



WASTE MINIMISATION AND RESOURCE RECOVERY STRATEGY 2018-2022



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INTRODUCTION

RETHINKING WASTE

The term 'waste' has many definitions, from items that are no longer required to the misuse or squandering of resources. From a local government perspective, waste has traditionally been understood as something to be cleaned up and removed, something to be 'managed'. In the previous Waste Minimisation and Resource Recovery Strategy 2014-2018 Yarra moved to recognise waste in terms of resources. The resource that can be saved from being produced in the first place and the resources that can be reclaimed through reuse and recycling, reducing what we send to landfill.

This Waste Minimisation Strategy builds on the previous strategy with a greater emphasis on how we purchase, consume and use resources. This requires behaviour change and clever design from production to consumption to disposal. Some elements can be addressed by Council; others need state and federal leadership or community action. This strategy outlines how Yarra will reduce its waste through education, advocacy, leadership and services that promote mindful consumption and minimise the loss of resources.

REDEFINING OUR WASTE

The 2014-2018 Yarra Waste and Resource Recovery Strategy (YWRRS) helped redefine how we think about consumption, use our resources and the production of waste. This strategy builds on that work. In 2018 we are in a position of great transformation. We have an interested and supportive community who are looking at Council to lead the change. Our community expects us, not only to recycle and divert materials from landfills, but also advocate for a circular economy, better product design and stewardship. This will help us to develop new consumption behaviours and prevent waste from being produced in the first place.

It is essential that what is already in existence is used to its maximum potential. This avoids the unnecessary exploitation of resources, while also providing economic and environmental efficiencies throughout the chain of production. Achieving this requires a significant behavioural shift within the community. Our current 'disposable' mindset will need to embrace the notion of waste minimisation, beneficial reuse, and resource recovery. Without these changes this generation will leave a terrible legacy for future generations and an increasing portion of Yarra's rates would be required to address waste management issues.

Redefining our waste requires a significant change in mindset and attitude and is a journey we will undertake with our community over a period of time. Our community will need to consider waste in its purchasing decisions. Industries will have to look at the full cycle of a product to design and manufacture more sustainably. Where waste generation cannot be avoided, it will need to be recovered as a resource for reuse or recycling.

The recycling industry is currently in a state of flux with China reducing the quantity of lower quality recycling material it will accept. It has been replacing imported materials with recycled material collected in its own domestic market from its growing middle-class and Western-influenced consumers. The National Swards Policy will have a significant impact for Australia as China historically has been the dominant market for recycled plastic. There are concerns that much of the material that was previously recycled in China, especially the lower grade materials, will no longer have a market. Australia will need to find new options to avoid materials that are captured for recycling going to landfill.

ENGAGING OUR COMMUNITY IN POSITIVE CHANGE

Yarra has been piloting programs to reduce food waste going to landfill. The Food Know How program educates residents to waste less food through meal planning, correct storage and using rather than discarding leftover food. The food scraps trial has been collecting and composting food scraps from households. These programs are having a profound effect on the residents involved and provide an opportunity for council to engage with residents to rethink how they produce and discard waste materials. A recent audit of rubbish bins showed that participants went from having 3.3kg of food scraps to only 1.2kg, diverting majority of food from landfill.

To redefine our waste we will need to engage with our community as well as continue to work closely and collaboratively with the Metropolitan Waste and Resource Recovery Group (MWRRG), Environment Protection Authority, Sustainability Victoria, the State Government and others to help develop the best methods for reducing and processing our resources.

By taking these steps, our reliance on landfill will progressively lessen, and we will become a 'sustainable' city.



WHERE THE STRATEGY CAME FROM

This strategy has been developed to build on previous strategies while taking into account international, national, state and local policies and directions along with community expectations. The following section provides an overview of the evidence reviewed in developing this strategy.

FOUNDATIONS OF THIS STRATEGY

Yarra Waste and Resource Recovery Strategy 2014-2018

In 2013 Yarra undertook an extensive process of community consultation, stakeholder engagement, policy and strategy review and analysis. This provided the foundation for the Yarra Waste Minimisation and Resource Recovery Strategy 2014-2018. This current strategy builds on the achievements of the previous strategy and is designed to continue the work that was

begun in 2014. The Vision and Objectives of the previous strategy were reviewed and only minor amendments made to clarify their purpose. This provides Yarra an opportunity to focus on the projects and services that have been working well and achieving good results. The action plan has been entirely renewed, and provides clear actions to help Yarra achieve its objectives and vision.

Key Principles of a Circular Economy

Over recent years the waste hierarchy has been adapted to better articulate the need for a circular economy to reduce resource loss rather than manage waste. The diagram below shows that it is possible to minimise, and virtually eliminate resources being wasted, and going to landfill, by considering alternative options for how we consume and use materials. This is the guiding principle behind this strategy.



Figure 1 adapted from Gaia Foundation Short Circuit Report

Note: Input of energy and water is required to recover and recycle resources.

Policy context

This strategy has been developed within the context of Federal and State legislation, policies and strategies. Aligning the new Yarra Waste Minimisation Strategy with these policies and strategies, ensures Yarra is part of an integrated approach to waste within the Australian and Victorian context.

National

The National Waste Policy: Less Waste More Resources has a strong focus on waste avoidance and managing waste as a resource. This is backed up by the National Food Waste strategy which was launched in November 2017 and aims to halve food waste by 2030.

State

In Victoria there are a number of strategies and frameworks that underpin how waste is managed. These plans have a strong waste minimisation and resource recovery theme. They set out how Victoria will manage its waste to ensure the health and wellbeing of the community, reduce the loss of resources to landfill and minimise waste production. The key strategies and frameworks are:

- The Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP).
- The Metropolitan Waste and Resource Recovery Implementation Plan (Metropolitan Implementation Plan).
- The Victorian Waste and Resource Recovery Framework.
- The Victorian Organics Resource Recovery Strategy.
- The Victorian Market Development Strategy for Recovered Resources.
- The Victorian Waste Education Strategy.

Local

The City of Yarra Council Plan 2017-21 sets out the vision for how Council will respond to its opportunities and challenges over the next four years. It has a strong focus on sustainability, health, safety and wellbeing and working with the local community. The Municipal Public Health and Wellbeing Plan, which is incorporated into the Council Plan, further promotes the importance of health and wellbeing.

Greenhouse emissions

Yarra's greenhouse gas emissions from waste can be minimised by preventing any recyclable materials entering the landfill system, taking full advantage of recycling facilities, and also by minimising the amount of waste that is generated.

Greenhouse gas emissions within a waste management context stem from two main factors:

1. **Plant based materials** - When organic materials like food scraps enter a landfill they breakdown and decompose within anaerobic (absence of oxygen) conditions, resulting in methane production.
2. **Embodied energy in man-made / non-plant based materials** - Looking at how and what we consume, and the materials product lifecycle, along with how we discard of an item. This will play a significant role in helping our community to divert items from landfill and lower our overall greenhouse gas emissions.

A review of all of these strategies can be found as appendix one.

EMERGING ISSUES

Recycling Markets

In July 2017, China announced its National Sword Policy decision effectively banning imports of 24 types of scrap including materials such as plastic and mixed paper by the end of the 2017.

The new policy is taking considerably less lower quality material as it replaces imported materials with recycled material collected in its own domestic market, from its growing middle-class and Western-influenced consumers. This will have a significant impact for Australia as China historically has been the dominant market for some recycled materials. There are concerns that much of the recycling that China previously imported will have nowhere else to go and Australia will need to find new export markets or alternative end markets, including local industry opportunities, to avoid these resources going to landfill.

This will include the kerbside commingled recycling materials currently being collected by Yarra and other Victorian councils. VISY Recycling currently receives Yarra's recyclables and are currently locally processing approximately 30 percent of all materials received locally. At this stage, it is difficult to predict the short and long term impacts of the China policy, however given that the local market cannot consume the volume of material collected in the Australian kerbside recycling collection system the implications include:

- Little to no value for the commingled kerbside recycling material.
- Companies such as VISY Recycling, SKM and Polytrade who receive commingled recycling for sorting have started charging a gate fee per tonne rather than paying for material.
- It will be necessary for the recycling processors to improve the quality of the commingled material in order to enter the China market.
- It is necessary for Australia to invest in local processing of these material to avoid landfill.
- It will be necessary to educate the community to sort recyclable material correctly.
- It may be necessary to find other uses for the material to avoid landfill.

In response to China's decision, Victorian councils and industry will be provided a \$12 million package to support the ongoing collection of household waste and \$1 million for industry to improve processing. The assistance will go towards helping councils and industries develop longer-term solutions. This assistance will be provided until 30 June 2018, after which councils will be required to meet any increase in recycling costs. The Victorian Government has also moved to establish a recycling industry taskforce to develop a plan for industry transition.



Advanced Waste and Resource Recovery Technologies (AWRRT)

Advancements in technology play an important role in providing better solutions for residual waste, particularly for improved sorting and treatment processes.

This Strategy provides Council with an opportunity to make informed decisions that will make significant impacts on the amount of waste sent to landfill. The City of Yarra will take advantage of new advances in resource recovery and waste management as they emerge to ensure that best fit solutions are operating and providing benefits to its community.

The Metropolitan Implementation Plan outlines new ways to send less material to landfill, use our valuable resources again, and grow jobs and investment in the waste and recycling sector. Metropolitan Waste and Resource Recovery Group (MWRRG) has prepared an Advanced Waste and Resource Recovery Technologies (AWRRT) business case and procurement strategy for providing infrastructure and services to process residual waste currently going to landfill.

Although AWRRT's provide council's an opportunity to significantly decrease the amount of waste sent to landfill, Yarra will need to establish how the technology fits with its Waste Minimisation Strategy. Other issues to be considered include:

- How the technology will deal with resource recovery prior to processing.
- How the location of the facility will impact on transport and nearby communities.
- The AWRRT gate fee per tonne versus the landfill gate fee per tonne.
- How the EPA levy would be treated for the AWRRT's.
- The social, cultural, environmental and financial impacts.
- Alternatives technologies coming online in the future

The Yarra community

Understanding the Yarra community is fundamental to developing an effective Waste Minimisation Strategy that will meet the needs of the community as well as its aspiration for a more sustainable city.

The City of Yarra has experienced sustained population growth since the 1980s and currently has a population of over 90,000. This growth is predicted to continue with a population forecast to be in excess of 106,000 by 2028. Many of these new residents will live in medium and high-density housing; currently 85.2% of the Yarra community lives in medium or high-density housing. Yarra residents are also more transient than the Melbourne average, with over 46% of residents moving between 2006 and 2011 (migration profile from 2016 Census not yet available). The sustained population growth and the propensity of medium and high density housing provide particular challenges and opportunities for service delivery in Yarra. The transient population means it is important to provide sustained education and engagement with community members.

A demographic profile of the Yarra community and an overview of can be found in appendix two.

Community Engagement

Over 300 members of the Yarra community responded to a brief online survey. Their comments were collated and themed, and are outlined below.

Key Themes - Community

The most important things for council to do in terms of minimising waste, reusing material and recycling were:

1. Recycling – particularly relating to better recycling and concerns about changes to recycling markets.
2. Education – in terms of encouraging people to reduce waste and dispose of it more thoughtfully.
3. Food and compost – in terms of providing a food waste pick up service or encouraging composting.
4. Soft plastic recycling and the reduction of soft plastics through legislation.
5. Advocacy to minimise waste and reduce the impact of packaging.
6. Service delivery including hard waste services, comments included both positive and negative reaction to current delivery.
7. Green waste and the need for a third bin or more responsive service.

