

2023

Resource Recovery Infrastructure Plan



Acknowledgement of Country



Ipswich City Council respectfully acknowledges the Traditional Owners as custodians of the land and waters we share. We pay our respects to their Elders past, present and emerging, as the keepers of the traditions, customs, cultures and stories of proud peoples.

The Ipswich City Council - Indigenous Accord Symbol Story

This symbol represents both Indigenous and Non-Indigenous People coming together, living and working towards a brighter future for the City of Ipswich and the greater Ipswich region.

Starting from the inner circle, these dots represent the Traditional Owners of the Land, the blue circle with fish represents the river and abundance. Moving outwards the landscape is represented including the rolling hills which surround the city. The triangular motifs represent a brighter future for Ipswich. The seated people around the outside represent members of the Ipswich City Council and members representing the Accord working together. **Riki Salam, We are 27 Creative.**

Check out the Indigenous Accord at [ipswich.qld.gov.au](https://www.ipswich.qld.gov.au).

An electronic version of this report is available to view or download on the City of Ipswich website: [ipswich.qld.gov.au](https://www.ipswich.qld.gov.au).

You can request a printed copy or provide feedback by contacting us on (07) 3810 6666 or council@ipswich.qld.gov.au.

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EXECUTIVE SUMMARY

Ipswich Local Government Area is the fastest growing in QLD, with more than 160,000 new residents expected to add to the area over the next 10 years.

As the population rapidly expands, so does the volume of waste material our city produces and the requirements for council to manage that waste.

For context, in the 2021-2022 financial year, Ipswich Waste Services managed nearly 160,000 tonnes of waste and recyclable materials. 140,000 tonnes originated from households and 20,000 from commercial collections.

At the same time, significant systemic change is required in how our city manages its waste material to meet ambitious State Government landfill diversion targets, such as 95 per cent of municipal solid waste (MSW) diverted from landfill by 2050.

In 2021-2022, there was 94,340 tonnes of MSW managed through household kerbside collection and 45,885 tonnes received through our recycling and refuse centres. Council was able to capture and recycle 25 percent of the MSW received.

In 2021, council endorsed the Resource Recovery Strategy and Implementation Plan to assist in reaching waste recycling and reduction targets set by the State and Federal governments.

There are four pillars to deliver on the Resource Recovery Strategy vision and achieve its targets. This Resource Recovery Infrastructure Plan builds on **Pillar 4: Have a fit-for-purpose waste and resource recovery infrastructure that meets the needs of a growing city.**

This Plan provides a clear direction for council owned and operated infrastructure required within the next 10 years, for our city to meet its surging waste management demands and meet required targets for recycling and resource recovery.

To address Ipswich's current and future waste management needs, this Plan identifies the required program of works, being:

1. upgrades to the existing Riverview and Rosewood resource recovery centres
2. building a new resource recovery centre in Ipswich.



1. INTRODUCTION

1.1. Purpose of the plan

The purpose of the Resource Recovery Infrastructure Plan is to facilitate the delivery of Pillar 4 of the Resource Recovery Strategy, and to lay out how we meet the waste and resource recovery infrastructure needs of Ipswich.

The Plan focuses on the key waste and recycling services and infrastructure under ownership of Ipswich City Council. External infrastructure aspects such as landfills and material recovery facilities are not covered by the plan specifically in relation to how they support the community's waste disposal and recycling needs.

It is recognised that a multi-year planning outlook will have a degree of uncertainty at present therefore a 3-year review will be conducted, to ensure our resource recovery management continues to align with council's strategies, goals and targets as well as relevant legislation and policies.

1.2. Legislative and policy context

Significant changes have occurred, and continue to occur, in the waste and resource recovery industry in Queensland, which have a substantial impact on how local governments manage their community's waste.

Policy and legislative drivers include:

- *Waste Reduction and Recycling Act 2011 (Qld)*
- *Waste Reduction and Recycling (Waste Levy) Amendment Act 2019*
- Reduction of the Waste Levy Rebate for Local Government Authorities (LGAs)
- Queensland Waste Management and Resource Recovery Strategy (2019)
- Waste export bans (2020)
- National Waste Policy (2018) and Action Plan (2019)
- National Food Waste Strategy (2017)
- Containers for Change
- adoption by the State and Federal Governments of ambitious waste recycling and reduction targets

The Waste Reduction and Recycling Act 2011 (Qld) requires all local governments to have a waste reduction and recycling plan. Council's plan is called the Resource Recovery Strategy. This Plan supports the delivery of the Strategy.

1.2.1. Waste and Circular Economy Transformation Directive

In December 2020, council released the Waste and Circular Economy Transformation Policy Directive. The Directive guides council's strategic and operational approach to managing and influencing systemic changes across waste, resource recovery, recycling, and the circular economy to deliver better outcomes for the City of Ipswich and its residents towards 2030. It is important to note that the Directive is primarily a planning and externally focused document.

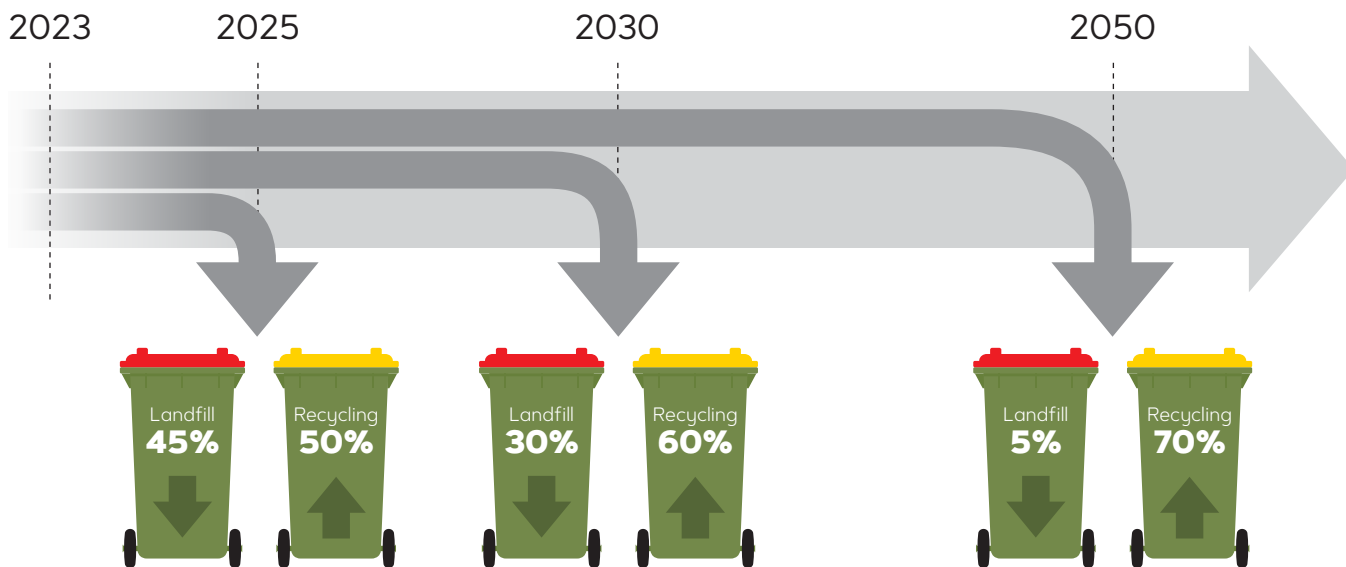
The Directive is based on 10 principles that have been developed to make positive changes to council, the community and the waste industry through best practices, education, collaboration and planning.

