



CITY OF VINCENT

WASTE STRATEGY

2018 - 2023



ACKNOWLEDGEMENT OF COUNTRY

The City of Vincent would like to acknowledge the Traditional Owners of the land, the Whadjuk people of the Noongar nation and pay our respects to Elders past, present and emerging.

We recognise the contribution the Whadjuk people have made and continue to make to our culture and in our community. We will continue to seek the input of the Traditional Owners.

The land on which we live, meet and thrive as a community always was and always will be Noongar land.

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ACRONYMS, TERMS AND DESCRIPTIONS

Acronym or Term	Description
C&D	Construction & Demolition
CBP	Corporate Business Plan
CDS	Container Deposit Scheme
CoP	City of Perth
CoS	City of Stirling
CoV	City of Vincent
DER	Department of Environmental Regulation
EPR	Extended Producer Responsibility
E-waste	Electronic waste
FOGO	Food Organic Green Organic
HHW	Household Hazardous Waste
MGB	Mobile Garbage Bin (240L household sized wheeled bins)
MRB	Mobile Recycling Bins (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

1. INTRODUCTION

The City has a vision to achieve zero waste to landfill by 2028 and recognises its statutory obligation in accordance with the WARR Act (*Waste Avoidance and Resource Recovery Act, 2007*). The City aims to provide residents with cost effective, sustainable and contemporary waste services.

There is an internationally recognised hierarchical preference of waste management methods due to the increasing impact waste has when it is managed toward the bottom of the hierarchy (Fig. 4.1). The higher up in the hierarchy the more preferred the method is and the City is committed to methods that move waste up the hierarchy such as avoidance and reuse. The City understands and commits to its role in community education and engagement, to progress waste behaviour through the waste hierarchy, to the preferred higher level of waste avoidance and minimisation.

The City's Waste Strategy 2018 – 2023 recognises that the management of waste is a significant risk for the City through rising costs and high community expectations, as well as having hugely significant impacts on the environment. As such, this Waste Strategy focusses not only on improving the City's management of waste by increasing recovery whilst decreasing waste to landfill, but also aims to decrease the waste generation within the City as a whole. The Strategy is intended to propose what residents, businesses and the City itself will need to explore, develop and implement to achieve this.

2. WHERE ARE WE NOW?

2.1 Tonnages and Diversion

The City currently invests approximately \$6.5 million per annum on a combined operational and strategic Waste and Recycling service. In 2016/17 the City collected 20,217 tonnes of waste (in total) and recovered 7,941 tonnes, achieving a recovery rate (landfill diversion rate) of 39%.

To achieve the State Target of 65% by 2020 and the City's vision of zero waste to landfill by 2028, the City will undertake 10 Projects (Section 5) that will increase

waste recovery and work to reduce the amount of waste generated and collected in the City as a whole.

2.2 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, electronic waste (E-waste) and mattresses; and
- 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

Main Sources of City Waste	Tonnage 2016/17	% Diverted From Landfill
Rubbish – green lid bin	12,782	29%
Recycling – yellow lid bin	3,750	82%
Bulk hard waste (junk)	670	15%
Bulk green waste	493	100%
Street litter bins	318	0%
Totals	20,217	1,140

Figure 2.1 Breakdown of waste tonnages and diversion for 2016/17

The City provides the following standard suite of waste collection services:

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 depending on business type and size. 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/ frequency of collection is available for increased fee	240L/360L weekly or fortnightly depending on business type and size. Additional bins/frequency of collection is available for increased fee
Bulk Hard (vergeside)	Once per year scheduled, unlimited quantity including white goods and metals, E-waste	Once per year scheduled, unlimited quantity including white goods and metals, E-waste	Not provided
Bulk Green (vergeside)	Twice a year scheduled, unlimited quantity	Twice a year scheduled, unlimited quantity	Not provided
On-demand paid mattress collection	Unlimited number throughout the year	Unlimited number throughout the year	Not provided

Figure 2.1 Summary of domestic waste and recycling services in City of Vincent 2018

2.3 Kerbside Collections for Domestic Rubbish (Green Lid Bin)

The City's rubbish is collected and transported for disposal either to landfill or to the Resource Recovery Facility (RRF) in Neerabup. The RRF is a composting facility where all organic components of the waste collected in the (green lid) rubbish bins, 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. If rubbish is collected in a vehicle that is unable to unload at the RRF, the waste is sent directly to Tamala Park Landfill site. In 2016/17 the City diverted 39% of its rubbish bin from landfill through the RRF.