Key Themes - Community

The most commonly identified things for people to individually do were:

1. Buy items with less packaging and particularly not using single use plastics.
2. Compost food and other organic waste.
3. Recycle.
4. Buy less 'stuff', purchase carefully, repair and reuse.
5. Reduce food wasted in the household
6. Advocate and promote waste reduction to friends and neighbours.

Key Themes – Other Councils

Consultation with neighbouring councils indicated that the key themes were:

1. Food waste projects including FOGO.
2. Waste minimization approaches.
3. The impact of Multi Unit Developments and how to best manage waste from these.
4. Innovation.
5. Dumped rubbish and litter.

More detail of consultation reports can be found in appendix two.



Service delivery

Yarra provides its community with a comprehensive range of waste services as outlined below:

- Domestic garbage collection (weekly)
- Domestic recycling collections (weekly)
- Domestic Food Scraps Collection (Trial Program) (weekly, optional, no cost)
- Commercial garbage collection, only to service lunchroom (no commercial waste)
- Commercial recycling collection, only to service lunchroom (no commercial waste)
- Hard Waste collection (at call, 2 times a year)
- Green Waste collection (at call)
- Dumped rubbish pickup
- Street cleaning
- Litter pick up
- Ministry of Housing High Rise Buildings Garbage and Recycling Collection
- Recycling drop off points.

IN THE YEAR 2017/18
THESE SERVICES COST
APPROXIMATELY
\$10,800,000

Service Delivery Model

The City of Yarra service delivery model aligns with an inner metropolitan 'procurement cluster' approach. Unfortunately the state wide approach of a blank three bin collection system (usually 240L) is not a practical solution for Yarra. Due to our housing stock, Yarra community require a variety of receptacle sizes. A trial of a different approach, using a small receptacle for food scraps occurred during 2017-18. The outcome of the trial will allow Council to make an informed decision as to whether this is a viable approach to removing food scraps from the municipal wide garbage stream.

The current waste services provided by Yarra are highly regarded by the community. However there are a number of challenges to maintaining and improving these services, particularly given the constraints on budgets as a result of the State Governments rate cap. These include:

- The closure of municipal landfills.
- Expected increases in waste as a result of population growth.
- The National Sward Policy being put in place by China.
- Localised tailored approach to processing food organics.
- Improving recycling opportunities in multi-unit developments.
- The banning of e-waste from landfill.

This strategy provides a framework to engage with other service providers, levels of government and local councils to find solutions to these issues

A full outline of service delivery, including more detailed waste generation data, can be found in appendix four.

HOW THE STRATEGY WILL BE USED

The Yarra Waste Minimisation Strategy provides Council with the framework to engage the community on the importance of minimising the creation of waste and realising the financial and environmental value of materials. This will be achieved by providing tailored services and programs.

The Yarra Waste Minimisation Strategy 2018-22 will be used by Council and community to help shape the design and delivery of Council waste services, programs and operations. This includes the nature and direction of our partnerships and engagement with our stakeholders and the community, our advocacy agenda and how we operate internally.

More specifically, the Yarra Waste Minimisation Strategy 2018-22 provides:

- A central vision that describes a unifying aspiration of *Revaluing or Redefining our waste*.
- The waste context (as identified by stakeholders) that are considered relevant to Yarra.
- A context for the development of new waste management contracts.
- Objectives that outline the core outcomes we aim to deliver.
- Measures to inform us whether or not we are on track.

The Yarra Waste Minimisation Strategy is also supported by an Action Plan that details desired vision, outcomes, targets, indicators, plans, programs and resources required to implement the Yarra Waste Minimisation Strategy.

Budget for implementation of the Strategy and Action Plan is subject to annual Council approval. On an annual basis Council officers will develop a budget submission for resourcing the implementation of the Yarra Waste Minimisation Strategy to be reviewed as part of the overall Council budget process

VISION AND OBJECTIVES

VISION

Yarra is committed to being a sustainable city. We will all become conscious consumers who actively avoid and reduce waste, preserving resources for current and future generations.

Yarra's long term ambition is to move our community towards zero waste to landfill.



OBJECTIVES

1 VALUING OUR RESOURCES

We will engage the Yarra community through targeted and tailored education programs to be mindful of consumption, to rethink and value resources.

2 DELIVERING HIGH QUALITY, ACCESSIBLE SERVICES AND PROGRAMS

Yarra will continue to deliver services and programs in a manner that is sustainable, accessible and innovative. We will monitor these services and programs and respond to new trends, opportunities and community needs.

3 ENCOURAGING COMMUNITY PRIDE THROUGH CLEAN PUBLIC SPACES

Yarra's public spaces including waterways, parks, streets and laneways are valued and loved by our community. We will work in partnership with the community to ensure these spaces provide a clean, welcoming and safer environment for a range of uses.

4 ENSURING YARRA HAS ACCESS TO THE PROGRAMS, INFRASTRUCTURE AND TECHNOLOGY TO MEET ITS TARGETS

Yarra requires access to innovative programs and infrastructure to service the changing needs of our community. We will seek opportunities for technological and infrastructure innovation to improve our services to the community.

5 COLLABORATE, PARTNER AND ADVOCATE FOR BETTER OUTCOMES

Yarra is part of a broader community. We will collaborate with a range of partners to advocate for improved opportunities to develop new consumption behaviours that seek to gain better value and minimise the creation of waste.

TARGETS AND MEASURES

As part of the development of the Waste and Resource Recovery Strategy 2014-2018 (YWRRS) a number of minimisation and recovery targets were established and endorsed by Council in 2014. These targets have been considered in developing the Yarra Waste Minimisation Strategy 2018-22.

Indicator	Baseline measurement 2014	June 2018 target	June 2022 target
Household* (based on audit of 300 single dwelling properties & 150 MUD Units)			
Single dwelling household organic garbage to landfill	45.4% of kerbside waste collection	43% of kerbside waste collection	35% of kerbside waste collection***
Single dwelling household recycling contamination	10.4% contamination rate by weight	7.5% contamination rate by weight	5.0% contamination rate by weight
Apartment recycling contamination	24.5% contamination rate by weight	21.6% contamination rate by weight	19.1% contamination rate by weight
Indicator	Baseline measurement 2014	June 2017 target	June 2022 target
Commercial** (based on audit of 240 properties)			
Reduced recyclables going to landfill from commercial properties	30%	25% increase	20% increase
Commercial recycling contamination	11.6% contamination rate by weight	10% contamination rate by weight	8% contamination rate by weight
Indicator	Baseline measurement 2011	June 2017 target	June 2022 target
Council Staffed Facilities (based on audit of 3 town halls)			
Tonnes / EFT / week Garbage to landfill from Council staff properties	0.62kg / EFT / week	5% reduction	10% reduction

* Household includes waste collected from single dwellings, and multi-unit dwellings. A growing number of Yarra residents now live in developments that utilise a private waste collection service.

** It is noted that the number of commercial properties serviced by Yarra has been steadily increasing.

*** Target for 2022 single dwelling household organic garbage to landfill may change depending on the outcome of the FOGO trial

WASTE AND RESOURCE RECOVERY ACTION PLAN 2018-2022

OBJECTIVE 1: VALUING OUR RESOURCES

We will engage the Yarra community through targeted and tailored education programs to be mindful of consumption, to rethink and value resources.

Key

WM Waste Minimisation

CP Compliance

DA Drainage Unit

WO Waste Operations

OP Open Space

EN Traffic Engineers

COM Communication

EH Environmental Health

CM Construction Management

Action Number	Deliverable	Year	Actions	Target	Responsible
1.1	Deliver communication campaign	2018-19	Develop and deliver effective and innovative ways of communicating messages about waste minimisation, resource recovery and recycling to the Yarra community. For example a graphic that tracks progress of Yarra's waste production periodic in Yarra News	All community (including single dwelling, apartments, schools & commercial)	Lead - WM Support – WO & COM
		2019-20	Review and update based on what was learned, deliver expanded program		Lead - WM Support – WO & COM
		2020-21	Continue to deliver Campaign		Lead - WM Support – WO & COM
		2021-22	Continue to deliver Campaign		Lead - WM Support – WO & COM
1.2	Delivery of Education & Engagement Program to 500 households	2018-19	Further promote, deliver and expand education/ engagement programs about food waste avoidance (NOTE – this could include Food Know How and green waste service)	All community (including single dwelling, apartments, schools & commercial)	Lead - WM Support - COM
		2019-20	Review and update based on what was learned, deliver expanded program		Lead - WM Support - COM

Action Number	Deliverable	Year	Actions	Target	Responsible
1.2	Delivery of Education & Engagement Program to 500 households	2020-21	Continue to deliver Program	All community (including single dwelling, apartments, schools & commercial)	Lead - WM Support - COM
		2021-22	Continue to deliver Program		Lead - WM Support - COM
1.3	Delivery of Education & Engagement Program to one neighbourhood	2018-19	Develop a trial education / engagement campaign about waste reduction and avoidance. (e.g. avoiding packaging, encourage sharing, repairing, reuse etc).	All community (including single dwelling, apartments, schools & commercial)	Lead – WM Support – COM & WO
		2019-20	Based on what was learned in the trial, deliver expanded program		Lead – WM Support – COM & WO
		2020-21	Continue to deliver Program		Lead – WM Support – COM & WO
		2021-22	Continue to deliver Program		Lead – WM Support – COM & WO
1.4	Delivery of Education & Engagement Program to one neighbourhood	2018-19	Develop a trial education/ engagement program about the 4Rs (Refuse, Reduce, Recycle, Recover)	All community (including single dwelling, apartments, schools & commercial)	Lead – WM Support – COM & WO
		2019-20	Based on what was learned in the trial, deliver expanded program		Lead – WM Support – COM & WO
		2020-21	Continue to deliver Program		Lead – WM Support – COM & WO
		2021-22	Continue to deliver Program		Lead – WM Support – COM & WO

OBJECTIVE 1: VALUING OUR RESOURCES

Action Number	Deliverable	Year	Actions	Target	Responsible
1.5	Delivery of Education & Engagement Program to 2000 households	2018-19	Develop and deliver a clear and concise education / engagement program to reinforce the correct usage of the recycling bin	All community (including single dwelling, apartments, schools & commercial)	Lead – WM Support – COM & WO
		2019-20	Continue to deliver Program		Lead – WM Support – COM & WO
		2020-21	Continue to deliver Program		Lead – WM Support – COM & WO
		2021-22	Continue to deliver Program		Lead – WM Support – COM & WO
1.6	Remove and replace stickers on recycling bins	2018-19	Replace redundant underlid information stickers on recycling bins and replace with the relevant updated stickers	All community (including single dwelling, MUDs & commercial that Council Service	Lead – WO

OBJECTIVE 2: DELIVERING HIGH QUALITY AND ACCESSIBLE SERVICES / PROGRAMS

Yarra will continue to deliver services / programs in a manner that is sustainable, accessible and innovative. We will monitor these services / programs and respond to new trends, opportunities and community needs.

