

DRAFT – FOR PUBLIC EXHIBITION AND FEEDBACK

RYDE RESILIENCE PLAN 2030

VOLUME 2

COUNCIL AND COMMUNITY WORKING TOGETHER
TO ADAPT, SURVIVE AND THRIVE

MAY 2020



TABLE OF CONTENTS

KEY RESPONSE AREAS

1	Energy security	02
2	Water security	08
3	Resource efficiency	14
4	Climate change, extreme weather events and natural hazards	18
5	Biodiversity and natural systems	24
6	Transport and connecting our community	28
7	Health and wellbeing	33
8	Emergency preparedness, response and recovery	36
9	Governance with direction, collective leadership and collaboration	40

MONITORING AND EVALUATION OF PLAN IMPLEMENTATION

Table 1: Monitoring template with example for key response area	44
---	----

Publication and contact details

www.ryde.nsw.gov.au/resilienceplan

For more information on resilience at the City of Ryde go to www.ryde.nsw.gov.au/resilientryde

City of Ryde Customer Service Centre

1 Pope Street, Ryde NSW 2112

Phone (02) 9952 8222

Email cityofryde@ryde.nsw.gov.au

May 2020



ABOUT THIS VOLUME

VOLUME 2 presents the proposed framework for implementing the Resilience Plan. It sets out the rationale and context for the Plan and covers:

- Our resilience
- Global, regional and local context for resilience
- Drivers and pressures to frame the local resilience plan for Ryde
- What our community and stakeholders are telling us
- Local vision, goals and strategic directions for resilience in Ryde
- Shaping of the Resilience Plan.

VOLUME 2 contains, for each key response area, these elements:

- Goal
- Strategic direction (refer to Section 5.5 of Volume 1)
- Targets
- Responses
- Outcomes
- Making it happen (actions)
- Responsibility and partnerships
- Timing for implementation

THERE ARE NINE KEY RESPONSE AREAS



Energy
security



Climate change,
extreme weather events
and natural hazards



Health and
wellbeing



Water
security



Biodiversity
and natural systems



Emergency preparedness,
response and recovery



Resource
efficiency



Transport and connecting
our community



Governance with direction,
collective leadership and
collaboration

1

ENERGY
SECURITY

There is a critically important relationship between energy and greenhouse gases, with reduced emissions via renewable energy and efficiency a key factor in limiting global warming and dangerous climate change. There is an imperative for a transition to a low carbon economy to minimise climate change impacts and ensure resilience. Council aspires for the City of Ryde become a low carbon community.

This will require Council to deliver outcomes through to responses and actions relating to:

- Renewable energy
- Micro-grids and independent power generation
- Carbon management and monitoring
- Development controls



1 ENERGY SECURITY



Goal: A low carbon community that makes maximum use of renewable energy, lower emissions transport, and cool living in homes and across neighbourhoods.

- Strategic directions: 2, 6 and 10 (refer to Section 5.5 in Volume 1)
- Planning Priority N21 of GSC North District Plan
- Actions 11, 13 of Resilient Sydney strategy

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2050, there will be 'Net Zero' carbon emissions from the City of Ryde (Council operations).	Develop a net zero carbon by 2050 pathway and action plan for City of Ryde Council operations.	Council demonstrates a pathway for lowering carbon within the City of Ryde.	○ Deliver draft strategy for adoption by Council, then an implementation pathway.	Environment (lead group) with Planning, Buildings and Assets, Operations, Urban Strategic Planning teams	2021: Develop the strategy 2021-2030: Implement the strategy
	Adopt a Renewable Energy Target (RET) and a pathway for Council operations to transition to this target by 2030.	Extension of renewable energy procurement.	○ Deliver environmental monitoring program for energy and water consumption across Council operations and identify efficiency opportunities.	Operations and Assets (lead groups) with Environment, Parks teams	2020 onwards
		More energy efficiency projects.	○ Deliver Energy Savings Action Plan (to be updated in 2020).	Council (lead) with SSROC Energy Procurement and PPA	2020: Adopt RET for implementation 2020-2030
		Reduced grid power consumption. Additional onsite generation of renewable energy from Council facilities.	○ Explore further opportunities for solar PV projects.	Environment (lead group) with Project Management Office, Parks, Assets teams	
	Implement City of Ryde Resource Efficiency Standards (for Council operations).	Reduced energy consumption from new Council buildings, equipment and appliances. Greater use of onsite renewable energy for new Council buildings.	○ Integrate Resource Efficiency Targets into project management development and procurement documentation.	Environment (lead group) with Procurement Project Management Office teams	2020 onwards: Implement Resource Efficiency Targets
	Review and update Energy Savings Action Plan.	Reduced energy usage and energy demand; cost savings (including whole of life operational savings).	○ Deliver energy efficiency measures for Council assets. ○ Install smart metering and implement demand management initiatives for Council assets. ○ Prepare an Energy Optimisation Project for Ryde Aquatic Leisure Centre (RALC).	Environment (lead group) with Buildings, Properties, Ryde Aquatic Leisure Centre teams, Buildings, Properties Ryde Aquatic Leisure Centre teams	2020: Develop an updated Energy Savings Action Plan 2021 onwards: Implement Energy Savings Action Plan 2021 2019-2020: Implement the Energy Optimisation Project for RALC

1 ENERGY SECURITY

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2050, there will be 'Net Zero' carbon emissions from the City of Ryde (Council operations).	Continue to participate in Ausgrid Residential Roads and Main Roads LED Lighting Retrofits.	Reduced asset energy costs and increased efficiency.	<p>○ Lighting the Way Proposal for Residential Roads (this was considered by Council in 2019).</p> <p>○ Work with SSROC to develop proposal for main road LED retrofit.</p>	Civil Assets team	2020 onwards
	Develop and implement procurement opportunities for 'green power'.	Council demonstrates leadership in reducing carbon and greenhouse gases by increasing investment in 'green power'.	<p>○ Secure contract for increasing 'green power' additional procurement under SSROC renewable Power Purchase Agreement (PPA) from 1 July 2022.</p> <p>Secure agreement for purchasing of 'green power' or Large Scale Generation certificates to meet balance required for RET.</p>	Environment (lead group) with Civil Assets and Ryde Aquatic Leisure Centre teams	From 1 Jul 2022: Stage 3 of Renewable PPA 2028: Seek additional 'green power' or LGC pricing
	Continue the City of Ryde's policy of divestment from fossil fuel based investments	Reduced GHG emissions from City of Ryde financial investments to align Council's portfolio with corporate social responsibility.	○ Continue to implement fossil fuel divestment policy towards zero investment in this sector.	Financial Services team	From 2020: Continue to implement divestment strategy
	Trial the expansion of electric vehicles (EV) in our city.	<p>By 2030, Council's vehicle fleet will achieve the following targets:</p> <ul style="list-style-type: none"> – Light passenger vehicle fleet: average of 90g CO₂/km. – Light truck and ute fleet: average of 130g CO₂/km. – Heavy vehicle and plant fleet: reduction of tailpipe CO₂ emissions by 25 percent, compared to 2018 emissions. <p>Community confidence and broader participation in transition from conventional fuel vehicles to low-emission options.</p>	○ Implement a trial to expand use of EVs. The trial to include partnership opportunities such as charging stations using electricity sourced from renewable energy (or carbon offsets commitments).	Fleet Management (lead group) with Environment team Collaboration with low-emission vehicle and fuel providers.	2020: Program the trial 2020-2030: Implement the trial