2.4 Kerbside Collections for Domestic Recycling (yellow lid bin)

Residents are provided with a co-mingled recycling service for dry recyclables including paper, cardboard, liquid paperboard (juice and milk cartons), glass, steel, aluminium 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.

2.5 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. construction and demolition (C&D) 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 around 650 tonnes disposed to landfill each year from this service.

2.6 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.

2.7 Illegally Dumped Waste

The City responds to reports of illegal dumping, removing all dumped waste and 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 tonnes 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.

2.8 On-Demand Services

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

2.9 Household Hazardous Waste

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 Solid 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.

2.10 Waste and Recycling in Public Spaces and Street Litter Bins

The City is responsible for the management of all street litter bins across Vincent. The street litter bins are emptied by the City with 100% of 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 is investigating potential solutions, and will continue to work to remediate these issues whilst investigating the opportunity to position additional public space recycling bins.

2.11 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 generating an organics recovery rate of 39%. Resource recovery is improving with some events using voluntary organisations that assist in pre-sorting the waste prior to removal from site.

2.12 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.

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 organic waste recovery. A two-step approach was adopted firstly targeting waste generated by staff and then focussing on resource recovery in the public space areas. Successful implementation of this initiative has observed a reduction of up to 50% of the waste sent to landfill from the Leisure Centre.

Corporate and public space recycling is also available for the collection of light globes, ink cartridges and household batteries and mobile phones at the City's Library and Administration buildings.

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.

There is also significant waste generated through the City's 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.

2.13 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 profile for those businesses utilising the City's collection services.

2.14 Home Food Organic Green Organic Waste Management

The City provides a heavily subsidised waste management initiative for residents to encourage food organic and green organic waste management at home. The City provides subsidies for residents to buy home composting bins, worm-farms, in-ground worm farms and Bokashi Bin equipment. The City also provides supporting education and guidance materials on how to get the most out of their equipment.



3. 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 (SCP);
- Changes to commodity markets e.g. China's 'National Sword 2017';
- Single use plastic bag ban (July 2018);
- Container Deposit Scheme (CDS) (late 2019/2020);
- The introduction of the Circular Economy (local solutions) as a concept; and
- The increase in Multi-Unit Developments (MUDs).

Aside from evolutionary and projected changes within the Waste Industry, the City itself will continue to evolve. 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 and its demographics therein.

3.1 Demographics and Waste

The City of Vincent population forecast for 2018 is 37,812 and is forecast to grow by nearly 37% to 51,726 by 2036. In addition, residential development forecasts assume the number of dwellings in the City will increase by an average of 388 dwellings per annum from today's 16,953 to 24,707 by 2036 also.

The City has a number of property types from smaller townhouses to multi-residential developments. This variation in property type requires specific attention when assessing how the service may be delivered. Continued growth in development and population means the City must consider the implications on its

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

The City also has a strong diversity of culture and language thus requiring specific attention as to how waste awareness messaging, education and communications be delivered in the City to ensure positive waste management and behaviour changes.

3.2 Alternative Waste Treatment

The City currently processes its rubbish through the RRF where possible, before landfill. The City currently has no alternative to landfilling its waste when it comes to the bottom of the Waste Hierarchy.




CITY OF VINCENT

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4. OVERARCHING VISION AIMS, APPROACH AND TARGETS

4.1 Vision

The City has a vision to achieve zero waste landfill by 2028.

