

State of the Environment Report 2017-2021

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About this report

Council's Annual Report, in the year in which an ordinary election of councillors is held, must also include a State of the Environment (SOE) Report for the previous four years.

The SOE report covers the state of the environment in the local government area and includes progress on the implementation of long term objectives for the environment established by the Community Strategic Plan 2038, adopted June 2018. These long term objectives articulate environmental issues that are of concern to the Ku-ring-gai community and indicate where Council may influence their management.

Ku-ring-gai Council's State of the Environment Report 2017 – 2021 has been prepared in accordance with Section 428A of the *Local Government Act 1993* and the Office of Local Government's Integrated Planning and Reporting Guidelines.

Further details of progress on environmental objectives, achievements and challenges will be provided in the complete State of the Environment Report, which will be published on Council's website following the December 4 local government elections.

Previous reports

Council's previous State of the Environment Report 2013 – 2017 was prepared by Council. The 2009 – 2012 Report was prepared as part of a regional report for the Northern Sydney Regional Organisation of Councils (NSROC) which included Hunter's Hill, Hornsby Shire, Ku-ring-gai, Lane Cove, North Sydney, City of Ryde and Willoughby City Councils.

Preparation of a regional report for the 2017 – 2021 period was not practical for NSROC Councils due to the uncertainty associated with the COVID-19 pandemic, and changes to the Integrated Planning and Reporting requirements, which affect all member councils. As a result of those changes standalone SOE reports will no longer be a statutory requirement for Councils and all environmental reporting will occur through progress reports for the Community Strategic Plan as well as implementation reports for Council's Local Strategic Planning Statement, adopted March 2020. A copy of previous State of the Environment Reports can be found on Council's website at www.krg.nsw.gov.au/SOE

Community consultation

Over the four year period 2017 – 2021 extensive community consultation has been undertaken with environmental groups and individual residents on the community's environmental priorities, programs and initiatives. This included comprehensive community consultation for the extension of the Environment Levy in 2018 – 2019. The extent of community support for the levy was a major factor in its permanent continuation. Council has ongoing involvement with the community in monitoring the environment and issues and challenges affecting Ku-ring-gai. More information on our consultation can be found on page 7.

Preparation of the next Community Strategic Plan

Information on the progress of long term objectives and performance targets that contribute to environmental outcomes for the Ku-ring-gai local government area was included in the preparation of Council's End of Term Report 2017 – 2021. The End of Term Report was presented to Council in November 2021 and will inform preparation of Council's next Community Strategic Plan. The State of the Environment Report 2017 – 2021 will also inform preparation of Council's next Community Strategic Plan, to be adopted in June 2022. These are key accountability requirements for councils under the *Local Government Act 1993* and the Office of Local Government's Integrated Planning and Reporting Guidelines.

Ku-ring-gai – our place our people

Ku-ring-gai is an established local government area (LGA), 85 square kilometres in size, located 16 kilometres north of the centre of Sydney CBD. Our name 'Ku-ring-gai' is a derivation of the name of the Guringai people, the traditional Aboriginal owners of the land of which the Ku-ring-gai local government area is a part.

OUR LANDSCAPE

The area's unique natural landscape is due to its elevated position in Sydney's north, high rainfall, alluvial soils, deep gullies, 177kms of waterways and creeks and three major water sub-catchments feeding into Sydney Harbour and the Hawkesbury River Estuary.

The area adjoins three National Parks (Ku-ring-gai Chase, Garigal and Lane Cove) and contains significant urban forests and tracts of local bushland as well as a visually significant tree canopy across both natural and urban areas. These landscape features give the area distinctive natural beauty and differentiates Ku-ring-gai from other parts of Sydney.

OUR UNIQUE BIODIVERSITY

Known as the 'Green Heart' of Sydney, Ku-ring-gai contains a diverse natural habitat regarded as the last remaining areas of biodiversity significance in the Sydney metropolitan area. This includes:

- 119 bushland reserves covering 1,150 hectares.
- Nationally significant ecological communities including remnant Blue Gum High Forest and Sydney Turpentine Ironbark Forest. Four of Ku-ring-gai's ecological communities are endangered and two are critically endangered.
- Over 800 recorded native plant species (including 18 threatened species) and over 690 species of native animals (including more than 10 threatened species).
- Two bio-banking sites totalling over 100 hectares of parks and reserves.

OUR CONNECTED URBAN VILLAGES

Historically, Ku-ring-gai's urban areas developed as a series of villages along the main ridgelines, each with their own identity, and always bounded by or close to large tracts of natural bushland, creek systems and national parks. While subdivision and residential development have connected the villages into larger suburbs over time, their distinct characteristics still largely remain intact. Today Ku-ring-gai includes 17 suburbs, most with neighbourhood centres and 7 larger local centres (Roseville, Lindfield, Gordon, Pymble, St Ives, Wahroonga, and Turramurra). Each suburb has its own unique character reflecting the local natural bushland, heritage conservation areas or more recent post war development.

The physical appearance of Ku-ring-gai, the connectedness of green leafy areas encompassing both public and private lands and the physical location of urban areas within a well-defined geographic boundary, have been critical contributory factors to a sense of place.



