



City of Vincent

Waste Strategy

2018 – 2023

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Acronyms, Terms and Descriptions

Acronym or Term	Description
CBP	Corporate Business Plan
C&D	Construction & Demolition
DER	Department of Environmental Regulation
EPS	Expanded Polystyrene
EPR	Extended Producer Responsibility
E-waste	Electronic waste
FOGO	Food Organic Green Organic
HHW	Household Hazardous Waste
MGB	Mobile Garbage Bin (standard 240L household sized wheeled bins)
MRB	Mobile Recycling Bins (standard 240L household sized wheeled bins)
MRC	Mindarie Regional Council
MRF	Materials Recovery Facility
MSW	Municipal solid waste. MSW is the solid waste generated from domestic (household) premises and local government activities
MUD	Multi-Unit Development
RRF	Resource Recovery Facility
SCP	Strategic Community Plan
WALGA	Western Australia Local Government Association
WARR Act	Waste Avoidance and Resource Recovery Act 2007
WS	City of Vincent Waste Strategy 2018 - 2023

1. Introduction

The City invests approximately \$6.5 million per annum on waste services, in 2016/17 collected 20,217 tonnes of waste (in total) and recovered 7,941 tonnes, achieving a recovery rate (landfill diversion rate) of 39%.

The City's Waste Strategy 2018 – 2023 focusses not only on improving the City's management of waste by increasing recovery and decreasing waste to landfill, but also aiming to decrease the waste generation within the City as a whole. This Strategy is intended to propose what residents, businesses and the City itself will need to explore, develop and implement, to achieve this.

The City recognises its statutory obligation in accordance with the WARR Act (*Waste Avoidance and Resource Recovery Act, 2007*) and aims to provide residents with cost effective, sustainable and contemporary waste services. Furthermore, the City understands and commits to its role in community education and engagement, to progress waste behaviour through the waste hierarchy, working towards zero waste.

2. Overarching Aims, Approach and Targets

There are themes that must be continuously considered, addressed and applied throughout the implementation of this Strategy. These themes have been identified as overarching Aims and Approaches to deliver the Strategy:

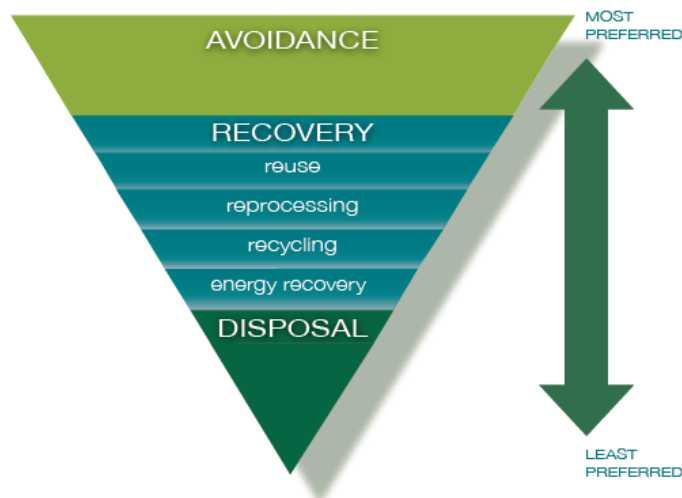
The City aims to achieve:

1. Zero waste to landfill through maximising recovery and avoidance
2. Engaged and informed community
3. Long-term planning to maximise opportunity
4. Cost effective, sustainable and contemporary waste services
5. Working in collaboration, locally and regionally

The City will approach the Strategy by:

1. Applying the "Waste Hierarchy" (Figure 2.1) in all Projects
2. Working towards zero waste to landfill throughout implementation
3. Investigating opportunities for the Circular Economy (local solutions)
4. Considering the carbon emissions which result from the management of waste

Figure 2.1 Waste Hierarchy



2.1 Targets

The City has an overall aim to achieve zero waste landfill. To ensure the City develops specific targets (that are measurable, attainable, realistic and timely), a series of specific targets will be developed in Year 1 of the Strategy through delivery of the waste projects and as key decisions on future services are made as part of that delivery process. Furthermore, the City's specific targets will be informed by and aligned with the new targets to be announced through the new State Waste Strategy later in 2018.