4.2 Aims and Approach

The City has identified a series of themes that must be considered, addressed and applied continuously throughout the implementation of this Strategy and the associated Projects. 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 4.1) 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

Application of the Waste Hierarchy in all projects and decision making is essential when attempting to move toward zero waste to landfill. There is an internationally recognised hierarchical preference of waste management methods due to the increasing impact waste has when it is managed toward the bottom of the hierarchy. The higher up in the hierarchy the more preferred the method is.

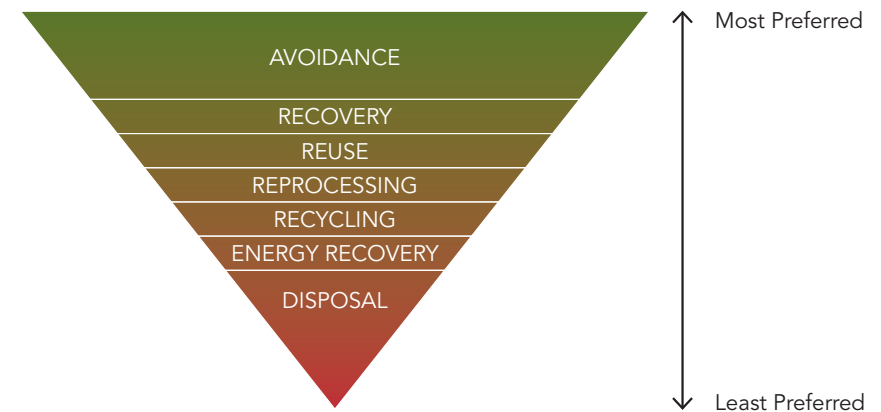


Figure 4.1 Waste Hierarchy

4.3 Targets

To ensure the City develops specific based targets (that are measurable, attainable, realistic and timely) a series of project based specific targets will be derived in Year 1 of the Strategy through delivery of the waste projects (below) 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.

4.4 Waste Strategy 2018 – 2023 Review Process

The Waste Strategy is an evolving long term direction-setting tool that will be reviewed on an annual basis to ensure continuous progress towards the City's vision of zero waste to landfill by 2028.

The outcome of Projects 1, 2, 8 and 9 will inform subsequent annual reviews of this Strategy and may give rise to new or different focus, projects or activities than are contained herein.

All Projects with an "ongoing" status without a specified completion date (Projects 3, 4, 5, 6, and 10) will be reviewed annually and any arising actions will be captured and assessed through the reviews of the Strategy or the City's Corporate Business Plan.





5. PROJECTS

The following 10 Projects will enable the City to improve the existing landfill diversion rate of 39% as well as guide the City in its vision of zero waste to landfill by 2028:

No.	Project
1	Recovery of Organic Material Food and Green Options Appraisal
2	Bulk Hard Waste (junk) Service Options Appraisal
3	Improving Collection and Waste Recovery in Multi-Unit Developments (MUDs)
4	Regional and Cross Boundary Collaborative Partnership Working
5	Research into Alternative Waste Treatment Options
6	Waste and Recycling Education, Awareness, and Promotional Programs
7	Develop Business Systems for Waste Services for Accurate Records and Reporting
8	Commercial Waste Collections Options Appraisal
9	Separate Waste Charge Options Appraisal
10	Advocacy and lobbying for Change to State and Federal Waste Legislation and Policy

5.1 PROJECT 1: RECOVERY OF ORGANIC MATERIAL FOOD AND GREEN OPTIONS APPRAISAL

Project 1: Recovery of Organic Material Food and Green Options Appraisal								
Project Driver Summary: Average of 50% of rubbish bin is organic								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
New	2018	June 2019		✓		✓		Future campaigns will include food waste reduction campaigns and aim to reduce recyclables in the rubbish bin.

Project Driver: A recent compositional analysis audit undertaken by Mindarie Regional Council (MRC) 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 5.1).

