Waste Management and Resource Recovery Strategy

2022–2032

logan.qld.gov.au

CITY OF LOGAN

Acknowledgement of Country

Logan City Council acknowledges the Traditional Custodians of the land, pays respect to Elders past, present and emerging and extends that respect to all Aboriginal and Torres Strait Islander peoples in the City of Logan.

The smoking ceremony is an ancient custom among Indigenous Australians and is believed to ward off bad spirits.

Contents

Introduction

Message from the Mayor

We are proud to present the Waste Management and Resource Recovery Strategy 2022-2032.

This strategy replaces and builds on Council's *Waste Reduction and Recycling Plan 2017-2021*, and sets clear direction for how we, as a local government, will manage waste and recover resources in the City of Logan over the next decade.

As a fast-growing community, Logan faces the challenge of managing increasing levels of waste. Importantly, we need to minimise the amount of material going to landfill and maximise opportunities to create a sustainable circular economy.

We want to do this in a way that protects and enhances the environment and the quality of life for the people who live and work in the City of Logan. This strategy sets clear goals for us over the 10 years. It also provides a focus for how we can achieve those goals and measure the outcomes.

As you'll see, we aim to increase our resource recovery and recycling efforts and divert more material from being buried in landfill. We plan to do that by improving our waste collection service and infrastructure and empowering our community to help drive change. We are also committed to taking a regional approach to implementing new waste solutions where required, so the effectiveness of our regional partnerships is also critical.

The Waste Management and Resource Recovery Strategy 2022–2032 gives us the framework in which to achieve our waste and resource goals on behalf of the City of Logan.

Mayor Darren Power
City of Logan

Executive summary

Logan City Council provides essential waste and recycling services to its local community. We collect, transfer, recycle, re-use and dispose of the city's waste, always striving to achieve positive environmental, social, and economic outcomes.

Our residents have embraced kerbside recycling and green waste services. We know there are many more opportunities to reduce waste and divert more material from landfill and into a sustainable circular economy. In fact, the way in which we refer to 'waste' is starting to change. The term 'resources' is now being used instead of 'waste' because so much of what we throw away could be recycled and reused.

Council is committed to ensuring its waste facilities and services meet the needs of our growing population, while minimising waste going to landfill and maximising the use of resources.

This strategy outlines a path for how the City of Logan community can collectively:

- achieve waste reduction and recycling targets set by the Queensland Government.
- save valuable resources.
- contribute to building a circular economy.

In line with the Queensland Waste Management and Resource Recovery Strategy, this strategy seeks to:

- reduce the impact of waste on the environment and communities.
- transition to a circular economy for waste.
- build economic opportunity.

2022 Profile

70 suburbs covering: **959** square km **3.4** people per ha

Over **$1** billion budget

more than **48,000** tonnes of waste recycled per year

An economy worth **$13.32** billion

12 council divisions

27.3 percent of residents were born overseas

341,985 residents

more than **225,000** tonnes of waste handled

217 different cultural backgrounds

34 median age


1
waste avoidance and recovery of resources
2
community education and participation
3
resource recovery infrastructure operation and planning
4
circular economy and economic opportunity
Actions have been identified under 4 key areas of interest:

Strategic fit

The *Waste Reduction and Recycling Act 2011* requires all local governments to adopt a plan that sets out clear guidelines and targets to meet the objectives under the Act. This strategy contains information required by the Act, including:

- population growth forecast.
- residential and commercial development.
- waste types and quantities handled by Council.
- Council services and facilities in place to manage waste types according to the waste and resource management hierarchy and principles.
- an action plan to chart a course towards meeting the state's waste and resource management strategy goals and targets.

This strategy aligns with the principles and objectives of the following policies:

International

The United Nations 2030 Agenda for Sustainable Development includes global waste management goals within the Sustainable Development Goals to guide actions by Australia. Sustainable Development Goal 12 focuses on responsible consumption and production patterns.

National

The Australian Government's National Waste Policy 2018 adopts 5 principles that support the vision of a circular economy, where we maintain the value of resources for as long as possible. The *Recycling and Waste Reduction Act 2020* establishes a national framework to manage waste and recycling across Australia. It includes export bans on recyclable products, and aims to stimulate economic activity and job creation, while setting targets for waste reduction and increased recycling.

State

The Queensland Government's Waste Management and Resource Recovery Strategy was adopted in 2019 and presents a strategic plan where Queensland becomes a zero-waste society. This is one where waste is avoided, reused or recycled to the greatest extent possible. Further, Council's strategy also supports the Queensland Government's 10c container refund scheme, plastic bag ban and single use plastics ban.

South East Queensland Council of Mayors

The South East Queensland Council of Mayors released the SEQ Waste Management Plan in November 2021. It provides a shared roadmap for the councils of South East Queensland to:

- optimise waste management operations economics.
- encourage local economic development and job creation.
- meet or move towards Queensland Government targets for household waste generation, recycling, and landfill diversion by 2050.

Council

This strategy supports all focus areas outlined in Council's Corporate Plan 2021-2026:

- maintaining current levels of service.
- proud city.
- environment.
- healthy and connected community.
- economy and growth.
- infrastructure.
- high performing organisation.

Specifically, this strategy supports the environment focus area of Council's corporate plan. The strategy includes a key priority to increase resource recovery, recycling and landfill diversion by improving the city's collection service and waste infrastructure, and through regional partnerships.

It also supports the following themes from the 2021 Community Vision project that Logan community members feel are important to deliver on in the next ten years:

- Green lifestyle.
- Climate change.
- Innovation and employment.
- Infrastructure.

Vision: Where do we want to be?

The City of Logan will transition towards a zero-waste, circular economy society, where waste is avoided, reused and recycled to the greatest extent possible. The city will realise economic benefits through growth in diverse and innovative resource recovery technologies and markets that produce high-value products.

Outcomes

In line with the Queensland Waste Management and Resource Recovery Strategy, this strategy seeks to:

- reduce the impact of waste on the environment and communities.
- transition to a circular economy for waste.
- build economic opportunity.

Transitioning to a circular economy for waste

Traditionally, unwanted material has ended up in landfill. In a circular economy, we keep those materials in the economy for as long as possible. This gives us the chance to draw additional value from them and reduce the waste going to landfill.

Outcomes

By transitioning to a circular economy model, the waste management and resource recovery sector will help:

- manage waste as a valuable resource.
- improve data and information sharing on material flows.
- provide clear standards and guidelines for reuse, recycling and recovery.
- create a well-informed community that avoids, reuses, recycles and properly handles waste.

Reducing the impact of waste on the environment and communities

We need future waste management solutions that increase resource recovery and divert waste from landfill. This will reduce the impact on our environment and deliver better outcomes for our residents.

Outcomes

When we reduce the impacts caused by waste on the environment, we also:

- reduce the amount of waste that goes to landfill, is littered or illegally dumped.
- reduce waste-related greenhouse gas emissions.
- reduce waste having to be transported long distances.
- create household savings from avoiding unnecessary waste.
- reduce the impact of waste facilities on those who live and work near them.

Building economic opportunity

If we can build economic opportunity in waste management and resource recovery, we will stimulate investment and market development. This in turn will support economic and jobs growth.

Outcomes

By creating waste management economic opportunities, we will help:

- grow the economic value of the waste management and resource recovery sector.
- increase the number of jobs in reuse, recycling and recovery.
- optimise waste and resource recovery infrastructure.
- stimulate markets for new and innovative products that contain recycled content.
- stimulate markets and demand for recycled materials.

Targets

The Queensland State Government has the following long-term targets:

- 25 per cent reduction in household waste per capita by 2050.
- 90 per cent of waste recovered and not in landfill by 2050.
- 75 per cent increase in recycling rates across all waste types by 2050.

