The City has committed to transition to the implementation of a FOGO system in line with the objectives of the State WARR Strategy 2030 and when third party FOGO processing matures.</p> <p><b>Financial</b> The Community may believe that the implementation of a three bin system may increase their annual Waste Service Charge;</p> <p><i>Mitigation</i> Research and analysis concludes that GO processing is a reduction in cost than the current disposal methodology, it provides cost savings which will offset any costs required to implement the Lime green lidded GO organics bin/lid changes and all associated project costs. Communications will be published to reinforce this point to the community.</p> <p><b>Product contamination/saleability</b> As this is a new service there may be increased risk of contamination in the lime green lidded GO lime green lidded bin and a misunderstanding of the GO material;</p> <p><i>Mitigation</i> A robust community education and communications plan will be developed engaging residents and educating them on the correct methodology on types of material that can be disposed within the lime green lidded bin and the impact of contamination on the end product, i.e. it cannot be processed in to a clean material that can be processing in to an Australian Standard (4454) mulch or compost.</p>										



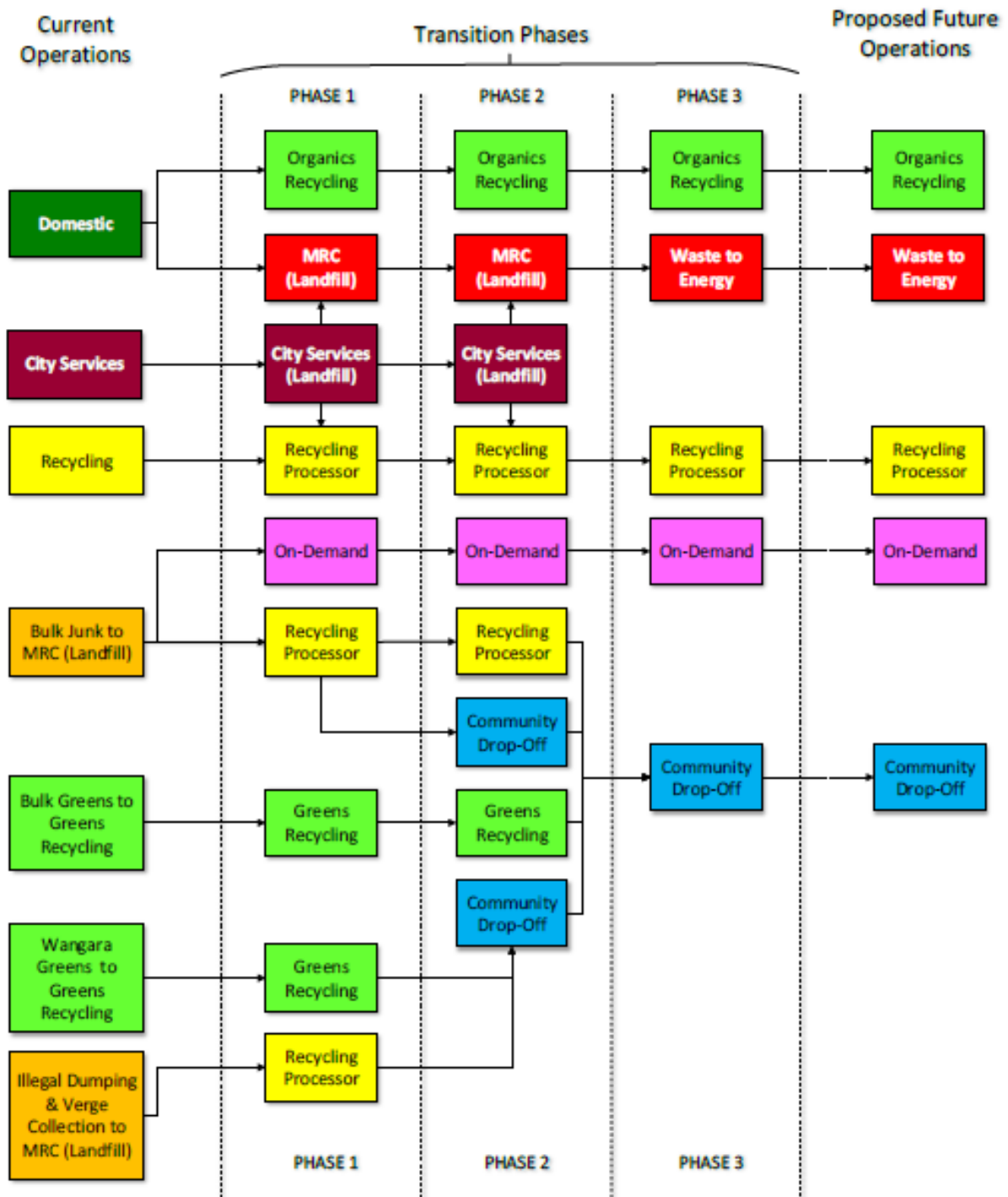
Waste Management Tool	Action	Is the action new or existing?	Detailed actions	Milestones (SMART - Specific, Measurable, Achievable, Relevant, Timed)	Target	Timeframe for delivery (completion date)	Cost of implementation incorporated into annual budget and Corporate Business Plan? Y/N - (if not, why?)	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"> <li>Review existing bulk verge collection service</li> <li>Determine number of drop off sites required per head of population</li> <li>Develop business case for Council</li> </ul>	<ul style="list-style-type: none"> <li>Determine efficiently located sites to facilitate easy disposal for residents</li> <li>Explore alternative options such as on-demand service</li> </ul>	<ul style="list-style-type: none"> <li>Sites identified by 2022</li> <li>1<sup>st</sup> site operational 31 December by 2025</li> </ul>	31 December 2025	Yes		✓	✓	Waste Services
Risks/ Mitigations	<p><b>Community/reputation</b> There is potential for community opposition due to planned change in vergeside collection;</p> <p><b>Mitigation</b> 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	New	<ul style="list-style-type: none"> <li>Identify appropriate land bank</li> <li>Prepare feasibility study</li> <li>Gain necessary approvals (planning and environmental) for chosen site</li> <li>Liaise with potential industry partners on options for the City</li> </ul>	<ul style="list-style-type: none"> <li>Feasibility Study completed</li> <li>Ensure necessary land use is approved on site</li> <li>Identify any necessary environmental approvals and ensure these are in place, where possible</li> </ul>	<ul style="list-style-type: none"> <li>Resource Recovery Precinct operational</li> </ul>	31 December 2025	No		✓	✓	CoW
Risks/ Mitigations	<p><b>Community/reputation</b> 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><b>Mitigation</b> 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"> <li>Liaise with planning Department to formally develop Waste Management Guidelines for various dwelling types</li> <li>Determine most appropriate waste storage solution for constrained plots with limited frontage and/or rear access laneways.</li> </ul>	<ul style="list-style-type: none"> <li>Determine most appropriate way to manage waste and recycling generated in MUDs and Mixed Use Developments</li> <li>Develop and enforce planning policy for waste management infrastructure requirements for MUDs and Mixed Use Developments</li> <li>Explore options to minimise waste transport plant access issues in laneways</li> </ul>	<ul style="list-style-type: none"> <li>Develop waste management planning guidelines for waste infrastructure requirements for new Multi-Unit Dwellings (MUD's) and Mixed use Developments</li> </ul>	31 December 2025	Incorporated into 2020-2021 financial budget	✓	✓		Waste Services & Planning Department