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2050, there will be 'Net Zero' carbon emissions from the City of Ryde (Council operations).	Review current planning controls to include opportunities for low-emission vehicle technologies.	Transition to EVs in new developments.	<ul style="list-style-type: none"> Implement via planning controls. Develop EV guidelines for community and developers. 	Planning (lead group) with Environment team	2021-2030
	Continue to participate in the Resilient Sydney platform and collaboration with DPIE Environment, Energy and Science Group.	<p>Accurate measurement of the city's carbon emissions and reporting on progress, as per Action 13 of the Resilient Sydney strategy (2018).</p> <p>City of Ryde contributes to NSW target of Net Zero 2050 for lowering carbon across Sydney region.</p>	<ul style="list-style-type: none"> Collaborate in regional project for development of local pathways for measuring and reporting carbon emissions for Ryde and Sydney region. 	Resilient Sydney collaborative project with other councils in region	<p>2020: Develop the strategy</p> <p>2020-2030: Implement the strategy</p>
	<p>Revise relevant planning controls and guidelines to support zero emissions pathway, particularly:</p> <ul style="list-style-type: none"> Travel Plan Guidelines Energy Smart Water Wise DCP Waste Minimisation & Management Strategy Urban Centres planning Integrated Transport Strategy (ITS) Centres and Places Strategy Active Transport Strategy 	Council integrates and actively follows pathways towards 'Net Zero' within its planning controls.	<ul style="list-style-type: none"> Integrate 'Net Zero' into draft strategy and policy for adoption by Council, then implementation pathway. 	Urban Strategic Planning (lead group) with Environment, Buildings, Assets, Operations teams	2021-2022
	Engage with the corporate and business community on energy and efficiency projects in order to transition Macquarie Park and other town centres and regenerated precincts to a low carbon economy. (refer to Action 78 of North District Plan, GSC 2018)	Reduced climate change risk exposure and maximisation of renewable energy uptake by corporate sector in targeted precincts.	<ul style="list-style-type: none"> Implement collaborative projects and events for transition to low carbon future. The projects and events are to address risk management for climate change while improving the 'bottom line' of participating companies. 	Council with corporate and business organisations including Macquarie University, Macquarie Park Forum, and local chambers of commerce	<p>2021: Develop the strategy</p> <p>2021-2030: Implement the strategy</p>

1 ENERGY SECURITY

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2050, there will be 'Net Zero' carbon emissions from the City of Ryde (Council operations).	Partner regionally to advocate for improved building performance standards (BASIX) for quality building stock and the community.	Improved BASIX targets and more effective controls.	<ul style="list-style-type: none"> Partner with regional organisations of councils (ROCs) to advocate for standards improvements. Advocate on behalf of community for improved building standards and ratings (BASIX). Promote benefits of buildings ratings tools (Green Star/ NABERS) to encourage sustainable design and living. 	City of Ryde with Western Sydney Regional Organisation of Councils (WSROC), Northern Sydney Regional Organisation of Councils (NSROC), Department of Primary Industry and Environment (DPIE), Greater Sydney Commission, Resilient Sydney Developers in Ryde LGA Planning (lead group) with Environment team	2020-2030
	Encourage businesses in non-residential building retrofits to make energy, water and waste savings.	Businesses are more resilient and better placed to withstand future shocks and chronic pressures as they consume less energy-intensive resources.	<ul style="list-style-type: none"> Investigate and develop a Business Sustainability Advisory Service for organisations and businesses. Provide education for businesses to diversity via on-site renewable energy generation to limit exposure to climate related power outages. 	Council (Environment and Waste teams) with businesses and other organisations (via the Better Business Partnership), including Macquarie Park Forum and local chambers of commerce	2020: Develop the program 2021-2030: Implement the program
	Encourage residential building retrofits to make energy, water and waste savings within homes.	Homes and residents are more resilient, achieve greater self-sufficiency and are better able to withstand future shocks as they make sustainability improvements that lower ecological and carbon footprints.	<ul style="list-style-type: none"> Continue the Home Waste and Sustainability Advisory Service (HWSA) for 100 new participants with completed home assessments each year. Continue offering free DIY save power kits in Council libraries to reduce home energy consumption. 	Environment (lead group) with Waste team	2020: Develop the program 2021-2030: Implement the program

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2050, there will be 'Net Zero' carbon emissions from the City of Ryde (Council operations).	Promote renewable energy within the community to increase the installation of renewable energy.	<p>Transition to a clean energy community.</p> <p>Accessibility for all to reduce likelihood of energy poverty.</p> <p>By 2050, at least 30 percent of existing buildings and 40 percent of new buildings use onsite solar or other renewable energy.</p>	<ul style="list-style-type: none"> Form partnerships and collaborations. Provide education and incentives. Encourage through planning and innovation. 	Council (Environment team to lead) with Cities Power Partnership, SunSPot, 100RS	2020-2030
	Assist local schools to transition to a lower carbon environment through solar energy installations.	Council support that helps to achieve reduced grid power consumption and reduced GHG emissions by schools.	<ul style="list-style-type: none"> Deliver the 'Solar My Schools' program for solar power and other renewable energy. 	Environment team	2020-2021
	Develop a Sustainable Transport Strategy for multimodal transport options including Council operations and fleet vehicles, in order to reduce emissions and encourage uptake in the community.	Reduction of single passenger car trips and increased clean, lower emissions transport options as part of Council's Integrated Transport and Active Transport Strategies.	<ul style="list-style-type: none"> Deliver the Sustainable Transport Strategy by investigating all multi-modal transport options for a lower emissions Council fleet, and community uptake of EVs, car/bike share and other active transport. 	Environment (lead group) with Transport Planning, and Open Space teams	<p>2020: Prepare the Sustainable Transport Strategy</p> <p>2021-2130: Implement the Integrated Transport and Active Transport Strategies</p>
	Develop a new overarching policy of Council for Sustainable Procurement to reduce carbon emissions in Council operations.	Council demonstrates community leadership through socially responsible and sustainable procurement practices.	<ul style="list-style-type: none"> Develop an updated Sustainable procurement policy that includes sustainability clauses in Council contracts. 	<p>NSROC contracts procurement, Procurement Australia, Local Government Procurement</p> <p>Procurement (lead group) with Environment and Waste teams</p>	2020

2 WATER SECURITY

Planning and management for water security will become increasingly important as the population continues to grow rapidly and the climate gets warmer.

Council aspires to become an integrated water sensitive city which is more resilient. This will require Council to prioritise integrated water cycle management in all that we do in order to help ensure enough water for people, the economy and the environment.

Delivering these outcomes will involve responses and actions relating to:

- Stormwater management and Water Sensitive Urban Design (WSUD)
- Water efficiency
- Water reuse and alternative water sources
- Water quality
- Development controls.



2 WATER SECURITY



Goal: A water sensitive city that protects the function, amenity and quality of our creeks and rivers, efficiently provides for the clean water needs of people through adaptive technology, and provides access to healthy water-based leisure opportunities.

- Strategic directions: 2, 6 and 10 (refer to Section 5.5 in Volume 1)
- Action 14 of Resilient Sydney strategy
- Planning Priorities N15 and N21 of North District Plan

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2030, there will be no net increase in Council's annual potable water use, based on 2018 levels.	Ongoing implementation of relevant plans, guidelines, strategies for Water Sensitive Urban Design (WSUD).	Reduction of load from existing infrastructure, improved water quality in waterways and catchments and contribution to cooler city landscape.	○ Implement new technologies via development of projects and planning controls. Assess and monitor the condition of stormwater infrastructure, and implement a capital works improvement program.	Assets (lead group) with Environment, Building and Development teams	2020-2030
By 2040, all new and retrofit residential developments will require minimum 5,000 litre rainwater tank per single dwelling for harvesting or recycling rainwater.	Develop and implement a Water Strategy for the City of Ryde.	Water is sustainably managed across the City of Ryde, and both water efficiency and quality are maintained for the whole community.	○ Finalise a Water Strategy that includes water-sensitive urban design (WSUD), local stormwater and onsite wastewater capture, and rainwater harvesting for recycled use (including potential new DCPs for residential tanks and onsite detention reuse), reduced non-human consumption of potable water, and irrigation efficiency.	Environment (lead group) with Stormwater, Assets, Operations, Environmental Health teams	By 2020
By 2025, local communities will be able to enjoy swimming or other contact activities with confidence in at least one location within the City of Ryde along the Parramatta River.			○ Identify all public and private lands with riparian areas for mapping and protection.	Environment team	2020
Zero litter into the Parramatta River by 2030 and tributaries of catchment.			○ Continue Council's environmental monitoring program with analysis of data across water management, use and operations against targets, so that anomalies can be addressed.	Environment (lead group) with Environmental Health team	2020