These targets are reductions based on 2018 baseline data and result in the following specific progressive targets for Council:

Waste reduction targets for households (per capita)

	2018 Baseline	2025 Reduction / target	2030 Reduction / target	2040 Reduction / target	2050 Reduction / target
Target		10%	15%	20%	25%
Logan City municipal solid waste *	1,090 kg	981 kg	926 kg	872 kg	817 kg

Waste Diversion from landfill targets (recovery rate as a percentage of total MSW generated)

	2018 Baseline	2025 Reduction/ target	2030 Reduction/ target	2040 Reduction/ target	2050 Reduction / target
Target	32.4%	55%	70%	90%	95%
City of Logan municipal solid waste*	41%				

Recycling rates (as a percentage of total municipal solid waste generated)

	2018 Baseline	2025 Reduction/ target	2030 Reduction/ target	2040 Reduction/ target	2050 Reduction/ target
Target	31.1%	50%	60%	65%	70%
Logan City municipal solid waste*	41%				

**Municipal solid waste includes residential wheelie bin waste, self-haul residual waste, public place bins, street sweepings, illegally dumped waste and waste from other Council activities.*

Policy position

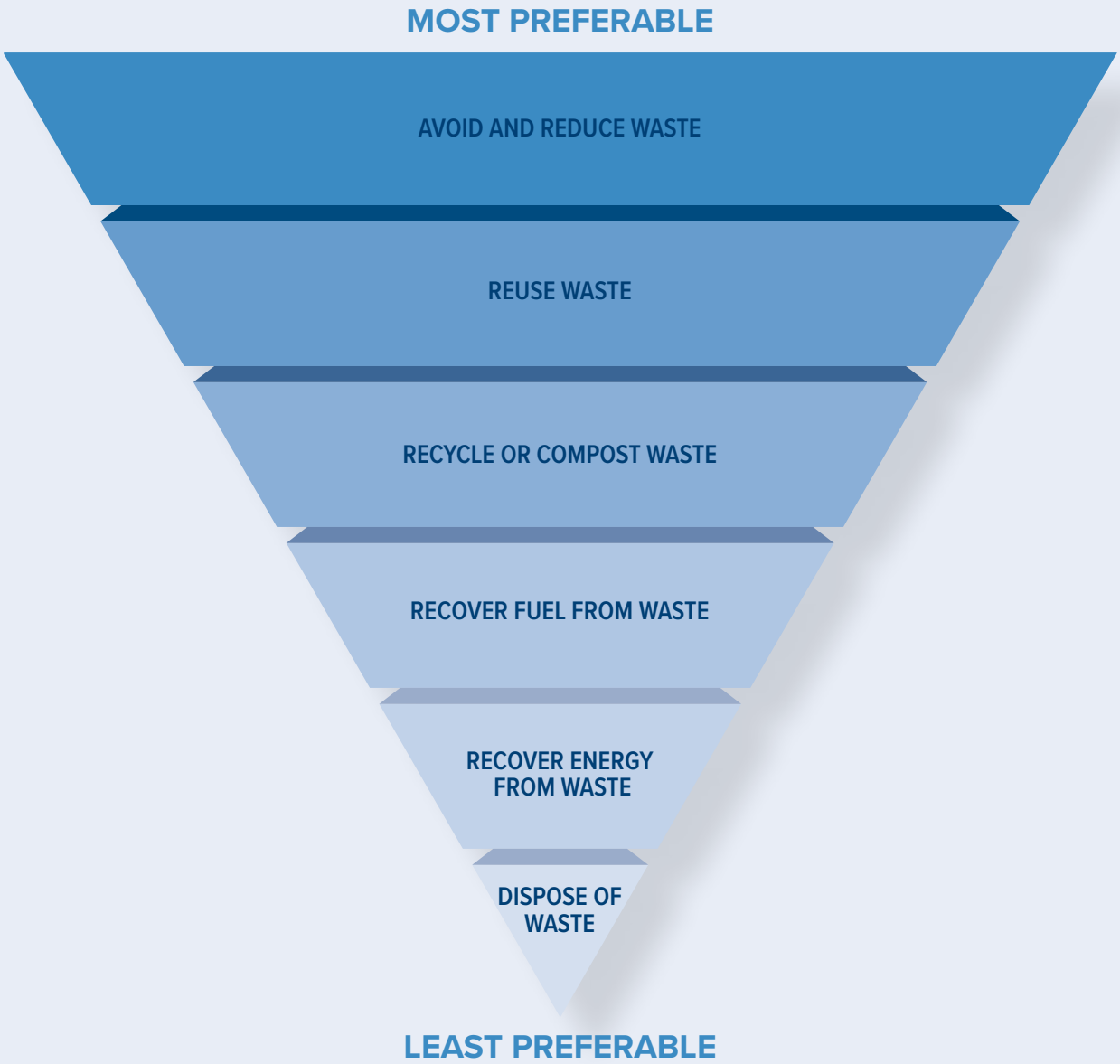
Waste and resource management hierarchy

The waste and resource management hierarchy is the policy framework that guides the order of preference for managing waste. Waste should be avoided as a first priority, after which options for reuse and recycling should be explored. Waste management to fuel production, energy production or disposal should be reserved for residual waste that is unsuitable for higher order options. The hierarchy shapes this strategy's priorities and provides the basis for developing actions.

Figure 1 Waste Hierarchy

Circular economy

In conjunction with adopting the waste and resource management hierarchy principle, this Strategy is also built upon the circular economy principle. A circular economy is an economic system whereby materials and products are recirculated for as long as possible, through reuse, recycling, remanufacturing and regenerative processes. This is in opposition to a linear economy where we make, use and send waste to landfill. A circular economy can only be successful if it is driven by the consumer's purchasing behaviour and correct recycling practices as well as investment by the resource recovery and manufacturing sectors.



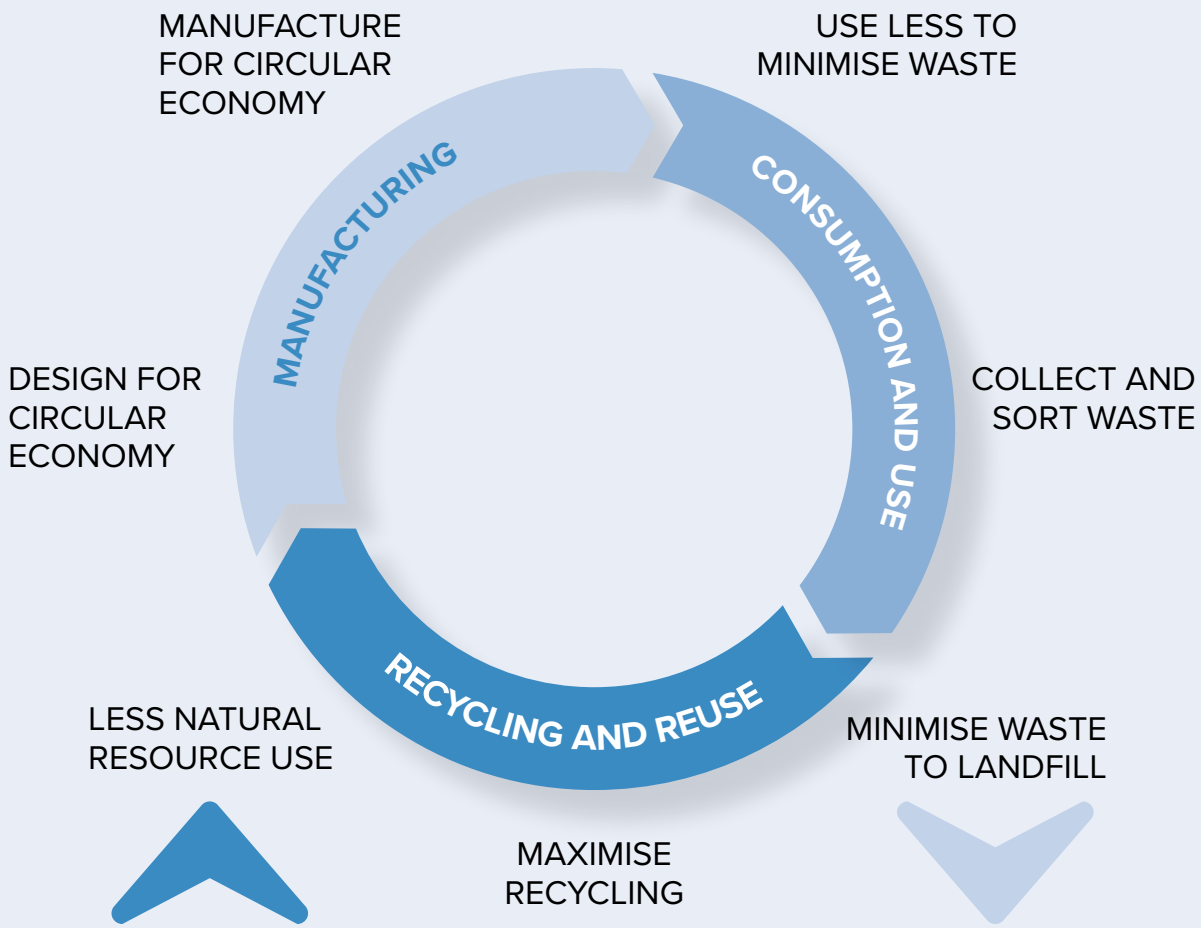


Figure 2 Circular economy concept

We will also consider adopting the user-pays principle where possible. This means all costs associated with using the waste and recycling service is paid for by the user.

A local example of a circular economy business

Australia's first textile recycling facility, BlockTexx, due to commence operation in early 2022, anticipates the facility will recycle around 4000 tonnes of textiles. The clean technology company recovers polyester and cellulose from textiles and clothing. BlockTexx hopes to help "close the loop" by diverting textiles from landfill, and at the same time replace virgin material.

Where are we now?