Action Number	Deliverable	Year	Actions	Target	Responsible
2.1	Complete trial and analysis and deliver recommendations	2018-19	Assess the viability of an organics collection service	Residential community	Lead - WO Support – WM
		2019-20	Deliver approved recommendations		Lead - WO Support - WM and COM
		2020-21	Review and deliver approved recommendations		Lead - WO Support - WM and COM
		2021-22	Deliver approved recommendations		Lead - WO Support - WM and COM
2.2	Deliver Program	2018-19	Determine how best to engage apartments not serviced by Council around waste avoidance, reuse and recycling	Apartments with a private waste collection service	Lead - WM Support – WO
		2019-20	Develop and deliver best practice avoidance, reuse and recycling program to MUDs not serviced by Council		Lead - WM Support – WO
		2020-21	Provide access to Program		Lead - WM Support – WO
		2021-22	Provide access to Program		Lead - WM Support – WO

OBJECTIVE 2: DELIVERING HIGH QUALITY AND ACCESSIBLE SERVICES / PROGRAMS

Action Number	Deliverable	Year	Actions	Target	Responsible
2.3	Deliver Program	2018-19	Review the approach to Green Waste collection and communication provided to residents in the view to increase green waste recycling	Residential Green Waste	Lead – WO Support – WM, COM
		2019-20	Based on outcome of review, propose the best approach for increasing green waste recycling and reduce green waste going to landfill		Lead – WO Support – WM, COM
		2020-21	Deliver best practice service		Lead – WO Support – WM, COM
		2021-22	Deliver best practice service		Lead – WO Support – WM, COM



OBJECTIVE 2: DELIVERING HIGH QUALITY AND ACCESSIBLE SERVICES / PROGRAMS

Action Number	Deliverable	Year	Actions	Target	Responsible
2.4	Deliver Program	2018-19	Review the at call Hard Waste service and communication provided to residents in the view to meet service level agreements, reuse, repair, increase resource recovery and reduce dumping	Residential hard waste	Lead – WO Support – CP, WM & COM
		2019-20	Based on outcome of review, propose the best approach for increase reuse, repair, recycling, reduce dumping and meet service level agreements		Lead – WO Support – CP, WM & COM
		2020-21	Deliver best practice service		Lead – WO Support – CP, WM & COM
		2021-22	Deliver best practice service		Lead – WO Support – CP, WM & COM



OBJECTIVE 3: ENCOURAGE COMMUNITY PRIDE THROUGH CLEAN PUBLIC SPACES

Yarra's public spaces including waterways, parks, streets and laneways are valued and loved by our community. We will work in partnership with the community to ensure these spaces provide a clean, welcoming and safe environment for a range of uses.

Action Number	Deliverable	Year	Actions	Target	Responsible
3.1.1	Update service levels/ technology	2018-19	Assess the allocation, signage and servicing of street litter bins & park litter bins to identify to identify the most effective/ efficient way of servicing and recycling	Streets & Parks Litterbins	Lead – WO, OS Support – WM
		2019-20	Based on findings update service levels/technology to deliver this objective		Lead – WO, OS Support – WM
		2020-21	Deliver best practice services		Lead – WO, OS Support – WM
		2021-22	Deliver best practice services		Lead – WO, OS Support – WM
3.1.2	Recommendations implementation	2018-19	Assess the viability of implementing new technology/system for problem items e.g. Butt Bins, chewing gum	Streets & Parks Litterbins	Lead - WO, OS Support - WM, CP
		2019-20	Based on findings implement recommendations		Lead - WO, OS Support - WM, CP
		2020-21	Based on findings implement recommendations		Lead - WO, OS Support - WM, CP
		2021-22	Based on findings implement recommendations		Lead - WO, OS Support - WM, CP

Action Number	Deliverable	Year	Actions	Target	Responsible
3.2	Deliver Program	2018-19	Design and implement education/enforcement program to identify continuous overflowing garbage & recycling bins	Garbage & Recycling Kerbside Bins (including single dwelling, apartments & commercial)	Lead – WO Support – WM, CP & COM
		2019-20	Deliver Program		Lead – WO Support – WM, CP & COM
		2020-21	Review and deliver Program		Lead – WO Support – WM, CP & COM
		2021-22	Deliver Program		Lead – WO Support – WM, CP & COM
3.3	Deliver Program to minimise littering	2018-19	Review the dumped waste process to assess the most appropriate prevention process	Dumped Waste	Lead - CP Support – WO & WM
		2019-20	Develop and deliver best practice dumped rubbish reduction program integrating education, infrastructure and enforcement		Lead - WP, WM Support – CP
		2020-21	Deliver Program		Lead - WP, WM Support – CP
		2021-22	Deliver Program		Lead - WP, WM Support – CP
3.4	Deliver Program to minimise littering	2018-19	Review the continuous littering issues in identified hotspots e.g. takeaway food hotspots, parks etc	Litter Hotspots	Lead – WM & EH Support - WO
		2019-20	Implement a focused campaign to reduce street litter around litter hotspots integrating education, infrastructure and enforcement		Lead – WM & EH Support - WO
		2020-21	Deliver Program		Lead – WM & EH Support - WO
		2021-22	Deliver Program		Lead – WM & EH Support - WO

OBJECTIVE 3: ENCOURAGE COMMUNITY PRIDE THROUGH CLEAN PUBLIC SPACES

Action Number	Deliverable	Year	Actions	Target	Responsible
3.5	Deliver Campaign Engage 2 Groups	2018-19	Work with Yarra Community to generate civic pride and take responsibility for their local area	Community Groups	Lead – WM Support - WO
		2019-20	Develop a civic pride campaign that can be driven by local community in their area		Lead – WM Support - WO
		2020-21	Deliver program		Lead – WM Support - WO
		2021-22	Deliver program		Lead – WM Support - WO
3.6	Improved process to improve Storm Water Quality Resolve Post Office Lane	2018-19	Review the key locations where traders consistently dispose of cooking fats and oils into the storm water drains	Drains in Retail Areas	Lead – WH, EH Support – WO, DA
		2019-20	Develop and implement best practice stormwater pollution reduction program integrating education, infrastructure and enforcement		Lead – WH, EH Support – WO, DA
		2020-21	Deliver Program		Lead – WH, EH Support – WO, DA
		2021-22	Deliver Program		Lead – WH, EH Support – WO, DA

OBJECTIVE 3: ENCOURAGE COMMUNITY PRIDE THROUGH CLEAN PUBLIC SPACES

Action Number	Deliverable	Year	Actions	Target	Responsible
3.7	Improved Workflows	2018-19	Review the feedback process for Water Sensitive Urban Design structures to ensure that litter prevention is included in design	Water Sensitive Urban Design (WSUD)	Lead – DA, WO, OS
		2019-20	Implement work flows that achieve the required outcomes		Lead – DA, WO, OS
		2020-21	Follow the appropriate workflows		Lead – DA, WO, OS
		2021-22	Follow the appropriate workflows		Lead – DA, WO, OS
3.8	Improved Workflows	2018-19	Review the feedback process for the design of traffic treatment structures, garden beds, and tree squares to ensure that the design takes into account cleaning methodology, cost and litter prevention	Street cleaning	Lead - EN Support - OS, WO, DA
		2019-20	Implement work flows that achieve the required outcomes		Lead - EN Support - OS, WO, DA
		2020-21	Follow the appropriate workflows		Lead - EN Support - OS, WO, DA
		2021-22	Follow the appropriate workflows		Lead - EN Support - OS, WO, DA

OBJECTIVE 3: ENCOURAGE COMMUNITY PRIDE THROUGH CLEAN PUBLIC SPACES

Action Number	Deliverable	Year	Actions	Target	Responsible
3.9	Following the appropriate Workflow	2018-19	Review the construction management plan process to make sure it eliminates the generation of litter and encourage recycling	Construction Sites	Lead – CM Support – WO, WM
		2019-20	Develop and deliver effective litter reduction program on construction sites		Lead – CM Support – WO, WM
		2020-21	Follow the appropriate workflows		Lead – CM Support – WO, WM
		2021-22	Follow the appropriate workflows		Lead – CM Support – WO, WM
3.10	Updated Service Levels and Technology	2018-19	Review Council's street cleaning operations to assess cleaning methodology	Council street cleaning operations	Lead - WO
		2019-20	Based on findings, update service levels/technology to deliver this objective		Lead - WO
		2020-21	Deliver required service levels		Lead - WO
		2021-22	Deliver required service levels		Lead - WO

OBJECTIVE 4: ENSURING YARRA HAS ACCESS TO THE PROGRAMS, INFRASTRUCTURE AND TECHNOLOGY REQUIRED TO MEET ITS TARGETS

Yarra requires access to innovative programs and infrastructure to service the changing needs of our community. We will seek opportunities for technology and infrastructure to improve our services to the community.

Action Number	Deliverable	Year	Actions	Target	Responsible
4.1	Deliver Program Complete 10 MUD Sites per annum	2018-19	Audit apartments serviced by Council and ensure they have the most appropriate education and bin infrastructure to encourage resource recovery and no contamination in recycling bin.	Apartments	Lead - WO Support – WM
		2019-20	Based on outcomes of audit, develop guidelines and implement a staged program to bring all bin stock and education to standard, making sure apartments have equal access to recycling service. For example at sites with incorrect bin ratios and low recycling participation rates.		Lead - WO Support – WM
		2020-21	Continue to deliver Program		Lead - WO Support – WM
		2021-22	Continue to deliver Program		Lead - WO Support – WM

OBJECTIVE 4: ENSURING YARRA HAS ACCESS TO THE PROGRAMS, INFRASTRUCTURE AND TECHNOLOGY REQUIRED TO MEET ITS TARGETS

Action Number	Deliverable	Year	Actions	Target	Responsible
4.2	Deliver Program Complete 1 shopping strip per year	2018-19	Audit commercial properties serviced by Council and ensure they have the most appropriate education and bin infrastructure to encourage resource recovery and no contamination in recycling bin.	Commerical	Lead - WO Support – WM
		2019-20	Based on outcomes of audit, deliver an education and engagement program based on reducing waste to landfill, improving resource recovery, increasing recycling yields and participation.		Lead - WO Support – WM
		2020-21	Deliver Program		Lead - WO Support – WM
		2021-22	Deliver Program		Lead - WO Support – WM



28 A sensor fitted inside one of 600 public bins, to provide real-time data on waste levels.

OBJECTIVE 4: ENSURING YARRA HAS ACCESS TO THE PROGRAMS, INFRASTRUCTURE AND TECHNOLOGY REQUIRED TO MEET ITS TARGETS

Action Number	Deliverable	Year	Actions	Target	Responsible
4.3	Deliver Program	2018-19	Audit Sporting Clubs serviced by Council and ensure the most appropriate education program and bin infrastructure to encourage resource recovery and no contamination in recycling bin.	Sporting Clubs	Lead – WO Support – WM & OS
		2019-20	Based on outcomes of audit, develop and implement a staged program to bring all bin infrastructure, in parks and sporting clubs, to standard. Continue education and engagement with these groups.		Lead – WO Support – WM
		2020-21	Deliver Program & continue education and engagement.		Lead – WO Support – WM
		2021-22	Deliver Program & continue education and engagement.		Lead – WO Support – WM

OBJECTIVE 4: ENSURING YARRA HAS ACCESS TO THE PROGRAMS, INFRASTRUCTURE AND TECHNOLOGY REQUIRED TO MEET ITS TARGETS

Action Number	Deliverable	Year	Actions	Target	Responsible
4.4	Deliver Program	2018-19	Review the existing waste reduction program at major festivals and events and include steps to ensure continuous improvement as well as promotion of Yarra's leadership role.	Festivals/events	Lead – WO Support – WM & CP
		2019-20	Implement waste management systems based on maximum diversion from landfill and resource recovery.		Lead – WO Support – WM & CP
		2020-21	Deliver waste management services based on maximum diversion from landfill and resource recovery.		Lead – WO Support – WM & CP
		2021-22	Deliver waste management services based on maximum diversion from landfill and resource recovery.		Lead – WO Support – WM & CP