2 WATER SECURITY

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2030, there will be no net increase in Council's annual potable water use, based on 2018 levels.</p> <p>By 2040, all new and retrofit residential developments will require minimum 5,000 litre rainwater tank per single dwelling for harvesting or recycling rainwater.</p> <p>By 2025, local communities will be able to enjoy swimming or other contact activities with confidence in at least one location within the City of Ryde along the Parramatta River.</p> <p>Zero litter into the Parramatta River by 2030 and tributaries of catchment.</p>		Visible reduction of litter to waterways, and water quality improvements for gross pollutants confirmed by monitoring.	<ul style="list-style-type: none"> Continue to partner to deliver waterway health education with the aim of zero litter to waterway (e.g. Parramatta River Catchment Group Riverkeeper program, Council events and development of citizen science programs). 	Waste (lead group) with Environment and Stormwater teams	2020
	Implement the Parramatta River Masterplan 2018 with partner councils and agencies of the Parramatta River Catchment Group (PRCG).	Improved health of Parramatta River towards the target of Our Living River 'Swimmable 2025'.	<ul style="list-style-type: none"> Implement Masterplan actions with site specific projects and through collaboration. 	Environment (lead group) with Stormwater, Assets Operations teams Parramatta River Catchment Group	2020-2025
	Develop an updated Water Saving Action Plan (WSAP).	Up-to-date condition reporting to inform future works projects.	<ul style="list-style-type: none"> Develop an updated Water Saving Action Plan for Council assets based on audits of selected facilities and identification of costed water saving initiatives. Develop a business case for implementing new water saving initiatives through Council's Operational Plan. 	Environment (lead group) with Asset team	2020-2030
	Review and revise relevant planning controls.	Increase in community and developer onsite water interception and harvesting solutions on private lands.	<ul style="list-style-type: none"> Develop updated Energy Smart Water Wise DCP and Water Sensitive Urban Design Guidelines to include updated guidance on wastewater recycling and WSUD. Advocate with Parramatta River Catchment Group to review the BASIX water targets for low to medium density housing and changes to the SEPP for high density residential, commercial, industrial and roads. Partner with Sydney Water and other organisations to investigate and potentially implement precinct scale recycled and wastewater reuse programs. 	Planning (lead group) with Environment team Sydney Water	2020-2021

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2030, there will be no net increase in Council's annual potable water use, based on 2018 levels.	Prepare a local program for City of Ryde under the proposed Sydney Harbour Coastal Management Program for managing foreshore and waterway health.	Waterways and foreshores are managed sustainably and resilient to growth pressures and climate and weather related events and stresses.	<ul style="list-style-type: none"> Implement monitoring programs, restoration and mitigation projects, including within catchment management plans. 	Council and Sydney Coastal Councils Group, NSW Office of Environment and Heritage, Department of Planning, Industry and Environment, Greater Sydney Commission, Parramatta River Catchment Group	2021
By 2040, all new and retrofit residential developments will require minimum 5,000 litre rainwater tank per single dwelling for harvesting or recycling rainwater.	Reduce the demand by Council and community for potable water from mains supply.	Increased self-sufficiency in the community as regards non-potable water uses.	<ul style="list-style-type: none"> Increase the installation of water tanks and rainwater harvesting, and increase the amount of reuse in the community by: <ul style="list-style-type: none"> Updating DCPs/ planning controls and local programs with incentives and education. Encouraging integration and maintenance of grey water recycling systems for residential dwellings, shops and commercial premises. 	Environment (lead group) with Planning team	2020-2030
By 2025, local communities will be able to enjoy swimming or other contact activities with confidence in at least one location within the City of Ryde along the Parramatta River.		Increased collection of rainwater and stormwater for reuse including for gardens, irrigation, toilet flushing and other non-potable consumptions uses.	<ul style="list-style-type: none"> Implement further stormwater harvesting and capture projects for Council operations, public areas and new developments through increasing urban design excellence. 	Stormwater (lead group) with Assets, Open Space and Environment teams	2020-2030
Zero litter into the Parramatta River by 2030 and tributaries of catchment.	Increase community education to increase preparedness for local flooding events.	A community that is better prepared and residents with the ability and capacity to reduce risk to personal safety, damage to property and insurance premiums.	<ul style="list-style-type: none"> Implement education and increased awareness including via investigation of technological and community educational options in priority town centres or higher risk flood areas. Investigate opportunities linking blue and green infrastructure including open space, connectivity and biodiversity areas for WSUD and flood mitigation associated with intense short duration rainfall events. 	Stormwater (lead group) with Environment team	2020-2030

2 WATER SECURITY

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2030, there will be no net increase in Council's annual potable water use, based on 2018 levels.</p> <p>By 2040, all new and retrofit residential developments will require minimum 5,000 litre rainwater tank per single dwelling for harvesting or recycling rainwater.</p> <p>By 2025, local communities will be able to enjoy swimming or other contact activities with confidence in at least one location within the City of Ryde along the Parramatta River.</p> <p>Zero litter into the Parramatta River by 2030 and tributaries of catchment.</p>	Review and update all 'Floodplain Risk Management Studies' for consistency across the LGA catchments, and include new climate change projections for assessing flood risks.	Studies and mapping for proactive floodplain management are synergised for well co-ordinated future planning responses.	<ul style="list-style-type: none"> Review flood studies to audit and update for LGA-wide mapping for planning and development controls, including updated rainfall intensities and projected sea level rises for climate change in relevant national technical guidelines. 	Stormwater (lead group) with Assets team	2020
	Continue to assess asset condition of stormwater and coastal infrastructure for resilience and program of renewal.	City assets are effectively monitored and maintained to minimise future climate change related impacts.	<ul style="list-style-type: none"> Continue to assess asset condition (to comply with ARR and climate projections) and capital works for stormwater infrastructure, bridges, seawalls and coastal assets, to ascertain if they are 'fit' for all flood events. 	Stormwater (lead group) with Assets team	Ongoing
			<ul style="list-style-type: none"> Review Asset and Council Risk Management Plans to ensure they include provisions for effective budget and service delivery. Work with Sydney Water to report high rainfall wet weather overflow incidences for attention and upgrading, where possible, to aging infrastructure. Investigate updating design standards for Council owned stormwater assets to integrate climate change considerations in relevant national technical manuals and guidelines. 	Risk Management (lead group) with Stormwater and Environment teams Sydney Water	Every five years
	Investigate wastewater reuse and recycling opportunities.	Wastewater recovery and reuse becomes mandatory through connection to recycling systems and 'purple pipes' (which are designated for recycled water).	<ul style="list-style-type: none"> Revisit previous wastewater proposals including for major developments such as within Macquarie Park. Update DCPs and advocacy for BASIX. 	Environment (lead group) and Civic Assets and Planning teams with Sydney Water and developers Planning (lead group) with Environment team	2020-2022



3

RESOURCE
EFFICIENCY

Resource efficiency involves management of waste (including from development processes), the prioritisation of recycled materials in procurement, and water and energy efficiency.

Council aspires to lead the community in improvements towards the sustainable use of resources, with responses and actions covering the following areas:

- Waste management
- Procurement
- Building construction waste.



3 RESOURCE EFFICIENCY



Goal: A community that is well led, mobilised and supported in making continual improvements towards the sustainable use of resources, and delivering economic, environmental and social outcomes.

- Strategic direction: 3 (refer to Section 5.5 in Volume 1)
- Planning Priority N21 of North District Plan
- Planning Priorities E3, E6, E7 of Local Strategic Planning Statement

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2025, there will be a 20% per capita reduction in waste to landfill based on 2018 levels.</p> <p>By 2025, single-use plastic will be reduced by 60% in Council Operations and Events and 50% of businesses will be targeted to adopt the single-use policy.</p> <p>Sustainable procurement criteria will be applied and complied with consistently in all of Council's operations including goods, services, materials, contracts and events.</p> <p>Achieve resource efficiency across Council and the community based upon Renewable Energy Target (RET) Pathway Analysis.</p>	Implement a new Waste Management Strategy for City of Ryde 2019-2024.	<p>Implementation of actions and achievement of outcomes, with reduced waste per capita.</p> <p>Behavioural change with improved waste diversion and avoidance.</p> <p>Improved waste collection and recycling facilities across all multi-unit dwellings.</p>	<p>○ Adopt the new Strategy and develop programs to meet the strategic outcomes.</p>	<p>Waste (lead group) with Communications team</p> <p>Community Waste industry</p>	<p>2020-2024</p> <p>2020-2024: Implement the Strategy</p>
	<p>Deliver a program to reduce single use plastics and overall reduction of waste (community and Council's operations) to landfill.</p> <p>Expand use of refillable filtered water throughout the City of Ryde.</p>	<p>No single-use plastics used in all Council operations and Council-sponsored events.</p> <p>Reduced use of plastic water bottles in the community through increased use of reusable bottles and increased number of water stations.</p>	<p>○ Adopt a whole of community approach via strategy, community programs, education, competitions, event management, incentives, and use of alternative containers.</p> <p>○ Install 20 filtered water stations in parks, community facilities and other public areas, and promote benefits.</p>	<p>Waste (lead group) with Environment, Events, Procurement, Tenders, Parks, Civil Infrastructure, Projects teams</p> <p>Council with businesses and external contractors</p>	<p>2020-2024</p> <p>2020-2022</p>
	Deliver a home waste reduction program supported by education materials to help residents reduce consumption and increase resource efficiency.	Residents have capacity to reduce energy consumption through efficient home appliances.	<p>○ Develop guidelines and kits through Home Waste and Sustainability Advisory Service (HWSA) to increase energy efficient appliances in homes.</p>	Environment (lead group) and Waste team	2020-2021