3. Sources of the City's Waste

Waste management is a fundamental area of responsibility for local government. The City of Vincent receives waste through the following services:

- Kerbside collections for domestic rubbish and recycling
- Vergeside collections of domestic bulk hard waste (junk) including white goods, metals, E-waste and mattresses
- Vergeside collections of domestic green (garden) waste
- Management of illegally dumped waste
- On-demand paid collection for mattresses
- Periodic drop-off locations for specific waste streams including Household Hazardous Waste (**HHW**)
- Waste and recycling bins in public spaces and street litter bins
- Provision of waste services at City and community events
- Managing the City's corporate waste
- Commercial rubbish and recycling collections

The current standard suite of domestic collection services are as follows:

Service option	Single Unit Dwelling	Multi-unit Dwelling	Commercial
Rubbish (Green Lid - kerbside)	240L weekly. 140L optional and additional 240L bins available with additional fee	240L weekly, with capacity and frequency of collection depending on storage facility. Additional bins/frequency of collection available for additional fee	240L weekly, with capacity and frequency of collection depending on storage facility. Additional bins/frequency of collection available for additional fee
Recycling (Yellow Lid - kerbside)	240L fortnightly. Additional bins or 360L available for increased fee	360L shared weekly or fortnightly – dependant on storage facility Additional bins available for increased fee	240L/360L weekly or fortnightly – dependant on storage facility Additional bins available for increased fee
Bulk Hard (vergeside)	Once per year scheduled, unlimited quantity Including white goods and metals, E-waste, mattresses	Once per year scheduled, unlimited quantity Including white goods and metals, E-waste, mattresses	Not provided
Bulk Green (vergeside)	Twice a year scheduled, unlimited quantity	Twice a year scheduled, unlimited quantity	Not provided

Figure 3.1 Summary of domestic waste and recycling services in City of Vincent 2018

4. Tonnages and Diversion

4.1 Kerbside Collections for Domestic Rubbish and Recycling

Residents are provided with a co-mingled recycling service for dry recyclables including paper, cardboard, liquid paperboard, glass, steel, aluminium, expanded polystyrene (**EPS**) and plastics. All recyclable waste collected is transported to a Materials Recovery Facility (**MRF**) for processing. Once sorted into separate waste streams, the individual waste streams are sold and distributed to several reprocessing manufacturers both nationally and internationally.

The City's rubbish is collected and predominantly transported for disposal to the Resource Recovery Facility (**RRF**) in Neerabup. The **RRF** is a composting facility where any/all organic components of the rubbish waste collected in the **MGB's**, is extracted and processed into a soil conditioner end-product. The residual (non-organic) waste is then transported to Tamala Park Landfill Site in Mindarie. Some rubbish collected through the City is collected in a vehicle

that is unable to unload at the **RRF**. In these instances, the waste is sent directly to Tamala Park Landfill site. A recent audit undertaken by Mindarie Regional Council (**MRC**) indicates the following compositional analysis of a rubbish truck (Figure 4.1).

Waste Type	Weight (kg)	Proportion (%)
Recyclables	1546.7	29.5
Organics	2922.1	55.7
Textiles	149.9	2.9
Hazardous	14.7	0.3
Inert (construction & demolition)	261.8	4.9
Medical, sanitary, nappies	275.2	5.2
Other (miscellaneous)	77.6	1.5

Figure 4.1 MRC compositional analysis of rubbish truck, City of Vincent

This compositional analysis demonstrates that around 55% of a representative City rubbish truck (green lid bin) is organic waste. In addition, 29.5% of the rubbish bin is also recyclable waste. Of that 29.5%, 13% is glass (Figure 4.2). The glass is crushed during the process of recovering the organic component, as such, the glass remains a contaminant and creates a limitation as to what the organic soil conditioner end-product can be used for.

Even though a large majority of the City’s existing rubbish is processed via the RRF, there is currently limited use for the end product that is derived through this process. With further consideration given to the Federal and State drive toward a “clean” organics recovery process on the kerbside, the City will investigate through (opportunities for the City to recover organics as a clean waste stream (Project 1, Action Plan).