OBJECTIVE 4: ENSURING YARRA HAS ACCESS TO THE PROGRAMS, INFRASTRUCTURE AND TECHNOLOGY REQUIRED TO MEET ITS TARGETS

Action Number	Deliverable	Year	Actions	Target	Responsible
4.5	Implement infrastructure to the optimal level	2018-19	Review the Recycling Centre at Clifton Hill Depot to ensure the optimum infrastructure, equipment and education to encourage reuse, repair and maximum resource recovery for the Yarra Community.	Recycling Centre Clifton Hill	Lead – WO Support - WM
		2019-20	Based on outcomes of audit, develop and implement a staged program to bring all program and infrastructure to optimal level.		Lead – WO Support - WM
		2020-21	Continue to develop the site to provide best practice recycling services to the community.		Lead – WO Support - WM
		2021-22	Continue to develop the site to provide best practice recycling services to the community.		Lead – WO Support - WM

OBJECTIVE 4: ENSURING YARRA HAS ACCESS TO THE PROGRAMS, INFRASTRUCTURE AND TECHNOLOGY REQUIRED TO MEET ITS TARGETS

Action Number	Deliverable	Year	Actions	Target	Responsible
4.6	Implement infrastructure to the optimal level	2018-19	Review the municipal wide recycling drop off points to ensure the optimum infrastructure and education to encourage maximum reuse, repair and resource recovery for the Yarra community.	Recycling drop off points	Lead – WO Support - WM
		2019-20	Based on outcomes of audit, develop and implement a staged program to bring all infrastructure to optimal level to maximum reuse, repair and resource recovery.		Lead – WO Support - WM
		2020-21	Continue to develop the site to provide best practice to maximum reuse, repair and resource recovery.		Lead – WO Support - WM
		2021-22	Continue to develop the site to provide best practice to maximum reuse, repair and resource recovery.		Lead – WO Support - WM

OBJECTIVE 4: ENSURING YARRA HAS ACCESS TO THE PROGRAMS, INFRASTRUCTURE AND TECHNOLOGY REQUIRED TO MEET ITS TARGETS

Action Number	Deliverable	Year	Actions	Target	Responsible
4.7	Establish Circular Economy, Closed Loop Model	2018-19	Establish a Council Policy to support a circular economy model for Council's procurement through purchasing products made of recyclable materials such as plastics, mulch and compost.	Circular Economy (Closed Loop) Model for Waste	Lead – WO Support - WM
		2019-20	Implement Council Policy on a circular economy/ closed loop model.		Lead – WO Support - WM
		2020-21	Increase the implementation of circular economy/closed loop model.		Lead – WO Support - WM
		2021-22	Increase the implementation of circular economy/closed loop model.		Lead – WO Support - WM
4.8	Trial and Report to Executive	2018-19	Explore suitable smaller scale food scraps processing technology that can be established locally in a Council Depot, large MUD sites and commercial premises to process food onsite.	Technology for Food Scraps Processing	Lead – WM Support – WO & COM
		2019-20	Identify a suitable technology for a trial.		Lead – WM Support – WO & COM
		2020-21	Trial the technology.		Lead – WM Support – WO & COM
		2021-22	Complete an analysis and report to Executive.		Lead – WM Support – WO & COM

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Yarra is part of a broader community. We will collaborate with a range of partners to advocate for improved opportunities to rethink consumption behaviour and seek to gain better value and minimise the creation of waste.

Action Number	Deliverable	Year	Actions	Target	Responsible
5.1	Explored opportunities	2018-19	Explore opportunities to deliver collaborative projects with other councils on topics such as MUD recycling campaigns, food avoidance and litter prevention.	Collaboration	Lead – WM Support – WO, COM
		2019-20	Explore opportunities to deliver collaborative projects with other councils on topics such as MUD recycling campaigns, food avoidance and litter prevention.		Lead – WM Support – WO, COM
		2020-21	Explore opportunities to deliver collaborative projects with other councils on topics such as MUD recycling campaigns, food avoidance and litter prevention.		Lead – WM Support – WO, COM
		2021-22	Explore opportunities to deliver collaborative projects with other councils on topics such as MUD recycling campaigns, food avoidance and litter prevention.		Lead – WM Support – WO, COM

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.2	Assessed global trends	2018-19	Maintain best practices by assessing global trends with partners to benchmark and respond to emerging trends and evaluate how they impact.	Partnerships	Lead - WM Support - WO
		2019-20	Maintain best practices by assessing global trends with partners to benchmark and respond to emerging trends and evaluate how they impact.		Lead - WM Support - WO
		2020-21	Maintain best practices by assessing global trends with partners to benchmark and respond to emerging trends and evaluate how they impact.		Lead - WM Support - WO
		2021-22	Maintain best practices by assessing global trends with partners to benchmark and respond to emerging trends and evaluate how they impact.		Lead - WM Support - WO

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.3	Lobbied	2018-19	Work with the MAV to jointly lobby State and Federal Government to legislate Product Stewardship schemes for all viable resources to guarantee resource recovery and recycling, for example, models such as Mobile Muster and PaintBack.	Product Stewardship	Lead - WM Support - WO
		2019-20	Work with the MAV to jointly lobby State and Federal Government to legislate Product Stewardship schemes for all viable resources to guarantee resource recovery and recycling, for example, models such as Mobile Muster and PaintBack.		Lead - WM Support - WO
		2020-21	Continue to lobby State and Federal Government to legislate Product Stewardship schemes for all viable resources to guarantee resource recovery and recycling.		Lead - WM Support - WO
		2021-22	Continue to lobby State and Federal Government to legislate Product Stewardship schemes for all viable resources to guarantee resource recovery and recycling,		Lead - WM Support - WO

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.4	Deliver Program	2018-19	Work with Sustainability Victoria to establish State wide education Programs to change consumption behaviour that will reduce waste generation.	Sustainability Victoria	Lead - WM Support – WO & COM
		2019-20	Work with Sustainability Victoria to establish State wide education Programs to change consumption behaviour that will reduce waste generation.		Lead - WM Support – WO & COM
		2020-21	Work with Sustainability Victoria to establish State wide education Programs to change consumption behaviour that will reduce waste generation.		Lead - WM Support – WO & COM
		2021-22	Work with Sustainability Victoria to establish State wide education Programs to change consumption behaviour that will reduce waste generation.		Lead - WM Support – WO & COM

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.5	Maximum benefit for Yarra	2018-19	Evaluate the MWRRG Business case to establish AWRRT's for the Metro Region to identify opportunities for Yarra's residual waste.	MWRRG	Lead - WO Support - WM
		2019-20	Ensure Yarra is in a position to gain maximum benefits from emerging technologies.		Lead - WO Support - WM
		2020-21	Ensure Yarra is in a position to gain maximum benefits from emerging technologies.		Lead - WO Support - WM
		2021-22	Ensure Yarra is in a position to gain maximum benefits from emerging technologies.		Lead - WO Support - WM



OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.6	Lobbied	2018-19	Work with the MAV to jointly lobby State Government about more productive uses of the EPA Landfill Levy to achieve waste minimisation and resource recovery outcomes.	State Government	Lead - WM Support - WO
		2019-20	Work with the MAV to jointly lobby State Government about more productive uses of the EPA Landfill Levy to achieve waste minimisation and resource recovery outcomes.		Lead - WM Support - WO
		2020-21	Continue to lobby State Government about more productive uses for the EPA Landfill Levy to achieve waste minimisation and resource recovery outcomes.		Lead - WM Support - WO
		2021-22	Continue to lobby State Government about more productive uses for the EPA Landfill Levy to achieve waste minimisation and resource recovery outcomes.		Lead - WM Support - WO

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.7	Implemented program	2018-19	Work with the MAV and other organisations such as Councils and OECD to explore a circular economy model for waste materials such as plastic to REPLAS and the purchase back of products made from recycled plastic waste.	MAV and other organisations - Circular Economy	Lead - WO Support - WM
		2019-20	Work with the MAV and other organisations such as Councils and OECD to explore a circular economy model for waste materials such as plastic to REPLAS and the purchase back of products made from recycled plastic waste.		Lead - WO Support - WM
		2020-21	Work with the MAV and other organisations such as Councils and OECD to explore a circular economy model for waste materials such as plastic to REPLAS and the purchase back of products made from recycled plastic waste.		Lead - WO Support - WM
		2021-22	Work with the MAV and other organisations such as Councils and OECD to explore a circular economy model for waste materials such as plastic to REPLAS and the purchase back of products made from recycled plastic waste.		Lead - WO Support - WM

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.8	Reported to Council	2018-19	Investigate the current outcomes of the CDL in NSW and provide a report to Council.	Container Deposit Legislation (CDL)	Lead - WO Support - WM
		2019-20	Explore the relevance for Yarra.		Lead - WO Support - WM
		2020-21	Monitor to ensure Yarra is able to take advantage of any relevant CDL opportunities.		Lead - WO Support - WM
		2021-22	Monitor to ensure Yarra is able to take advantage of any relevant CDL opportunities.		Lead - WO Support - WM
5.9	Delivered program in partnership with community	2018-19	Encourage/partner with local community to develop initiatives about avoiding and reusing materials through Council's community grants.	Community	Lead - WM Support - WO
		2019-20	Encourage/partner with local community to develop initiatives about avoiding and reusing materials through Council's community grants.		Lead - WM Support - WO
		2020-21	Encourage/partner with local community to develop initiatives about avoiding and reusing materials through Council's community grants.		Lead - WM Support - WO
		2021-22	Encourage/partner with local community to develop initiatives about avoiding and reusing materials through Council's community grants.		Lead - WM Support - WO

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.10	Delivered program in partnership with community	2018-19	In partnership with the community develop a Proudly Plastic Free Campaign to encourage food outlets to reduce the use of disposable plastics.	Community and Commercial	Lead - WM Support - WO
		2019-20	Review and update based on what was learned, deliver campaign.		Lead - WM Support - WO
		2020-21	Continue to deliver campaign.		Lead - WM Support - WO
		2021-22	Continue to deliver campaign.		Lead - WM Support - WO
5.11	Lobbied	2018-19	Work with the MAV to jointly lobby State governments to ban the use of single use plastics.	State Government	Lead - WM Support - WO
		2019-20	Work with the MAV to jointly lobby State governments to ban the use of single use plastics.		
		2020-21	Continue to lobby State Government about banning single use plastics.		Lead - WM Support - WO
		2021-22	Continue to lobby State Government about banning single use plastics.		Lead - WM Support - WO

OBJECTIVE 5: COLLABORATE AND ADVOCATE FOR BETTER OUTCOMES

Action Number	Deliverable	Year	Actions	Target	Responsible
5.12	Delivered program	2019-20	In the absence of any legislative change to ban or reduce the use of single use plastics, explore opportunities to take local action.	State Government	Lead - WM Support - WO & Venue & Events
		2020-21	In the absence of any legislative change to ban or reduce the use of single use plastics, explore opportunities to take local action.		Lead - WM Support - WO & Venue & Events
		2021-22	In the absence of any legislative change to ban or reduce the use of single use plastics, explore opportunities to take local action.		Lead - WM Support - WO & Venue & Events



APPENDIX ONE

POLICY CONTEXT

National

National Waste Policy: Less Waste More Resources

The National Waste Policy agreed to by all Australian environment ministers in November 2009, and endorsed by the Council of Australian Governments, sets Australia's waste management and resource recovery direction to 2020. The aims of the National Waste Policy are to:

- Avoid the generation of waste, reduce the amount of waste for disposal.
- Manage waste as a resource.
- Ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner.
- Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of the land.

National Food Waste Strategy

The National Food Waste Strategy was launched in November 2017 and provides a framework to support collective action towards halving Australia's food waste by 2030.