KEY

SHADING



COUNCIL OPERATIONS



COUNCIL OPERATIONS AND COMMUNITY WIDE



COMMUNITY WIDE

3 RESOURCE EFFICIENCY

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2025, there will be a 20% per capita reduction in waste to landfill based on 2018 levels.</p> <p>By 2025, single-use plastic will be reduced by 60% in Council Operations and Events and 50% of businesses will be targeted to adopt the single-use policy.</p> <p>Sustainable procurement criteria will be applied and complied with consistently in all of Council's operations including goods, services, materials, contracts and events.</p> <p>Achieve resource efficiency across Council and the community based upon Renewable Energy Target (RET) Pathway Analysis.</p>	<p>Prepare a whole-of-Council Sustainable Procurement policy and plan.</p> <p>Prioritise use of recycled materials in Council operations.</p> <p>Continue to implement across Council stakeholders to achieve sustainable procurement practices and purchasing for all operations.</p>	<p>Sustainability supply chains with use of recycled or environmentally friendly materials for all of Council's operations.</p> <p>A Council staff culture that prioritises the minimisation of its ecological footprint..</p>	<p>Develop and implement a staged approach throughout supply chains, including via well-defined and acceptable requirements, compliance, monitoring and implementation, as follows:</p> <p>Stage 1 - policy and plan development.</p> <p>Stage 2 - implement in Council with staff and suppliers including via education and guidelines.</p> <p>State 3 - roll out through supply chain to ensure compliance, monitoring and continual improvements.</p>	<p>Council led by Procurement with Environment and Waste, and 'Sustainable Choice' of Local Government NSW.</p>	<p>2020: Develop the policy and plan</p> <p>2021-2030: Implement the plan</p>
			<p>Support and facilitate community partnerships to reduce consumption by facilitating repair of goods. For example, through appliance and goods repair café/ drop-in outlets.</p>	Waste team	2021-2030
	Deliver waste education engagement programs, including campaigns targeting food waste composting, locally grown foods and litter.	Improved awareness, adaptation and behaviour in the local community for wiser use of resources.	<p>Continue the Sustainable Waste to Art Prize (SWAP) with engagement of consultant (tender process) or temporary part-time position each year to assist with project delivery.</p> <p>Hold local community participation events timed to coincide with national and international dates and campaigns.</p> <p>Deliver multi-unit dwellings (MUD) sustainability programs for food, waste, energy, and water.</p> <p>Implement 'Our Common Ground t' program.</p>	<p>Waste (lead group) in partnership with Environment and Community Services teams</p> <p>Local high schools, local TAFE, Ryde Environmental Education Network (REEN), community based organisations and groups, and residents.</p> <p>Ryde Environmental Education Network (REEN) for energy, water and waste</p>	<p>Annual</p> <p>Ongoing</p>

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2025, there will be a 20% per capita reduction in waste to landfill based on 2018 levels.</p> <p>By 2025, single-use plastic will be reduced by 60% in Council Operations and Events and 50% of businesses will be targeted to adopt the single-use policy.</p> <p>Sustainable procurement criteria will be applied and complied with consistently in all of Council's operations including goods, services, materials, contracts and events.</p> <p>Achieve resource efficiency across Council and the community based upon Renewable Energy Target (RET) Pathway Analysis.</p>	<p>Update the development control plans for new multi-unit developments and waste management practices.</p>	<p>Improved streetscape and traffic management due to reduced off street collection of bins.</p> <p>Reduced illegal dumping.</p> <p>Reduced waste going to landfill.</p> <p>All new multi-unit developments provide adequate onsite storage and necessary access provisions for waste, recycling and bulky waste as well as onsite collection facilities.</p>	<p>○ Provide conditions for developments to ensure the objectives of the DCP and improved waste to landfill targets are met.</p>	<p>Waste (lead group) and Planning team</p>	<p>2021-2022</p>
	<p>Promote, and engage the community and business in, efficient and sustainable resources use including energy, waste, water and transport.</p>	<p>Improved efficiency of resource use contributing to LGA wide carbon reduction.</p>	<p>● Continue the Home Waste and Sustainability Advisory Service (HWSA) for 100 new participants each year.</p> <p>● Establish Council-led corporate program with 'advisory service' for business and commercial sectors.</p>	<p>Environment team</p>	<p>2020 onwards</p> <p>2022-2025</p>

4

CLIMATE CHANGE, EXTREME WEATHER EVENTS AND NATURAL HAZARDS

Human induced climate change will continue to cause increasing impacts on human health and wellbeing along with disruptions to infrastructure, including energy and water supply, sewerage and transport systems. Council aspires for the community to adapt and become more resilient to the impacts of climate change on comfort, safety, health and the environment. Achieving this outcome will involve responses and actions for the following:

- Heatwaves and the urban heat island effect.
- Bushfires.
- Heavy rainfall, storms and flooding
- Drought and water crises
- Air quality and dust storms
- Sea level rise and inundation
- Development controls.



4 CLIMATE CHANGE, EXTREME WEATHER EVENTS AND NATURAL HAZARDS



Goal: A community that adapts to potential impacts of climate change on human comfort, safety and health and the environment.

- Strategic direction: 1, 5 and 10 (refer to Section 5.5 in Volume 1)
- Actions 9, 10, 25 of Resilient Sydney strategy
- Planning Priorities N19, N22 of GSC North District Plan

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2030, urban heat island affected precincts will be cooled by an average two degrees Celsius (compared to 2019 ambient heat levels).</p> <p>By 2030, at least 40 percent of the City of Ryde will have tree canopy cover.</p>	<p>Prepare a Risk Register and adaptation plans (including new assessment for 2020) for climate related risks.</p> <p>Embed climate awareness and risk recognition through Council's management frameworks for operations and planning.</p>	<p>Council assets, including critical infrastructure and the local natural environment, are adapted to withstand climate risks.</p> <p>Council consistently applies and integrates resilience in all operations and decision making for climate.</p>	<p>Implement adaptation actions from Climate Change Risk and Resilience Assessment Report (2020).</p> <p>Integrate climate change adaptation initiatives into Council's strategic and management plans.</p> <p>Collaborate across Council to influence and include climate resilience assessment into risk portfolios, asset management plans, updated registers and audits.</p> <p>Pursue s711/s712, voluntary planning agreements, and grant funding opportunities to fund adaptation initiatives (e.g. urban cooling in public spaces) where possible and identify further opportunities for external collaboration with other organisations.</p> <p>Utilise scientific data and analyses (e.g. Bureau of Meteorology and CSIRO data in 'State of the Climate' reports) for projections relevant to critical infrastructure protection and to inform Council projects and programs.</p>	<p>Environment (lead group) with Assets and Risk Management teams.</p>	2020-2030

