

NO TIME TO WASTE!



Strategic waste management plan 2024- 2029

Final Draft

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Executive Summary

Providing sustainable cost-effective waste management solutions in a rapidly evolving waste management industry is a major challenge for every Australian Local Government Authority. The Town is committed to the ongoing delivery of better practice waste management services while maintaining focus on its net carbon zero emissions by 2030 target. Municipal (household) waste accounted for 85% of the Town's net emissions in 2018 largely as a result of greenhouse gas emissions from landfill. The objective of this Strategic Waste Management Plan (SWMP) is to provide the Town with the direction to achieve its net zero emissions target by facilitating the development of a circular economy that aligns with the *State Government Waste Avoidance and Recovery Strategy 2030* (State Waste Strategy), the resource and waste hierarchy and the Town's Strategic Community Plan.

A Circular Economy views waste as a valuable resource that reduces the need for virgin materials, reduces greenhouse gas emissions and the associated impacts on our natural environment. This SWMP guides the Town in exploring ways to improve the variety of waste collection services and resource recovery as well as promoting less consumption through reuse, repair, repurpose, borrowing and recycling. This vision must be extended beyond municipal waste to achieve the Town's target of 80% resource recovery and less than 15% of all waste entering landfill by 2030.

1. Introduction

Providing sustainable, cost-effective waste management solutions in a rapidly evolving waste management industry is a major challenge for every Australian Local Government Authority. The Town of Victoria Park (the Town) is committed to securing efficient, cost effective and environmentally friendly ways of managing waste and improving services for the Town and its community. Municipal (household) waste was estimated to contribute 85% of the Town's net emissions in 2018 largely as a result of greenhouse gas emissions from landfill. Decreasing the amount of waste entering landfill is critical if the Town is to achieve its net zero carbon emissions target of 0% by 2030 (Climate Emergency Plan).

In response, the Town will strive to create a circular economy focused on reduced consumption of virgin materials by promoting reuse, repair, repurpose and recycling. The Town is also committed to sourcing better practice resource recovery services for materials that are no longer suitable for the circular economy, including waste to energy processes.

The objective of this Strategic Waste Management Plan is to set priorities, focus resources in a cost-effective manner to strive to achieve a circular economy, improve resource recovery and minimise waste entering landfill to 15% over the next five years of operation. Past practice of sending waste to landfill is no longer a viable option both economically and environmentally. The recovery of valuable resources that would otherwise be sent to landfill reduces the need for virgin materials, reduces greenhouse gas emissions and the risk of contamination of groundwater and our natural environment, thereby creating a safer, more sustainable place to live.

2. Strategic Alignment with Existing Waste Policies

The Town is aligning its Strategic Waste Management Plan with several strategies including the *West Australian Governments Waste Avoidance and Resource Recovery Strategy 2030*, the relevant parts of the *United Nations Sustainable Development Goals* and the *Town's Strategic Community Plan*. These targets inform the Town's strategic waste goals and some of the initiatives required to achieve the identified targets.

The West Australian Government has developed the *West Australian Waste Avoidance and Resource Recovery Strategy 2030* (currently under review), which sets waste management targets through to 2030 and drives local government waste strategy.

The *West Australian Waste Avoidance and Resource Recovery Strategy 2030* focuses on:

- A 10% reduction in municipal waste per capita, 10% reduction in commercial and industrial waste (C+I) and a 30% reduction in construction and demolition waste (C+D).
- Increasing recycling to 70% for municipal waste and 80% for C+D and C+I.
- No more than 15% of waste entering landfill
- Move toward zero illegal dumping
- All waste is managed and/or disposed of using better practice approaches and facilities.
- Reduce organic waste to landfill by at least 50% of 2019 levels.

The State Waste Strategy also identifies focus materials, which will be the drivers of actions and measurements. These focus materials include:

- Construction & Demolition (C&D) waste
- Organic waste - food and garden waste from residential and commercial activities.
- Metals - steel, non-ferrous metals, packaging and containers.
- Paper and Cardboard - office paper, newspaper and magazines.
- Glass - packaging and containers.
- Plastics - packaging and containers.
- Textiles - clothing and other fabric based materials.
- E-waste and batteries

Resource recovery, waste collection and processing practices should be considered in the context of the waste hierarchy as per Figure 1 below. The waste hierarchy should be used alongside other tools such as cost benefit analysis, relevant Sustainability Development Goals and the Town's Strategic Community goals which are outlined below.

Overall objectives and state targets

Avoid	Recover	Protect
<i>Western Australians generate less waste.</i>	<i>Western Australians recover more value and resources from waste.</i>	<i>Western Australians protect the environment by managing waste responsibly.</i>
2025 – 10% reduction in waste generation per capita 2030 – 20% reduction in waste generation per capita	2025 – Increase material recovery to 70% 2030 – Increase material recovery to 75% - From 2020 – Recover energy only from residual waste	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

12 Waste Avoidance and Resource Recovery Strategy 2030 Western Australia's Waste Strategy



Figure 1: Resource and Waste Hierarchy

Relevant United Nations Sustainable Development Goals (the parts relevant to the Town's waste services):

2. Zero Hunger. The Town is working towards this goal through its home composting program whereby residents are given the opportunity to attend workshops where they learn how to compost, how to grow home produce with their compost and how to cook healthy meals on a tight budget using leftovers and home produce.

6. Clean water and sanitation by pursuing sustainably responsible municipal waste collection and treatment.

7. Affordable and clean energy by diverting general waste from landfill to waste to energy facilities by 2025.

11. Sustainable cities and communities by promoting a circular economy within the Town of Victoria Park and delivering waste education and other community based activities to optimise the waste management outcomes benefiting all community members.

12. Responsible consumption and production through waste education and promotion of circular economy initiatives for the Town's visitors, residents and the commercial community.

Town of Victoria Park Strategic Community Plan:

EN2 Facilitating the reduction of waste through public education and by diverting municipal waste from landfill.

CL1 Effectively managing resources and performance by managing municipal waste in an environmentally, socially and economically responsible manner.

CL3 Accountability and good governance as demonstrated by this Strategic Waste Management Plan (SWMP) and related reports.