State

Legislation

In 2014 legislative amendments to the Environment Protection Act 1970 (the EP Act) established the Victorian Waste and Resource Recovery Infrastructure Planning Framework (the Framework). As amended, the EP Act provides the legislative underpinning for Regional Implementation Plans. The legislative objectives are:

- To ensure long term strategic planning for waste and resource recovery infrastructure at state and regional levels.
- Facilitate the integration of statewide directions for the management of waste and resource recovery infrastructure and regional infrastructure needs.

- To enable waste and resource recovery infrastructure planning to be:
 - i. effectively integrated with land use and development planning and policy
 - ii. effectively integrated with transport planning and policy
- To ensure Sustainability Victoria and Waste and Resource and Recovery Groups work together to integrate the State Infrastructure Plan and Regional Implementation Plans to enable waste and resource recovery infrastructure planning decisions to be made at the appropriate level of the Framework.

Statewide Waste and Resource Recovery Infrastructure Plan

Released in June 2015, and amended in 2017, the Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP) provides Victoria with a 30 year vision and roadmap to guide future waste and resource recovery infrastructure planning and supporting programs to achieve an integrated system that:

- Effectively manages the expected mix and amounts of waste.
- Reflects the principles of environmental justice to ensure that impacts on the community, environment and public health are not disproportionately felt across communities.
- Supports a viable resource recovery industry.
- Reduces the amount of valuable materials going to landfill.

The SWRRIP is supported by seven Regional Implementation Plans, which set out the local priorities and infrastructure across the seven regions in Victoria.

In 2016, SV identified the need to amend the SWRRIP. It now includes a more comprehensive picture of Victoria's waste flows, capacity gaps and regional infrastructure priorities, and is used to inform a summary of overall opportunities to increase recovery in Victoria.

The Metropolitan Waste and Resource Recovery Implementation Plan

The Metropolitan Waste and Resource Recovery Implementation Plan (Metropolitan Implementation Plan) outlines the vision and strategy for managing Melbourne's waste. The plan focuses on identifying Melbourne's infrastructure needs and how these will be met over the next 10 years.

The strategic objectives for the Metropolitan Implementation Plan are to:

- Reduce waste sent to landfill.
- Increase organic waste recovered.
- Deliver community, environmental and economic benefits.
- Plan for Melbourne's growing population.

The Victorian Waste and Resource Recovery Framework

This Metropolitan Implementation Plan, together with the State Infrastructure Plan and the six Regional Implementation Plans forms the Victorian Waste and Resource Recovery Infrastructure Planning Framework. This framework enables Victoria to establish a waste and resource recovery system that:

- Effectively manages the expected mix and volumes of waste.
- Reflects the principles of environmental justice to ensure the impacts on the environment and public health are not disproportionately felt across communities.
- Supports a viable resource recovery industry.
- Reduces the amount of valuable materials going to landfill.

Victorian Organics Resource Recovery Strategy

The Victorian Organics Resource Recovery Strategy sets out the government's vision for organic resources, and the steps needed to achieve this vision. The strategy's goals are:

- To reduce the impact of climate change.
- To protect the environment, human and animal health and amenity.
- Risk based and proportionate approach.
- Strong and sustainable markets.

Victorian Market Development Strategy for Recovered Resources

The Victorian Market Development Strategy for Recovered Resources is a key element in the delivery of the Statewide Waste and Resource Recovery Infrastructure Plan. It has been developed to support Victoria to:

- Meet community expectations for resource recovery activities that improve the environment, community amenity and public health, while stimulating markets for the use of recovered materials for positive economic return.
- Support conditions for the resource recovery and manufacturing sectors to grow and create jobs, by maximising the value of recovered materials and developing quality products for end markets.
- Increase investment in and the purchase of products made from recovered materials by promoting their qualities and functionality.
- Provide a 30 year vision, 10 year strategic outlook, and five year action plan.

Victorian Waste Education Strategy

The strategy provides a consistent and coordinated approach to waste and resource recovery education. It supports best practice programs so that Victorians:

- Are well informed and taking practical action to reduce waste, minimise its environmental impact and maximise its value.
- Understand the importance of effective waste management and recovery of valuable resources.

Local

Council Plan

The Council Plan 2017-21 is a strategic document that puts forward a medium to long-term vision for how Council will respond to the opportunities and challenges facing Yarra over the next four years.

It provides guidance on how Council will work to improve the amenity of residents, manage the challenges presented by population growth, provide support to vulnerable community members, protect and enhance Yarra's heritage and culture and continue to reduce the city's environmental footprint.

The key objectives of the Council Plan are:

1. Community health, safety and wellbeing are a focus in everything we do.
2. Inclusion, diversity and uniqueness are welcomed, respected and celebrated.
3. Council leads on sustainability and protects and enhances its natural environment. Development and growth are managed to maintain and enhance the character and heritage of the city.
4. Local businesses prosper and creative and knowledge industries thrive.
5. Connectivity and travel options are environmentally sustainable, integrated and well-designed.
6. Transparency, performance and community participation drive the way we operate.

Municipal Public Health and Wellbeing Plan 2017-2021

The Municipal Public Health and Wellbeing Plan 2017- 2021 is incorporated in the Council Plan 2017-2021, under the key objective of community health, safety and wellbeing are a focus in everything we do.

The following strategies are included under this key objective:

1. Maintain and enhance Yarra's open space network to meet the diverse range of community uses. Promote a community that is inclusive, resilient, connected and enjoys strong mental and physical health and wellbeing.
2. Provide health promoting environments that encourage healthy eating and active living.
3. Assist to reduce the harms from alcohol and drugs on individuals and the community in partnership with state agencies and key service providers.
4. Promote environments that support safe and respectful sexual practices, reproductive choices.
5. Promote a gender equitable, safe and respectful community.
6. Promote an effective and compassionate approach to rough sleeping and advocate for affordable, appropriate housing.
7. Provide opportunities for people to be involved in and connect with their community.

Yarra's health and wellbeing initiatives are based on a framework called the Social Model Of Health, where (in tandem with biological and medical factors) improvements in health and wellbeing are achieved by addressing the social and environmental determinants of health including:

- Natural environment (air, water, vegetation and climate).
- Built environment (parks, street lighting, footpaths, cycling lanes and trails, recreation and community facilities).
- Economic environment (access to employment).
- Social environment (community participation and connectedness).

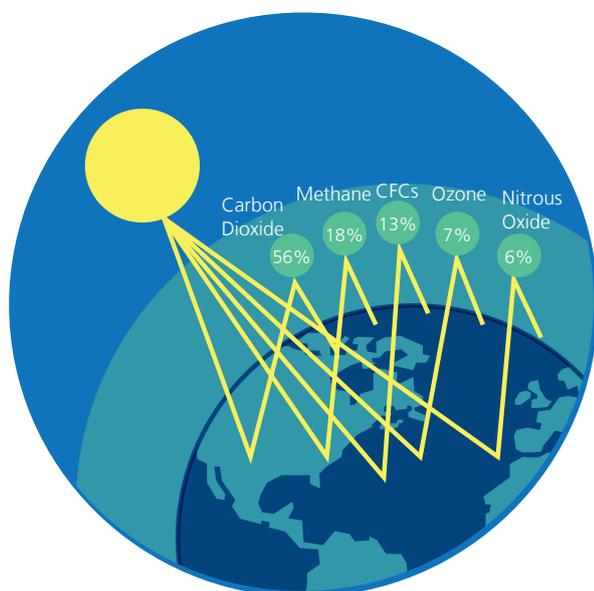
Yarra Waste and Resource Recovery Strategy 2014-2018

The previous Waste and Resource Recovery Strategy was developed through an extensive process of community consultation, stakeholder engagement, policy and strategy review and analysis. It built on the achievements of the previous Waste Management Strategy 2009 – 2013 which was successful in increasing diversion rates to landfill and ensuring an excellent service to the Yarra community. The 2014-18 strategy had a stronger focus on waste minimization and education while maintaining an emphasis on providing excellent services to the Yarra community.

Policy Context – Greenhouse Emissions

Greenhouse gas emissions within a waste management context stem from two main factors:

1. **Plant based materials-** When organic materials like food scraps enter a landfill they breakdown and decompose within anaerobic (absence of oxygen) conditions, resulting in methane production (a greenhouse gas over 20 times more potent than carbon dioxide). Compare this to more natural decomposing processes such as composting (aerobic), where the material breaks down in the presence of oxygen, and reduces emissions considerably.



However, the management of methane in modern, compliant landfills is far better than past practices. Landfills in metropolitan Melbourne are managed in accordance with strict EPA regulations and operators utilise latest technologies to maximise the operational lifetime of the landfill and limit the environmental and social impacts of landfilling. All Victorian landfills have strict management requirements (for instance, the Environmental Management System (EMS) requirements overseen by the Metro Waste Management Group (MWMG)) and many landfills capture a large proportion of the methane produced and use this for onsite energy purposes, thus reducing greenhouse impacts. Nevertheless, better greenhouse outcomes can be achieved through avoidance, diversion and other practices.

2. **Embodied energy in man-made/ non-plant based materials** - Looking at how and what we consume, and the materials product lifecycle, along with how we discard of an item once we are done with it, will play a significant role in helping our community to divert items from landfill and lower our overall greenhouse gas emissions. Product lifecycles typically include five stages which can impact emissions:
 1. Materials extraction- taking into account whether it's sourced from virgin, recycled or raw materials.
 2. Manufacturing- this step needs to consider the energy required to create the product.
 3. Distribution and transport - where products could be shipped overseas, moved to warehouses, delivered to retailers and transported to the location of use.
 4. Usage- some products may require energy just to actually use them.
 5. End of life management – where energy may be required to safely store or dispose of the product.

When a product is made from recycled material it takes less energy to produce than it takes to make that same item from brand new raw materials. Making new cans from used aluminium requires only 5% of the energy needed to make a new can from scratch.

Therefore, Yarra's greenhouse gas emissions from waste can be minimised by preventing any recyclable materials entering the landfill system, taking full advantage of recycling facilities, and also by minimising the amount of waste that is generated.

The Yarra Waste Minimisation Strategy 2018-22 provides Council and residents with strategic directions to reduce the amount of waste that we generate and the associated greenhouse emissions in managing waste.

Recycling Markets

In July 2017, China announced its National Sword Policy decision effectively banning imports of 24 types of scrap including materials such as plastic and mixed paper by the end of the 2017.

The new policy is taking considerably less lower quality material as it replaces imported materials with recycled material collected in its own domestic market, from its growing middle-class and Western-influenced consumers. This will have a significant impact for Australia as China historically has been the dominant market for some recycled materials. There are concerns that much of the recycling that China previously imported, will have nowhere else to go and Australia will need to find new export markets or alternative end markets, including local industry opportunities, to avoid these resources going to landfill.

This will include the kerbside commingled recycling materials currently being collected by Yarra and other Victorian Councils. VISY Recycling currently receives Yarra's recyclables and are currently processing approximately 30 percent of all materials received locally.

At this stage, it is difficult to predict the short and long term impacts of the China policy, however given that the local market cannot consume the volume of material collected in the Australian kerbside recycling collection system the potential implications may include:

- Little to no value for the commingled kerbside recycling material.
- In the future companies such as VISY Recycling, SKM and Polytrade who receive commingled recycling for sorting may start charging a gate fee per tonne rather than paying for material.
- It will be necessary for the recycling processors to improve the quality of the commingled material in order to enter the China market.
- The sorting process for the commingled kerbside recycling material may need to be intensified to meet the new Chinese standards.
- It is necessary for Australia to invest in local processing of these material to avoid landfill.
- It will be necessary to educate the community to sort recyclable material correctly.
- It may be necessary to find other uses for the material to avoid landfill.