Waste streams

Waste is typically classified into three categories:

MUNICIPAL SOLID WASTE

CONSTRUCTION AND DEMOLITION WASTE

COMMERCIAL AND INDUSTRIAL WASTE

Council does not have total responsibility for managing all wastes generated in the city. We primarily manage municipal solid waste, which is generated from residential properties.

Our involvement with commercial and industrial and construction and demolition waste includes:

- optional kerbside collection services for waste, recycling and garden waste.
- disposal and recycling services at our waste and recycling facilities.
- influencing improved resource recovery and recycling practices through its planning scheme and development approval requirements and business support programs.
- encouraging waste avoidance and recycling and showcasing best practice through our own commercial procurement of materials and delivery of community projects.

Council's waste and recycling collection services

We currently provide the following collection services:

- weekly general landfill waste collection – options of 140 L or 240 L wheelie bins for single unit dwellings and bulk bin options for multiple unit dwellings.
- fortnightly recycling collection - options of 140 L, 240 L and 360 L wheelie bins for single unit dwellings and bulk bin options for multiple unit dwellings.
- an opt-in fortnightly green waste collection (for garden waste) – options of 140 L, 240 L and 360 L wheelie bins for all dwellings.
- an annual bulky waste clean-up service for residential properties – piles of up to 2 cubic metres can be presented on the footpath for collection.
- an opt-in commercial waste, green waste and recyclable collection service – options include 140 L, 240 L and 360 L wheelie bins and bulk bins.


RECYCLING...
AS EASY AS
RED.
YELLOW.
GREEN!
LOGAN
CLEANAWAY


WEEKLY
GENERAL WASTE
FORTNIGHTLY
GREEN WASTE
Council's
current waste
and recycling
collection services
FORTNIGHTLY
RECYCLE
ANNUAL KERBSIDE
BULKY WASTE
COLLECTION

Household general landfill wheelie bin composition

Waste from a typical residential general waste wheelie bin (disposed of in landfill) comprises[1]:

- 44 per cent landfill waste (non-recyclable).
- 19 per cent recyclable waste (items that should have been put in a yellow-lid recycling bin).
- 37 per cent food organics and garden organics waste, which could have been composted.

Household recycling wheelie bin composition

Contents of a typical household recycling wheelie bin comprise:

- 10 per cent plastics including HDPE, PET and other mixed plastics.
- 3 per cent steel and aluminium cans.
- 15 per cent paper.
- 38 per cent cardboard.
- 6 per cent glass bottles and jars.
- 28 per cent waste contamination (including small pieces of broken glass).

The composition of a recycling bin is expected to change over time as packaging requirements change and the 10c container refund scheme changes to include more types of containers.

1 Based on Council's audit of domestic kerbside general waste stream undertaken in September 2020.

Household green waste bin composition

We introduced an opt-in green waste collection service for garden waste in July 2021. In the first 12 months of operation, nearly 16,000 households have opted to receive this service. Initial data reveals that the average weight of a household green waste bin is 25 kilograms, with a contamination rate of approximately 2 per cent. The garden waste collected in the green bins is turned into compost instead of being put in landfill. As more residents take up this service, more organics waste will be diverted from landfill.

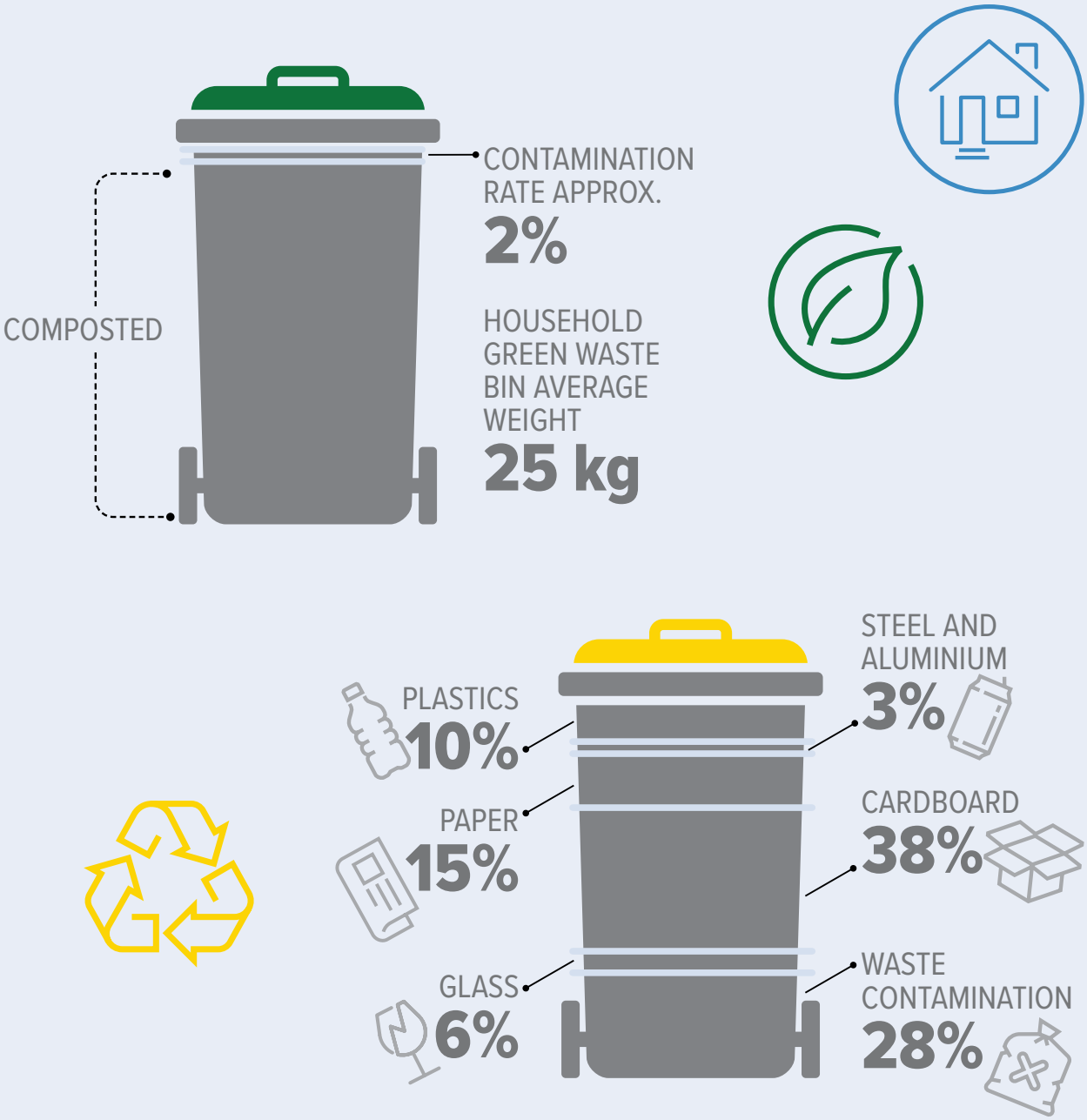
Annual Bulky Waste Collection Service

Council provides an annual collection service to help residents dispose of large household items and garden waste. Residents who wish to use this service are required to place their unwanted items on the footpath on the weekend before their collection is due to start. Approximately 50% of residents utilise this service, and it collects around 4,500 tonnes of waste and 500 tonnes of garden waste annually.

Community waste and recycling facilities

Council operates 5 waste and recycling facilities, one landfill, and the Logan Recycling Market (tip shop). These provide a range of waste and recycling services to residential and commercial customers.

Council currently provides 4 vouchers each year to eligible ratepayers of residential properties which allows for the disposal of one load of household waste at no cost. Landlords can pass on these vouchers onto their tenants.


COMPOSTED
CONTAMINATION RATE APPROX.
2%
HOUSEHOLD GREEN WASTE BIN AVERAGE WEIGHT
25 kg
PLASTICS
10%
PAPER
15%
GLASS
6%
STEEL AND ALUMINIUM
3%
CARDBOARD
38%
WASTE CONTAMINATION
28%
RECOVERABLE
LANDFILL WASTE
44%
FOOD WASTE
18%
GARDEN WASTE
19%
RECYCLABLE MATERIAL
19%

The location and services provided of our waste and recycling facilities are provided in Table 1 and figure 3.