2.1. Key strategy elements

VISION	<i>Provide best practice waste management and resource recovery to create a circular economy, for the Town and its community, thereby protecting human health and the environment</i>		
OBJECTIVES	AVOID The Town generates less waste.	RECOVER Waste is viewed as a resource that can be repaired, reused, repurposed, recycled.	PROTECT Waste is managed responsibly to protect community health, and the environment. The Town will achieve its Climate Emergency Plan target of net zero carbon emissions by 2030.
TARGETS	FY 30/31 – The Town has a circular economy that reduces demand on virgin materials and minimises waste by aligning itself to: - achieving the state target of a 10% reduction in municipal waste per capita by 2030 - adopting national circular economy metrics to measure avoidance and circularity developing avoidance measures and targets for specific materials consistent with national targets	FY 25/26 Food Organics/Garden Organics (FOGO) + Waste to Energy for all households FY 26/27 FOGO + Waste to Energy for all commercial Multi-Unit Developments (MUD) and businesses FY 30/31 circular economy is fully operational with 0-15% of waste entering landfill	FY 30/31 The Town has reduced carbon emissions from municipal waste to net zero. - Move towards zero illegal dumping Adopt the 2030 state litter reduction target by adopting their litter prevention strategy

HEADLINE STRATEGIES				
1. OPERATIONS	2. COMMUNITY PARTICIPATION + ENGAGEMENT	3. RESEARCH + DEVELOPMENT	4. STAKEHOLDERS + PARTNERSHIIPS	5. CIRCULAR ECONOMY
Funding 1.1 Develop a long term (5-10 year) waste services budget. 1.2 Determine how residents, MUD's + businesses will be charged for waste services. 1.3 Explore external funding sources including grants. Services 1.4 Three bin system: - Lime green lid – (FOGO) - Red lid - (WtE) - Yellow lid - recycling bin 1.5 Bulk waste verge collections. 1.6 Hazardous waste collection. Continuous Improvement 1.7 Monitoring and reporting of services delivered. Contingency planning 1.8 Develop a contingency plan for extreme weather event disrupting collection services.	Public Education 2.1 Educate the public about the three bin system and the correct segregation of waste to minimise waste entering landfill. 2.2 Bin audit and bin tagging following FOGO rollout. 2.3 QR codes on waste calendar to provide updated recycling information. Workshops 2.4 Home Composting Initiative Public events, Public Places 2.5 Expand the number and range of difficult waste drop off facilities in public places, e.g batteries and light globes. 2.6 Develop strategies to minimise illegal dumping including the Garage Sale Trail and prebooked verge collections.	Municipal waste 3.1 Identify and mitigate key drivers that impact the cost and range of waste services offered by the Town. 3.2 Maintain accurate waste/resource recovery data to determine efficacy of SWMP and its actions. Annual review. 3.3 Approach other LGA's, Universities and community groups to share resources like transfer station, repair café and tip shop. Commercial and Industrial waste 3.4 Implement FOGO to large MUD's using EDGE apartments as a case study. 3.5 Work with service providers and businesses to expand the range of materials that can be diverted from landfill.	Service Providers 4.1 RFT for new service provider due 2026 4.2 Assess the future value of remaining a member of the MRC 4.3 Investigate feasibility of separating waste service charges in the rates notices. Businesses and Developers 4.4 Servicing businesses 4.5 Work with developers, service providers and other business areas to determine best way to service the waste needs of high-rise high-density precincts. 4.6 Develop clear guidelines around servicing these high density precincts. Community 4.7 Encourage schools to participate in the Waste Authority WasteSorted or similar Schools program. 4.8 Encourage more community driven resource recovery and waste avoidance programs like the Collective Shed. 4.9 Inform the community when grants are available and assist with application and funding arrangements.	Public Education 5.1 Town website actively promotes circular economy 5.2 Promote Plastic Free July within the organisation and the community, including businesses. Workshops 5.3 Promote community workshops like cooking with leftovers, slow mending and repurposing textiles. 5.4 Continue with rebate programs to promote the uptake of cloth nappies, reusable sanitary products and home composting. 5.5 Develop a Sustainability Hub within the Town or share with other LGA's Public events, Public Places 5.6 Town to provide three bin system with ushers at community events. 5.7 Investigate feasibility of drink refill stations within the Town 5.8 Provide more opportunity for Containers for Change facilities in public places. The Town 5.9 Sustainable purchasing within the Town 5.10 Investigate the feasibility of the Town working towards ISO 14001 certification.

3. Background

The Town is a vibrant and diverse inner-city local government located immediately south-east of the Perth Central Business District (CBD). The Town is renowned for its cafes and restaurants and is currently experiencing high levels of growth. The delivery of effective waste services that facilitate a circular economy within the Town is critical to maintaining the Town as one that will continue to **respect its communities** and attract new residents, businesses and visitors.

4. Demographics

4.1. Residential demographics

Located within the Central Sub-Region of the Perth and Peel region, the Town is required to accommodate an additional 18,000 dwellings to meet the State Governments 2050 infill target. This will bring an additional 45,510 residents to the Town, increasing the total population to approximately 77,200 residents. Most of this growth will be in key strategic activity centres that have multistorey high density living. These activity precincts will include Burswood Peninsula, Burswood South, Albany Highway and Curtin/Bentley. The waste service needs of these high rise, high density precincts will be different to those of low density, typically suburban areas. Notwithstanding the lessons learnt by other Local Governments in servicing their high rise properties, the Town will continue to review its waste management practices to sustainably and pragmatically adapt to the changing needs of the Town's community and regulatory requirements without having to implement excessively costly measures such as significant increase of mono skilled labour force and specialist fleet internally. Some of the changes being investigated include contracted verge collection services such as prebooked white good collection, prebooked E waste collection and prebooked mattress collection.

4.2. Commercial demographics

There are approximately 35,200 people working in the Town of Victoria Park local government boundary. The top five employment industries within the Town are entertainment, food services, health and aged care, social services, retail and education. The type of industries located within the Town impact the type and quantities of waste generated. The style and frequency of waste collection and resource recovery has and will continue to be impacted by the Town's 2050 infill targets and associated precinct developments. As an example, the Town's Integrated Transport Strategy focuses on providing an integrated, accessible and sustainable transport network connecting people to places. To minimise impact to access by larger vehicles, especially within the precinct developments mentioned in section 4.1, the design of such infrastructure will need to consider the needs of waste management services to ensure that effective and sustainable services can continue to be provided by the waste management industry.

5. Sources of the Town's Waste

The composition of the waste stream is important for understanding the potential for implementing the waste hierarchy to reduce consumption and increase resource recovery from the general waste stream to achieve the states diversion targets and a circular economy within the Town.