In response to China's decision, Victorian councils and industry will be provided a \$12 million package to support the ongoing collection of household waste and \$1 million for industry to improve processing. The assistance will go towards helping councils and industries develop longer-term solutions. This assistance will be provided until 30 June 2018, after which Councils will be required to meet any increase in recycling costs. The Victorian Government has also moved to establish a recycling industry taskforce to develop a plan for industry transition.

Yarra is committed to lobbying State government to explore circular economy opportunities and establishing a local recycling processing industry.

Advanced Waste and Resource Recovery Technologies

Advancements in technology plays an important role in providing better waste management solutions, particularly for improved sorting and treatment processes.

The Yarra Waste Minimisation Strategy 2018-22 provides Council with an opportunity to make informed decisions and take a course of action today that will make significant impacts on the amount of waste sent to landfill. The City of Yarra will take advantage of new advances in resource recovery and waste management as they emerge to ensure that best fit solutions are operating and providing benefits to its community.

The Metropolitan Implementation Plan outlines new ways to send less material to landfill, use our valuable resources again, and grow jobs and investment in the waste and recycling sector. MWRRG has prepared an Advanced Waste and Resource Recovery Technologies (AWRRT) business case and procurement strategy for providing infrastructure and services to process residual waste currently going to landfill.

Although AWRRT's provide council's an opportunity to significantly decrease the amount of waste sent to landfill, Yarra will need to establish how the technology fits with Yarra's Waste and Resource Recovery Strategy. Other issues to be considered include:

- How the technology will deal with resource recovery prior to processing.
- The location of the facility is important from a transport perspective and from the perspective of proximity to sensitive uses and NIMBY (Not in my back yard).
- The AWRRT gate fee per tonne versus the landfill gate fee per tonne.
- How the EPA levy would be treated for the AWRRT's.
- Social, cultural, environmental and financial impacts.

APPENDIX TWO

COMMUNITY AND STAKEHOLDER ENGAGEMENT

An overview of Yarra Community

The City of Yarra is an inner metropolitan Council, 3 kilometres north-east of the central business district of Melbourne.

Yarra includes the suburbs of Abbotsford, Burnley, Clifton Hill, Collingwood, Fitzroy, North Carlton, North Fitzroy, Richmond and the southern portions of Alphington and Fairfield. In June 2016 the Estimated Residential Population of the City of Yarra was 93,380.

The city now known as Yarra was mostly settled from around the 1840s, with the population growing quickly due to economic growth associated with the 1850s gold rush. Yarra suburbs were developed as a mix of industry and housing. Much of the original housing was in the form of small terraced 'workers cottages' built directly onto the streets with small backyards. As industry moved away from the inner city many of the old industrial areas were redeveloped into medium and high-density housing. Yarra is also home to three high-rise public housing estates as well as a number of low-rise public housing developments.

This mix of housing makes Yarra residents far more likely to live in high or medium density housing than in other parts of metropolitan Melbourne. Over 48% of the Yarra population lives in medium density housing and over 37% live in high density with only 13.4% living in separate houses.

The Yarra community has experienced sustained growth since the 1980s. The population is forecast to continue to grow to 88,188 in 2016 and around 96,000 in 2021.

Yarra is particularly popular with young people with a greater percentage of people aged 18 years to 24 years living in Yarra than the Greater Melbourne average.

The Yarra community is also particularly transient with 46.6% of the population moving between 2006 and 2011.

People in Yarra are far more likely to be renting (50%) than in Greater Melbourne (29%). In addition 9.5% of the Yarra population lives in social housing which is almost four times the Greater Melbourne average of 2.6%.

Yarra has slightly fewer residents who were born overseas (29%) than Greater Melbourne (34%) although almost a fifth of Yarra residents come from countries where English is not the first language, and almost a quarter speak a language other than English at home.

The top five ancestries nominated by residents in Yarra were English, Australian, Irish, Scottish and Chinese. There is a large community of people with Vietnamese ancestry in Yarra.

Data in this section has been sourced from to 2011 and 2016 Australian Bureau of Statistic Census 2011 as provided on the id consulting website <http://profile.id.com.au/yarra>.

Additional forecasting was sourced from <http://forecast.id.com.au/yarra>.

What are the most important things for council to do in terms of minimizing waste, reusing material and recycling?

The most commonly cited responses on what council can do to minimise waste included improving community understanding of what could be recycled, encouraging people to recycle correctly and concern about the implications of China's National Sword Policy.

The need to recycle soft plastics and reduce the amount of soft plastics created was also considered important. Many responses indicated a desire for council to advocate for the reduction of single use items such as plastic bags and take away coffee cups.

Education was also considered important particularly in terms of how to minimise waste.

Food recycling particularly relating to a food recycling service for residents was a common response. There were also a number of responses relating to a green waste or organics bin or a better green waste service.

There were mixed responses relating to service delivery with some respondents indicating a need for greater service delivery (larger bins etc) while others felt it should be reduced.

2011		2016		2021		2031	
Residents	Dwellings	Residents	Dwellings	Residents	Dwellings	Residents	Dwellings
79,013	37,182	88,120	41,921	95,911	46,103	110,512	53,757

Table 2 - Population and Dwelling Estimate

Consultation and Engagement

Consultation Activities

A range of consultation activities were completed during the consultation process:

1. An online survey asking two simple questions.
 - i. What are the most important things for council to do in terms of minimising waste, reusing material and recycling?
 - ii. What are the best things you personally can do to minimise waste?
2. Three 'pop up' activities at local parks and a neighbourhood house.
3. An online survey sent to local businesses.
4. Engagement with key local councils to understand their issues and priorities.

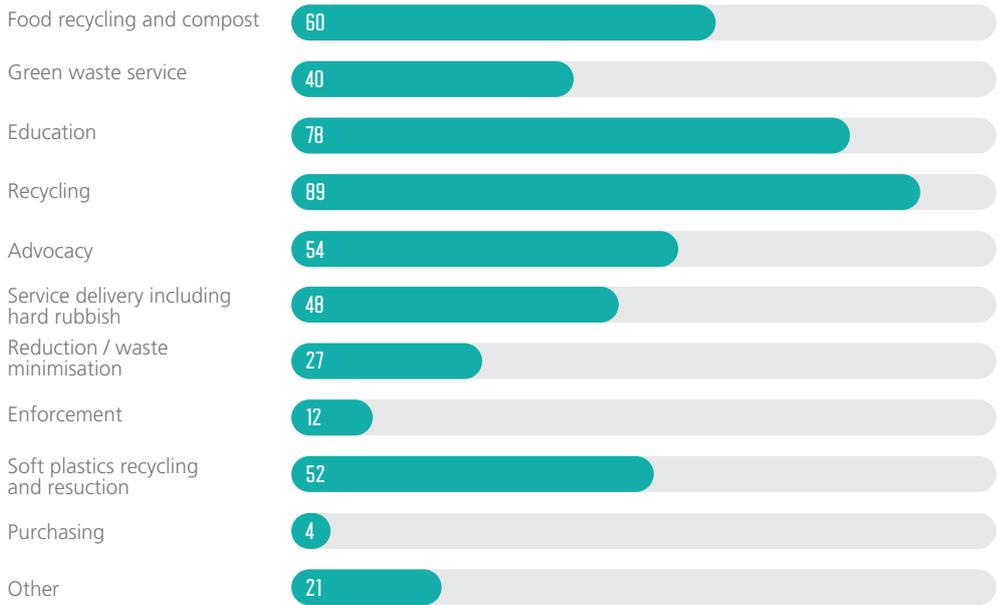
Consultation Response

The number of responses to the online questions were far greater than expected. A total of 307 people responded to the online questions with many providing multiple ideas and opinions. In addition responses were received from 91 comments at the pop up consultation and 13 businesses responded to the online business survey.

Collating the responses

All responses to the online engagement were grouped into themes. Where multiple responses were received from one respondent up to four themes were allocated so if a respondent had written 'we should reduce food waste, recycle soft plastics and educate residents on what to recycle' that answer was themed into food waste, recycle and education. The responses were then quantified to understand the most common issues. The results are provided in the next section.

What are the most important things for council to do in terms of minimising waste, reusing material and recycling? (Number of comments)



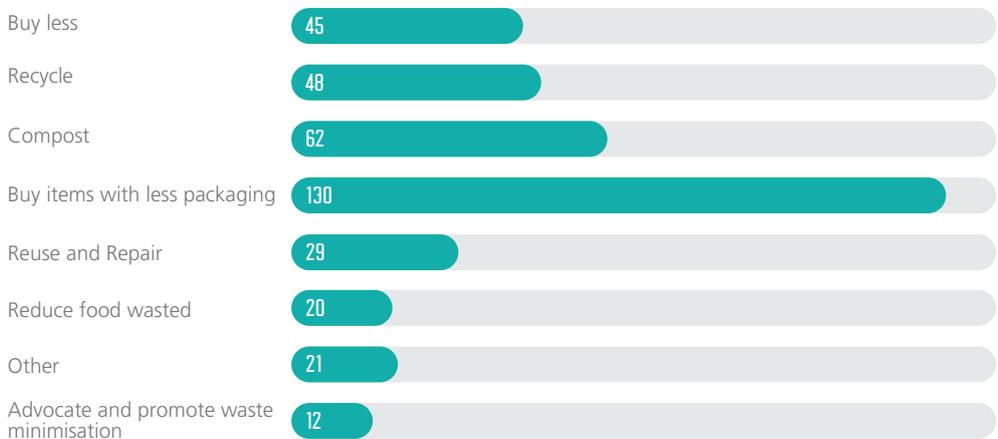
What are the best things you personally can do to minimize waste?

The most common response related to purchasing items with less packaging. This included shopping in places with less packaging, taking shopping bags when shopping and choosing items with less packaging.

Other common answers were buying less, composting, reusing and repairing items and reducing food waste.

What are the best things you personally can do to minimise waste?