Table 1 Logan City Council waste facilities

Facility	Site specifics	Approved site use	Recycling facilities available
Browns Plains Waste and Recycling Facility	Major transfer station Weighbridge Landfill Gas extraction for energy production Preferred site for construction and demolition waste, commercial and industrial waste Open 7 days per week	Domestic and commercial Limited domestic hazardous waste Asbestos disposal	Green waste, tyres, oil, metals, cardboard, paper, glass containers, plastic bottles and containers, cans (empty), x-ray films, electrical and electronic waste, batteries, fluorescent tubes (domestic only), printer cartridges and consumables. Logan Recycling Market (tip shop) - open Friday, Saturday, Sunday, Monday (excluding public holidays). The Logan Recycling Market is one of the biggest of its kind in Australia, and sells pre-loved items including electrical appliances, furniture, household goods, construction materials, garden equipment, antiques and clothing. This reduces the volume of material that would otherwise be disposed of to landfill.
Greenbank Waste and Recycling Facility	Minor transfer station Open 7 days per week	Domestic and commercial (limited volumes only)	Green waste, tyres, oil, metals, cardboard, paper, glass containers, plastic bottles and containers, cans (empty), batteries, x-ray films, electrical and electronic waste, fluorescent tubes (domestic only), and collection of unwanted items for resale at the Logan Recycling Market
Carbrook Waste and Recycling Facility	Minor transfer station Weighbridge Open 7 days per week Former landfill	Domestic and commercial (limited volumes only)	Green waste, tyres, oil, metals, cardboard, paper, glass containers, plastic bottles and containers, cans (empty), batteries, x-ray films, electrical and electronic waste, fluorescent tubes (domestic only), and collection of unwanted items for resale at the Logan Recycling Market
Beenleigh Waste and Recycling Facility	Minor Transfer Station Open 7 days per week	Domestic only	Green waste, tyres, oil, metals, cardboard, paper, glass containers, plastic bottles and containers, cans (empty), batteries, x-ray films, electrical and electronic waste, fluorescent tubes (domestic only), and collection of unwanted items for resale at the Logan Recycling Market
Logan Village Waste and Recycling Facility	Minor transfer station Open 7 days per week	Domestic and commercial (limited volumes only)	Green waste, tyres, oil, metals, cardboard, paper, glass containers, plastic bottles and containers, cans (empty), batteries, x-ray films, electrical and electronic waste, fluorescent tubes (domestic only), and collection of unwanted items for resale at the Logan Recycling Market

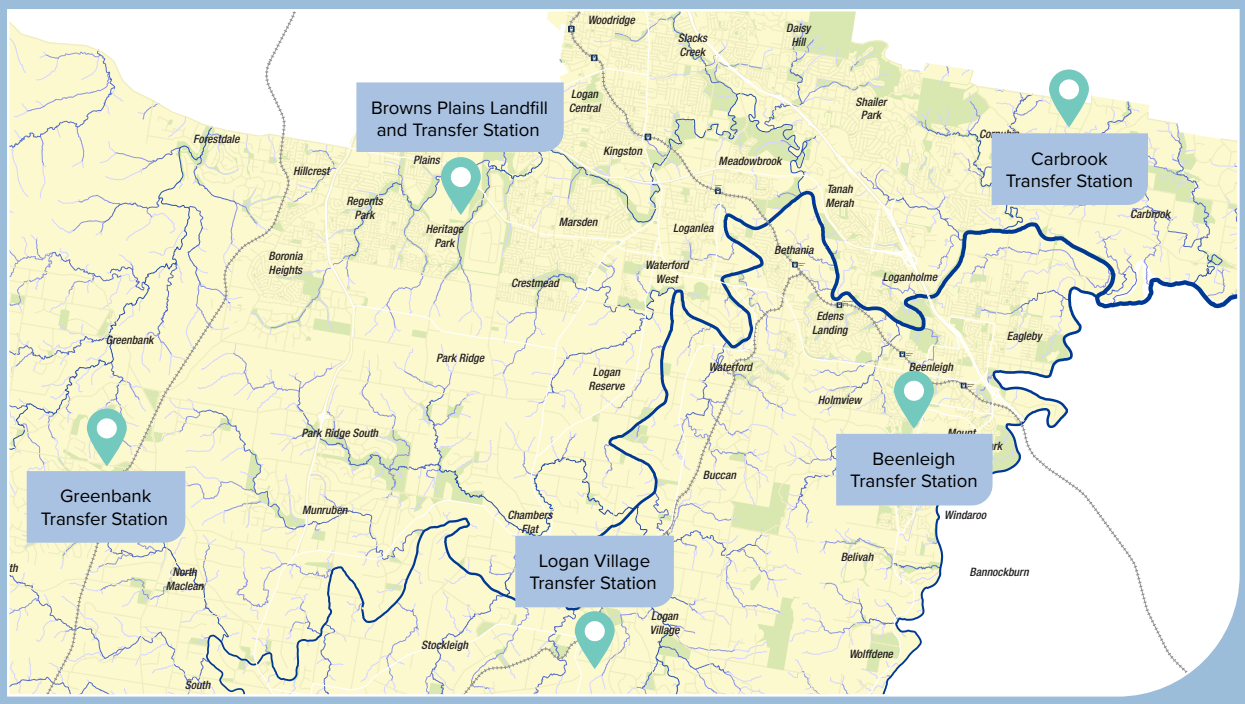


Figure 3 The City of Logan's waste and recycling facility locations

Examples of Council's Recycling and Resource Recovery Initiatives

Council's ongoing commitment to the annual Garage Sale Trail in 2021 saw more than 8,000 kilos of used items purchased.

Each year, more than 24,400 tonnes of green waste is repurposed into mulches, organic fertilisers, landscape soils, potting mixes and top dressing.

Decommissioned signs were repurposed for the Yarrabilba Rail Trail signage.

Council is committed to ongoing community recycling education and engagement initiatives. Over the last 5 years our waste education team have visited 160 schools and childcare centres and facilitated over 4,000 students participating in the Browns Plains Waste and Recycling Facility tour.

The Council staff café aims to divert 80% of food waste from landfill with their new in-house worm farm.

CASE STUDY

Over 57 tonnes of e-waste is diverted from Logan City Council's Waste and Recycling Facilities and repurposed each year.

Council, in partnership with a local social enterprise, Substation 33, used some of this e-waste to produce Flooded Road Smart Warning Systems at 96 sites. 190 signs, all built and manufactured in Logan, have been installed throughout Logan. More than 1,296kg of recycled batteries in the signs and float switches were diverted e-waste.

What was the problem?

A fatality and the swift water rescues of 35 people in Logan in 2013 and 2015 were the impetus for Council to address the problem of vehicles being driven inadvertently into flood waters, particularly at night.

In 2016, Council teamed up with researchers from Griffith University and technicians from Substation33, a social enterprise of Youth & Family Services, to develop an innovative and low-cost warning system to install at flooded road crossings within the City of Logan.

While other flood warning systems were available, they were expensive to manufacture, install and operate over time.

Council believed it was possible to develop a simpler and more cost-effective system for use at flooded road locations within the City of Logan, and the Flooded Road Smart Warning System was borne.

How does the system work?

When water reaches the level of the road shoulder and is covering the road surface, sensors activate warning signs to flash on the approaches to the flooded road crossing. The signs can be up to 100 metres away from the crossing.

The system is powered by recycled laptop batteries, trickle charged by recycled solar panels. The batteries and panels are affixed to the top of the roadside flood warning signs.

Motorists are alerted to impending danger by an illuminated sign flashing the words "ROAD FLOODED" on each approach to flooded road crossing.

The system automatically sends real time information to Council's website via the Disaster Dashboard and sends SMS and email alerts to appropriate staff and other personnel such as emergency services.

Using the clear message of "ROAD FLOODED" supports the QLD government's slogan, 'If it's flooded, forget it'.

Even if the driver is aware that the road ahead is flooded, the association of the sign wording and the well-advertised slogan encourages cautious decision making by the driver.

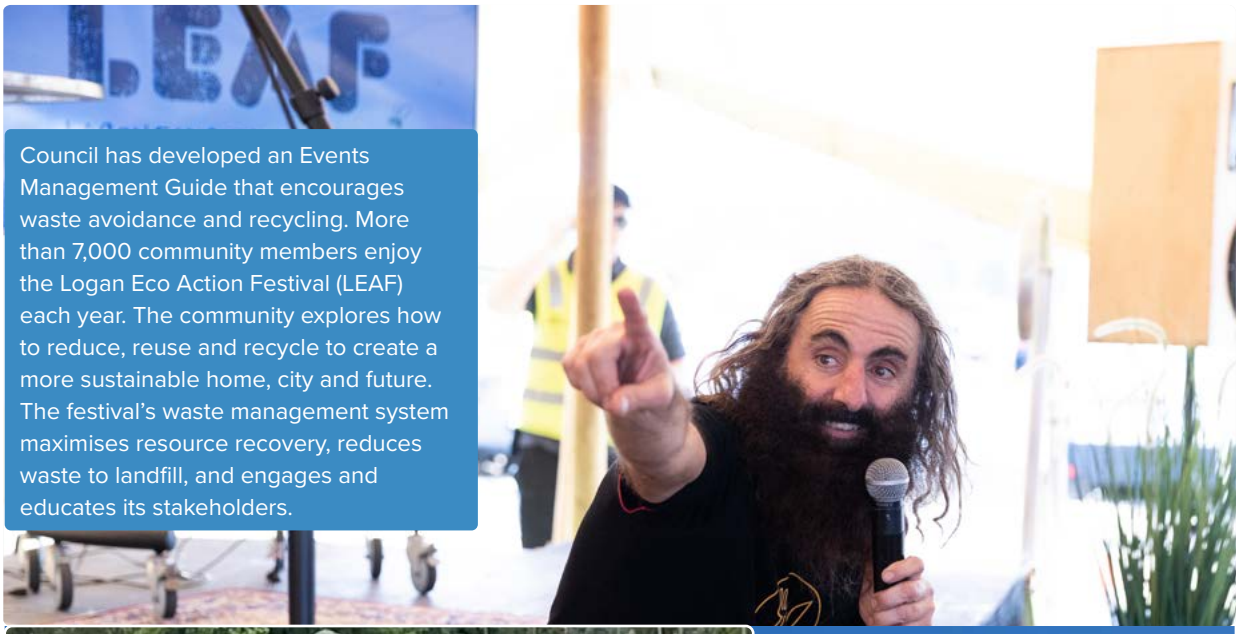
Is the system successful?