5.1. Domestic

Figure 2 compares the composition of household waste generated by the Town's residents and some of its commercial properties in 2018 and 2024. In 2018 the Town produced 17,848t of municipal waste, 60% of which entered landfill compared with 14,138t in 2023, 12% of which was sent to landfill. This result highlights the success of the garden organics (GO) bin since its introduction in 2022. The GO collection service, in combination with the green verge side collection, has resulted in a recovery rate of almost 60%, 10% higher than the combined total for all MRC member councils. In addition, the Town has successfully diverted 23.9% of its recyclables and 5.24% of its hazardous waste from landfill. Landfill or other, as indicated in blue in Fig. 2 has decreased from 63.6% in 2018 to 12.1% in 2024. This will be reduced further now that e-waste can no longer be sent to landfill. The Town is currently working with various service providers to divert as many different waste streams as possible from landfill (section 8.5).

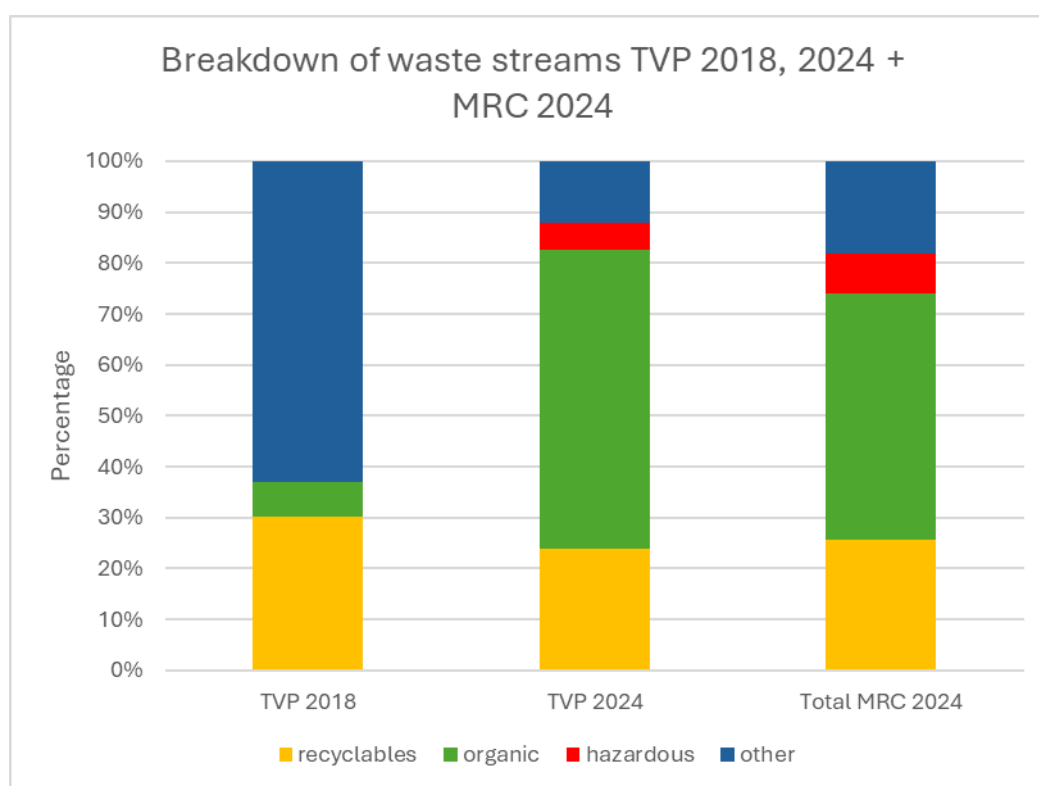
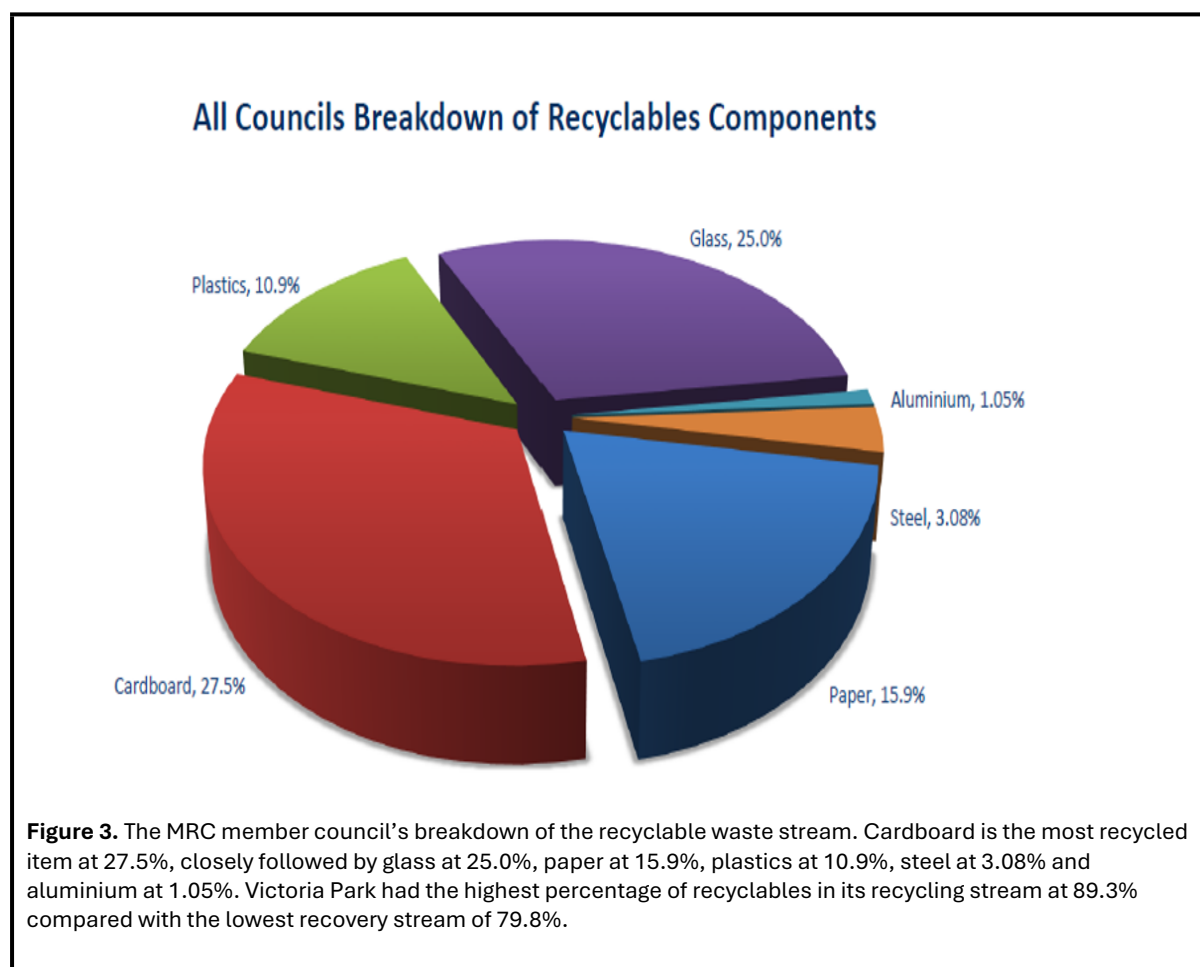


Figure 2: Comparison of major municipal waste streams generated by the Town in 2018 and 2024. Note the large increase in organic waste (58.8%) being diverted from landfill compared with 7% in 2018.