The Directive will be achieved through the delivery of an Implementation Plan that brings together several projects planned or currently being delivered by council, including the Resource Recovery Strategy, Sustainability Strategy, updates to corporate procurement frameworks, compliance program improvements and other programs.

1.2.2. Queensland's Waste Management and Resource Recovery Strategy

The Waste Reduction and Recycling Act 2011 (WRRRA) sets the strategic direction for local governments when planning their waste reduction and recycling plans. Primarily, the guiding document used to support the WRRRA is Queensland's Waste Management and Resource Recovery Strategy (2018) which sets a range of State based targets for local governments to achieve.

The Queensland Government’s waste recycling and reduction targets require our city to:



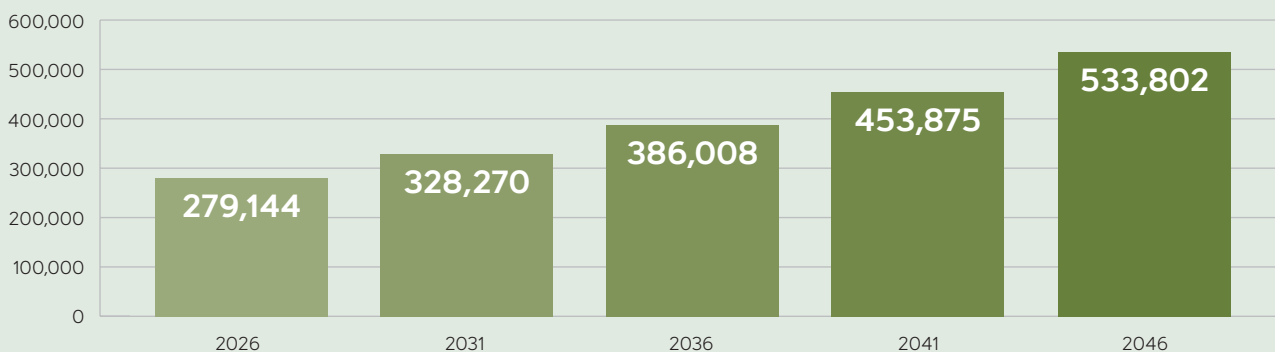
1.3. Current and Future Drivers

There are several important drivers for the future planning of council’s waste and resource recovery infrastructure to ensure it will meet the needs of Ipswich’s growing population and provide facilities with adequate capacity and capability.

1.3.1. Population growth

Ipswich is one of the fastest growing cities in Queensland, with over 160,000 new residents expected to join the local government area over the next 10 years and population reaching 533,802 by 2046¹. Population growth is projected for the southeast and western parts of Ipswich rather than a concentric growth around the city centre.

Population projections for 2046¹



On average, an Ipswich household generates about 1 tonne of waste and recyclables each year. This includes the waste in the kerbside bin collection as well as waste processed through a recycling and refuse centre. By 2031, it is expected that Ipswich households will generate more than 175,000 tonnes of waste material. With such growth it is crucial to responsibly manage waste and resource recovery services and infrastructure.

¹ Local Government Infrastructure Plan 2024 Population Assumptions

1.3.2. Economic growth

Ipswich's economy is performing strongly. Its Gross Regional Product grew by four per cent to \$9 billion in 2016, and it is predicted to reach \$12.24 billion by 2026².

As the economy grows so does the volume of waste generated by activities, in all sectors and at each point in the supply and production chain. The waste and resource recovery industry has a vital role in providing infrastructure to reuse or recycle materials, supporting transition to a circular economy and landfill diversion targets, while recognising that the waste industry is not the generator of material.

This change comes with great opportunities to create value from unwanted materials, by diverting and converting into new products, using recycled materials in construction and other industries, utilising innovative and emerging technologies to recover resources. The Queensland waste and resource recovery industry is currently valued at \$1.5 billion per annum and supports 11,800 jobs³.

While this Plan notes the above growth factor, the focus of this document is the infrastructure required to manage our city's domestic waste.

1.3.3. Community expectations and engagement

Community expectations are important in determining future waste infrastructure needs and investments. Climate change, sustainability, zero-waste society and changing consumption practices are behind surging public demand for better waste management practices. The pressure to provide fit-for-purpose resource recovery infrastructure is growing, as community awareness of environmental impacts from waste materials is increasing.

A community engagement process was undertaken to inform the development of the Resource Recovery Strategy. The Reducing Our Waste survey sought the community's ideas and feedback on local initiatives that could be developed to meet targets for waste reduction, recycling, and diversion of waste from landfill. The key survey findings relating to infrastructure were:

- 95 per cent supported a three-bin household kerbside collection in Ipswich (general waste, co-mingled recycling and FOGO)
- 60 per cent wanted to travel only 10km to a resource recovery and recycling centre
- important considerations for new facilities were to avoid odour issues, minimise impact on the environment and be cost effective.

Further community expectations for resource recovery facilities have been acknowledged as:

- accessibility and location
- user friendly design
- reasonable opening hours and minimal wait times
- ease of access to resource recovery area within the facility.

1.3.4. Implications of Waste Levy changes

The waste disposal levy legislation forms part of a broader investment in waste avoidance and behaviour change initiatives delivered by the Queensland Government, to assist in achieving ambitious statewide recycling and landfill diversion targets.

The Queensland Government's levy on waste going to landfill was introduced on 1 July 2019. The levy is payable on all waste disposed of in a levy zone, including that generated in another state or territory, as well as waste generated in a levy zone but disposed of in a landfill outside the levy zone.

2 Economic and Workforce Development Plan, City of Ipswich 2012–2019

3 WRIQ, 2020

The various types of waste are:

- General waste, including municipal solid waste, commercial and industrial waste, and construction and demolition waste
- Category 1 regulated (or hazardous) waste
- Category 2 regulated waste
- Other wastes such as treated timber sawdust and shavings and earth contaminated with a hazardous contaminant from land recorded on the environmental management register or contaminated land register.

The levy zone covers 39 out of Queensland's 77 local government areas, and Ipswich City Council is identified as a metro levy zone.

The waste disposal levy for 2022–2023 is \$105 per tonne for general Waste. This is set to significantly increase each financial year as per the table below.

	LEVY RATE (PER TONNE) INCREASES (PER FINANCIAL YEAR)										
	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30	FY30/31
General levy rate (i.e., other levyable waste) – Metro	\$85	\$95	\$105	\$115	\$125	\$135	\$145	CPI increase	CPI increase	CPI increase	CPI increase

The Queensland Government has committed to ensuring the levy has no direct impact on households. To deliver on that commitment, councils receive annual payments to offset the direct cost of the waste levy liability. The payment called the waste levy rebate is paid by the State Government to the city.