KEY

SHADING



COUNCIL OPERATIONS



COUNCIL OPERATIONS AND COMMUNITY WIDE



COMMUNITY WIDE

4 CLIMATE CHANGE, EXTREME WEATHER EVENTS AND NATURAL HAZARDS

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2030, urban heat island affected precincts will be cooled by an average two degrees Celsius (compared to 2019 ambient heat levels).</p> <p>By 2030, at least 40 percent of the City of Ryde will have tree canopy cover.</p>	<p>Increase cool shade cover in priority precinct areas, public open spaces and on private lands.</p> <p>Update LIDAR data for Ryde City to accurately measure using NSW government data tree canopy cover and provide a baseline for mapping.</p>	<p>Improved living conditions in urban heat island affected precincts.</p> <p>Enhancement of public spaces including for community wellbeing and urban wildlife habitat.</p>	<p>○ Prepare a street tree masterplan (including priorities for active travel routes), and planting and playground implementation programs.</p>	<p>Parks (lead group) with Planning, Projects Management Office, Environment teams</p>	2020-2030
	<p>Initiate measures for Macquarie Park and other town centres to address the urban heat island effect through controls to ensure building quality and increased climate resilience.</p>	<p>Cooling from established baselines.</p>	<p>○ Ensure development complies with an amended DCP, and cooling programs and projects, to mitigate against heat.</p> <p>○ Prepare town centre audits for where potential cooling strategies could be implemented.</p>	<p>Planning (lead group) with Environment team</p>	2021 and onwards
	<p>Develop collaborative projects and partnerships to address urban heat and associated climate events and impacts.</p>	<p>A well engaged and aware community about the urban heat island (UHI), and provided with support to adapt and contribute to cooling outcomes.</p>	<p>○ Implement UHI mitigation and adaptation across Council based upon holistic QBL sustainability, including new projects/instruments (local and regional) via design excellence, collaboration, partnerships and external funding opportunities.</p>	<p>Environment (lead group) and Planning team with regional groups such as NSROC, Resilient Sydney and universities (including Macquarie, UNSW, WSU)</p>	2020-2030
	<p>Investigate and implement programs and projects to monitor and measure local urban climate and weather related conditions (particularly urban heat), patterns and changes.</p>	<p>Heat data in Northern Sydney region is accurately measured to to inform the development of urban cooling mitigation and adaptation programs relevant to needs of specific local communities.</p>	<p>○ Measure urban microclimate (including urban heat ambient air temperature in shade compared with median radiant heat) for Northern Sydney through local capacity building and collaboration including via citizen science monitoring post events changes.</p>	<p>Council with education institutions including local high schools and universities</p>	2020 and onwards

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2030, urban heat island affected precincts will be cooled by an average two degrees Celsius (compared to 2019 ambient heat levels).</p> <p>By 2030, at least 40 percent of the City of Ryde will have tree canopy cover.</p>	Update the LEMP (refer also to Section 7.8.1) to address new priorities for preparation and responses to heatwaves, bushfires, storms, flooding and compound extreme events. Review every three years.	Council is well set up through plans, collaboration and facilities to prepare for and respond to emergency situations affecting the community and its own operations across the spectrum of risks relating to weather events and climate change.	<p>● Whole-of-council approach in collaboration with relevant external stakeholders including community groups and State government agencies, based upon new research, expert advice and re-evaluation of risks and consequences across the spectrum of hazards that could affect the City of Ryde.</p> <p>○ Undertake an audit of emergency evacuation sites and 'cool refuges' centres that are 'fit for purpose' for projected large population growth for the LGA.</p> <p>○ Update the EMP to include dust storm risk.</p> <p>● Advocate on behalf of the community to State government for recognition of dust storm and bushfire smoke impacts and the need to address health implications.</p>	Ryde-Hunters Hill EMP Steering Committee with Council	By 2020
	Develop strategy to better prepare the community, especially most vulnerable sections, for hazards and extreme weather events, particularly urban heat.	Community is well prepared to respond to major shocks, acute events and chronic stresses.	<p>● Design and implement Council (e.g. warnings, refuges, health services) programs (including 'Cool Places Cool Spaces' urban heat project) with actions to support higher risk residents, including the elderly, people living with disabilities and those with chronic conditions.</p>	Environment (lead group) with Community Services and Communications teams	2020-2022

4 CLIMATE CHANGE, EXTREME WEATHER EVENTS AND NATURAL HAZARDS

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2030, urban heat island affected precincts will be cooled by an average two degrees Celsius (compared to 2019 ambient heat levels).</p> <p>By 2030, at least 40 percent of the City of Ryde will have tree canopy cover.</p>	<p>Develop strategy to better prepare the community, especially most vulnerable sections, for hazards and extreme weather events, particularly urban heat.</p>	<p>Community is well prepared to respond to major shocks, acute events and chronic stresses.</p>	<p>● Promote the 'Climate Wise Communities' website portal to complement other community resilience tools and resources (refer to Section 7.7 responses).</p> <p>● Undertake ongoing community preparedness program with annual drills (refer also to Section 7.8 responses).</p>	<p>Environment (lead group) with Community Services and Communications teams</p>	<p>2020 onwards</p>
	<p>Continue to review, assess and monitor climate change risks including for bushfire prone areas, and update the district Bushfire Risk Management Plan and City of Ryde Bushfire Prone Land Map.</p>	<p>Council applies up-to-date information and measures, for inclusion in corporate planning of programs to prepare for risks and respond to events.</p>	<p>● Increase maintenance of Asset Protection Zones (APZ) around Council assets.</p> <p>● Update Asset Management Plans to identify where retrofits are required to reduce the potential impact of bushfire risk.</p>	<p>Rural Fire Service, Ryde-Hunters Hill Local Emergency Management Committee, NPWS, Bureau of Meteorology and CSIRO</p> <p>Operations (lead group) with Environment, Civil Assets teams</p>	<p>2020-2030</p>
	<p>Develop a plan for City of Ryde covering coastal inundation and flood risks due to climate change.</p>	<p>Coastal estuarine areas are mapped to identify key areas of vulnerability, and planning protects and mitigates against future impacts.</p>	<p>● Develop new coastal management program (CMP) with other councils and relevant State agencies. Map coastal areas in line with Coastal SEPP requirements and update s149 certificates accordingly.</p> <p>● Update flood studies to incorporate updated assumptions reflecting climate change projections for rainfall and sea level rise.</p>	<p>Council with Sydney Coastal Councils, DPIE, OEH and PRCG</p>	<p>2020-2021</p>

*A community which
is well prepared to
respond to major
shocks, acute events
and chronic stresses.*



5

BIODIVERSITY AND
NATURAL SYSTEMS

The resilience of natural systems and humans is definitively interrelated and entwined, and they cannot be viewed nor managed within silos. Council aspires for natural systems to be sustained, and that biodiversity connections are increased, providing social, economic, environmental and health benefits for the community.

To achieve these outcomes, there are responses and actions covering:

- Bushland and natural areas
- Parks and open space
- Street trees
- Impact of urban development.



5 BIODIVERSITY AND NATURAL SYSTEMS



Goal: Natural systems that are sustained, and biodiversity connections that are increased, providing social, economic, environmental and health benefits for the community.

- Strategic direction: 5 and 7 (refer to Section 5.5 in Volume 1)
- Planning Priorities N16, N17, N19, N20 of GSC North District Plan
- Planning priorities OS3, OS5, E1, E2, E4 of Local Strategic Planning Statement

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2030, at least 40 percent of the City of Ryde will have tree canopy cover, which is an overall increase based upon 2019 levels.	Implement further actions to achieve the targets of the Ryde Biodiversity Plan (2016) for conservation and protection of natural areas, including for habitat, cooling and amenity.	Enhanced and protected network of wildlife corridors that conserve biodiversity, consistent with regional natural resource management (NRM) planning linkages and objectives.	<p>● Continue with relevant policies, plans and programs including contributions by volunteers, delivery of on-ground works, collaboration, community partnerships, mapping, monitoring (condition and extent) and evaluation.</p> <p>Establish targets specific to the riparian zone and environmental conservation zones for mapping and conversation measures.</p>	Environment team	2020-2030
	Manage areas with identified priorities based on conservation significance and potential threats under themes of native vegetation, urban waterways, corridors and connectivity, public spaces and urban habitat.	A balance between no net loss of open space for public use and biodiversity conservation priorities and targets.	<p>○ Implement an internal partnership agreement to deliver sustainable community and environmental protection outcomes.</p>	Parks (lead group) with Environment team, Environment teams	2020-2030

KEY

SHADING



COUNCIL OPERATIONS



COUNCIL OPERATIONS AND COMMUNITY WIDE



COMMUNITY WIDE

5 BIODIVERSITY AND NATURAL SYSTEMS

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2030, at least 40 percent of the City of Ryde will have tree canopy cover, which is an overall increase based upon 2019 levels.	Manage and maintain open space areas through strategies such as plans of management to ensure that the resources, infrastructure, facilities and recreation users can be more resilient to climate change.	Changes to patterns and behaviour of open space use are well adapted to climate change.	<ul style="list-style-type: none"> ○ Implement necessary measures for capital works, improvements and maintenance based on 'best practice' technology and resource efficiency, such as water for irrigation. ○ Review and consider revised Council's corporate water use targets to reduce watering and irrigation consumption for sports fields and parks in response to drought and extended hot weather periods. ○ Investigate opportunities, including through partnerships, for further installations of synthetic artificial turf surfaces for sports, in particular football (soccer). 	Parks (lead group) with Environment, Operations teams	2021-2030
	Implement the Street Tree Master Plan, and the Tree Management Policy and Plan, and contribute to the regional 'Sydney Green Grid 6 – North District' framework, to manage and increase the extent of urban forest canopy cover (across public and private land).	Suitable canopy species cover that reduces urban heat island effects, and improves liveability and biodiversity values.	<ul style="list-style-type: none"> ○ Develop asset valuation for trees for inclusion in a future updated DCP through implementation of action plans for precincts, main roads, residential streets, town centres and WSUD sites. 	Parks (lead group) of Council PRCG team Greater Sydney Commission DPIE	2020-2030