Figure 3 illustrates the high recyclable recovery rate of the yellow lidded recycling bins of the Mindarie Regional Council members. Any excessive contamination in the yellow lidded recycling bins and the lime green lidded GO bin will have to be sent to landfill.



5.2. Commercial

A portion of the Town's waste management services are provided to commercial properties. The Town currently offers a general waste, paper only and a free cardboard collection to a range of businesses. The Town is investigating options to increase recovery of recyclable materials, especially organics, from commercial waste over the next 5 years as outlined in section 8.

6. Current Waste Management Services Offered by the Town

The following is a list of available waste management services provided by the Town in 2024.

- Kerbside Waste Collection (red and dark green lid bin), including wet cell car batteries (excluding e-vehicle batteries) and 5L used motor oil – Weekly.
- Kerbside Recycling Collection (yellow lid bin) – Fortnightly.
- Kerbside Recycling Garden Organics Collection (light green lid bin) – Fortnightly (small green waste items only), available to all properties >400 m² with the option to opt out, and opt-in option for smaller properties.
- Vergeside Bulk Waste Collection – Twice per year.
- Vergeside Green Waste Collection – Twice per year. Reduced from three per year in 2023.
- Hazardous Household Waste (HHW) drop-off including e-waste– Once per year but options to increase this frequency is being explored.
- Prebooked mattress collection, two per household every 12 months.
- Paint drop-off via Paintback – By arrangement all year round;
- Selected small HHW drop-off – Permanent opportunity (the Town's Administration Centre, Leisurelife Centre and Farmer's Market) receiving dry cell batteries, fluorescent globes, mobile phones, ink cartridges, plastic cards and masks, Library and Aqualife and four schools – batteries only.

Factors such as environmental impacts, limited availability and increasing levies are making landfill less acceptable as a waste disposal option. Landfill restricts resource recovery, contributes to the generation of potent greenhouse gases and environmental contamination, especially groundwater. The State Government Waste Avoidance and Recovery Strategy 2030 requires 80% resource recovery from waste by 2030. Many Local Governments including the Town has been exploring alternative waste processes and resource recovery opportunities with focus on fulfilling the various targets of achieving a circular economy and net zero emissions by 2030.

7. Strategic Waste Management Considerations

Numerous strategic considerations could impact on the Town's ability to achieve the State Waste Strategy 2030. Some of these are directly within the Town's control, while others are dependent on federal and state government directives, other local government decisions and community aspirations.

7.1 Financial responsibility

Local government waste management cost is not insignificant and will continue to increase especially if waste is sent to landfill. In 2017-18 waste management services cost the Town \$3.94M or approximately \$140/capita. This increased to \$6.24M or \$160/capita in 2022-23, an increase of almost 14%. Using the figures in Table 2 below, the levy increase from \$70 to \$85 in FY2024/25 will represent an increased annual cost of \$157,000 which will remain until the Town is able to divert its general waste (residue) from landfill to waste to energy.

This SWMP will help the Town identify ways to increase resource recovery which currently sits at around 60%. FOGO and waste to energy processes will reduce the Town's landfill costs. However, waste to energy is expected to cost about the same as landfill (Table 2) at the moment considering the landfill levy influence. The strong desire amongst businesses and residents to build a circular economy within the Town should drive down the cost of WtE as people further segregate their waste correctly.

Table 2. Waste levy forecast.

Financial Year	Levy Rate to Take Affect	Levy Rate Per Tonne
2023–24	1 July 2023	\$70
2024–25	1 July 2024	\$85
2025–26	1 July 2025	\$88*
2026–27	1 July 2026	\$90*
2027–28	1 July 2027	\$93*

* The need for further increases will be considered as part of the future review of the State Waste Strategy.

The waste levy is applied as a disincentive for waste entering landfill especially in light of the state government target of 85% reduction in waste entering landfill by 2030. The upcoming review of the State Waste Avoidance and Resource Recovery Strategy 2030 will consider progress against the State Waste Strategy's targets and provide advice on further initiatives which may be needed to accelerate the 85% landfill reduction target. According to Andrew Beckman, Construction and Demolition Health and Safety Community and Sustainability Manager for Cleanaway NSW, landfill levies provide a significant positive behavioural change. *High landfill levies lead to new and emerging opportunities to improve product stewardship and encourage a circular economy* (Inside Waste Apr/May 2024). Itemising the cost of waste management for residents and businesses alike would introduce a polluter pay system and introduce polluter and therefore producer and consumer incentive to reduce the generation of waste.

To ensure adequate foresight and transparency in future waste service charges, the Town is refining its long-term financial plan for waste services and this will help provide a long range forecast of the future waste management costs and assist the identification of relevant drivers to support sustainable waste management, a circular economy and ultimately, net zero emissions by 2030.

Action Items	
1	Develop a long term (5-10 year) waste services budget
2	Determine how rate payers, multi-unit dwellings (MUD's) and commercial business will be serviced and charged in the future
3	Use the waste services budget to determine the indicative future waste services rates chargeable to rate payers
4	Predict future key drivers that are likely to impact on the future cost of waste management and develop strategies to minimise the financial and reputational risk.

External Funding

The Waste Authority is the primary source of grant funding and sets out an annual business and action plan which provides “seed funding” to encourage the establishment of waste management initiatives, such as a repair café, within a community which is managed by the LGA or a community organisation.

Officers from the Town will continue to monitor the availability of funding sources, and the outcomes sought by the funding suppliers to establish new waste management initiatives that further divert waste from landfill and fulfil community needs and expectations.