This same compositional analysis audit also indicated that there is a “contamination rate” of 29.5%, where potential recyclable waste was disposed of in the **MGB** instead of the **MRB**. The following recyclable waste streams are included in the 29.5%:

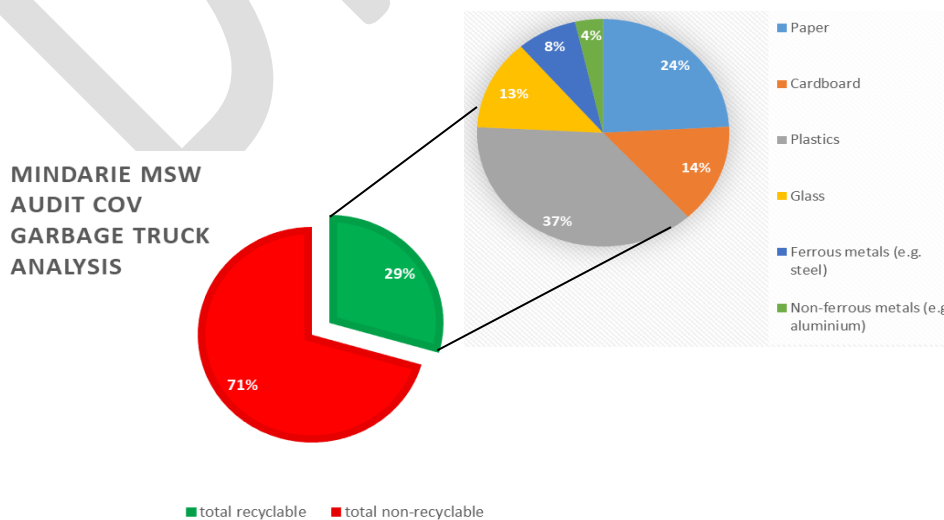


Figure 4.2 Proportions of recyclable waste in a representative CoV rubbish truck (1 load)

Waste Type	Weight (kg)	Proportion (%)
Paper	373.6	24%
Cardboard	218.2	14%
Plastics	580.3	37%
Glass	199.7	13%
Ferrous metals (e.g. steel)	119.5	8%
Non-ferrous metals (e.g. aluminium)	55.4	4%

Table 4.3 Recycling streams identified as contamination of MGB in MRC Audit (Figure 4.1) extracted as the green segment (Figure 4.2)

This is a clear indication that the City must increase engagement to ensure a well-informed Vincent community. The City will work to educate and embed waste awareness continuously through Waste and Recycling Education, Awareness and Promotional Programs (Project 6, Action Plan) as part of its drive to achieve zero waste to landfill through avoidance and recovery.

4.2 Vergeside Bulk Hard Waste (Junk)

Residents receive a bulk hard waste collection service once a year providing residents with the opportunity to dispose of those items that cannot be collected through the weekly **MGB** or **MRB** kerbside services. There is currently no limit on the volume of waste that can be presented on the verge. There are some restrictions as to what residents can dispose of via this service e.g. C&D (construction and demolition) bricks, rubble, sand, cement, hazardous waste such as asbestos, tyres, **HHW** and organics are not permitted. Residents are provided two weeks' notice prior to the commencement of the annual scheduled collection.

Residents are advised to present E-waste, mattresses, scrap metal and white goods separate on the verge to the rest of the bulky hard waste. These items should be presented separately so they can be easily removed for recycling and reprocessing, whereas the remainder of the bulky waste is disposed of at the Tamala Park landfill. There is currently a modest 15% recovery rate with up to 650 tonnes disposed to landfill each year from this service.

4.3 Vergeside Green Waste (Garden)

Bi-annual greens only verge collection is provided to residents to recover the bulky green waste that cannot be placed into the MGB as part of the weekly kerbside collection. The City has traditionally provided reusable garden bags for residents to place loose leaves into. Up to four bags per household are provided with residents required to collect and return them to City. The verge green waste is removed and transported to Balcatta Transfer Station, from which it is transported and reprocessed into a mulch end-product. There is currently 100% recycling recovery rate for this service with zero waste to landfill.

4.4 Illegally Dumped Waste

The City responds to reports of illegal dumping, removing all dumped waste, disposing of it to Tamala Park Landfill Site. In 2016/ 17 the City received around 200 complaints of illegally dumped waste from the public, removing and disposing of approximately 40 tons to landfill, costing the City over \$48,000.