Until 1 July 2023, council will continue to receive the rebate payment calculated at 105 per cent of the material expected to require landfill disposal. After this date annual payment percentages will decrease each financial year as per the table below.

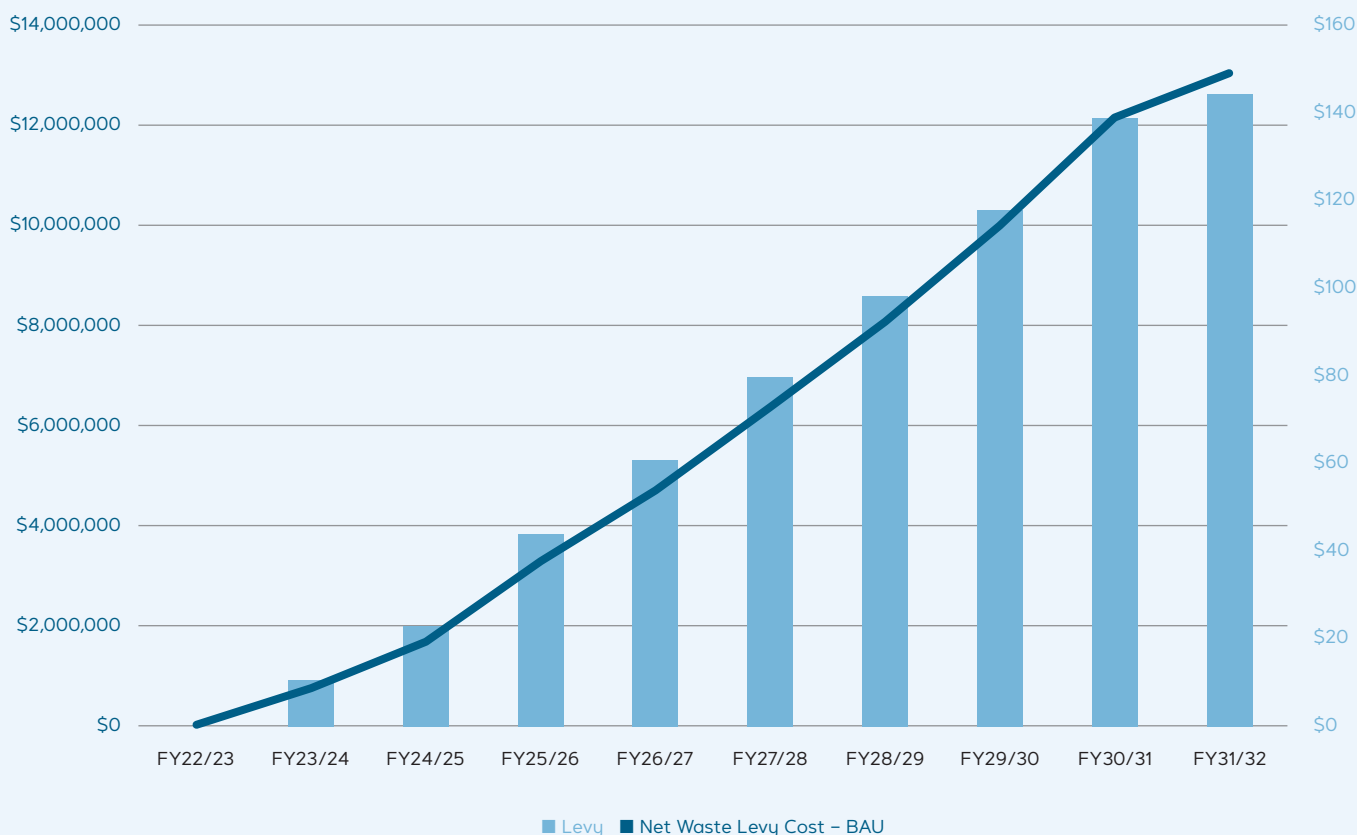
	ANNUAL PAYMENTS PERCENTAGE (TO BE RECEIVED IN FINANCIAL YEAR) (BASELINE YEAR TO CALCULATE ANNUAL PAYMENTS IS 2021-2022)										
	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30	FY30/31
Metro and regional councils in Bundaberg, Cairns, Fraser Coast, Gladstone, Mackay, Rockhampton and Townsville	105%	105%	105%	95%	85%	70%	60%	50%	40%	30%	20%

The combined increase in the waste levy amount, and the reduction in the annual rebate payment, as well as required State Government waste diversion targets, will have a major impact on the cost of council's waste management operations if council does not have effective programs and infrastructure in place to divert waste from landfill.



The financial impact of changes to the waste levy is presented in the chart below.

Impact of Waste Levy changes on Ipswich communities for the decade (2022–2032)



Therefore, any council infrastructure considered under the Plan needs focus on resource recovery and reducing waste to landfill, to minimise the cost of the waste levy on the Ipswich community.

1.3.5. Changing waste profile

Waste characterisation is constantly changing due to rapid shifts in manufacturing processes, new technological developments, more rigorous legislative requirements, and increasing community demand for better waste management practices.

With increased material complexity used in manufacturing of goods (for example electronics, advanced polymers, nanotechnology, biomaterials, use of industrial robotics) current resource recovery and recycling processes cannot easily extract and reuse all valuable components from waste.



It is anticipated that within the current 10-year planning period (2023–2033) the following changes will be observed:

- increased capture of compostable material through the FOGO collection service
- increased capture of glass through re-introducing glass into the recycling bin
- increased recovery of recyclable material following the upgrade of the existing waste and resource recovery infrastructure
- increased recovery of recyclable material through the construction of new, fit-for-purpose resource recovery facilities
- new technologies coming online allowing for the cost effective capturing of emergent waste streams such as solar panels or lithium batteries.