Action Items	
1	Monitor and apply for available sources of external funding
2	Where appropriate, adjust the timing and scope of waste management services and activities to suit the timing of available external funding sources
3	Encourage and assist the community in applying for external funding when available

7.2. Waste data

The accuracy and consistency of the Town's annual reporting on the implementation of the Strategic Waste Management Plan (SWMP) is critical in ensuring the Town's achievements are accurately compared against the aggregated metropolitan and state-wide waste management statistics.

Accurately measuring the success of the Town's waste strategy can be achieved by:

- Monitoring community satisfaction through workshops, surveys and customer complaints,
- Carefully recording waste and resource recovery data supplied by our service providers,
- Monitoring the cost of service delivery and anticipating rising costs such as the landfill levy (Table 2).

Typically, community satisfaction is based on the convenience and efficiency of the individual waste services being offered by the Town with cost of services being less of a concern. This could be attributed to these costs traditionally being part of a general annual rate charge rather than an itemised list of charges as suggested in section 7.1.

The accumulation of accurate waste and financial data is critical in managing the Town's waste services and reporting requirements. The financial data collection and reporting has been well established and achieves the Town's financial and statutory requirements. Waste data recording and reporting needs to be accurate and consistent if the Town wants to build a continuous improvement cycle into its waste management strategy and budget.

The Town has been collating its waste management data with the aim of consolidating the information into a single database containing all previous year's data, progressively developed over time with help from appropriately skilled staff. This single data set would include trend tables or graphs to clearly show how the individual waste streams are changing over time and include notes as to why there is a particular change in the data trend (for example, the closure of the Neerabup Resource Recovery Facility (RRF) or the introduction of FOGO).

Once the data has been collated, the reporting will be checked for accuracy and compared with recent historical data to identify any unexplained stepped trend changes that could indicate errors in the data or reporting.

Action Items

1	Work with service providers to ensure complete and accurate waste data is obtained and recorded
2	Use waste data and primary data trends to assess achievement against the Towns and State Waste Strategies.
3	Develop a comprehensive dataset of historical waste data, including notations of events that have influenced changes in data trends
4	Compare recent historical data to identify any unexplained stepped changes, which could indicate errors in the data or reporting
5	Appoint skilled staff to assist with the above works

7.3. Climate Emergency Plan (CEP)

In July 2021, the Town developed a comprehensive Climate Emergency Plan that outlines the Town's strategies to mitigate and adapt to the impacts of a changing climate, with the aim of generating net zero carbon emissions by 2030. This is an aggressive target in comparison to the State Climate Change Bill that sets a target of net zero emissions by 2050.

Municipal waste accounts for 85% of the Town's emissions in 2018/19. Waste, particularly organic waste, trapped in landfill generates potent greenhouse gases such as methane, which is 25 times worse than CO₂. Simply diverting organic waste from landfill through the FOGO, waste to energy and home composting initiatives will have a significant impact on the Town's carbon emissions.

In accordance with the CEP, the following waste management related strategic actions need to be achieved:

- Implement FOGO to all households by FY 2025/26.
- Target a minimum of 70% diversion of organics from landfill by 2030.
- Target a minimum of 70% diversion of paper and cardboard from landfill by 2030.
- Implement methods of efficient and minimised waste disposal for other items to target a minimum of 80% diversion of all materials from landfill by 2030.
- Support and educate the community:
 - Continue to provide community education on how to reduce landfill waste and improve recycling.
 - Promote the use of established platforms and tools that encourage energy and waste reduction and sharing of resources.
 - Investigate the opportunity to provide subsidies, products or similar, to support organic waste recycling at home.
 - Investigate the opportunity to provide an incentive-based mechanism for residents to reduce their waste footprint.
- Support and educate businesses:
 - Extend community education on waste and recycling to businesses, highlighting the economic benefit for waste minimisation.
 - Investigate the opportunity to provide subsidies to support organic waste recycling for businesses to reduce landfill waste.

- Investigate the opportunity to provide an incentive-based mechanism for businesses to reduce their waste footprint, including a recognition/reward program for businesses that are using energy efficient and sustainable practices.

Action Items	
1	Implement a community education program focused on the new FOGO and WtE collection system.
3	Provide education campaigns that drive the correct segregation of waste, this will include fridge magnets and QR codes linking to the Town's website.
4	Monitor bin use in each suburb once FOGO and WtE have been introduced.
5	Review the effectiveness of the bin monitoring program and consider a second program within 6-12 months of the first.
6	Explore the use of camera system on the waste collection trucks to notify council officers of any highly contaminated bins and act accordingly.

7.4. Mindarie Regional Council

The Mindarie Regional Council (MRC) is a regional council that was set up primarily as a waste management organisation for seven member councils, namely:

- Town of Victoria Park
- City of Perth
- City of Vincent
- Town of Cambridge
- City of Stirling
- City of Joondalup
- City of Wanneroo.

The MRC provides the Town with:

- A secure landfill disposal option through to 2028 (anticipated landfill closure date).
- Joint tendering for WtE and FOGO processing and other similar bulk procurement activities.
- Access to substantial funding from the Waste Authority as a result of the large metropolitan population represented by the MRC.
- Possible future large-scale waste facility processing capacity or joint tendering opportunities.
- Consortium of Regional Educators for Waste (CREW) membership which allows collaboration and the sharing of ideas and resources, including a Plastic Free July CREW membership.

The MRC owned and operated infrastructure is located in the City of Wanneroo, therefore providing limited benefit to the Town residents and businesses as a recycling drop off and resale centre. This, combined with the closure of the Neerabup RRF, the diversion of waste from landfill and the anticipated closure of Tamala Park towards the end of this decade, the Town will have minimal reliance on the MRC for its waste disposal in future.

As such, The Town's ongoing involvement with the MRC should be reviewed, based on a comparison of the participation cost verses current and likely future advantage.

Action Items	
1	Assess the future opportunities and value of remaining a member of the MRC

8. Opportunities for Improved Resource Recovery and a Circular Economy

Driven by the State Government's Waste Avoidance and Resource Recovery Strategy 2030 and its Climate Emergency Plan, the Town is using this SWMP to guide it towards a circular economy where waste is viewed as a resource rather than a disposal problem. Securing different waste collection and processing services in an efficient and cost-effective manner poses many challenges in a rapidly changing waste management environment. The Town's waste collection service contract is due for renewal in September 2026, providing the Town with the opportunity to secure service providers that will continue to offer cost effective waste collection services that adapt to the changing needs of the Town.