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2030, at least 40 percent of the City of Ryde will have tree canopy cover, which is an overall increase based upon 2019 levels.	Review and update the strategic approach to bushfire management for natural areas and asset protection zones (APZ) to ensure biodiversity conservation outcomes.	Long-term protection of assets and sustainable natural areas.	<ul style="list-style-type: none"> Update the Bushfire Risk Management Plan in consultation with the community and implement ongoing maintenance of asset protection zones in accordance with the Plan. 	Environment (lead group) with Operations team Hunters Hill Lane Cove Ryde Parramatta Bushfire Management Committee	2020
	Continue to co-ordinate, support, monitor and evaluate City of Ryde Bushcare, planting education and citizen science programs.	Community members who are well engaged in the integrated approach to bushland management including education programs.	<ul style="list-style-type: none"> Continue support for and promotion of Bushcare Program. Develop and facilitate citizen science programs to monitor post event ecosystem recovery, changes and resilience. 	Environment team Environment team in collaboration with community, local business, technology start-ups and agencies	Ongoing 2021 and ongoing
	Review and revise the strategic approach to weed management in response to climate change and associated environmental conditions.	Successful management of weed issues and incursions. Cooperation with other Councils and agencies.	<ul style="list-style-type: none"> Implement the Greater Sydney Regional Weeds Management Plan at a local level and monitor high-risk pathways and significant bushland assets. 	Environment team	2020 and ongoing
	Develop techniques and practices that respond to findings from research for climate change impact on vegetation communities.	Council programs are adaptive and can respond to a changing climate. Implement a flexible approach to bushland management and tree planting strategies to allow for adaption to changed climatic conditions.	<ul style="list-style-type: none"> Implement a flexible approach to bushland management and tree planting strategies to allow for adaption to changed climatic conditions. 	Environment (lead group) and Parks team in collaboration with research partners	Ongoing



6

TRANSPORT AND CONNECTING OUR COMMUNITY

To reduce carbon emissions and lead to a healthier, more connected and resilient community, the City needs a shift away from private motor vehicle dependence and to priorities for public transport and 'active transport'. Council aspires for transport infrastructure and people movement networks and systems that are efficient, responsive, multi-modal, equitable, resilient and long-lasting.

To achieve such outcomes requires responses and actions that cover:

- Strategic pathways
- Active transport
- Public and sustainable transport
- Council fleet management.



6 TRANSPORT AND CONNECTING OUR COMMUNITY



Goal: Transport infrastructure and people movement networks and systems that are efficient, responsive, multi-modal, equitable, and resilient.

- Strategic direction: 7, 8 and 9 (refer to Section 5.5 in Volume 1)
- Planning Priorities N1, N12, N14 of GSC North District Plan
- Actions 3, 4, 5 of Resilient Sydney strategy

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2030, there will be a 60/40 modal split of public and active transport / private vehicle use for all journeys to and from work in Macquarie Park.</p> <p>By 2040, 25 percent of all travel trips will be made by active transport, including pedestrians and cyclists.</p> <p>By 2030, 60 percent of Council's fleet will be low-emission vehicles, including EVs, and will meet the following targets:</p> <ul style="list-style-type: none"> - Light passenger vehicles fleet: average of 90 g CO₂/km. - Light trucks and utes fleet: average of 130 g/km. - Heavy vehicles and plant fleet: tailpipe CO₂ emissions that are 25 percent lower than 2018 emissions. 	<p>Implement the Integrated Transport Strategy 2016-2031 and develop and implement new transport plans, programs and projects.</p> <p>Implement the planning priorities of the Local Strategic Planning Statement.</p> <p>Update plans for town centres, including for bicycle and pedestrian connections, public transport, and travel plans to reflect new mode share targets.</p> <p>Prepare Pedestrian Access and Mobility Plans (PAMP) for Top Ryde, Macquarie Park, Eastwood, Gladesville and Meadowbank.</p> <p>Develop and implement a town centre and surrounds connectivity and accessibility strategy, with measures to encourage pedestrian use (includes provision of school zones).</p>	<p>A '30 minute city' for travel by most residents between their home and work, services and nearest centre/cluster using public transport or active transport.</p> <p>Pedestrians and cyclists have enhanced connectivity and mobility that is safe, convenient, and close to public open space.</p> <p>A 200 metre road grid maximum within Macquarie Park, which increases permeability and connectivity for vehicles and pedestrians, increases route options and reduces traffic congestion.</p> <p>All new homes are within 400 metres of a public transport connection (bus stop or railway station).</p> <p>Town centres are safer for pedestrians, with safety measured by an increased number of safe road crossing points, reduced speed limits and improved public domain lighting.</p> <p>Areas surrounding key community centres are accessible for the whole community.</p>	<p>○ Collaborate across Council, and with other councils, State agencies and the business sector (via capital works, DCPs, urban design and community projects) to investigate, develop and establish corridors and linkages including new or upgraded facilities, infrastructure and routes for integrated transport.</p> <p>○ Apply updated planning and development controls and policies.</p> <p>○ Integrate 'green' bicycle lanes and off-road paths with climate adaptation features such as increased tree canopy cover for shade and permeable surfaces for rainfall runoff.</p> <p>○ Continue to implement active transport through programs such as PAMPs, capital works renewal and the Integrated Transport Strategy.</p> <p>○ Prepare, for future local plans, 'Movement-Place' analyses for town centres and identify high priority areas for movements of pedestrians.</p>	<p>Transport (lead group) with Environment and Planning teams</p>	2020-2030

6 TRANSPORT AND CONNECTING OUR COMMUNITY

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2030, there will be a 60/40 modal split of public and active transport / private vehicle use for all journeys to and from work in Macquarie Park.</p> <p>By 2040, 25 percent of all travel trips will be made by active transport, including pedestrians and cyclists.</p> <p>By 2030, 60 percent of Council's fleet will be low-emission vehicles, including EVs, and will meet the following targets:</p> <ul style="list-style-type: none"> - Light passenger vehicles fleet: average of 90 g CO₂/km. - Light trucks and utes fleet: average of 130 g/km. - Heavy vehicles and plant fleet: tailpipe CO₂ emissions that are 25 percent lower than 2018 emissions. 	<p>Develop a city-wide Active Transport Strategy.</p> <p>Adopt a city-wide bike share program to encourage increased active transport, reduce traffic congestion and improve air quality.</p>	<p>Most members of the community feel they are well connected and can move around the LGA more easily and safely, including between town centres.</p> <p>Connections beyond work travel using public or active transport to include 20 minutes to major sports field, 10 minutes walk to shops or school, 2-5 minutes walk to local park for high density living residents.</p>	<p>○ Develop and implement Strategy through programs and precinct projects based on innovation, '< 5 km short trip alternatives', 'Smart City' and PAMPs.</p> <p>○ Investigate developing connections between town centres and activity hubs such as the Ryde Aquatic Leisure Centre (RALC) and between Top Ryde and West Ryde; West Ryde and Meadowbank stations and Meadowbank Park/ playing fields; and Eastwood and Macquarie Park.</p>	<p>Transport (lead group) with Planning and Environment teams</p>	2020
	<p>Review and update Sustainable Travel Plan Guidelines.</p>	<p>Modal split for medium and high density development reaches 60/40 for private vehicle and public-active transport movements.</p>	<p>○ Develop and implement monitoring program to ensure compliance.</p>	<p>Environment (lead group) with Planning team and Planning teams</p>	2020-2030

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2030, there will be a 60/40 modal split of public and active transport / private vehicle use for all journeys to and from work in Macquarie Park.	Investigate the feasibility of expanding the Shop Ryder free local bus service to reduce single passenger car trips.	Future demand is met based on population growth and aligned with sustainable transport objectives.	● Ensure that any proposed expansion of the Shop Ryder bus service complements privately run on-demand services being rolled out.	Environment team	2020
By 2040, 25 percent of all travel trips will be made by active transport, including pedestrians and cyclists.	Develop a city-wide Sustainable Transport Strategy to transition the community to sustainable transport. The Strategy will include bike share, car share and a mix of existing, new and emerging low-emission vehicle technologies for Council's vehicles fleet and community.	The City of Ryde is a well-connected low-carbon-driven LGA with diverse, flexible, responsive and efficient transport options that benefit the community and the environment.	● Implement the Sustainable Transport Strategy.	Environment (lead group) with Transport and Planning teams	2020: Prepare the Sustainable Transport Strategy 2021-2030: Implement the Sustainable Transport Strategy
By 2030, 60 percent of Council's fleet will be low-emission vehicles, including EVs, and will meet the following targets: - Light passenger vehicles fleet: average of 90 g CO ₂ /km. - Light trucks and utes fleet: average of 130 g/km. - Heavy vehicles and plant fleet: tailpipe CO ₂ emissions that are 25 percent lower than 2018 emissions.		By 2030, at least 60 percent of Council's vehicle fleet are EVs or powered by alternative low emissions fuel cells.			