(Number of comments)



Other Local Government Consultation

Council / Org	Scope & Status	Priorities	Needs
City of Melbourne	<ul style="list-style-type: none"> • Draft to be approved by Councillors in May for community consultation • Scope: CoM operations, Residential, Public place bins, Business/C&I, C&D • Elements: Policy/ strategic context, data, challenges, goals, outcomes, targets and indicators, priorities and actions 	<ul style="list-style-type: none"> • Innovation • AWRRT • 3Rs for organics, plastics etc • Amenity impacts 	<ul style="list-style-type: none"> • Collaboration and coordination role from MWRRG
Fisherman's Bend	<ul style="list-style-type: none"> • Draft completed • Includes targets • Feasibility study for alternatives to traditional waste management (broader than just apartments). 	<ul style="list-style-type: none"> • Influence C&D, C&I • Building specifications • Sustainability hub • AWRRT 	<ul style="list-style-type: none"> • Redraft by midyear • Liaison with Melbourne and Port Phillip Councils
City Greater Dandenong	<ul style="list-style-type: none"> • Finalised 2015 • Focus on operational matters, user friendly • Link to Sustainability strategy • Action Plans for each priority area 	<ul style="list-style-type: none"> • Waste minimisation • Waste management • Waste education • Litter • Close the Loop 	<ul style="list-style-type: none"> • Dialog with councillors
Port Phillip City Council	<ul style="list-style-type: none"> • Early draft • Includes targets • Consultation and collaboration 	<ul style="list-style-type: none"> • Transformation • Fishermans Bend • Innovation & avoidance • Reduce landfill • Smart solutions • Clean streets and beaches • Waste treatment 	<ul style="list-style-type: none"> • Endorsement by September • Have received good useful data from Sustainability Victoria

Council / Org	Scope & Status	Priorities	Needs
City of Hobsons Bay	<ul style="list-style-type: none"> Lapsed New draft under development 	<ul style="list-style-type: none"> FOGO AWRRT Respond to high level 	<ul style="list-style-type: none"> Share resources Strategy background paper: re waste
City Brimbank & City of Moreland (Peter Allan)	<ul style="list-style-type: none"> Brimbank: out for community consultation. Expect strategy to be finalised soon Moreland: internal draft completed Both want to tackle big issues and be progressive Short and longer term actions 	<ul style="list-style-type: none"> 3R's, Waste Minimisation Hierarchy Regional approaches Beyond kerbside 	<ul style="list-style-type: none"> Embed and own 3R's with targets, KPIs etc Go beyond kerbside services
City of Darebin	<ul style="list-style-type: none"> Progress / review scheduled this year Includes Education, Infrastructure, Policy and Advocacy perspectives Action Plans 	<ul style="list-style-type: none"> Food Economic equity Litter MUDs 	<ul style="list-style-type: none"> Respond to China Sword Policy issue External input if a rewrite is indicated
Manningham City Council	<ul style="list-style-type: none"> Previous lapsed 2017 New draft under development 	<ul style="list-style-type: none"> FOGO Eastern organics AWRRT Transfer Station development on quarry site 	<ul style="list-style-type: none"> Updated data/stats, policies and template would be useful
Cardinia City Council	<ul style="list-style-type: none"> New strategy released December 2017 5-year action plan includes 39 actions 	<ul style="list-style-type: none"> Joint procurement Bookable hard waste services Not burning off Dumped rubbish and litter Food waste service 	<ul style="list-style-type: none"> Regional collaboration and advocacy

Potential areas for cross-collaboration:

- Innovation
- Working up the waste hierarchy.
- Different recycling methods.
- Advocacy.
- Regional collaboration.
- Leading the way – own facilities, more ambitious targets.
- Consistent messaging.

Opportunities and challenges:

- Circular economy – up-skilling topic for an education network session or for SV to include at the waste education conference.
- Keeping up with change – in consumption patterns, packaging types, household profiles – strategies need to be flexible enough to adjust.
- Extended producer responsibility – packaging, bottles etc.
- Engaging businesses – empower to do food waste composting, looking at localised solutions.



APPENDIX THREE

THE WASTE CONTEXT

THE EVOLUTION OF WASTE

The evolution and definition of the word 'waste' has come a long way since the early 1850s; with the influx of settlers during the gold rushes, garbage disposal started to become a major problem. Residents and traders often 'disposed of' their garbage by dumping it in their backyards, on streets, on any vacant area of land, or buried it in cesspits.

It soon became apparent that a more organised system for disposing of the city's garbage was required. In 1864 Fitzroy became the first municipality in Melbourne (and one of the first in Australia) to establish regular, although optional, collections for domestic garbage.

By the mid-20th century council garbage collections were taken for granted, but many items were too valuable to be simply discarded. Empty bottles were taken to local shops or bottle depots to be washed and refilled. The Salvation Army and Boy Scouts collected newspapers for recycling, while fish and chip shops and greengrocers would buy old newspapers to use for wrapping and packaging. Other garbage could be burned off in backyard incinerators.

In the late 20th century, the focus for council services moved increasingly to reducing and recycling.

Encouraged by the Environment Protection Authority, most councils introduced kerbside recycling programs in the late 1980s. By 2002 only a quarter of what was ending up in landfill collected from Melbourne households was recyclable.

While recycling rates are increasing, the amount of garbage being created is also increasing. It is clear our lifestyles and the way we run our economy is turning natural resources into waste at a rate faster than nature can replenish. Our proportional ecological footprint is currently four times that which would enable all humans to live sustainably on the planet.

The next transformation in the evolution of waste is to look at the materials we consume as having a value that must be used more efficiently and sustainably over the long-term. The Yarra community has embraced the changes to date. Recycling has now become commonplace with strong community support. The use of reusable cups, the rejection of extra packaging and the popularity of farmers' markets are all indications of an appetite for change. The challenge and opportunity for the twenty-first century will be to build on this, establishing a culture of reducing our waste footprint using pre and post consumption measures.



APPENDIX FOUR WASTE SERVICES

Service Delivery

Yarra City Council provides a range of services for its community. These include kerbside collections of garbage and recycling, hard rubbish and green (garden) waste collections, trialling a Food Scraps Collection and managing waste and litter removal from public open spaces. Yarra also provides a number of drop off facilities for items that are not currently recyclable through the kerbside collections. Further details of these services are provided below. Currently, due to contract arrangements it is not possible to access data of tonne per sector. This data is important for understanding the waste stream and responding accordingly. Ensuring accurate and useful data will be an action in the new strategy.

Kerbside Collection

Bins for kerbside collection are provided by Council, at a one off fee to new residential developments. Replacements for lost or stolen bins are supplied at no charge.

Multi-Unit Development (MUD) properties such as flats and apartments, may be provided with multiple garbage (landfill) and recycling bins, based on an assessment of accessibility and needs of the property.

Domestic (Residential) Garbage Waste Collection

Domestic garbage is collected from the kerbside of residential properties weekly.

An 80-litre bin is provided to single dwellings for storage and presentation of garbage. The collection encompasses only residual garbage.

Domestic Recyclables Collection

Domestic recyclable materials are collected from the kerbside of residential properties weekly.

A 120-litre bin is provided to single dwellings for storage and presentation of co-mingled recycling. The collection encompasses a standard range of paper, cardboard, glass, plastics, aluminium, milk and juice cartons, and steel products that are viable as re-use materials.

Domestic Food Scraps Collection (Trial Program)

In November 2017 Council commenced a food scraps collection trial that will run for approximately 8 months. The trial catchment area is made up of approximately 200 single dwellings in Abbotsford and approximately 200 residents in a Multi-Unit Development at Acacia Place Abbotsford. Initial trends and outcomes of the food scraps trial should be available in the near future.

The aim of the food scraps trial is to collect data that will allow Council to make an informed decision about a municipal wide approach to removing food scraps from garbage stream.

Commercial

The City of Yarra does not undertake the collection of business specific trade and commercial waste. This is due to significant variations in type and quantity of waste generated from the variety of businesses operations which requires specialist, flexible and more frequent services best provided by the many private waste collection companies.

Commercial Garbage Collection

The City of Yarra provides each commercial tenement, on request, a maximum of 80 litre garbage bins for a weekly garbage service, as an extension to the residential kerbside collection service.

The service is for domestic-type garbage materials but does not accommodate materials generated from core business activities.

Commercial Recyclable Collection

The City of Yarra provides each commercial tenement, on request, a maximum of 120 litre recycling bins for a weekly recycling service, as an extension to the residential kerbside collection service.

The service is for domestic-type recyclable materials but does not accommodate materials generated from core business activities.

Office of Housing High Rise Buildings Garbage and Recycling Collection

Council provides a regular clearance of domestic waste from the twelve public housing owned and managed by the Victorian Office of Housing.

The developments have a unique garbage waste disposal chute and hopper system. The hopper is cleared from the ground level, by use of an open truck.

Recycling services are available at the bottom of each tower on Collingwood, Fitzroy and Richmond estates.

Council has worked closely with Department of Health and Human Services to conduct education programs for residents at the estates, with an aim to increase resource recovery rates and reduce the level of contamination recycling stream.

Dumped Waste

Illegal dumping is the deliberate or unauthorised dumping, tipping or burying of waste on land that is not licensed or fit to accept that waste. Waste dumped near residential properties or in parks and other open spaces can contribute to human impact on the ecology as well as an unsightly environment that looks and feels unsafe.

A considerable amount of dumped waste is frequently reported across the City of Yarra but rarely is any regulatory action taken. Dumped waste is quickly removed by Yarra's well-established Litter Response Team.

Litter

Council uses a variety of methods to keep local roads and streets clean including an extensive street sweeping program.

Yarra's in-house Litter Response Team has scheduled litter collection areas, which are cleaned daily. They also respond to any dumped rubbish call outs in their designated areas.

Council's street cleaning services empty street litter bins, and clean the main shopping strips daily. Material deposited in street litter bins is collected and taken to the Visy MRF at Laverton for recycling. An opportunity exists for Council to better promote that waste from its street litter bins is recycled.

Hard and Green Waste Collections

In 2008 Council moved to an "at-call" booking system for hard and green waste collection to all residential properties throughout the City.

The system allows for unlimited collections of green waste and two hard waste collections annually per dwelling.

Yarra has also introduced an option of purchasing a 240 litre bin to put green waste for collection.

Green waste is transported to a Green Waste Recycling Facility. The Green Waste Recycling Facility currently only processes garden waste. In the near future an in-vessel composting technology facility will become available to process food waste in addition to garden waste. This would require Yarra to provide the solution for our residents as a third 240L bin would not work.

Hard waste collected from properties is then sorted with the recoverable items saved or recycled. The non-recoverable or non-recyclable items are disposed of at landfill.

Recycling Drop off Point

A recycling drop off point was established at Clifton Hill to receive a range of goods that cannot be recycled through the current domestic recycling service.

An extensive range of items are accepted at the Clifton Hill drop off point including cardboard, electrical equipment, fluorescent tubes and light bulbs, household batteries, mobile phones and accessories, polystyrene, clothing, soft plastics, scrap metals.

Additional drop off points are provided at libraries, neighbourhood houses and other community facilities as required for collection of items including electrical equipment, household batteries, mobile phones and accessories and clothing.

APPENDIX FIVE EMERGING ISSUES

Multi-unit developments

Managing waste from apartments provides particular challenges. Inadequate infrastructure reduces a resident's ability to recycle.

Consultations with residents have indicated a desire to reduce food waste going to landfill, but the inability to use systems like composting or worm farms due to lack of suitable space.

Programs are now in place to improve the waste minimisation rates through conscious consumption habits, resource recovery and reduce contamination through targeted education and a review of bin infrastructure in a small number of apartment/units.

These initiatives are working well to improve resource recovery rates and the quality of recycling. Although we have an effective strategy for working with the older multi-unit developments which may not have the correct bin stock to meet the recycling needs, this is resource intensive and will take many years to deliver.

Procedures are also in place to improve the decision making processes associated with bin infrastructure at the planning stages of new multi-unit developments.

Public Housing - High Rise /Low Rise

The City of Yarra is home to a high proportion of residents living with socio-economic disadvantage, in what is an otherwise relatively affluent municipality. These pockets of disadvantage tend to be clustered around the three high-rise public housing estates as well as some smaller low-rise estates.

Despite previous programs to increase recycling in the sector, there have been no real improvements. Advocacy to the State Government will be part of the development of the new action plan.

Business Sector

The kerbside service to a commercial property will be a residential service provided to a commercial site. The bins are only to be used for kitchen and bathroom waste as per a residential property.

Rateable commercial properties will be eligible to receive an equivalent waste service that is provided to residential properties:

- 80 litre garbage bin collected weekly
- 120 litre recycling bin collected weekly

A targeted business garbage and recycling program conducted has identified certain issues. These include:

- high resource loss in the garbage stream;
- high contamination in the recycling stream;
- low participation rates in recycling;
- large number of stolen bins being used by businesses
- little behavioral change was achieved despite provision of targeted education and new bin infrastructure.

We will continue to work with the Yarra's business sector to improve resource recovery outcomes.