8.1 Service delivery

Prior to tendering future waste management services, the Town will review its current waste management practices and service providers. The Town needs to secure services that will increase the range of materials that can be recycled at a competitive price. The transition to WtE and FOGO by FY 2025/26 provides the Town with an immediate opportunity to examine its waste management services. Significant contractual considerations could include:

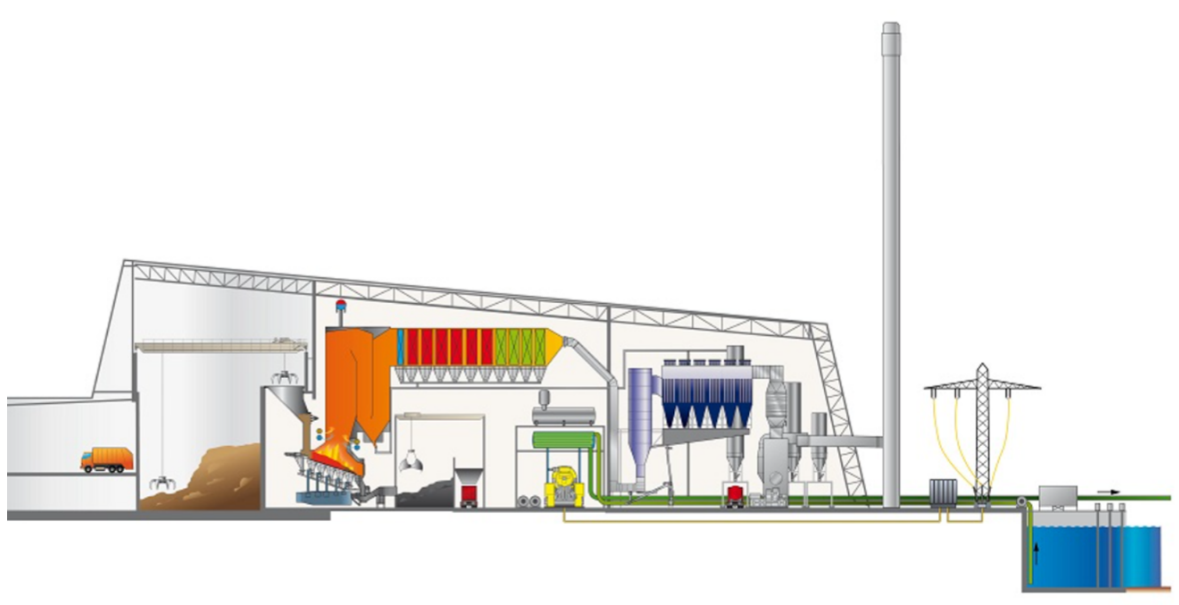
- Ability to safely service accessible laneways and ROW's.
- Transportation solutions such as the use of a transfer station to service small collection trucks so transporting of different waste streams out of the Perth metropolitan area by large haulage trucks minimises emissions.
- Ability to process different waste streams that comply with the Town's vision of zero carbon emissions and a circular economy.
- Processing will include but not be restricted to WtE, FOGO, recycling, e-waste, white goods and mattresses.

Action Items	
1	Examine ways to increase the range of materials that can be recycled
2	Approach other LGA's, community groups and Universities to share ideas and resources like a transfer station, repair café and 'tip' shop.

3	Assess market interest and consider combining different services into a single contract to potentially achieve more competitive pricing or opening the service to a wider range of service providers.
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8.2 Waste to Energy (WtE)

Two large-scale Waste to Energy facilities in Kwinana and East Rockingham will be operational in 2025. Once operational, the two facilities will receive around 700,000 tonnes of waste per year which is approximately half of the 1.4M tonnes of municipal, commercial and industrial waste currently going to putrescible landfills (Class II and III landfill). Waste to Energy will convert non-recyclable waste to electricity through incineration. Residual ash, appropriately processed, could be used in the construction industry and any metals will be recovered for recycling. While incineration is ranked low in the waste management hierarchy (Fig 1), waste will not enter landfill where greenhouse gases and heavy metals leach into the environment. Once operational, the Town will achieve a recycling rate in excess of 90% and a significant reduction in its carbon emissions.



Anecdotal evidence indicates the cost of WtE will be similar to the current haulage and landfill disposal rate for the Town, so it is imperative that WtE is used only for non-recyclable materials and large haulage trucks collect this waste from a transfer station before transportation to the WtE facilities.

Action Items	
1	Maximise the diversion of processable waste materials (red lid bin waste) and bulk waste to the WtE facility which is due to commence in 24/25

8.3 Organic waste and FOGO

The Town introduced Garden Organics (GO) to its kerbside collection in August 2022. A third, lime green lidded bin, was delivered to domestic properties of 400m² or more, while people residing on properties less than 400m² could opt into the service. GO is collected fortnightly and

transferred to a facility in Shenton Park where it is initially processed before being sent to another processing facility to be converted into marketable products.

The Town's current plan is to move to FOGO by FY 2025/26 with all domestic properties who do not currently have a bin GO receiving a FOGO bin by mid to late 2025. The transition to WtE and FOGO by 2025 will require extensive education to explain the correct segregation of waste, especially the difference between FOGO and GO, and the change in kerbside collection. Kerbside collection frequency of FOGO will increase to weekly while recycling (yellow lidded bin) and WtE (red lidded bin) will be collected on alternate fortnights.



The correct segregation of waste is imperative if the aim is to divert waste from landfill. The use of visual/image based materials such as fridge magnets, the Waste Calendar and a new QR code system will inform the public of the correct segregation of waste, as well as appropriate waste collection centres for difficult to recycle items like bulk waste and e-waste. The QR code will connect to the Towns Website which will be regularly updated with any changes to the recycling system and the recycle right website. The website will also have access to translation apps for common languages other than English. Targeted education will be available in the five most commonly spoken languages other than English as identified by the Town. A bin tagging program is being explored for implementation for the first 12 months of the new kerbside collection being introduced to aid residents in their understanding of the three bins system and the correct segregation of waste.

Action Items	
1	Implement a FOGO collection system to all households by 2025.
2	Continue with community education workshops aimed to reduce food waste and organics entering landfill as well as the garage sale trail and cloth nappy workshops. Explore other education workshops to reduce consumption and waste.

3	Business community education to reduce waste and power consumption including the implementation of FOGO collection for MUD's and potentially the hospitality industry.
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8.4 Home composting

In direct response to community demand the Town ran its first home composting workshop in February 2023. These workshops are held every 2 months with participation increasing through word of mouth and advertising on the Towns website and social media.