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 5.1 Summary MRC compositional analysis of rubbish truck, City of Vincent

The City will undertake an Options Appraisal to explore the following options to improve the management of FOGO waste:

1. Better Bins System, a third domestic greens only bin;
2. Food organics and green organics (FOGO) bin;
3. Food organics only bin;
4. Increased home FOGO management; composting/worm-farming/Bokashi bins; and
5. FOGO waste minimisation waste education campaigns.

5.2 PROJECT 2: BULK HARD WASTE (JUNK) SERVICE OPTIONS APPRAISAL

Project 2: Bulk Hard Waste (junk) Service Options Appraisal								
Project Driver Summary: Current 15% recovery is low								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
New	2018	June 2019		✓	✓	✓		Future campaigns will promote reuse, repurposing and avoidance

Project Driver: The existing bulk hard waste (junk) verge collection is considered now to be an “old-fashioned” method of collection. Residents are permitted to place all unwanted items or waste (with some restrictions as described in section 2.4), on the verge but with no limit on volume. A number of alternative methods of collecting bulk hard waste have been trialled in neighbouring Councils, with a significant improvement in waste recovery and decrease in waste sent to landfill. The Cities of Joondalup and Stirling have transitioned from the existing method used by the City of Vincent, to an on-demand means of collection, increasing their waste recovery and subsequent diversion from landfill, by up to 50%. The City currently sends around 620 tonnes of waste to landfill per annum with only a small percentage of 15% recovery through source segregation on the verge. There are a number of alternative methods of collection that the City could consider, that will improve waste recovery, reduce waste to landfill but also help to reduce the amount of waste placed for collection. To achieve the City’s vision of zero waste to landfill by 2028, the City will undertake an options appraisal to assess alternative means of collection that are suitable for our community.

Year	Tonnage
2014/15	610
2015/16	648
2016/17	570
2017/18	620
Total	2,448

Figure 5.2 Annual tonnage sent to landfill through the CoV Bulk Hard Waste (junk) collection service



Figure 5.3 A verge during a bulk verge collection, as per method used by the City of Vincent

5.3 PROJECT 3: IMPROVING COLLECTION AND WASTE RECOVERY IN MULTI-UNIT DEVELOPMENTS (MUDS)

Project 3: Improving Collection and Waste Recovery in Multi-Unit Developments (MUDs)								
Project Driver Summary: Reducing contamination, illegal dumping, improving collection and controlling cost								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
Current/ Ongoing	2018	Ongoing		✓	✓	✓		Existing collaborative partnership initiative with CoP , CoS and WALGA investigating better practice solutions

Project Driver: Several factors require the City to consider the future of waste collections from MUDs within Vincent. The following are key factors that present both a challenge and a risk to the City:

- Large volumes of infrastructure (multiple 240L/360L bins) with difficult access requiring long-hauling
- Small bin stores requiring frequent collections drawing vehicles out of given collection rounds
- Anonymity in the usage of shared bins create issues with contamination
- High population of English second language residents in MUDs with limited education materials
- High frequency and number of instances of illegal dumping, likely due to high turnover in occupancies
- MUDs sharing bin stores with Commercial premises can confuse bin ownership and complicate CoV monitoring of compliance
- Limited bin storage areas can impact on introduction of additional recovery services such as food waste or other household items
- Location of MUDs can be in heavily used areas with limited parking and thus reduce space for parked trucks during collection

With our evolving and growing City and increasing number and demand for MUDs, the City must respond by investigating options for improving those waste services provided to MUDs. The City will continue with the cross boundary collaborative partnership program, investigating better practice solutions for MUDs with the City of Perth, City of Stirling and WALGA. This program will explore the issues listed above and will be supported by ongoing research by the City of Vincent across other Councils, regionally and interstate.

An improvement in those areas identified here associated with MUDs will assist the City in achieving significantly increased waste recovery and diversion from landfill. Just as importantly, this project will provide the City with a more comprehensive insight into what our MUDs community require to improve the quality and selection of services provided.