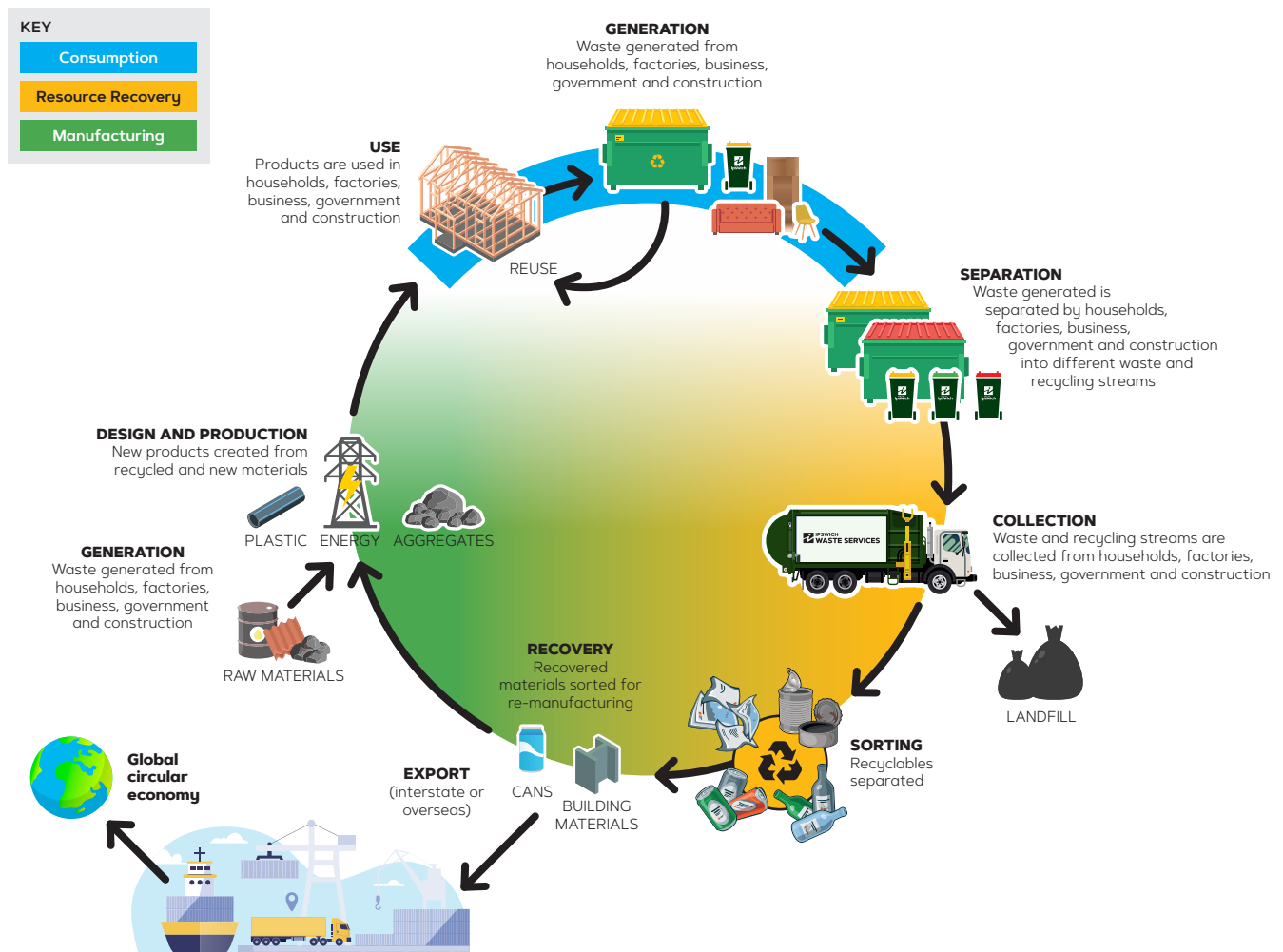
Considering the above, any future infrastructure needs to be flexible enough to cater for this rapidly changing landscape.

1.3.6. Circular Economy

Circular economy can be defined as a model of production and consumption, which involves retaining value of materials within the economy for as long as possible, continually seeking ways to recycle, redesign and reuse materials to minimise the unsustainable depletion of our natural environment. It aims to take on global challenges like waste, pollution, and climate change.

The direction of the global waste and resource recovery sector is towards a circular economy model. Moving away from the linear model of manufacturing and consumption will result in reduction of waste and improved resource recovery. It can assist in the creation of new economies and environmental resilience.

In line with the previous sections, circular economy principles need to be built into the flexibility of the city’s infrastructure needs.



2. STRATEGIC PRIORITIES

The Resource Recovery Strategy sets the direction on how we will address the challenges of growing population and waste generation, whilst fulfilling statutory obligations. Identified within the Strategy are Goals, Targets, and Pillars to guide integrated delivery of the future resource recovery and waste infrastructure in the Ipswich region.

GOAL 1	GOAL 2	GOAL 3	GOAL 4
Reduce waste generation and landfill disposal	Increase materials recovery	Provide excellence in customer service	Continuous development of people, processes, infrastructure and technology
TARGET 1	TARGET 2	TARGET 3	TARGET 4
Achieve a 10 per cent waste reduction and 55 per cent landfill diversion target of all municipal solid waste by 2025.	Achieve a 50 per cent target for recycling of all municipal solid waste by 2025.	Ipswich Waste Services will conduct a biennial customer satisfaction survey and strive to achieve a 90 per cent customer satisfaction level.	Council will provide fit-for-purpose waste and recycling technology and infrastructure to the community and deliver new resource recovery centres in 2027-2028.

PILLAR 1

Expand the core collections service to include a food organics garden organics bin for all eligible Ipswich residents

PILLAR 2

Optimise the city's co-mingled service including re-introduction of glass to the yellow-lid recycling bin

PILLAR 3

Provide a flexible 'on demand' large Item kerbside collection service where valuable resources are recovered

PILLAR 4

Have a fit-for-purpose waste and resource recovery infrastructure that meets the needs of a growing city

PILLAR 4

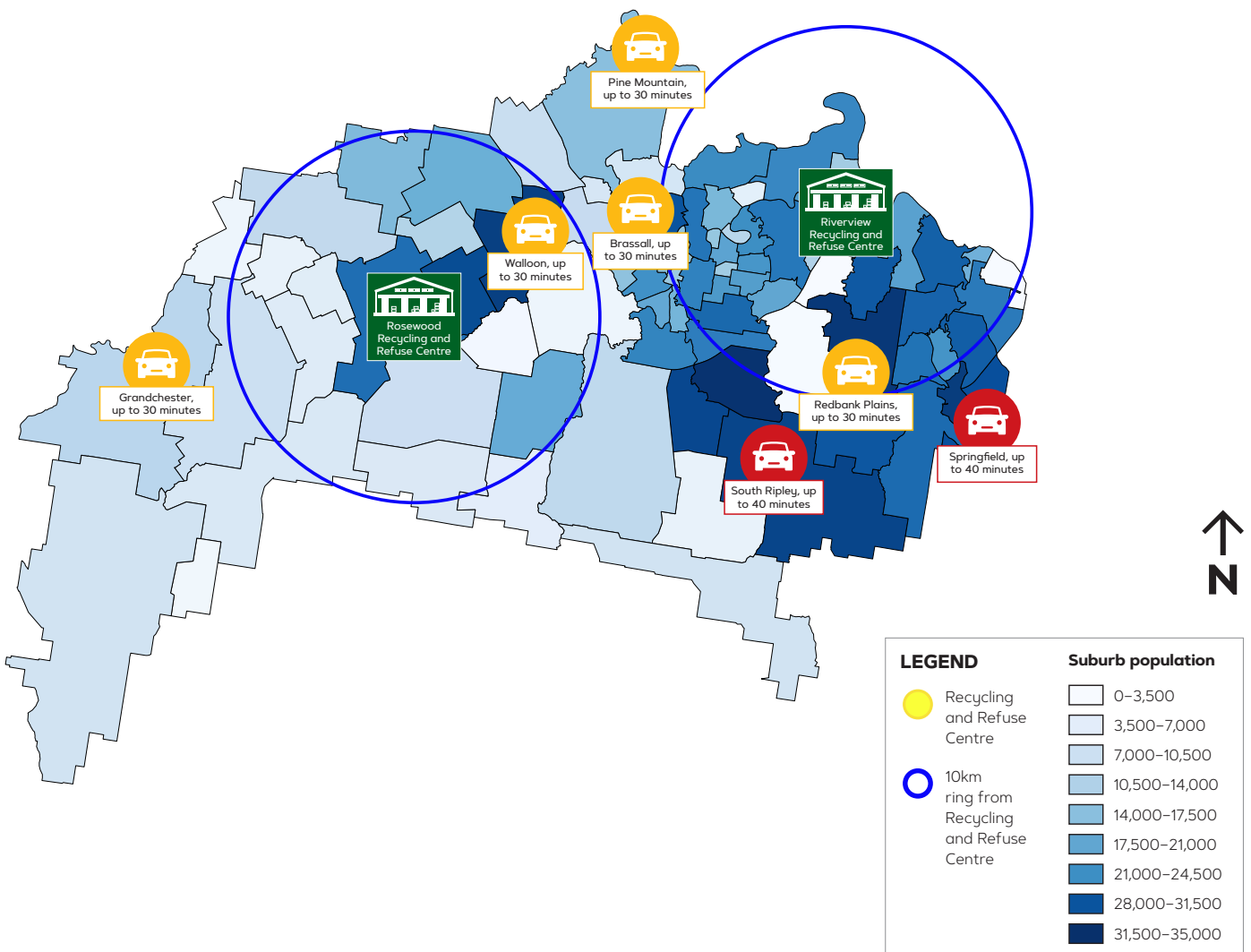
Have a fit-for-purpose waste and resource recovery infrastructure that meets the needs of a growing city