Attendees participate in a 2 hour workshop where they learn the principals of composting and are introduced to Bokashi buckets, worm farms, hot and cold compost systems. These are interactive workshops where participants are encouraged to ask questions and explore the best composting system to suit their needs.



At the end of the session participants are asked to complete a survey and are invited to join a closed Face Book page, run by the Town, where they find support and tips for composting and using excess produce. The site is also used to promote future waste education events.

Ratepayers are given a \$100 voucher to purchase the composting system of their choice from local sustainability business, Urban Revolution. This requirement guarantees a quality product, supports a small local business and simplifies payment to our service provider who record the number and type of systems purchased. In return, ratepayers are asked to weigh and record how

much food waste they are diverting from landfill to their system(s) each week for a maximum of 8 weeks.



Figure 4: Composting workshops hosted by the Town

Participants are invited to a second workshop held every alternative month at the community garden. In this workshop participants explore cost effective ways to upscale their composting system and how to garden with their compost. Attendees are asked to complete a second survey, which is then collated with the first survey, and waste tally sheets to monitor the success of the program.

While participation in the second workshop is significantly less than the first, extrapolation of data indicates that if 80 households each divert 1kg of food waste from landfill each week, they will save 24 cubic meters of greenhouse gases being emitted to the atmosphere. These preliminary results indicate the significance of the home composting initiative to the Town achieving net zero emissions by 2030, in addition to the reduced carbon miles associated with waste collection and food production, if people grow some of their own produce.

Future workshops will focus on Plastic Free July, cooking with leftovers and excess produce and the Earth Carers Course, a 6 week course which examines waste segregation, sustainable living and the circular economy.

8.5 Hard waste, mattresses, e-waste and white goods

Currently the Town offers two scheduled rounds of bulk hard waste verge collection and two scheduled rounds of bulk garden organics collection per year. Materials are stockpiled on the verge until collection by contractors. Reusable items are often salvaged by members of the public; however, the accumulation of waste can be unsightly, subject to spoil by wet weather and anecdotal evidence suggests a correlation between bulk waste collection and 'inside the gate' theft. The Town is currently examining alternatives to bulk waste collection including prebooked verge collections, pre booked white good and mattress collections. Evidence from the West Australian Local Government Authority (WALGA) suggests prebooked bulk waste collection services reduce the incidence of illegal dumping especially around large MUD's because people can book a bulk waste collection service as required.

Electronic or “e-waste” includes, but is not limited to, televisions, computers, mobile phones, kitchen appliances and white goods. With the world becoming more automated, the range and quantity of e-waste has and will continue to increase exponentially. The collection of bulky white goods is likely to move to a prebooked service, as discussed above, while small items like mobile phones, computers, fluorescent tubes and batteries can be delivered to community drop off centres like OfficeWorks, Apple stores and the Town’s administration building and Leisurelife. The Town is also working with local contractors and charity organisations to accommodate e-waste including vapes and the lithium batteries commonly found in e-waste. E-waste will also be collected as part of the Town’s hazardous waste collections service.

Action Items	
1	Investigate the viability of pre-booked verge collection system as an alternative to the current bulk waste collection system.
2	Work with charities, other LGA’s and waste collection service providers to recycle and repurpose bulk waste collection items.
3	Implement local solutions for the drop-off and/or collection of e-waste and examine the viability of a designated e-waste verge collection service.
4	Continue with an active campaign of education, warning and cleanup of illegal litter and dumping within the Town.

8.6 Hazardous waste and Inert waste

Some domestic waste cannot be disposed of in existing waste collection systems because of their toxicity, volatility or low calorific content. Such items include household paints, pesticides, batteries, aerosol cans, construction materials and asbestos.

The Town looks forward to increasing it’s annual hazardous waste collection day to twice a year with the range of hazardous wastes expanding to include e-waste, batteries, aerosol cans, household paints, oils, gas bottles, pesticides and other toxic chemicals.

Inert waste such as building rubble has no current disposal solution within the Town. Residents are expected to take this material to a waste drop-off facility located within other local government areas, the nearest being 20 km from the centre of the Town. Most residents are likely to simply place small amounts of inert material into the kerbside red lid bin, on a weekly basis, until all their inert waste has been collected.



With the imminent commencement of WtE disposal, inert waste should not be sent to these facilities, as it has no calorific value and can damage the plant processing equipment. The Town is exploring options such as a local drop-off facility that is convenient for the community and ideally diverts this waste to road base.

Action Items	
1	Work with service providers to divert waste items to WtE facilities instead of landfill.
2	Monitor response to the hazardous waste collection days to see if more services are required.

3	Use the QR code facility to inform public of changes to kerbside and hazardous waste collection.
4	Work with local LGA's to explore the use of a drop off point for inert waste that is within close proximity to the Town.

8.7 Community drop-off, recycling and reuse (tip) shop

Developing a small community sustainability and recycling hub provides a convenient and cost-effective one-stop-shop for the community. Ideally the hub would focus on community engagement and education and would incorporate:

- Waste and recyclable material drop-off facility (for waste items identified in the SWMP as requiring special drop-off or collection action).
- Community education focused on reduce, reuse, repair, recycle and repurpose.
- Community industrial kitchen for cooking with leftovers and excess produce workshops.
- Reuse shop with access to free quality clothing for the needy and homeless.
- Repair lab including workshops in basic tool use and repair.
- Composting displays, demonstrations and share waste facilities.
- Expansion of the community garden including chickens to demonstrate composting and the circular economy.

Being an inner-city municipality, the Town has limited space available for such a facility, which is also a problem faced by neighbouring MRC members. In its endeavour to achieve this, the Town is currently exploring the options of partnering with other organisations and councils outside of the MRC that are within a short driving distance to the Town.

8.8 Share economy and the tool library

According to the European Union, half of all greenhouse gas emissions, and over 90% of biodiversity loss and water stress, come from resource extraction and processing. A circular economy is one that seeks to break this cycle by maximising the use of natural resources and minimising environmental impact. This is achieved through reuse, repair and recycling of products and materials. Libraries and toy libraries are common within communities; while equipment for specialist household jobs, like hedge trimming or painting, often require people to purchase what they need and rarely use.

The Library of Things is an initiative in local communities which lends equipment instead of books. These objects include gardening tools, power tools, sport equipment, sewing machines and specialist cooking equipment. The aim is to foster the circular economy and reduce excess consumption and accumulation of objects that are rarely used. It is based on the “lend instead of buy” principle and not only helps to reduce environmental impact, but also promotes community belonging and mutual learning.