5.4 PROJECT 4: REGIONAL AND CROSS BOUNDARY COLLABORATIVE PARTNERSHIP WORKING

Project 4: Regional and Cross Boundary Collaborative Partnership Working								
Project Driver Summary: Economies of scale and better practice solutions								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
New	2017	June 2019		✓	✓	✓		

Project Driver: The City recognises the benefits of working in collaboration with other Councils and organisations. The City has committed in this Strategy to provide its ratepayers with the most cost effective, sustainable and contemporary waste services". Collaboration and cross boundary working in Local Government, particularly in the waste and recycling industry has the potential:

- To identify solutions to shared issues (cross-boundary)
- To explore economies of scale
- Develop consistent approach in a region

The City is currently involved in the following Collaborative Partnership Initiatives:

- Investigating and developing better practice solutions for waste management in MUDs with City of Perth, City of Stirling and WALGA
- Vergeside Collection Working Group WALGA
- Shared service with the City of Perth trialling food waste collections in the City of Vincent
- Regional education campaigns through Mindarie Regional Council (MRC) e.g. Face your Waste, No Glass Campaign

A consistent regional approach to waste and recycling could provide far greater clarity to all that use these waste services across the Perth region. The City aspires to work collaboratively with a view to improve consistency. This is especially critical for the purpose of waste education; what can be recycled and how it should be recycled to ensure maximised recovery rates as well as public understanding and participation.

5.5 PROJECT 5: RESEARCH INTO ALTERNATIVE WASTE TREATMENT OPTIONS

Project 5: Research into Alternative Waste Treatment Options								
Project Driver Summary: Need to find alternatives to landfill in line with the waste hierarchy								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
Current/Ongoing	2018	Ongoing					✓	

Project Driver: The City aims to achieve zero waste to landfill by 2028, requiring alternative options to landfill in addition to avoidance, reuse and repurposing and recycling and composting. Project 6: Waste and Recycling Education, Awareness and Promotional Programs is about targeting behaviour change in waste management predominantly through avoidance and reuse/recovery. In addition, there is still a requirement to research alternatives to landfill. To achieve the target, zero waste to landfill by 2028, the City will continue to explore opportunities to improve the management of the waste collection and treatment higher up the waste hierarchy, as an alternative to landfill for final disposal.

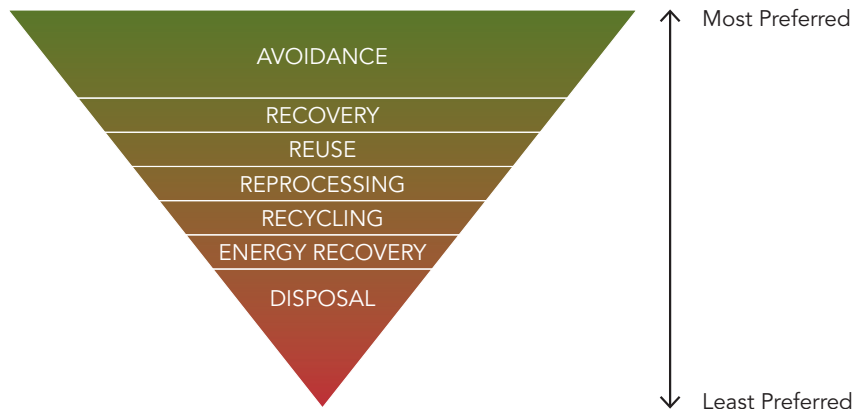


Figure 4.1 Waste Hierarchy

5.6 PROJECT 6: WASTE AND RECYCLING EDUCATION, AWARENESS, AND PROMOTIONAL PROGRAMS

Project 6: Waste and Recycling Education, Awareness and Promotional Programs								
Project Driver Summary: Essential for behaviour change and increased participation of community								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
Current/Ongoing	2018	Ongoing		✓	✓	✓		Future campaigns will promote reuse, repurposing, avoidance and reduction of contamination in bins