General waste and resource recovery infrastructure across Ipswich currently comprises of privately owned landfills and other resource recovery providers (i.e., tyre recyclers), council owned and operated waste transfer facilities, and various collection services. Ipswich City Council does not own or operate any landfills.

The waste transfer facilities, also called recycling and refuse centres (R&RC) allow residents and businesses to 'self-haul' their waste and recycling material for sorting and transfer to other facilities. Council's primary R&RC is at Riverview, with a minor facility at Rosewood.

As landfills in Ipswich are not owned or operated by council, it is important to expand capacity within council owned resource recovery infrastructure network to ensure contingency is available. The current resource recovery facilities are at capacity, as they were constructed more than 30 years ago and are unable to cater for the future growth of the city. New and upgraded facilities are required to meet the current and future community needs, especially within the projected population growth corridors.

The proposed suite of actions will deliver a significant capacity upgrade to cater for the next 15 years of projected growth. Providing fit-for-purpose infrastructure delivers long term solutions for Ipswich residents and allows for significantly improved future resource recovery options.



Resource Recovery and Recycling Centres

Resource Recovery and Recycling Centres (RR&RC) are an essential element in the waste and resource recovery network. These facilities mostly serve as infrastructure to consolidate community waste and recycling, sort materials into separate streams, and offer drop off facilities for residents and businesses. They accept a wide range of materials including green waste, timber, whitegoods, cardboard, glass, batteries, e-waste, tyres, oil, chemical, paint and residual waste.

RR&RCs are critical in supporting resource recovery and diversion from landfill as they accept a wide range of recyclables as individual material streams, which reduces the need and cost of sorting and material transportation.

Existing recycling and refuse centres also provide important contingency to accept additional waste from residential kerbside collections in situations where landfill facility operations are restricted or not accessible. This can occur due to factors like natural disasters, impacted road access to the facilities, or reduced operational hours.

RR&RC are often designed to have an operational lifespan of 30+ years. Considering the age of the current infrastructure and the design mindset at that time, for fast and efficient collection and removal of waste for disposal, the facilities have had to be retrofitted for resource recovery objectives.

For the future infrastructure, resource recovery must be a priority in the design process to ensure future waste needs are met.

In addition, this infrastructure needs to be designed in a way that considers and anticipates ongoing changes of the waste profile. This acknowledges that waste characterisation is dynamic and can change rapidly. Most recent examples of such change in waste profile are:

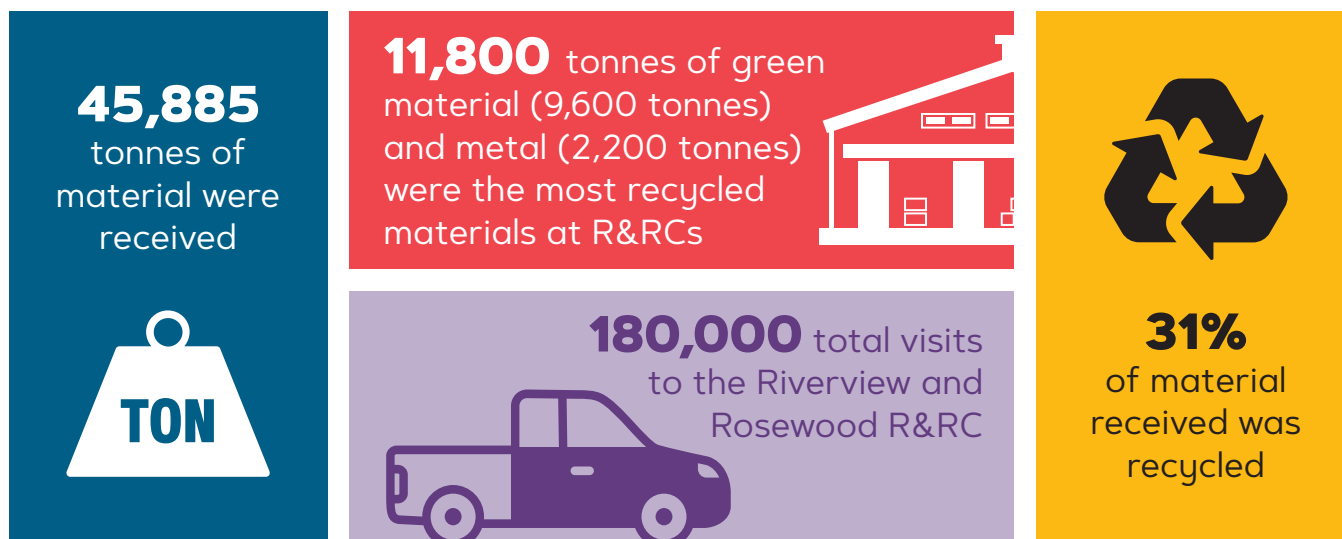
- reduction in printed newspaper material due to increase in digital media
- increased demand for cardboard packaging due to 'at-home' shopping effect
- solar panels coming to end of usable life and industry looking at possible recycling methods
- increased volumes of e-waste
- increase in organic waste presented for recycling
- increased complexity in materials used in manufacturing such as nanotechnology, advance polymers, biomaterials, industrial robotics posing a challenge for recyclers.

It is critical to include appropriate planning for the future needs when developing a new facility or upgrading of existing resource recovery centres. The focus should be on maximisation of the flexible working areas like open concrete/asphalt pads and removable recycling sheds that will allow for ease of material movement on site.

How much material is managed through council's Centres?

Ipswich Waste Services (IWS), council's commercial business unit for waste management, is responsible for the collection and management of the recyclable and waste materials originating from both commercial and municipal solid waste sources.