In March 2017, ex-Tropical Cyclone Debbie tested the system when more than 100 roads in the City of Logan were impacted by floodwater.

Unlike previous events, there were no recorded instances of vehicles being driven into the flood waters at sites where the flooded road warning signs were installed.

The warning signs have greatly contributed to reducing the risk of vehicles being driven inadvertently into dangerous floodwaters. As such, Council is committed to installing more signs at flooded road locations to ensure the community is safe when travelling on local roads during severe weather events.

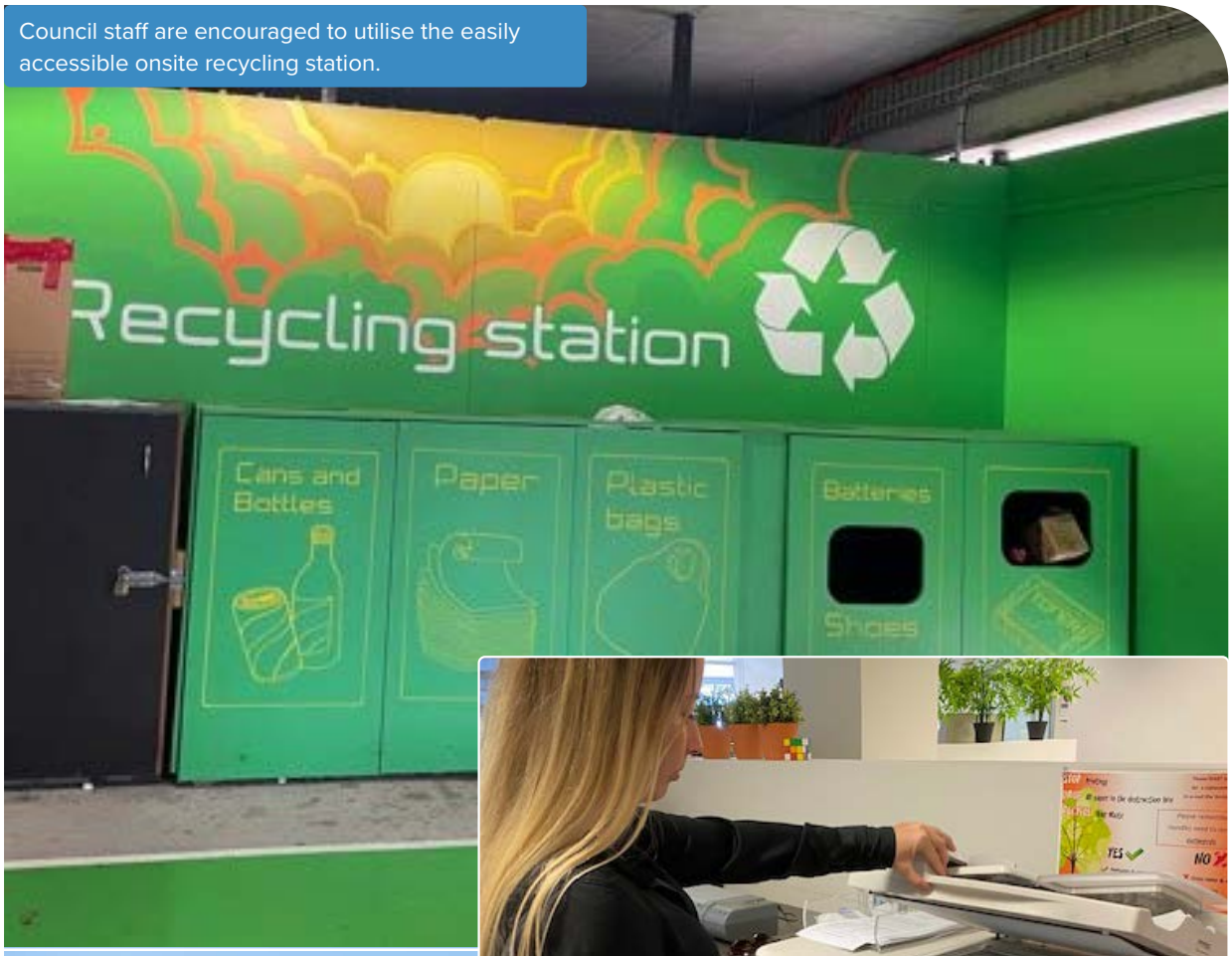
Examples of Council's Recycling and Resource Recovery Initiatives



Council has developed an Events Management Guide that encourages waste avoidance and recycling. More than 7,000 community members enjoy the Logan Eco Action Festival (LEAF) each year. The community explores how to reduce, reuse and recycle to create a more sustainable home, city and future. The festival's waste management system maximises resource recovery, reduces waste to landfill, and engages and educates its stakeholders.

Recycled and repurposed construction waste is utilised in many Council construction and maintenance projects. Last financial year Council used around 14,000 tonnes of recycled profile material on our Gravel Road and Shoulder Seal (GRASS) program and 3500 tonnes of recycled concrete in a road construction pilot project.

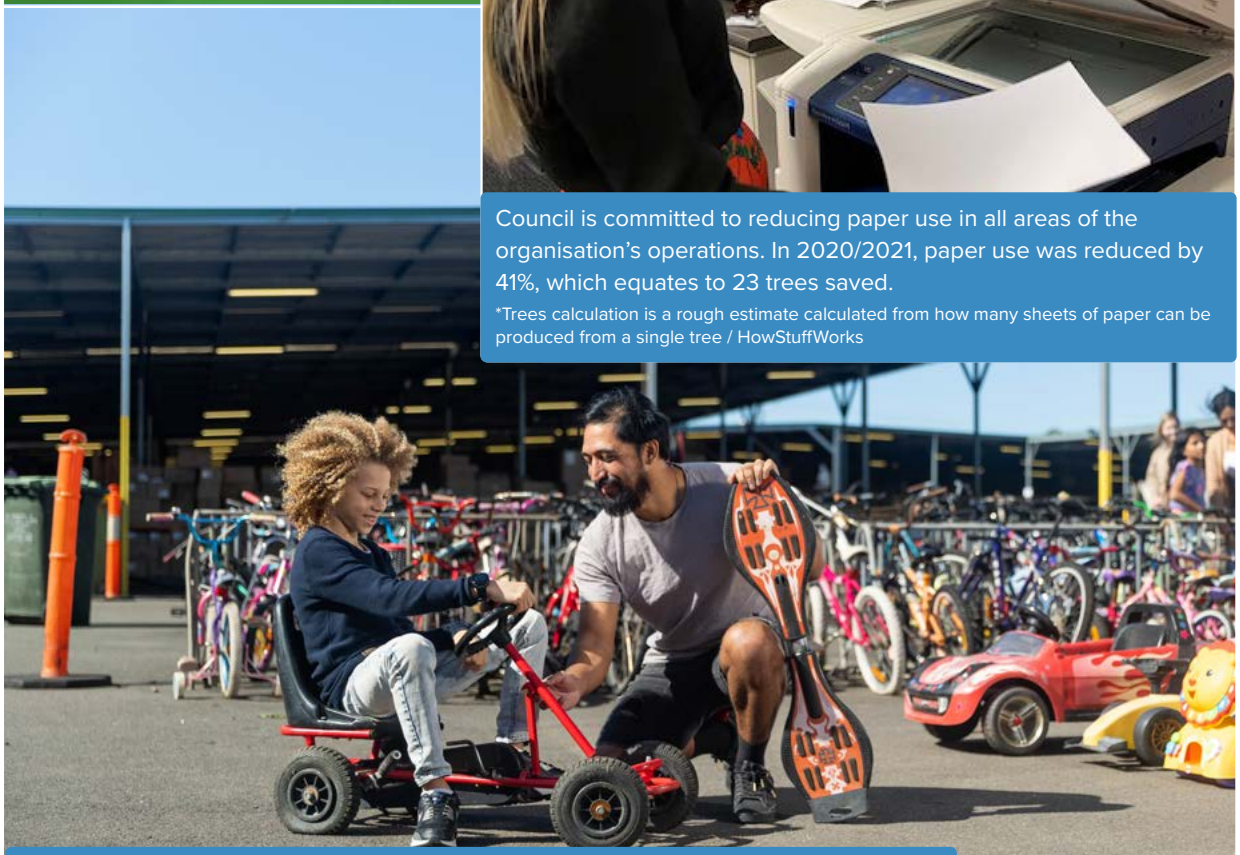
Where possible, Council supports the use of recycled products. A great example of this is the use of Modboard, a product made of recycled milk containers and non- virgin pine products, in Underwood Park's Contemplation area.