Project Driver: The compositional analysis audit undertaken by MRC (described above) indicated a “contamination rate” of 29.5%, where potential recyclable waste was disposed of in the MGB instead of the MRB. Recycling streams identified as contamination of MGB in MRC Audit extracted as the green segment (Figure 5.4). Typically, within a yellow lid recycling bin, there is a contamination rate of 15 – 20%. 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 Project 6 whilst driving behaviour higher up the waste hierarchy to achieve waste avoidance and recovery. This Project will identify specific waste streams found in the bins that require alternative means of collection or drop-off including textiles and clothing, E-waste and HHW. The City will engage with residents to identify barriers, improve awareness and provide solutions to recover these items and divert them from landfill.

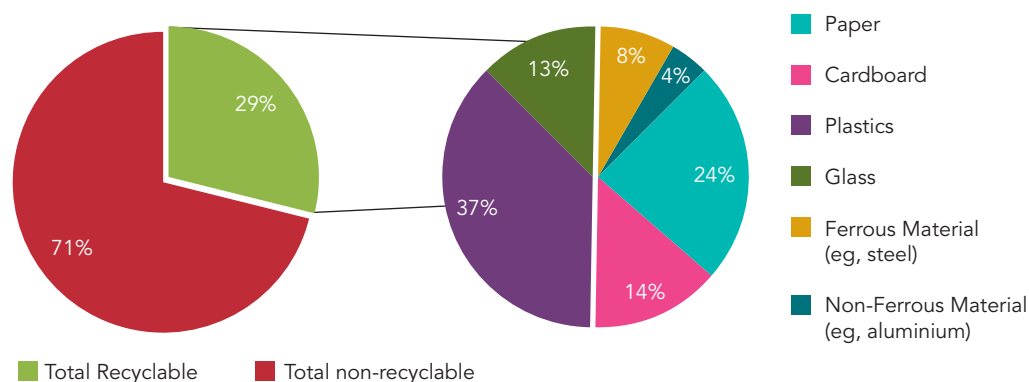


Figure 5.4 Proportions of recyclable waste in a representative CoV rubbish truck (one load)

5.7 PROJECT 7: DEVELOP BUSINESS SYSTEMS FOR WASTE SERVICES FOR ACCURATE RECORDS AND REPORTING

Project 7: Develop Business Systems for Waste Services for Accurate Records and Reporting								
Project Driver Summary: Accurate data records and reporting to track target progress								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
New	2018	TBC						Existing business system cannot support the requirement for reporting of waste data.

Project Driver: The City's existing business system used for the waste and recycling service area is unable to provide accurate reporting of data held in the system. The City is working to improve the access and utilisation of the business system in multiple service areas to improve reporting functions. This work will enable the waste area to recover important information regarding assets (bins), their location and details surrounding the requirements of individual collection arrangements. A more accurate recording and reporting systems will increase efficiency of the service area, enabling the following tasks:

- Accurate data for potential implementation of alternative service charge mechanisms
- Accurate reporting and monitoring of bin numbers, replacement and repair
- Accurate reporting and monitoring of stolen bins and bins chipped for disposal (beyond repair)
- Updated contact information for easy communication with City ratepayers and tenants
- Implementation of monitoring system for compliance issues
- Improve efficiency in officer time by improving system efficiency and reducing hours of manual administrative work
- Full and thorough records for each property to record exact number of bins and details of service provided e.g. frequency of service

It is essential that the City identify the improvement of the business system used by waste and recycling services as a project. An improved business system would ensure an improved level of customer service and service efficiency.

Once embedded, the City's business system will provide accurate data to enable investigations into service options to improve the existing service. In addition, a system that releases staff from manual administrative activities presents time for increased waste education, research and project implementation.

5.8 PROJECT 8: COMMERCIAL WASTE COLLECTIONS OPTIONS APPRAISAL

Project 8: Commercial Waste Collections Options Appraisal								
Project Driver Summary: Need to review service provision and to consider a separate waste charge								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
Current/ Ongoing	2018	June 2019		✓		✓		Future campaigns to assist waste behaviour in businesses could include food waste reduction initiatives.