In the 2021-2022 financial year IWS managed nearly 160,000 tonnes of waste and recyclable materials.





There are many recyclable materials collected at the Riverview and Rosewood Recycling and Refuse Centres, such as:



BATTERIES



METAL



CARDBOARD



E-WASTE



TYRES



PAINT



GLASS



MULCH



PUSH BIKES



OIL



CLEAN FILL



CHEMICALS

All recyclable materials collected at both R&RC facilities are collected and processed by external commercial suppliers. This is currently the most efficient process to recover valuable materials and future plan is to continue with these arrangements.

Materials that are not currently recycled will continue to be reviewed for potential recovery as new recycling technologies emerge.



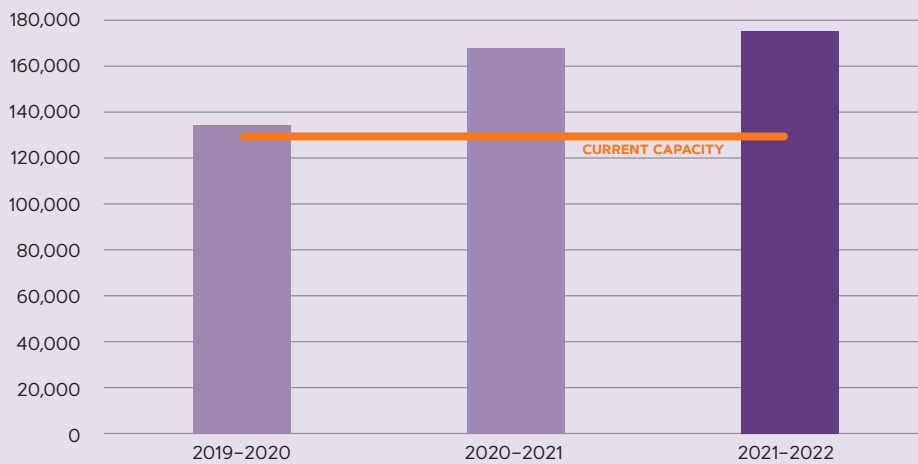
Infrastructure Capacity

Population growth is projected for the southeast and western parts of Ipswich rather than a concentric growth around the city centre. For example, in the western region the city population is predicted to reach approximately 65,000 – 75,000 residents by 2046⁴ from the current base of approximately 15,000.

Council needs to provide facilities that will have the capability to handle expected waste volumes and visitations from a significant increase in the local population.

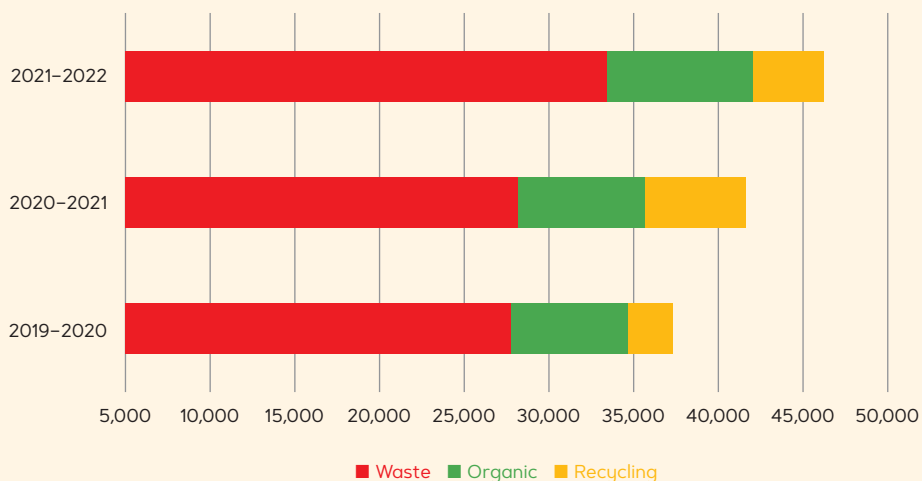
The number of residents visiting council facilities has steadily increased in the past three financial years. Ipswich’s resources recovery centres are currently operating at 135 per cent of capacity and if no action is taken, this will be approaching 200 per cent by 2030.

Total visits at Riverview and Rosewood R&RCs vs current infrastructure capacity



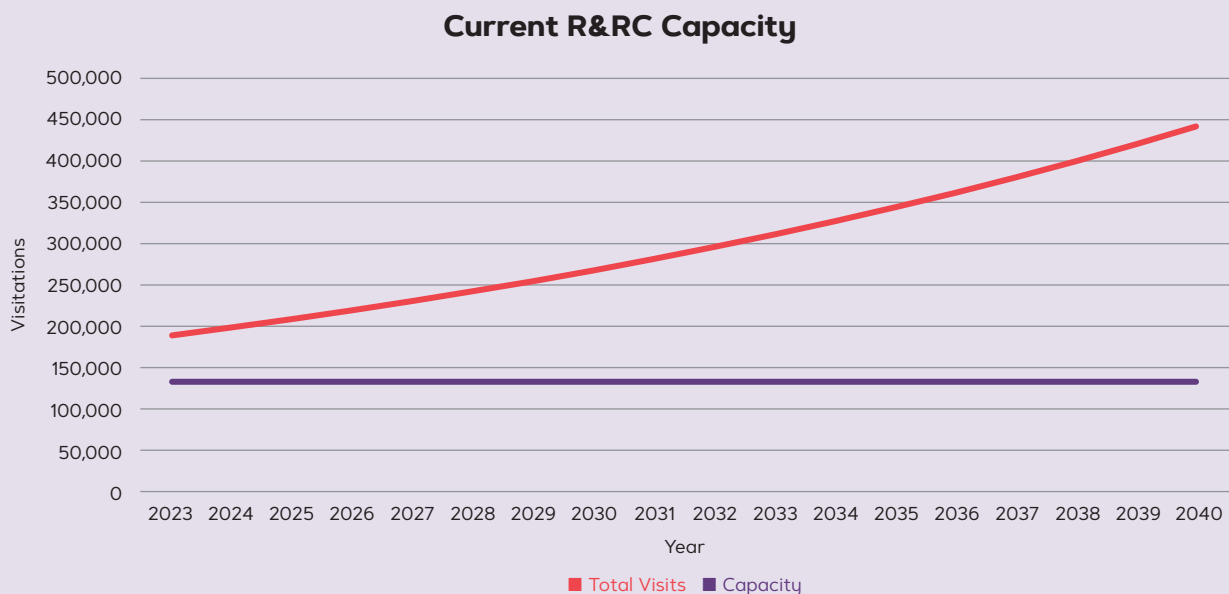
Tonnage and volumes of the material handled have grown in line with the population and visitations. The below chart represents total volume and growth over the past 3 years. On average total tonnage of material received at R&RCs increases by 5,000 tonnes each year.

Waste material at Resource Recovery Centres



4 Existing Local Government Infrastructure Plan (LGIP) by Suburb

A capacity model was established to analyse current and future capacity of the Riverview and Rosewood facilities. The below chart presents a capacity scenario if there were no upgrades to existing facilities and no new infrastructure built.