Council staff are encouraged to utilise the easily accessible onsite recycling station.

Council is committed to reducing paper use in all areas of the organisation's operations. In 2020/2021, paper use was reduced by 41%, which equates to 23 trees saved.

*Trees calculation is a rough estimate calculated from how many sheets of paper can be produced from a single tree / HowStuffWorks



The Logan Recycling Market provides customers an opportunity to purchase recycled, recovered, and reusable items. Over 1,200 tonnes of used items are sold via the Logan Recycling Market annually with proceeds supporting local community groups.

Waste disposal and recycling volumes

Waste and recycling volumes for municipal solid waste in the City of Logan for 2020/21 are presented in Table 2.

Table 2 Municipal solid waste and recycling tonnages for the City of Logan

		2020/21	
Municipal solid waste (MSW) to landfill		**tonnes**	**Percentage of total MSW landfilled**
	**General wheelie bin**	89,347	67
	**Bulky waste collection**	4,556	4
	**Self-haul to transfer stations**	38,877	29
	Total landfilled	132,780	

		2020/21	
MSW diverted from landfill		**tonnes**	**Percentage of total diverted material**
	**Recycling Bins**	13,225	27
	**Self-haul garden waste and green bins**	24,425	51
	**Other material diverted (material sold at market, self-hauled recyclables, cardboard, ferrous metal, non-ferrous metal, e-waste, timber)**	10,639	22
	Total diverted	48,289	

Table 3 shows the volume of commercial and industrial, and construction and demolition waste disposed of at the Browns Plains Landfill in 2020/21.

	2020-21	
Commercial and industrial and construction and demolition waste to landfill	**tonnes**	**Percentage of total volume landfilled**
	44,304	24 %

Browns Plains Landfill

The Browns Plains Landfill has served the City of Logan as the primary waste disposal location since the early 1990s. Located near major population centres, it has and will continue to provide a local disposal option for the community. The community benefits from having its own landfill because it means waste does not need to be transported long distances to other landfills in South East Queensland. However, once the Browns Plains Landfill is full, alternative landfills will need to be used. The longer the city can use the Browns Plains Landfill, the longer Council can delay having to pay higher waste transport and disposal costs.

Garden and food waste buried in landfills generate greenhouse gas emissions as it breaks down. This contributes a significant proportion of Council's greenhouse gas emissions. By reducing organics disposed to landfill this will contribute to reducing Council's carbon footprint. At the Browns Plains Landfill, some of this gas is captured and converted into electrical power by a gas-powered cogeneration plant. It powers the equivalent of 2,000 households.

Residential waste generated in parts of the City of Logan formerly in Beaudesert Shire continues to be disposed of at the Bromelton Landfill in the Scenic Rim Region.

Waste education

We conduct a waste education program that offers services to schools, community groups and the general public. The program is delivered to encourage residents, school groups, and local businesses to 'reduce, reuse, recycle'.

The program demonstrates the strong links between waste avoidance and minimisation, resource conservation, cost savings, energy and water efficiency, and climate change. It also helps participants understand the impacts of their waste management decisions on the current and future environment.

Specific education initiatives include:

- a school education program, including classroom presentations, free bus tours and curriculum support.
- waste management advice to school Business Service Managers.
- landfill bus tours and presentations for community groups.
- Recycling Bin Inspection Program - conducting visual inspections of bins and using education intervention to address behaviours.
- regular activity promotion through Council's Media and Marketing and Events Branches.
- presentations to, and landfill tours for, community groups.
- participating in events including World Environment Day, the ImagiNation Festival, Waste Fair, Eats and Beats and Logan Eco Action Festival (LEAF).
- attending city-wide events to promote recycling behaviours, with a materials recovery facility display.
- assessing domestic, commercial and self-haul general waste streams.
- issuing follow-up letters within the existing recycling bin inspection program.
- offer support, advice and assistance to businesses to participate in circular economy and recycling.

Where are we going?

Without change, population growth means more waste

The City of Logan's population is estimated to increase from approximately 342,000 in 2022 to nearly 500,000 by 2032 – which is about 2.5 percent growth each year.

Table 4 and Figure 4 show the expected growth in waste, assuming that waste generation rates grow by the same percentage as population each year, and we continue to manage waste the way we currently do (Business As Usual Scenario).

Under this scenario, Browns Plains Landfill is expected to be full by 2032.

Table 4 Predicted waste quantities until 2031/32 under Business as Usual Scenario

Waste to landfill	2020/21	Predicted by 2025/26	Predicted by 2031/32
Municipal solid waste	132,780	150,228	174,219
Commercial and industrial **Construction and demolition**	44,304	50,126	63,812
Total landfilled (tonnes)	177,084	200,354	232,350
Material diverted from landfill	**2020/21**	**Predicted by 2025/26**	**Predicted by 2031/32**
Recycling bins	13,225	14,963	17,352
Garden waste (self-hauled and green bins)	24,425	27,635	32,048
Other recycled materials and items	10,639	12,037	13,959
Total diverted (tonnes)	48,289	54,635	63,359

Projected waste to landfill under business as usual scenarios

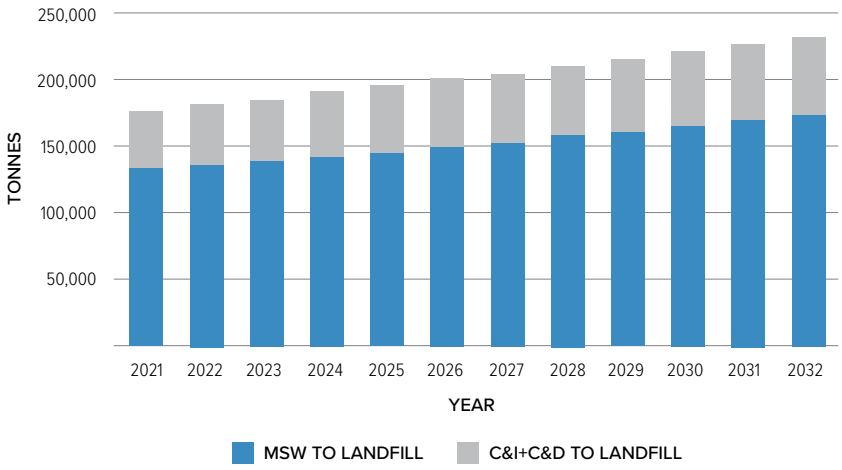


Figure 4 Projected waste to landfill volumes until 2031/32 for business as usual.

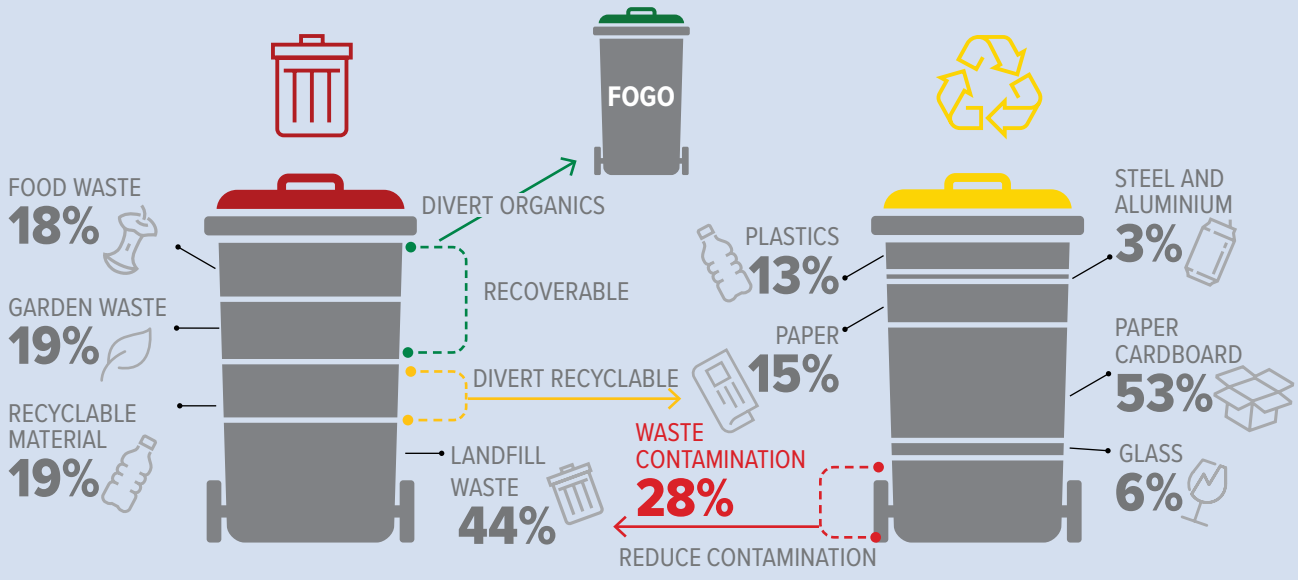
Could we divert more waste away from landfill?