The Collective Shed is the Town's own library of household goods that can be borrowed by members who reside within the Perth metropolitan area. Membership is \$40 for individuals or \$60 per family which provides access to the inventory of stuff without a hiring fee.



Figure 5: The Town's very own Library of Things.

8.9 Public Place Disposal Services

The Town currently provides public place general waste disposal bins with limited recycling bins because of contamination problems experienced in the past where the entire truck load of acceptable recyclable materials had to be landfilled as a consequence. The bins are effective for reducing litter but not waste segregation. Given the success of the Container Deposit Scheme (CDS) - Containers for Change baskets, installed in late 2023, the Town is considering extra baskets to expand the service beyond the 10 baskets initially provided by the CDS.



In response to public demand the Town placed two 240L recycling bins at Aqualife and Leisurelife for people to dispose of their drink containers. Sporting clubs are invited to collect these containers as a fundraiser. These facilities benefit from the availability of passive surveillance to help minimise intentional contamination.

There is also some public interest in providing the 3-bin system and education at various sporting facilities within the Town.

In late 2023, the Town provided waste and recycling bins at two of its public events, which proved successful from a community education and participation perspective. Waste segregation, with ushers to guide people how to correctly segregate and dispose of their waste. This will continue to be considered for Town events where the risk of contamination is low. It intrinsically educates the public about correct segregation of waste and reduces landfill costs for the Town.

Public education and careful monitoring by the Town during litter clean-up activities will help identify litter hot-spots and the type of rubbish being left. This data will help inform the Town as to what type of bins to install if any.

Action Items	
1	Monitor litter generation and install additional public place waste if necessary, especially along the foreshore.
2	Encourage the use of recycling bins at all public events. Where the risk of contamination is low enough.

8.10 Sustainable Purchasing

The Town has a responsibility to lead by example in sustainable waste management practices, including the purchase and consumption of sustainable products. Ideally, purchasing of products that generate minimal waste, are durable and repairable are preferred to items made of recycled or recyclable materials. Where possible, locally manufactured goods should be given preference to reduce carbon miles and stimulate the local economy.

The Town's current purchasing policy includes consideration of Sustainable Procurement and Corporate Social Responsibility. This policy provision encourages the purchase of products that can be refurbished, reused, recycled and/or reclaimed. Priority should also be given to manufacturers that demonstrate reduced packaging and waste generation during manufacture.

Action Items	
1	Sustainable purchasing should be endorsed for all procurement where feasible.
2	Consider the purchase of repairable products over those that are designed mainly to be disposable.

9. Challenges for the Town of Victoria Park

Waste management has evolved from the traditional role of collection and disposal of waste to landfill to one that focuses on recovery of materials and resources to facilitate a circular economy and protect human health and the environment. While advances in technology, monitoring and recovery facilitate these goals, there are many challenges for the Town to deliver cost effective sustainable waste services. These issues are summarised below.

9.1 High density living

High density living, especially those located in activity precincts like the Burswood Peninsula and Belmont Park, present unique challenges. Servicing the waste management needs of multi-storey high density apartment blocks and meeting correct waste segregation requirements necessitate ongoing investigations and careful planning and education. Providing adequate storage space and ease of movement for multiple bins on each level and/or in the basement, maintaining hygiene standards and minimising traffic congestion problems on bin collection days are just some of the challenges facing the Town.

9.2 Servicing laneways

The Town has numerous narrow laneways and right of way access roads (ROW's) that are pending upgrade, subject to budget availability and timing of land development activities. They are also common places for illegal dumping and anti-social behaviour. Bin storage and collection from large multiple use commercial properties is currently dependent on the property, with some using laneways while others use the street frontage.



Placing of multiple bins from large multi-use commercial complexes in the street for bin collection risks traffic congestion and public safety concerns, particularly when streets are busy and narrow. Similarly, bin collection from narrow ROW's poses access and serviceability issues for service providers. The Town should continue to ensure that developments are appropriate designed to accommodate various types of bin collection vehicles in order to take advantage of cost effective waste management services offered by the industry.

Action Items	
1	The Town to continue to work collaboratively with the industry and appreciate the lessons learnt from other LGs to ensure that future developments along laneways and ROW's will continue to enjoy sustainable and effective waste management services.

9.3 Servicing commercial properties

Local businesses and developers are an important part of the Town's community and have a significant role to play in the Town's waste avoidance and recovery strategy.

There will be considerable construction and development as the Town strives to meet the infill targets outlined in Section 4. This presents the Town with an opportunity to encourage waste diversion and the use of recycled products in new buildings. To encourage sustainable development many Australian LGAs require that each development application include a waste management plan and submission of dockets as evidence of where waste has been processed. The Town will explore the feasibility and advantages of implementing a similar system.

The Town is renowned for the abundance and diversity of cafes and restaurants within the municipality, with hospitality being a major employer within the Town. Education and aged care are also major local industries. Food waste, drink containers and wrappers are major waste sources from these sectors. Textiles, paper, glass and cardboard form the major waste streams for other small to medium enterprises located within the Town.

The Town will work with relevant stakeholders to encourage waste diversion by these sectors, especially FOGO and recycling. To improve amenity and assist in the delivery of the Towns and state diversion targets, it is proposed that the Environmental Health Licence requirements be reviewed to encourage recycling and organics recovery.

Action Items	
1	The Town to explore the option of encouraging developers to adopt a valid waste management system and sustainable procurement policy with compliance measures.
2	The future review of the Town's Environmental Health Licence requirements to consider options that could further encourage recycling and organics recovery.

9.4 Contingency Planning

The Town will consider the impact of extreme heat and storm events on existing waste management services. Strong wind events and flooding will place extra pressure on regular waste services in terms of access and tonnage. The demand for bulk verge collections is also likely to increase. The Town needs to plan for such events.

Action Items	
1	Consider the impact and contingency planning necessary in the event of extreme weather which may directly impact the Town and/or disrupt regular waste collection.

10. Implementation plan

Delivering this waste strategy relies on multiple stakeholders both within and external to the Town of Victoria Park. It will be a process of constant assessment of the industry, adaptation and gradual implementation, monitoring and review, especially in response to changing federal and state government policy and guidelines. This section outlines some of the overarching considerations for facilitating the delivery of the waste strategy. An implementation plan has been developed to complement the strategy.

Reference / acknowledgement

Community engagement feedback

ToVP documents

DWER publications

Waste Authority Website

WALGA publications and input

Waste Sorted web site

MRC information

Information from other Local Governments in WA