Riverview Recycling and Refuse Centre

The Riverview R&RC is the main transfer station for Ipswich, located at 81 Riverview Road, Riverview. It services around 95 per cent of the LGA's current population. The Riverview facility accepts a variety of recyclable materials, green waste, concrete, and residual waste.

The facility was built about 30 years ago with limited upgrades over this period.

Riverview R&RC experiences significant traffic issues due to the outdated design of the site, its geographical location and rapid population growth. Traffic challenges result in prolonged wait times up to two hours to access the site. It poses a significant hazard due to proximity to the Warrego Highway exit.

The current site layout of Riverview R&RC inhibits material recovery as the first drop-off point is the general waste pit rather than a dedicated recycling area. Additionally, there is no capacity for a re-use shop where reclaimable items can be sold and diverted from landfill. These features are consistent with an old design method that was focused on the swift dropping off and removal of waste, as opposed to waste sort and recovery. The key finding from the waste audit conducted in January 2021 indicates that 21 per cent of materials entering the general waste stream could have been recovered on site.

These traffic challenges are further compounded due to the layout of the facility being originally an American design and their requirement for left hand drive of vehicles. Unfortunately, this did not get addressed in the original layout, leading to roads that cross over and weighbridge infrastructure that would be better served on the other side of the facility.

Rosewood Recycling and Refuse Centre

Rosewood R&RC is a rural transfer station located at 94 Oakleigh Colliery Road, Rosewood. It mainly services the western areas of Ipswich. The site has three waste drop-off bays available to the public. The site provides domestic drop-off of green waste, timber, and other recyclable items.

The site is over 30 years old and as such the infrastructure is outdated and presenting health, safety, and environmental risks. There are limited recycling areas on site and the waste audit completed in 2021 showed 32 per cent of materials entering the general waste could be recovered on site if appropriate infrastructure were available.

Other infrastructure constraints include the need for site rehabilitation and capping, improved accessibility to the site, no utility access on site, and lack of a weighbridge.

The lack of weighbridge infrastructure and real options to construct one at the existing site pose an additional challenge of legislative compliance.

Under current legislation all levyable waste disposal sites in the levy zone have deadlines to install a weighbridge:

- 1 July 2019 – if the site is required to hold an Environmental Authority (EA) for the disposal of more than 10,000 tonnes of waste in a year
- 1 July 2021 – if the site is required to hold an EA for the disposal of between 5,000 and 10,000 tonnes of waste in a year
- 1 July 2024 – for any other operator
- Sites disposing of less than 2,000 tonnes of waste a year, may apply for a further exemption from the requirement to install a weighbridge until 30 June 2029.

The volume of waste disposed at Rosewood facility in the last financial year was more than 2,000 tonnes, which means no further exemption would apply to the site and a weighbridge would have to be built at the R&RC.

Future Infrastructure

As noted previously, the current infrastructure is operating well above capacity. Any future infrastructure needs to meet capacity requirements as its primary function.

To address this capacity constraint, the following programs of work have been identified as the minimum to fulfill this need:

- upgrades to the existing Riverview and Rosewood R&RCs
- building a new resource recovery and recycling centre.

After considerable needs analysis including population predictions, waste volume assessments and peer review of other council facilities, a more detailed list of requirements was developed.

This list included as a minimum:

- customer service requirements, such as: waiting times, expected services, safety, communication clarity, easy access and use
- scale and size needs, such as number of visitations that are expected, material volumes and tonnes and required land area
- delivering cost-effective solutions.

These requirements were used to shape the plan going forward.

Upgrades

Riverview

The existing Riverview facility is expected to remain operational for foreseeable future, with considerable upgrades already being planned to maintain and enhance its serviceability.

Over next 5 years, upgrades will include:

- upgrade of green waste pad to hardstand
- internal traffic management improvements – design and construction
- enhanced resource recovery hardstand
- recycle street
- hazardous waste storage
- resurfacing of the residual waste pit.

These are planned to be complete by 2027.

Rosewood

To understand upgrade options for the existing R&RC, council completed a concept design for the site in February 2021. Critical issues such as extremely limited space available on site, prohibitive cost of the facility and road upgrades showed that the current site is not suitable for a major upgrade, and an alternative site is required.

As a large-scale upgrade to Rosewood is not a viable option, a smaller package of sustainment upgrades will be prioritised, to ensure ongoing and efficient operations until a replacement facility has been built.

Over the next two years these upgrades will include:

- solar and battery system
- implementation of transactional software package
- tipping bay replacement and maintenance
- signage upgrades.

New Infrastructure

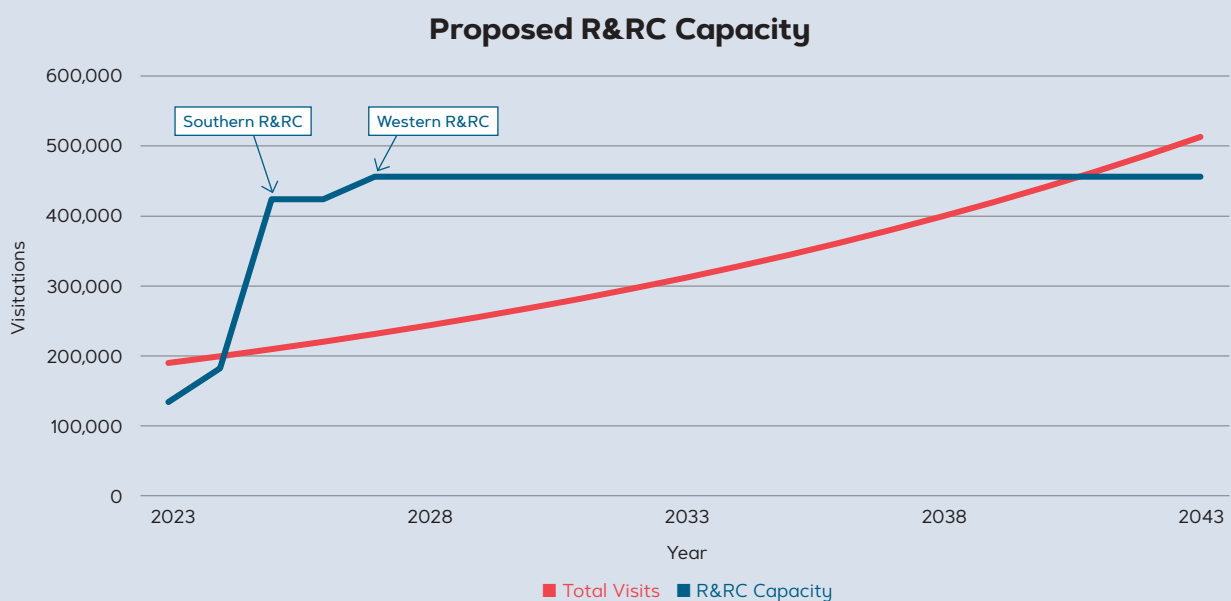
Given significant population growth projections, and the issues with existing facilities, new R&RCs are required for Ipswich.

Development of new facilities requires significantly more planning, engagement, consultation, and assessment than upgrades. New infrastructure may require permits and licences to operate, in addition to the normal development assessment process.