Approximately 56 per cent of the waste currently disposed of to landfill could be diverted, through composting or recycling. This would increase the lifespan of Browns Plains Landfill and provide economic opportunity by using those diverted materials as resources.

Thirty-five percent of material in residential general waste bins is food organics and garden organics, and is disposed to landfill.

Nineteen per cent of material in residential general waste bins that ends up in landfill could have been placed in the yellow-lid recycling bin and been recycled.

Twenty-eight per cent of material in residential recycling bins should be placed in the general waste bin. This non-recyclable material can impact recycling processing and can lead to recyclable materials being send to landfill. Reducing contamination in recycling bins will increase the value of recyclable materials.



What could waste collection services look like in the future?

The South East Queensland (SEQ) Waste Management Plan describes a target end state at 2030. It is primarily focused on improving waste flows through the kerbside bin system to maximise recycling and reduce waste to landfill. This is where the greatest gains can be made. The SEQ Waste Management Plan proposes that residents be provided with:

- a yellow-lid recycling bin collected fortnightly – processed and sorted at a sub-regional materials resource facility.
- a green-lid food and garden waste bin collected weekly – composted at a local composting facility.
- a red-lid residual waste bin collected fortnightly – disposed of to landfill, with regional energy-from-waste facilities emerging in the longer term to process 'true residual' waste.

Population growth also means more recycling

The contents of yellow-lid recycling bins are processed in a materials recovery facility (MRF). MRF capacity in South East Queensland is reducing and more MRFs will be needed to manage the growing volume of recyclables being collected.

The South East Queensland Waste Management Plan includes optimising co-mingled recycling as a focus area. It supports developing additional MRFs, increasing competition, resilience and operating efficiencies to grow and support the developing market for recycled products. This will stimulate economic growth and increase the market value of waste management processes.

OPPORTUNITY FOR IMPROVEMENT

Investigate opportunities to establish additional MRF capacity in the region.

OPPORTUNITY FOR IMPROVEMENT

Investigate the implementation of a 3-bin system for all residents. The diversion of food and garden organics from the landfill bin to a green bin represents the greatest opportunity for improvement.

The 2030 'target state' is outlined at a very high level in the diagram below.

Potential steps to implement food organics and garden organics recycling for the City of Logan include:

STEP 1 Provide optional green waste bins for garden organics – fortnightly collection (already in place).

STEP 2 Allow non-protein food scraps (i.e. fruit and vegetable scraps) to be included in the optional green waste bin.

STEP 3 Undertake a food organics and garden organics trial in a part of the city (weekly collection).

STEP 4 Pending outcomes of the trial, undertake broader community consultation on a full FOGO service.

STEP 5 Pending community consultation, prepare the community for weekly food organics and garden organics service and fortnightly waste service.

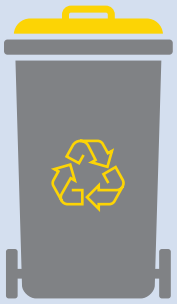
STEP 6 Commence compulsory weekly food organics and garden organics, and fortnightly residual waste service.

Food and garden organics bin

- Weekly collection.
- Logan residents generate sufficient food and garden waste to support the set up of a composting facility.

Residual waste landfill bin

- Fortnightly collection.
- Landfill remains the most practical disposal option in the short to medium term.
- Alternative disposal technologies such as Energy from Waste is a long term opportunity that would likely require aggregation of residual waste from several SEQ Council areas'.



Recycling bin

- Fortnightly collection.
- More facilities are required in SEQ to sort and process the growing volume of recyclables collected in yellow lid bins.
- Sub-regional Council collaboration is needed to aggregate volumes to support new recycling facilities.

Working together with the community to achieve change

Logan residents are keen recyclers. However, there is room for improvement. A lot of material that could be recycled or composted is still disposed of in the general landfill waste bin. Littering and illegal dumping of unwanted items in suburbs and bushland causes amenity, safety and environmental impacts.

Incorrect use of the annual bulky waste collection service can also create issues where residents place their unwanted items out the footpath too early, too late or put out more than what is permitted or items that are not accepted for collection.

Council needs the community's help to transition to a zero-waste society. We have a key role to play in educating and engaging the community about ways in which the community can avoid, reduce and recycle waste and dispose of unwanted items responsibly. We also have a role in enforcing compliance standards for those who litter and dump illegally.

OPPORTUNITY FOR IMPROVEMENT

Improve the engagement and education of the community through consistent, easy to understand and relevant messaging about waste reduction and recycling methods and proper use of the bulky waste clean up service.

OPPORTUNITY FOR IMPROVEMENT

Reduce litter and illegal dumping through improved community education, compliance and enforcement.

Community waste and recycling facilities

Our current network of waste and recycling facilities is considered functional, but not best practice. Most facilities were designed to service what were previously smaller populations and either already are, or will in the coming years, struggle to cater to the increasing customer numbers as the population continues to grow, let alone allow for the best recovery and recycling of items.

Council has undertaken a capacity assessment of each facility by comparing the number of drop-off bays at each facility to the number of customers using each facility now and the number expected in the future.

The results show that:

- Beenleigh is currently over capacity with no room to expand. As the surrounding population grows, Beenleigh will become critically overstretched.
- Logan Village is expected to reach capacity around 2026. There is potential to expand capacity at the current site. However, expansion may be limited by ground conditions on the former landfilled areas of the site.
- Browns Plains is expected to reach capacity around 2027. There is potential to increase capacity within the existing site through a redesign.
- Greenbank is expected to reach capacity around 2030. There is potential to increase capacity within the existing site through a redesign.
- Carbrook has capacity for current and future needs. However, a redesign to upgrade existing drop off arrangements will ensure recovery of resources is maximised.

We will need to prepare a plan that identifies the future number, locations and designs of our waste and recycling facilities to meet the needs of the growing population. The following principles will be used to inform where, how many, and the design of future waste and recycling facilities:

Conveniently located

- At least 90 per cent of residents can access a facility within a 20-minute drive.
- Facilities have appropriate buffer zones to residents.

Convenient to use

- Each facility allows users to easily unload recyclables into separate collection areas before they unload remaining 'residual waste'.
- Each facility has the same 'look and feel' – same signage, same general layout.
- Customer and waste acceptability criteria are the same – all sites have a weighbridge.
- All sites use of smart technology – for example, barcode readers, CCTV, digital displays, accurate data.
- All sites have covered unloading areas.

Community-facing – but retain operational flexibility and efficiency

- Waste and recycling technologies and facility locations will change over time.
- Our community facilities need to serve the community, but be designed to be safe and allow for flexibility in storage, bulking up, transport logistics etc.
- Facilities are located and designed for efficient logistics in terms of material handling and transport.

Maximise salvage of recyclable items in residual waste

- Drop off areas allow more items to be salvaged for recycling.
- The remaining residual waste is efficiently handled.

The way in which we refer to waste and recycling facilities is also changing. The term 'resource recovery centre' is now being used to describe what were previously known as 'rubbish tips' or 'transfer stations'. This change in naming convention supports the goal of diverting as much waste from landfill as possible through sorting and separating waste for recycling and reuse.

We also need to support the establishment of smaller neighbourhood drop off points for recyclable items to make it as convenient as possible for the community. This includes local 10c container refund drop off points.

Many retailers in Logan are also now offering recycling drop off services for items that cannot go into the yellow lid recycling bins such as soft plastics, batteries, light bulbs, etc. Council can assist in promoting and supporting these services to complement its own recycling services and initiatives.

OPPORTUNITY FOR IMPROVEMENT

Prepare a Resource Recovery Infrastructure Plan that identifies a future network of resource recovery centres that cater for our growing population and are conveniently located, convenient to use, community-facing and maximise the recycling and reuse of items.

Circular economy and economic opportunity

The City of Logan's young people in particular have strongly advocated for an economy that is green, circular and provides exciting career pathways. Our city has strengths and emerging expertise in circular economy and low-carbon thinking. A focus on waste and recycling in schools and business sectors can be built on to develop new ideas and ways of living with a circular and low-carbon economy.