7

HEALTH AND
WELLBEING

The location and design of social, cultural, housing and economic infrastructure and provision of services must be responsive to help the community maintain health and wellbeing, improve the quality of life and become more resilient. This includes programs to strengthen social inclusion, connections, harmony and cohesion. Council aspires for the City to be a diverse, inclusive, resilient and well prepared community in which every resident and worker feels they belong, are valued and supported.

To achieve this outcome, the responses and actions will cover the following areas:

- Health
- Safety and security
- Social inclusion, cohesion and cross cultural engagement
- Culture, leisure and sports
- Volunteers and neighbourhood support
- Affordable housing and household debt
- Employment
- Critical infrastructure and public utilities
- Food security, supplies and shortages.



7 HEALTH AND WELLBEING




Goal: A diverse, inclusive, resilient and well prepared community in which every resident and worker feels they belong, are valued and supported.

- Strategic direction: 1 (refer to Section 5.5 in Volume 1)
- Planning priorities N4, N5 of GSC North District Plan
- Actions 5, 7, 8, 16, 17, 18, 20, 21, 26, 28 of Resilient Sydney strategy

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2025, community cohesion will improve by five percent over 2019 levels.	Implement a community engagement and capacity building program that enables ongoing community participation in the implementation of this Resilience Plan.	Resilient-ready residents make a signed commitment following certification of being resilient-ready.	<ul style="list-style-type: none"> Implement a project to be named 'Resilient Ryde 2030 - Building capacity for situational responses by local communities to reduce the impact of climate change'. 	Council's Environment team (lead group) with consultants to assist with design and first stage of program.	2020 onwards
By 2025, there will be at least 10,000 resilience-ready residents in the City of Ryde.	Implement community health and environmental health programs.	Community and environmental health is protected consistent with Council's objectives and targets.	<ul style="list-style-type: none"> Continue surveillance, monitoring and compliance checks across environmental health functions and areas of Council responsibility. 	Environment Health (lead group) with Community Services teams in collaboration with other agencies and local organisations	2020 onwards
By 2025, there will be at least 50 Resilient Organisations in the City of Ryde.		Health of community through post event periods of recovery is maintained for quality of life and wellbeing longer term outcomes.	<ul style="list-style-type: none"> Continue to monitor mosquito-borne diseases and work with regional groups on management programs (including local spraying if required) in response to increased risks. Continue to respond to alerts and advice of District Health Service for infectious diseases (including viral and emerging) and undertake appropriate actions. Continue to hold community immunisation clinics for vaccinations. 		
	Implement policies and plans relating to social cohesion, inclusion and community well-being.	The City of Ryde is a cohesive and inclusive community with well supported services for health and wellbeing.	<ul style="list-style-type: none"> Consistently integrate key actions from Council's Social Plan (2019) and other relevant plans and strategies. Promote sun and heat protection in the community and update relevant manuals and procedures for staff working at Council. 	Community Services (lead group) with Parks and Environment teams	2020-2030

7 HEALTH AND WELLBEING

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2025, community cohesion will improve by five percent over 2019 levels.	Plan, manage and sustain open space and active recreation facilities to improve community health and wellbeing.	Healthier, more active and enjoyable lifestyles across the community with improvements that can be measured over time.	<ul style="list-style-type: none"> Continue to implement Council's Sport and Recreation Strategy 2016-2026 and other open space and leisure facility plans. 	Parks (lead group) with Community Services team	2020 onwards
By 2025, there will be at least 10,000 resilience-ready residents in the City of Ryde.	Prepare a resilience toolkit for residents and undertake a community workshops program focusing on resilience.	The community is well equipped and prepared to respond to major shocks or chronic stresses.	<ul style="list-style-type: none"> Develop a resilience toolkit and roll it out via events such as annual festivals. Provide and support social and environmental events and activities such as 'Our Common Ground' community garden and 'Get to know your Neighbour' that support cohesion and build resilience. 	Environment (lead group) and Community Services team, and collaboration with SES, Bushfire Services, Ryde and Macquarie University hospitals, Northern Sydney	2020-2021
By 2025, there will be at least 50 Resilient Organisations in the City of Ryde.	Survey and hold focus groups with community stakeholders for resilience, recovery education and awareness, health and wellbeing.	Reliable measurement of community behaviour, awareness, preferences and attitudes as they relate to resilience and associated themes including recovery.	<ul style="list-style-type: none"> Hold surveys and focus groups or every two to three years. Establish baselines for community cohesion, well being and resilience preparedness and recovery. 	Consultants for first stage then Council staff (Environment, lead group, with and Community Services teams)	2020 and ongoing
	Prepare a cyber attack plan for Council assets. Implement Business Continuity and Disaster Recovery Plans.	Council is well prepared to prevent and respond to cyber-attack.	<ul style="list-style-type: none"> Continue IT systems plans, including Business Continuity and Disaster Recovery Plans, various systems/tools and technologies, remote office location in case of disaster, and incident reporting and management plan Continue to investigate new technologies for protection against, and response to, cyber-attack events. 	Information Technology (IT) team	2020 and ongoing



*We aim to have
healthier, more active
and enjoyable lifestyles
across the community
with improvements
that can be measured
over time.*

8

EMERGENCY PREPAREDNESS, RESPONSE AND RECOVERY

Of the weather related hazards, the highest risks for the broader community of Ryde come from heatwaves, followed by bushfires, floods and storms. In terms of Council's own operations, bushfires are the greatest threat followed by risk from events storm and flooding events. Emergency management requires a collective approach by government as well as individual responses in the community through effective emergency planning and preparedness for resilience. Council aspires to support the community to be well prepared for, responses to, and recovery from, emergency situations and major shocks.

To achieve this outcome, there will be responses and actions covering the following areas:

- Local Emergency Management Plan
- Consequence Management Guide and State-regional plans
- Co-operation, partnerships and responsibilities
- Potential hazards for Ryde
- Community preparedness.



8 EMERGENCY PREPAREDNESS, RESPONSE AND RECOVERY



Goal: A community that is well supported by Council in terms of emergency preparedness for, responses to, and recovery from, major shocks.