Resource recovery and waste infrastructure and services, like other industries, can have impact on liveability of the communities through noise, odour, dust and gas emissions, and potential for release of the pollutants into environment. These impacts can and should be reduced and governed by ensuring all activities and infrastructure are managed and conforming with the regulatory requirements, monitoring, and best practice standards.

When considering Pillar 4 from the Resource Recovery Strategy, including the known growth areas, a major new R&RC is needed in the south of the city as well as a replacement for the Rosewood facility.

New facilities will provide an increase in capacity, and a long-term ability to manage the increasing volume of waste and visitations to council's facilities. This also sets up a next major review of projected population growth and required infrastructure capacity. This should occur around 2035, as this will allow enough time to plan for additional infrastructure if deemed necessary.



The Strategy identifies that as a part of the new facility development a re-use shop and tip vouchers could be included. Presently there are no such shops available to residents in Ipswich and many tonnes of potentially recoverable items are destined for landfill.

The addition of re-use shops to the resource recovery centres in other local government areas demonstrates exceptional benefits to the community and councils, such as landfill diversion, increased recycling, ability to purchase and reuse goods. Often these shops are run by the charities where all proceeds are reinvested into the community.

Infrastructure placement requirement

In determining any specific sites for future resource recovery and waste infrastructure many factors such as environmental, regulatory, stakeholder and community concerns, and technical, need to be considered.

The site feasibility process comprises of two main stages:

- site suitability assessment based on site criteria
- site evaluation assessment based on multi factor ranking criteria.

These two steps ensure the determination of any suitable location and a potential ranking of those locations.

Site selection criteria

Siting criteria are necessary to determine if the proposed site will be suitable for development of the new resource recovery infrastructure. This should include as minimum:

1. land area required
2. vehicle and traffic allowance
3. logistical aspects relative to the sources and destination of the outputs
4. natural conditions and site history
5. buffer distances from residential or sensitive land uses
6. planning requirements
7. site ownership
8. legislative framework (including environmental licensing)
9. stakeholders and community concerns
10. supporting infrastructure – road access, power, water and wastewater.

Site ranking criteria

Any sites identified as suitable based on the siting criteria, will be assessed using ranking criteria to determine the most appropriate site for development of the new resource recovery infrastructure.

The final list of these will be determined following community consultation and engagement, however as minimum they will include:

- planning approvals
- environmental considerations
- technical considerations
- financial considerations.

Landfill infrastructure

Current status

Landfills in Queensland continue to play a vital role in managing residual waste that is not practical or viable to reuse or recycle. Most recently this was proven during the February 2022 flood event, where large quantities of waste had to be disposed of on short notice. Landfill facilities provided a means to safely and efficiently dispose of the waste that emerged after the event. It is acknowledged that transition from strong reliance on landfill to minimal utilisation will be a gradual shift that will require extensive effort and cooperation between state, local governments, the wider waste and resource recovery industry, and community.

According to the Queensland Waste Resource Recovery Infrastructure Report 2019 there are 21 active landfills of varying capacities across the SEQ region. 18 of the landfills accept putrescible waste and five accept inert waste. The estimated capacity of available landfill airspace is 85 million tonnes.

The SEQ region managed almost 9 million tonnes of waste across all three headline streams in 2017–2018 and this was forecast to grow to 12 million tonnes by 2050 (low growth case) or as high as 13.7 million tonnes if the current per capita waste generation rates are maintained. Under the lower growth case this would provide putrescible capacity to service the needs of the region for the next 30 years and potentially longer. However, if the recovery rates remain too low, the available capacity will be exhausted much faster and potentially as soon as 2040.

Future needs

Landfill disposal has traditionally offered council a solution to managing waste, and will continue to have a role. However, the city's population increase, coupled with the reduction of the Queensland State Government's waste levy rebate, will see landfill disposal costs and environmental impacts increase exponentially.

Considering the current political and social environment, development of further landfills in the region will likely become more challenging. It is envisaged that future landfill facility applications will become more stringent and difficult to obtain.

Part of the council's response to issues and challenges surrounding landfill disposal was development of the Resource Recovery Strategy and Implementation Plan. The main goal of these documents is to provide realistic actions for tangible landfill diversion and increased recovery rates for all waste material streams within Ipswich.

New resource recovery infrastructure development forms a critical part of achieving that goal for council, as fit-for-purpose facilities are needed to manage increasing volume of material diverted from landfills.

Given the issue of the limited landfill space available in the future, a review of needs and requirements for any additional waste disposal infrastructure will need to be conducted.

Other waste processing technologies

As part of any future residual waste solutions, consideration must be given to alternative waste processing technologies.

Presently, the most common alternative processing method used is incineration (thermal). Other techniques available are mechanical and thermal, thermo-chemical and biochemical processes. At this point in time council is not planning to develop any specific alternate waste processing technology and plans to continue landfill disposal for residual waste material.

Council continues to cooperate closely with the entire SEQ region in monitoring and researching for the most appropriate and sensible long-term solutions for the region.



Contingency planning

The purpose of contingency planning is to maintain business and operations continuity during and after disruptive events. Contingency events can include:

- destructive environmental event, such as flood or bushfire that may produce large quantities of waste requiring prompt disposal
- an adverse event that that closes the landfill in the short-term requiring temporary alternative disposal options, such as on-site fires, equipment failures, environmental events, facility access issues
- closure of significant waste and resource recovery infrastructure
- inability of wider industry to operate as planned or contracted, which can cause stockpiling of materials or end products.

Contingency planning must be factored into the assessment of waste and resource recovery needs as emergency events have the potential to create immediate need to safely dispose large volumes of waste.

Both Riverview and Rosewood R&RCs already experience ongoing issues with capacity and ability to manage current waste streams. This was further highlighted during the flood events in February-May 2022 as both landfill facilities were closed for five days due to flooded roads.

The result was rapid accumulation of volumes of waste at both facilities. This added significant pressure on already stretched flood waste recovery efforts and ongoing kerbside collections.

Delivery of proposed upgrades and new waste and resource recovery infrastructure will provide the council with additional capacity and availability to handle waste volumes when events such as natural disasters occur in the future.

SUMMARY OF THE PROPOSED ACTIONS

In summary the Plan has been put together to deliver on the resource recovery infrastructure needs of the Ipswich community. The Plan contains both projects that are currently in various stage of delivery through to projects that are in early planning stages.

Upon the completion of these projects the city will have significantly enhanced facilities and capacity. The delivery of these outcomes will ensure the city can cater for the significant growth expected in population and demand.

The table below lays out the projected timelines for the projects discussed in the Plan. The diagram presents the projected commencement through to commissioning.

2023 Infrastructure Upgrades Implementation Plan

REF	STRATEGIC ACTIONS/DELIVERABLES	2023	2024	2025	2026	2027	2028
1	Riverview RRC Capital Upgrades						
1.1	Green waste pad upgrade to Hardstand						
1.2	Enhancement of the Resource Recovery Hardstand						
2	Rosewood RRC Sustainment upgrade						
3	Southern RR&RC						
4	Western RR&RC						
5	Material Recovery Facility (MRF)						