The need to protect the environment, reduce emissions and re-use and recycle creates an economic opportunity for the City of Logan.

OPPORTUNITY FOR IMPROVEMENT

Council can help the City of Logan realise economic and environmental benefits through attracting and leveraging investment in emerging circular economy industries.

Key areas of interest

Council will focus on 4 key areas of interest to deliver the vision and outcomes of this strategy. These are aligned with the strategic priorities of the Queensland Government's Waste Management and Resource Recovery Strategy and Council's Corporate Plan.

1

Waste avoidance and recovery of resources

One of the biggest challenges Logan residents will face is making changes at home, work and school. It is no longer just about increasing the amount we recycle; we must change our habits to avoid or reduce waste in the first place.

Waste should no longer be considered as something to be buried in the ground. It is a valuable resource that can be reused or repurposed into other products. While it is not always possible to avoid or reduce waste, we can recover more resources by:

- improving the quality of recycling in our kerbside bins.
- supporting facilities that repair and reuse materials.
- supporting second-hand markets such as the Logan Recycling Market.

We are committed to reducing the environmental and social impacts of waste. Illegal dumping and landfills can negatively impact the community and the environment. Reducing the amount of organic material in landfills will reduce the amount of greenhouse gases created. Recovering and recycling more material reduces the need for virgin material, which reduces the environmental impacts associated with its extraction and depletion.

2

Community education and participation

Education plays an important role in promoting behavioural change. Greater awareness leads to community members actively helping to minimise waste and maximise resource recovery. We will continue to build on effective communication and promotion strategies, with a view to educating the Logan community now and into the future. We will also undertake compliance and enforcement to discourage litter and illegal dumping.

3

Resource recovery infrastructure operations and planning

We recognise the importance of operating our waste and recycling facilities in a way that minimises amenity and environmental impacts and complies with our environmental licence conditions.

We are committed to ensuring our waste facilities and services keep up with population growth and effectively help minimise waste going to landfill. We will prepare a Resource Recovery Infrastructure Plan to deliver facilities that are conveniently located, convenient to use, and community-facing, and maximise opportunities to recycle and reuse items.

4

Circular economy and economic opportunity

Remanufacturing materials provides economic opportunity that otherwise would be lost to landfill. Growing the reuse and recycling industry will create new jobs, provide upskilling opportunities for the workforce, and build infrastructure and markets to contribute to sustainable economic growth in the city.

There is also benefit to exploring and increasing the use of alternative waste technology provides great opportunity for growth in this emerging sector.

How are we going to get there?

We have developed an Implementation Plan that lists specific actions that we will undertake to help achieve the vision and targets of this Strategy.

The Implementation Plan is included in Attachment 1.

The Implementation Plan will be reviewed on an annual basis to determine progress and identify other projects and initiatives.

Monitoring and reporting

Support from the Federal and State Government, community and industry will be critical in achieving the vision, outcomes and targets of this strategy. In addition to the targets listed on page 11, the success of this strategy will be measured by the following Key Performance Indicators:

Key Performance Indicator: Percentage contamination in recycling bins

2022 baseline	2025 target	2030 target
28%	<20%	<10%

Key Performance Indicator: Percentage of recyclable materials in general waste bins

2022 baseline	2025 target	2030 target
19%	<10%	<5%

Key Performance Indicator: Percentage of household uptake of optional green waste bins

2022 baseline	2025 target	2030 target
11%	>30%	>60%

Key Performance Indicator: Percentage of Implementation Actions delivered within timeframe

2022 baseline	2025 target	2030 target
100%	100%	100%

Key Performance Indicator: Percentage of green waste contamination

2022 baseline	2025 target	2030 target
<2%	<2%	<2%

An annual review of this strategy will be undertaken to ensure that it remains current and relevant. The strategy will also be updated as required to respond to internal and external factors such as changes to legislation, policies and plans, funding availability and changes in technology.

Attachment 1 - Implementation Plan

The following actions will help deliver the vision and outcomes of this strategy.

Action	Timeframe*	Links with key areas of interest
Promote further uptake of the green waste bins	Ongoing	1,2
Investigate the feasibility for a dedicated kerbside food organics and garden organics collection service, including a potential trial	Medium	1,2,3,4
Investigate the feasibility of a local food organics and garden organics processing facility	Medium	1,2,3,4
Support new recycling and resource recovery opportunities as they become available and feasible	Ongoing	1,4
Support and promote recycling services offered by local businesses such as through major retailers and social enterprises	Ongoing	1,2,3,4
Support and facilitate the development of local end-use markets for recyclable products and products made from recyclable materials	Ongoing	1,4
Promote the reuse of unwanted items through the Logan Recycling Market	Ongoing	1,2,3,4
Continue to identify to opportunities to install public place recycling bins in locations such as parks, footpaths and other community facilities	Ongoing	1,2,3,4
Offer support, advice and assistance to businesses to participate in circular economy and recycling	Short	1,2,4
Continue to explore end of life recycling opportunities for problematic wastes such as mattresses, batteries, e-waste, polystyrene, plasterboard and solar panels	Ongoing	1,3,4
Participate in regional collaborative forums and workshops that aim to minimise waste and maximise resource recovery	Ongoing	1,4
Act as an advocate for improved legislation, policy and projects at the national, state and local levels that facilitate waste avoidance and minimisation	Ongoing	1,2,3,4
Update the planning scheme to ensure developments provide adequate bin storage and collection areas on site to manage all waste generated and maximise recycling during both the construction and operational phases	Short	1,2,4
Implement systems and processes to improve waste and recycling data capture and analytics to better understand waste flows, customer behaviours, progress towards diversion and recycling targets and opportunities for improved resource recovery	Ongoing	1,2,3,4
Continue education and awareness programs and campaigns to all community sectors through channels including schools, community groups, events and online	Ongoing	2
Provide incentive schemes for the community to increase waste avoidance and diversion such as rebates for home composting bins and worm farms and nappy recycling	Ongoing	1,2
Continue supporting Clean Up Australia Day	Ongoing	2
Develop tailored education programs targeted at the culturally and linguistically diverse groups to promote better recycling behaviours	Ongoing	2
Undertake an annual review of the waste education and recycling program to ensure it is providing contemporary waste education messages and maximising community reach	Ongoing	2

Prepare an Illegal Dumping and Litter Enforcement Strategy to change community behaviours and disincentivise dumping and littering behaviours in the city.	Short	1,2
Review the community messaging in relation to the annual bulky waste kerbside clean up service to improve proper use	Ongoing	1,2,4
Promote internal waste avoidance and recycling within our operations and at Council run events	Ongoing	1,4
Encourage the use of recycled materials in the procurement of our projects	Ongoing	1,4
Conduct regular audits to measure the changing composition of various waste streams	Ongoing	1,2
Continue to actively monitor and enforce correct bin use to reduce contamination and maintain high quality recycling	Ongoing	2
Design and operate the Browns Plains Landfill to minimise amenity and environmental impacts and maximise life expectancy	Ongoing	2
Investigate options to transition from paper waste vouchers to electronic vouchers	Short	3
Continue to encourage landlords to provide waste vouchers to their tenants where not being used by the landlord	Ongoing	3
Continue to extend the gas capture system at the Browns Plains Landfill to reduce odour and landfill gas emissions	Ongoing	3
Undertake environmental monitoring and reporting as required by licence conditions	Ongoing	3
Hold quarterly community consultative committee meetings regarding the operation of the Browns Plains Landfill	Ongoing	3
Identify alternative landfill options to the Browns Plains Landfill	Medium	3
Develop a Resource Recovery Infrastructure Plan to meet population growth and deliver best practice facilities to the community	Short	1,3
Build an upgraded network of best practice community waste and recycling across the City	Long	1,3
Investigate options for regional collaboration in the development of waste infrastructure to achieve economies of scale and meet the needs of multiple councils	Ongoing	1,3
Consider rebranding of our waste and recycling facilities to resource recovery centres	Medium	3
Explore opportunities to partner with social enterprises, community groups and local businesses to support the transition to a circular economy	Ongoing	4
Attract and leverage investment in emerging circular economy industries	Ongoing	4
Review our procurement policy to ensure it reflects contemporary circular economy principles that promote waste avoidance and recycling	Short	4
Evaluate the ASPIRE online business-to-business reuse tool to determine effectiveness	Short	1,2,4
Set fees and charges to encourage recycling and reuse of unwanted goods as well as continuing to incentivise waste reduction through offering smaller general waste bins at lower rate	Ongoing	1,2,4

***Timeframe:**

Ongoing: the action will occur over the life of the Strategy
Short: the action will commence in Years 0–3
Medium: the action will commence in Years 4–6
Long: the action will commence in Years 7–10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