The City is currently part of a WALGA Better Practice Working Group for improvement in bulk verge hard waste collections and illegal dumping with an aim of improving these services across the region.

4.5 On-Demand Services

The City currently offers one on-demand service for the removal and subsequent recycling of mattresses. The service is chargeable and is offered all year round. There is currently a 100% recycling recovery rate for this service with zero waste to landfill.

4.6 Household Hazardous Waste

Today, **HHW** is a small but problematic part of the waste stream for the City. **HHW** includes batteries, light globes/tubes, paint, household and garden chemicals and other hazardous materials can make up approximately 0.3% of the Municipal Waste Stream (**MSW**). Through membership of the **MRC**, the City provides free, ongoing access to the two permanent **HHW** disposal sites for the safe disposal of items (with some volume and quantity limitations) such as these:

- Tamala Park, 1700 Marmion Avenue, Mindarie
- Balcatta Recycling and Transfer Station, 16 Natalie Way, Balcatta

The State Waste Strategy recognises that specific solutions and further work may be needed to manage HHW, such as the product stewardship or Extended Producer Responsibility (**EPR**) whereby waste management costs are built into the product cost. A number of these schemes have been adopted in WA, such as drumMuster, PaintBack and TyreStewardship Australia. This is an area of waste management which is out of the City's direct control. This means that the City will need to explore opportunities to advocate, lobby and promote change in production and manufacturing policies at State and Federal level to influence Waste Avoidance (Project 10).

4.7 Waste and recycling in public spaces and street litter bins

The City is responsible for the management of all street litter bins across Vincent. All street litter bins are emptied by the City with the contents disposed of to Tamala Park Landfill site. To investigate the effectiveness of recovering recycling from public spaces, the City installed public space recycling bins in Oxford Street Reserve area in August 2016. Initial indications show limited success as there are notable contamination issue in the public recycling bins and the separate collection of recycling adds additional cost. The City will investigate will continue to work to remediate these issues whilst investigating the opportunity to position additional public space recycling bins.

In 2017, Beatty Park Leisure Centre with guidance from the City's Waste and Recycling Team introduced a Waste Management Plan to increase its overall waste diversion from landfill. Historically, Beatty Park Leisure Centre had zero waste recovery sending all of its waste to landfill. The City, in conjunction with the operational collections from the City of Perth has

introduced co-mingled recycling, cardboard and food waste recovery. A two-step approach has been adopted, firstly targeting waste generated by staff and then focussing on resource recovery in the public space areas. Overall successful implementation of this initiative has observed a reduction of up to 50% of the waste sent to landfill from the Leisure Centre. This is an example both of collaborative working and establishment of Food Organic recovery which the City will build on as it proceeds with Project 4 (Collaborative Working) and Project 1 (Organic Waste Recovery Options).

4.8 Event Bins

The City of Vincent hosts several events within its Town Centre locations such as “Street and Laneways” and “Light up Leederville”. Event organisers are required to contact the City to discuss waste management prior to the festival, where all interested partners including Rangers, Health and the Waste and Recycling team meet to discuss suitable arrangements. In previous years the City has been predominantly responsible for the management of waste generated at events held in the City. More recently the City has contracted waste collections for larger events. Resource recovery is improving with some events using voluntary organisations that assist in pre-sorting the waste prior to removal from site.

4.9 Corporate Waste

The City has a responsibility to lead by example in how it manages the waste generated through its daily operations. The City acknowledges the necessity of addressing its waste in line with the Waste Hierarchy; minimising the overall amount of waste produced as well as maximising resource recovery and diverting waste from landfill. This responsibility is seen as business as usual not requiring a specific project and measures will continue to be introduced throughout the strategy.

The City has gradually developed sustainable waste management solutions for both the Administration and Operational buildings including Beatty Park Leisure Centre. Corporate and public space recycling is also available for the collection of light globes, ink cartridges and household batteries and mobile phones.

The City’s Parks service recover green waste during pruning and parks/reserves/open spaces/verge management. This clean green waste is diverted from landfill, with a 100% recycling recovery rate and zero waste to landfill.