Project Driver: The City recognises its statutory obligation in accordance with the WARR Act to manage MSW. The City currently provides a waste and recycling collection service inclusive of the businesses rateable charge, although this is not a statutory obligation of the WARR Act. Each rate-paying business has a bin capacity allowance, calculated using a historical method using the premises type and size. The City will investigate the value of providing the existing service in this capacity and review alternative options. Work undertaken by the City has determined a differentiation in commercial and domestic waste tonnage. This will provide transparency of the costs associated with each sector and waste management within the City.

The City values its commercial sector and the businesses that underpin it and, is driven to ensure the best service provisions the City can offer are in place. In conjunction with the investigations into service provisions of the City for commercial customers, a waste education program as part of Project 6, will be developed to assist businesses in reducing waste and subsequent costs.

An alternative charging mechanism could encourage a more conscientious waste behaviour, minimising waste collected and waste sent to landfill. Implementation of an alternative service charging mechanism could see significant cost benefits to the City.

5.9 PROJECT 9: SEPARATE WASTE CHARGE OPTIONS APPRAISAL

Project 9: Separate Waste Charge Options Appraisal								
Project Driver Summary: Potential to incentivise waste reduction and recovery								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
Current/ Ongoing	2017	2018		✓		✓		

Project Driver: City currently provides waste and recycling services as part of the Rates payment. Some Local Governments have transitioned to a separate base waste charge, where additional waste services are a series of differently costed packages created to incentivise positive waste behaviour change. The rising cost of the landfill levy subsequently impacts on the cost of waste disposal to Local Government. The City's vision of zero waste to landfill by 2028 requires a significant decrease in waste generated in the City, presented for collection and then sent to landfill. A transparent charging mechanism provides opportunity to incentivise residents to minimise their waste to landfill.

There are multiple options for the City to progress with the structuring of the waste charge to residents. An options appraisal as part of this Project in conjunction with the progression of other Projects including Project 1 and 2, will be presented for discussion and implementation. Those decisions derived from business cases presented in Projects 1 and 2 will determine the future cost and parameters of the City's waste and recycling services. In turn the implementation of a separate waste charge could help residents maximise opportunities within the newly introduced services.

5.10 PROJECT 10: ADVOCACY AND LOBBYING FOR CHANGE TO STATE AND FEDERAL WASTE LEGISLATION AND POLICY

Project 10: Advocacy and Lobbying for Change to State and Federal Waste Legislation and Policy								
Project Driver Summary: To actively encourage change in waste management in aspects out of the City's control								
Project Status	Project Start	Completion Date	Waste Hierarchical Position	Avoidance	Reuse and repurposing	Recycling and composting	Recovery prior to final disposal	Other Comments
Current/ Ongoing	2017	Ongoing		✓	✓	✓	✓	

Project Driver: There are some areas of waste management that the City is unable to influence directly e.g. Producer Responsibility Schemes, Packaging Covenant. However, the City, alone or in conjunction with WALGA can still provide feedback and lobby for changes in the waste and recycling industry. This approach has been highly successful for the WA introduction of the Plastic Bag Ban and the Container Deposit Scheme (CDS).

High-level decisions outside of the City's control such as the Plastic Bag Ban, will create changes in public perception and behaviour. These changes can have a positive impact on consumer thinking and its alignment with the waste hierarchy. The implementation of the Plastic Bag Ban in other countries such as the UK, has resulted in large scale consumer transition to avoiding and rethinking, using reusable bags or containers instead of single use bags.

The City supports and will advocate for consistent waste messages to be delivered across the region. This could complement the City's work locally to improve awareness and participation.

The City will continue to act individually and collaboratively to lobby for positive decision-making and changes in the waste industry at both State and Federal level. Such changes at State and Federal level will assist the City in achieving zero waste to landfill by 2028, by enabling, encouraging or imposing new/alternative approaches to waste production, manufacturing, management and disposal.