Food Organics

Food organics is a major contributor to the Yarra waste stream (45.6%), and one where additional effort is believed to make a large difference. As well as reducing waste to landfill and associated costs to Council, this will significantly reduce greenhouse gas emissions, and has the potential to create a valuable resource (compost) at a household, neighbourhood, or regional scale.

In response to this issue the City of Yarra has delivered the 'Food Know How', which aims to reduce the amount of food waste in the garbage bins of the average Yarra household, café, and business and influence long-term food waste behaviour change.

Food Know How aims to help households, cafes and offices in the City of Yarra to avoid and recycle food waste through strategies such as menu and meal planning, using leftovers, and tips about smart shopping and food storage, as well as composting and worm farming.

In November 2017 Council commenced a food scraps collection trial that will run for approximately 8 months. The trial catchment area is made up of approximately 200 single dwellings in Abbotsford and approximately 200 residents in a Multi-Unit Development at Acacia Place Abbotsford. Initial trends and outcomes of the food scraps trial should be available in the near future.

The aim of the food scraps trial is to collect data that will allow Council to make an informed decision about a municipal wide approach to removing food scraps from garbage stream.



APPENDIX SIX

YARRA'S RECENT PERFORMANCE

This section has been developed using the best data available at the time. It is recognised that there are a number of issues in relation to this data. Collecting and understanding useful data is recognised as key to good service planning and delivery and projects are currently underway to improve the quality and relevance of data collected.

Garbage, recycling and total waste per person have all decreased. This suggests that everyone is reducing their consumption, which is a fantastic outcome.

The recycling collected has decreased. This anomaly is occurring in most councils in Melbourne. Analysis suggests this is due to the changing composition of the recycling stream including a reduction of newspapers and the light weighting of packaging.

Yarra's waste statistics for 2013-17

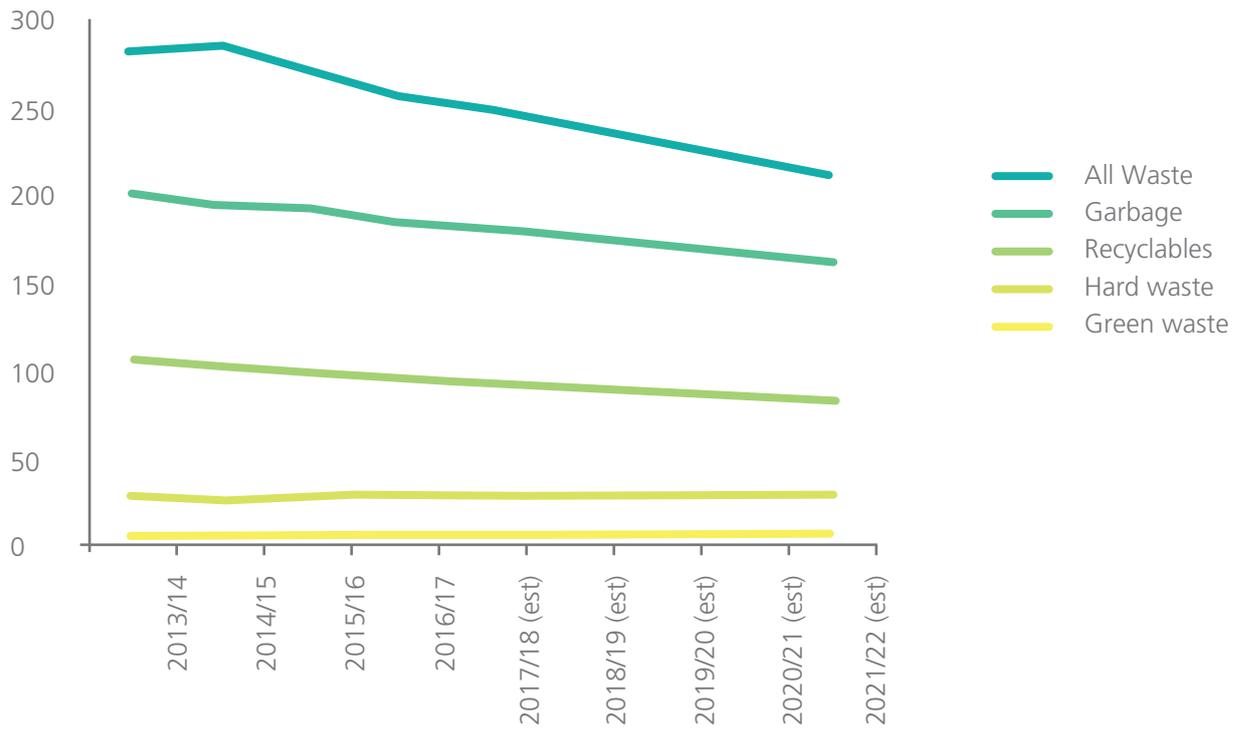
Yarra's Waste Stream	Unit	2013/14	Needs	Needs	Needs
Garbage	kg/pp/year	201	194	193	185
Total Garbage	tonnes/yr	16,926	17,004	17,452	17,267
Recyclables	kg/pp/year	104	100	99	95
Total Recycled	tonnes/yr	8760	8777	8923	8886
Green Garden	kg/pp/year	4	4	4	5
Total Green Garden Waste	tonnes/yr	363	347	332	442
Hard Waste	kg/pp/year	28	26	27	28
Total Hard Waste	tonnes/yr	2,324	2,239	2,404	2,617
Waste	kg/pp/year	337	324	322	313
Total Waste	tonnes/yr	28373	28367	29111	29212
Total population		84171	87571	90401	93380

* kg/pp/year– kilograms per person per year

* At this point, due to the way the contract is set up, and therefore waste is collected, we are unable to provide data of tonne per sector. This will be an action delivered in this strategy.

Estimated Waste Trends to 2022

The estimated waste trends shows all waste tonnes decreasing.



Note: the waste category is kilograms per person per year

Breakdown of Household Garbage

The domestic kerbside waste stream audit conducted during 2014 provided the following snapshot of Yarra's garbage waste stream. Approximately 13.5% of the garbage stream was potentially recyclable through the kerbside recycling collection and a further 59% is potentially recoverable through food and green waste processing.

Waste type

-  Potentially Recyclable Material 13.5%
-  Green (Garden) Waste 6.3%
-  Food Waste 45.4%
-  Residual (i.e. not food, green or recyclable) 34.8%



GLOSSARY

This is a list of the main items and concepts discussed in the Yarra Waste Minimisation Strategy 2018-22. For a more comprehensive listing of terms and acronyms please refer to 'A Taste of Waste – Things to Know About Waste and Resource Recovery' produced by the Victorian State Government: <http://www.mwmg.vic.gov.au/images/documents/atow%20webinteractive2.pdf>

Term	Definition
Advanced resource recovery technology (ARRT)	These are a facility which treats a material stream which under normal circumstances would be sent to landfill. They are designed to treat non-source separated, highly contaminated material streams.
Alternative waste technologies (AWTs)	These are a facility which treats a material stream which under normal circumstances would be sent to landfill. They are designed to treat non-source separated, highly contaminated material streams.
CALD communities	Culturally and linguistically diverse residents. Yarra has a high CALD population with 25% of Yarra residents speaking a language other than English at home.
Chain of production	The process required to convert raw materials into usable products.
Contamination	A substance of matter that has adverse impact on recycling, on the ability to process one type of material into another product.
EED Planning Policy	Environmentally efficient design requirements.
Garbage	Garbage is any substance which is discarded after use, or is worthless, defective and of no use.
Hard waste	Is the term applied to household garbage that is not usually accepted into mobile garbage bins by Council, e.g. fridges, mattresses, couches, appliances.
Kerbside collection	This is a service provided by Council to collect waste and commingled recyclable materials from residential properties (excludes hard waste). An at-call green waste kerbside collection service is provided to residents in the City of Yarra.
Landfill	A site for disposal of waste.
Litter	Is a form of pollution, considered the most visible; is anything left where it is not meant to be.
Material recovery facilities (MRFs)	Is a specialised plant that receives, separates and prepares recyclable materials for sale to end-user manufacturers.
Multi-unit development	Is the use of land for residential developments with more than one dwelling. These usually consist of flats, units or apartments. Often referred to as MUDs.

Term	Definition
Organics	Is a generic term for a range of products manufactured from compostable organic materials (garden organics, food organics, residual wood and timber, biosolids, and agricultural organics).
Product stewardship	A policy approach that ensures all those involved in the life cycle of a product share responsibility for reducing its health, economic and/or environmental impacts.
Public housing	An affordable housing managed and operated by the Housing Commission of Victoria.
Recycling	Is a term that may be used to cover a wide range of activities, including collection, sorting, reprocessing and manufacturing into new products.
Resource recovery	Is the process of retaining matter or energy from discarded materials.
Soft plastics	Any plastics that can be easily scrunched into a ball or broken when crushed by hand and includes bread, pasta, chip and lollie packets, biscuit packs and trays and old 'green bags' ¹ .
Sustainable consumption	The use of goods and services that respond to basic needs and bring a better quality of life, while minimising the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations. ²
Waste	Anything that is no longer valued by its owner for use or sale and which is, or will be, discarded.
Waste collection service	Council provides a weekly recycling and waste collection service for local residents. For a one-off fee, businesses can also receive this collection service.
Waste hierarchy	A concept promoting waste avoidance ahead of recycling and disposal, often referred to in community education as 'reduce reuse recycle'. The waste hierarchy is recognised in the Environment Protection Act 1970, promoting management of wastes in the order of preference: avoidance, reuse, recycling, recovery of energy, treatment, containment and disposal.
Waste minimisation	The concept of, and strategies for, waste generation to be kept to a minimum level in order to divert materials from landfill and thereby reduce the requirements for waste collection, handling and disposal to landfill.

1 <http://recyclingweek.planetark.org/recycling-info/softplastics.cfm>

2 *Symposium: Sustainable Consumption. Oslo, Norway; 19-20 January 1994*

Program Definitions

Programs	Definition
Food Know How	This is a food waste reduction program helping households, cafes and offices in the City of Yarra to avoid and recycle food waste through strategies such as menu and meal planning, using leftovers, and tips about smart shopping and food storage, as well as composting and worm farming.
Food Scraps Collection Trial	In November 2017 Council commenced a food scraps collection trial that will run for approximately 8 months. The trial catchment area is made up of approximately 200 single dwellings in Abbotsford and approximately 200 residents in a Multi-Unit Development at Acacia Place Abbotsford. Initial trends and outcomes of the food scraps trial should be available in the near future.
Recycle Us	Is a program to educate residents about putting the right things in their recycling/garbage bins, and to celebrate doing that. Residents can win a movie voucher for two, a compost bin or worm farm if our roving guide finds their bins are looking good. The campaign is promoted by twitter, on the website and Facebook.
Improving Resource Recovery at Multi Unit Developments (MUD's) Program	This program aims to overcome the barriers of having communal large bins in a remote bin room, that look like they'll take anything; and residents that continually move in and out. The campaign includes getting the right number of recycling bins in each MUD, and robust education and engagement so the residents own the recycling- right culture. The campaign is seeing major turnarounds in recycling - the engagement needs to be refreshed continually to capture new residents moving in.
Business Clean Up Australia Day	Is a day of targeted campaigning to encourage and support businesses to get their bins in order, adopt a recycling right culture, and be part of what is seen as the norm in the business area, so increasing recycling, and reducing waste.
Improving Resource Recovery and litter prevention at Commercial Properties	This program covers both educating businesses about recycling right and minimising waste.



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Collingwood Town Hall 140 Hoddle Street, Abbotsford

Connie Benn Centre 160 Brunswick St, Fitzroy

Richmond Town Hall 333 Bridge Road, Richmond

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