Risks/ Mitigations	<p><b>Health, safety and governance</b> There may be a perception that there is no sufficient storage capacity to introduce varying bin systems in multi-unit dwellings (MUD) and Mixed use Developments;</p> <p><b>Mitigation</b> An early communications and stakeholder engagement plan 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 that no extra waste is created but merely split if 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	Refine current waste data to align with State Waste Strategy Targets	New	<ul style="list-style-type: none"> <li>Improve &amp; update current waste data recording systems</li> </ul>	<ul style="list-style-type: none"> <li>Consider developing standard procedures for data entry</li> </ul>		31 December 2021	No, utilise existing in house staff			✓	Waste Operations
	Understand material composition of kerbside bins	Existing	<ul style="list-style-type: none"> <li>Conduct kerbside bin audits to determine trends and identify opportunities to reduce contamination</li> </ul>	<ul style="list-style-type: none"> <li>Contamination reduced by 5% across all three kerbside waste streams</li> </ul>	<ul style="list-style-type: none"> <li>Reduce contamination in kerbside bins</li> </ul>	31 December annually	Yes	✓			Waste Operations
Risks/ Mitigations	<p><b>Management systems/operations</b> Waste data could be recorded and stored inaccurately leading to poor waste management decision making;</p> <p><b>Mitigation</b> 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 research, developing and recording the most up to date, accurate and beneficial data.</p> <p><b>Community/reputation</b> 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><b>Mitigation</b> 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>										
Behaviour change program and initiatives	Continue to deliver 'The Great Recycling Challenge'	Existing	<ul style="list-style-type: none"> <li>Conduct bin tagging with selected residents as part of the kerbside education program</li> </ul>	<ul style="list-style-type: none"> <li>Community engagement with the program</li> </ul>	<ul style="list-style-type: none"> <li>95% of selected residents participate</li> <li>Increase level of low to no contamination by program end</li> </ul>	31 December annually	Yes		✓	✓	Waste Services
	Deliver complementary measures to support the introduction of Better Bins	New	<ul style="list-style-type: none"> <li>Communication, education and engagement programs focussed on the new collection service</li> </ul>	<ul style="list-style-type: none"> <li>Improved recovery performance of three bin system</li> </ul>	<ul style="list-style-type: none"> <li>Less than 5% contamination in new kerbside GO service</li> </ul>	31 December annually	Yes		✓		Waste Education Officers
	Implement the Waste Education Plan	Existing	<ul style="list-style-type: none"> <li>Design a range of promotion and education campaigns</li> </ul>	<ul style="list-style-type: none"> <li>Shift attitudes to raise awareness of the need to reduce consumption and increase recycling</li> </ul>	<ul style="list-style-type: none"> <li>Increase overall diversion of waste from landfill to 70% by 2025 in line with Waste Strategy 2030</li> </ul>	31 December 2025	Yes	✓	✓	✓	Waste Education Officers
	Continue existing illegal dumping taping initiative	Existing	<ul style="list-style-type: none"> <li>Undertake a benefits review of initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Raise further community awareness on the negative environmental impact of illegal dumping</li> </ul>	<ul style="list-style-type: none"> <li>Reduce illegal dumping by 5% (based upon 2019/20 figures)</li> </ul>	31 December 2025	Yes	✓		✓	Waste Operations