The City also generates waste through its civil construction works. The City carries out a range of civil engineering works including roadworks, drainage, car park constructions and footpath replacements. There is a significant resource recovery whereby old asphalt removed during road improvement works and resurfacing, is stored in the non-stock area of the depot and reused in construction as a base material. This is a sustainable approach to construction works across the City, preventing the use of virgin limestone, reducing waste and minimising costs for purchasing and disposal of materials.

4.10 Commercial Waste

The City currently offers a commercial waste collection service for both rubbish and recycling through its Business Rate. There is an entitlement-based system where a capacity allowance is calculated based on the size and premises type. Commercial premises can request additional capacity for a fee.

A commercial rubbish truck trial was undertaken in 2018 to establish a representative rubbish tonnage for commercial premises only. This study was conducted to derive a more accurate cost per lift for those businesses utilising the City's collection services. A cost, social and environmental analysis of a separate waste levy for commercial waste collections, or retention of the costs within rate payments, will be explored in a Commercial Waste Services Options Appraisal (Project 8) in conjunction with investigations into the options of introducing a Separate Waste Charge (Project 9).

5. The Need for Change

The Strategy recognises that the management of waste is a significant risk for the City through rising costs, high community expectations, as well as having hugely significant impacts on the environment.

The necessity for a new, revised and focussed Strategy has been driven by evolving opportunities, challenges and risks in the waste industry. There appears to be a period of significant evolution with several major facets of waste changing now or in the very near future. Some examples of these are:

- Rising cost of landfill due to the increasing landfill levy
- A new State Waste Strategy (to be announced later 2018)
- New City of Vincent Strategic Community Plan
- Changes to commodity markets e.g. Chinas 'National Sword 2017'
- Single use plastic bag ban (July 2018)
- Container Deposit Scheme (late 2019/2020)
- The introduction of the Circular Economy (local solutions) as a concept
- The increase in Multi-Unit Developments (MUDs)

In addition to changes and evolution in the waste industry, the City continues to evolve. Continued growth in development and population means the City must consider the implications on its waste services.

The City must be able to respond to change and ensure that it continues to provide cost effective, sustainable and contemporary waste service to the Vincent community.

5.1 Multi-Unit Developments (MUDs) (Project 3)

High density developments present challenges to the City. Limited storage space for bins, increased frequency of collections, access issues and special collection fleet requirements are some of the challenges. Shared bins in communal bin stores also increase contamination in the yellow lid recycling bin and also leads to frequent illegal dumping or material that cannot be deposited in a bin.

In addition, an increasing population and demand for high rise/high density living will place more pressure on the City to improve service provisions for MUD's. Through Project 3 (Improving collection and waste recovery in Multi-Unit Developments (MUDs)), the City will investigate solutions to these problems and ways in which recovery can be increased.

5.2 Alternative Waste Treatment

The City currently has no alternative to landfilling its waste when it comes to the bottom of the Waste Hierarchy. Project 5 (Research into alternative waste treatment options) will involve research into alternatives to landfill which have the ability to increase recovery in line with the Waste Hierarchy and reduce the impact of the rising landfill levy.

6. Projects

The following Projects have been identified as fundamental to reducing waste and increasing recovery as the City aim to achieve zero waste to landfill:

	Project Description	Project Driver
1	Recovery of organic material Food and Green - options appraisal	Average of 50% of rubbish bin is organic
2	Bulk hard waste (junk) service options appraisal	Current 15% recovery is low
3	Improving collection and waste recovery in Multi-Unit Developments (MUDs)	Reducing contamination, illegal dumping, improve collection and control cost
4	Regional and cross boundary collaborative partnership working	Scales of economy and better practice solutions
5	Research into alternative waste treatment options	Need to find alternatives to landfill in line with the Waste hierarchy
6	Waste and recycling education, awareness, and promotional programs	Essential for behavior change and increased participation of community
7	Develop business systems for waste services for accurate data records and reporting	Accurate data records and reporting
8	Commercial waste collections options appraisal	Need to review service provision and to consider a separate waste charge
9	Separate waste charge options appraisal	Potential to incentivise waste reduction and recovery
10	Advocacy and lobbying for change to State and Federal Waste legislation and policy	To actively encourage change in waste management in aspects out of the City's control