- Strategic direction: 1 (refer to Section 5.5 in Volume 1)
- Actions 3, 23, 24, 27, 29 of Resilient Sydney strategy
- Planning Priority R1 of Local Strategic Planning Statement

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>Levels of emergency preparedness across the community will be consistent with resilience-ready criteria.</p> <p>By 2025, there will be at least 10,000 resilience-ready residents in the City of Ryde.</p>	Develop a local app specific to City of Ryde for emergency management, preparedness, response and recovery.	Technological and digital support for the City of Ryde and its residents and workers so they can safely respond to events.	<p>○ Develop sponsorship opportunity package for app that complements the Red Cross 'Get Ready' and other emergency services apps including those of SES, 'Climate Wise', RFS, Fire & Rescue NSW and health authorities.</p>	Council (lead) with corporate sponsor(s), SES, RFS, Red Cross and Northern District Local District Health	2020-2023
	<p>Review and update the LEMP.</p> <p>Establish framework for post disaster recovery with clear lines of communication, roles and responsibilities.</p>	An improved integrated approach to emergency and disaster planning, response and recovery operations based upon Council's contribution to collaboration across all three tiers of government and other external stakeholders.	<p>○ Take a whole-of-council approach in collaboration with external stakeholders such as State agencies, hospitals, community groups and local organisations.</p>	City of Ryde Council with Hunters Hill Council/LEMC/SES/State agencies/local hospitals/community groups	2020-2022
	<p>Review the current Consequent Management Guidelines (CMG) to include a need for more comprehensive Support Plans.</p> <p>Provide 'fit for purpose' evacuation centres 'cool refuges', and temporary shelters.</p>	A network of accessible and well equipped evacuation centres that residents of any background can readily find and take refuge in, to feel safe and well supported.	<p>○ Implement promotional campaigns and provide preparedness kits, tools and activities for the community and neighbourhoods (including residents, workers and students) with information on evacuation centres for emergency situations.</p>	Council (lead) with SES, Red Cross, and local community organisations and major health services including support charities	2020-2022

KEY

SHADING



COUNCIL OPERATIONS



COUNCIL OPERATIONS AND COMMUNITY WIDE



COMMUNITY WIDE

8 EMERGENCY PREPAREDNESS, RESPONSE AND RECOVERY

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
Levels of emergency preparedness across the community will be consistent with resilience-ready criteria.	Prepare a local (or sub-regional) disaster recovery plan for the City of Ryde that complements the LEMP and other regional or State-wide plans.	Planning that adequately supports management response to emergency events.	○ Prepare a Recovery Plan framework (local or jointly with adjacent councils) to complement the NSW Recovery Plan.	Council (lead) with Hunters Hill or group of four adjacent LGAs	2021-2022
By 2025, there will be at least 10,000 resilience-ready residents in the City of Ryde.	Develop, roll-out, promote and implement tools for disaster preparedness. Develop partnership programs for vulnerable groups especially elderly citizens and those with limited technology and digital access.	Investigate partnerships for annual community drills facilitated by Council at local neighbourhood and precinct scale, geared to major shocks and compound events. A community that feels it is better prepared to respond to emergency events and shocks. Vulnerable sections of the community feel well connected and supported through integration of technology and non-technological tools.	○ Promote the 'Get Ready' and 'Get Ready NSW' preparedness campaigns with the associated State agency. ○ Promote emergency preparedness kits to local residents, including kits on water, medicines/ first-aid and 72-hour non-perishable food supplies. ○ Prepare a Critical Infrastructure Resilience Strategy (either local or jointly with adjacent councils in the sub-region) that complements the NSW Critical Infrastructure Resilience Strategy.	Council (lead) with Red Cross and State government agencies including SES and district health Council (lead) in collaboration with local community organisations and local community organisations and supporting or sponsoring supermarket chain(s) Council (lead) with adjacent LGAs and NSW Office of Emergency Management	2020 and ongoing



*A community that feels
it is better prepared to
respond to emergency
events and shocks.*

9

GOVERNANCE WITH DIRECTION, COLLECTIVE LEADERSHIP AND COLLABORATION

As a participating partner in Resilient Sydney, Council is committed to collective leadership, collaboration and sharing knowledge. Collaborative governance and more inclusive participatory governance are well recognised approaches that can engage and empower the community in resilience-focused decision-making. Council aspires for an inclusive, resilient 'one city' community with good governance, engagement and capacity to withstand shocks and stresses.

To achieve this outcome, there will be responses and actions covering the following areas:

- Getting local organisations and businesses resilient-ready
- Facilitation by Council of partnerships
- Inclusive decision making
- Knowledge sharing
- Transparency of reporting.



9 GOVERNANCE WITH DIRECTION, COLLECTIVE LEADERSHIP AND COLLABORATION



Goal: An inclusive, resilient 'one city' community with good governance, engagement and capacity to withstand shocks and stresses.

- Strategic direction: 1 and 10 (refer to Section 5.5 in Volume 1)
- Planning Priority N2 of GSC North District Plan
- Actions 31, 34, 35 of Resilient Sydney strategy

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
<p>By 2025, there will be at least 50 Resilient Organisations in the City of Ryde.</p> <p>By 2022, there will be a network of resilience-ready SMEs.</p>	Engage organisations in the 'Ryde Resilience Commitment'.	Signed commitment to this Resilience Plan by community, businesses (especially SMEs) and education organisations .	<p>● Implement a program of engagement to promote opportunities and a campaign to target organisations and other sectors beyond local government.</p>	Environment (lead group) with support from Communications team	2020-2021
	Invest in facilitation, collaboration expertise and reporting to support delivery of resilience plan.	Key governing and other organisations in the Ryde LGA, North District, Parramatta River catchment and Sydney region build their capacity and co-operation to understand, respond to and manage shocks and stresses in a resilient city.	<p>● Include business development in the delivery of annual operational plans.</p>	Council	2020 and ongoing
	<p>Continue to collaborate and network in implementing the Resilient Sydney strategy.</p> <p>Share knowledge and experiences with other participating councils and organisations in greater Sydney region, Australia wide and internationally through 100RS.</p>		<p>● Actively participate in Resilient Sydney and other collaborative projects focused on urban heat, catchment management, energy efficiency, active transport, natural systems, and inclusion.</p>	Environment team to lead for all of Council with Resilient Sydney, ROCs, GSC, PRCG	

KEY

SHADING



COUNCIL OPERATIONS



COUNCIL OPERATIONS AND COMMUNITY WIDE



COMMUNITY WIDE

9 GOVERNANCE WITH DIRECTION, COLLECTIVE LEADERSHIP AND COLLABORATION

Targets	Responses	Outcomes	Making it happen	Responsibilities and partnerships	Timing
By 2025, there will be at least 50 Resilient Organisations in the City of Ryde.	Measure and monitor resilience, and evaluate progress against goals and targets in Resilience Plan.	Results from monitoring and evaluation of this Resilience Plan are publicly available.	○ Establish a monitoring and evaluation program with an efficient ongoing online reporting mechanism.	Environment (lead group) and Corporate Governance team	2020 and ongoing
By 2022, there will be a network of resilience-ready SMEs.	Develop and implement digital tools and other mechanisms for participatory and collaborative governance.	The community and key local stakeholder groups (including vulnerable, culturally and linguistically diverse (CALD) communities, people living with disabilities and the elderly) are included in decision-making based on opportunities on face-to-face and digital platforms.	○ Facilitate participation including potential expansion of Council committee roles and online community contributions.	Corporate Governance (lead group) with Communications, Environment teams	2020-2022

DRAFT

Continue to collaborate and network in implementing the Resilient Sydney strategy.



MONITORING AND EVALUATING THE IMPLEMENTATION OF THIS PLAN

Council will undertake a monitoring program for implementation of the Resilience Plan. This will include the measurement of performance targets and key outcomes, and will its delivery communicated through reporting to Council and the community.



MONITORING AND EVALUATING THE IMPLEMENTATION OF THIS PLAN

Council will monitor and report against this plan through its current annual reporting system and include for feedback into decision making and operational and four year delivery plans.

There will be a major review with detailed evaluation of the Resilience Plan every four years, and appropriate updates to the document including in particular the action plan element. This process will be timed to include a follow up community survey to gather vital information about changing awareness, readiness, preferences and behaviours about resilience and how the local plan implementation is progressing.

The measurement of indicators and trends through any reporting mechanisms needs to complement, dovetail and be consistent with relevant priorities and actions of the local Resilience Plan, Resilient Sydney strategy, Local Strategic Planning Statement and the North District Plan of the GSC.

Any proposed changes to targets will be evidence based using the results and consideration of up-to-date best available knowledge and benchmarking of monitoring and evaluation and legislative changes.

Table 1 on the following page sets out the monitoring template (based upon one example) to be applied for each key response area and the associated targets and actions which are also reflected in overall performance measures.

Table 1 Monitoring template with example of key response area

Key response area (example)	Target	District-Regional links	Response (action)	Performance measure	Proportion delivered
7.1 Energy efficiency and a low carbon City of Ryde	By 2030, Council operations will use at least 60 percent of electricity sourced from renewables.	Resilient Sydney Actions 11, 13 North District Plan Priority N21	Continue implementation of renewable energy projects for council buildings.	Amount of electricity capacity generated from renewable energy.	1

Key: Proportion of response (action) delivered or status

100% completed	4
75% completed	3
50% completed	2
25% completed	1
Not yet commenced	0
Ongoing	O
Deferred	D
No longer to be implemented	N