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	
Risks/ Mitigations	<p><b>Community/reputation/financial</b> Lack of stakeholder commitment/engagement with City to develop and participate in City led behaviour change programs and initiative's:</p> <p><i>Mitigation</i> Develop clear, robust communications and educational material, setting clear intentions, objectives and outcomes. Ensure interactions are transparent and engaging and if there is 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

<b>BC</b>	Business Case
<b>CDS</b>	Container Deposit Scheme
<b>Community</b>	Residents/rate payer of the City of Wanneroo
<b>Contamination</b>	Refers to any material placed in a bin (recycling or organics) that is not specified as accepted for recycling by the waste processing facility
<b>E - Waste</b>	Electronic waste typically waste consisting of circuitry such as televisions, computers and associated technology
<b>Energy from waste</b>	The terms 'waste to energy' or 'energy from waste' can be used interchangeably to describe a number of treatment processes and technologies used to generate a usable form of energy from waste materials.
<b>EPA</b>	Environmental Protection Authority
<b>GO</b>	Garden Organics
<b>FOGO</b>	Food Organics and Garden Organics
<b>General Waste</b>	Refers to all waste materials that have not been separated out for recycling and are destined for landfill
<b>GRC</b>	Great Recycling Challenge
<b>Illegal Dumping</b>	The deliberate and unauthorised dumping/tipping or burying of waste on land that is not licenced or fit to accept the waste
<b>Landfill</b>	An engineered facility for the disposal of waste material by burial
<b>MRC</b>	Mindarie Regional Council
<b>MRF</b>	Material Recycling Facility
<b>Recycling</b>	Materials are processed in to new material or new product
<b>Reuse</b>	The practice of using an item more than once without processing the material
<b>RRF</b>	Resource Recovery Facility
<b>SDR</b>	Service Delivery Review

<b>Source Separation</b>	The practice of segregating materials into discrete material streams prior to collection
<b>SWMP</b>	Strategic Waste Management Plan
<b>The City</b>	City of Wanneroo
<b>TP</b>	Transition Plan
<b>WA</b>	Western Australia
<b>WARR Act</b>	Waste Avoidance and Resource Recovery Act 2007
<b>Waste Strategy</b>	Waste Avoidance and Resource Recovery Strategy 2030
<b>Waste Audit</b>	A physical analysis of the contents of a bin
<b>Waste Bins</b>	Waste receptacles located in/at households, parks, council facilities
<b>WEP</b>	Waste Education Plan
<b>Waste Minimisation</b>	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.

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*The Environment Protection and Biodiversity Conservation Act 1999*

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