Our cultural history and diversity

Ku-ring-gai has a strong legacy of heritage fabric including items and places of historical, social and architectural value. Both European and Aboriginal heritage is respected and provides a sense of living history and a physical link to the work and way of life of earlier generations.

Aboriginal heritage

The Guringai people were the original inhabitants of the land now encompassed by the Ku-ring-gai LGA. They preserved the area's natural diversity through the use of sustainable practices. They have left behind many traces of their habitation including middens, petroglyphs (rock drawings or carvings) and remains of shelters. Up to 650 Aboriginal heritage sites may have existed within the Ku-ring-gai LGA. While 106 recorded sites exist in the LGA, over double that number are believed to remain.

Our bushland legacy

Early European settlers also recognised the significance of the natural bushland, its important place in communities and its health benefits for a growing Sydney. They advocated strongly for the retention of bushland reserves, set aside land for the reserves, parklands and recreation areas that Ku-ring-gai is renowned for today and planted trees to replace those removed from earlier timber logging industries.

European heritage

Ku-ring-gai is the birthplace of the National Trust of Australia (NSW) and has traditionally valued its significant built heritage with over 994 heritage items and 45 heritage conservation areas within a well-defined compact urban area. In addition, over 4,124 properties are within Ku-ring-gai's Heritage Conservation Areas, or approximately 10% of all properties.

Our community diversity

Many residents who have made Ku-ring-gai their home, were born or have recent ancestry in over 100 overseas countries. This is a clear indication of the cultural history and diversity of our present community. (ABS, Census, 2016)

OUR STRONG RESIDENT PARTICIPATION AND ADVOCACY

The village nature of our suburbs created close knit and self-sufficient communities with a strong connection to the area. Over time this has evolved into strong resident participation in local organisations, cultural pursuits, sport and leisure activities, volunteering and events as well as a willingness to advocate for and preserve the area's unique natural and historical assets.

OUR DIVERSE LOCAL ECONOMY

Ku-ring-gai has a diverse and vibrant local economy comprising:

- Seven local centres providing mixed food, retail and professional services
- A business park accommodating commercial and service activities
- A large education sector focused on early learning, primary and high schools
- A large medical and health care sector including two hospitals
- A highly educated workforce mostly in professional, scientific and technical service industries
- A thriving small and medium size business sector.

Community Strategic Plan

Community Vision

In 2008, the Ku-ring-gai community and Council together developed a vision and set of principles to guide future strategic planning and directions for Ku-ring-gai. The vision and principles formed the basis of Ku-ring-gai's first Community Strategic Plan.

The vision and principles continued to be relevant to Ku-ring-gai and its community beyond that first plan, and have formed the basis for Ku-ring-gai's two subsequent community strategic plans.

Vision statement

Our community vision is a Ku-ring-gai that is a creative, healthy and liveable place, where people respect each other; conserve the magnificent environment and society for the children and grandchildren of the future.

This vision is supported by the following community principles:

- Care for the local environment and people
- Respect the needs of future generations
- Learn and share knowledge
- Lead in sustainability
- Behave ethically
- Take responsibility for our actions

Community Strategic Plan – Our Ku-ring-gai 2038

The Community Strategic Plan is the community's plan, prepared by Council in conjunction with the Ku-ring-gai community. Development of the current plan was informed by community engagement and consultation as well as the views of other stakeholders, including community organisations, businesses and government agencies.

The plan, adopted in June 2018, addresses issues, challenges and priorities for the local area through a vision statement and long term objectives. These are grouped under themes as follows:

- Theme 1: Community, People and Culture
- Theme 2: Natural Environment
- Theme 3: Places, Spaces and Infrastructure
- Theme 4: Access, Traffic and Transport
- Theme 5: Local Economy and Employment
- Theme 6: Leadership and Governance.

Collaboration and partnerships

Implementation of the Community Strategic Plan relies on collaboration and partnerships with our community, businesses, organisations and government. While Council has a significant role in delivering and facilitating many outcomes in the plan, it has limited direct influence for some. Council nevertheless takes a proactive advocacy role, participating in and supporting networks and partnerships to achieve those outcomes.

Consultation and engagement

The Ku-ring-gai community is an active and responsive group and have been engaged in a range of consultation projects over the last four years. Council has delivered environmental, cultural and social benefits that directly respond to the community's expectations and priorities, including:

- Protection of bushland and local biodiversity
- Reduction in the urban impacts of stormwater on riparian areas
- Reduction in potable water use
- Reduction in waste to landfill
- Provision of cycle ways and recreational facilities in natural areas
- Control of dumping and encroachment into bushland
- Establishing a net zero emissions target
- Reduction in energy use and greenhouse gas emissions
- Sustainable business engagement
- Increased community connection and well being.

Council's role is to lead, facilitate and educate, with community consultation and engagement the cornerstone of our strategy and policy development. It determines the information and events we offer to the community and enables us to create a community empowered with knowledge, learning and information that can benefit the environment for future generations.

Services and facilities survey

Council commissioned independent community research in 2017, 2019 and 2021 to examine the community's attitudes and perceptions towards Council's delivery of services and facilities.

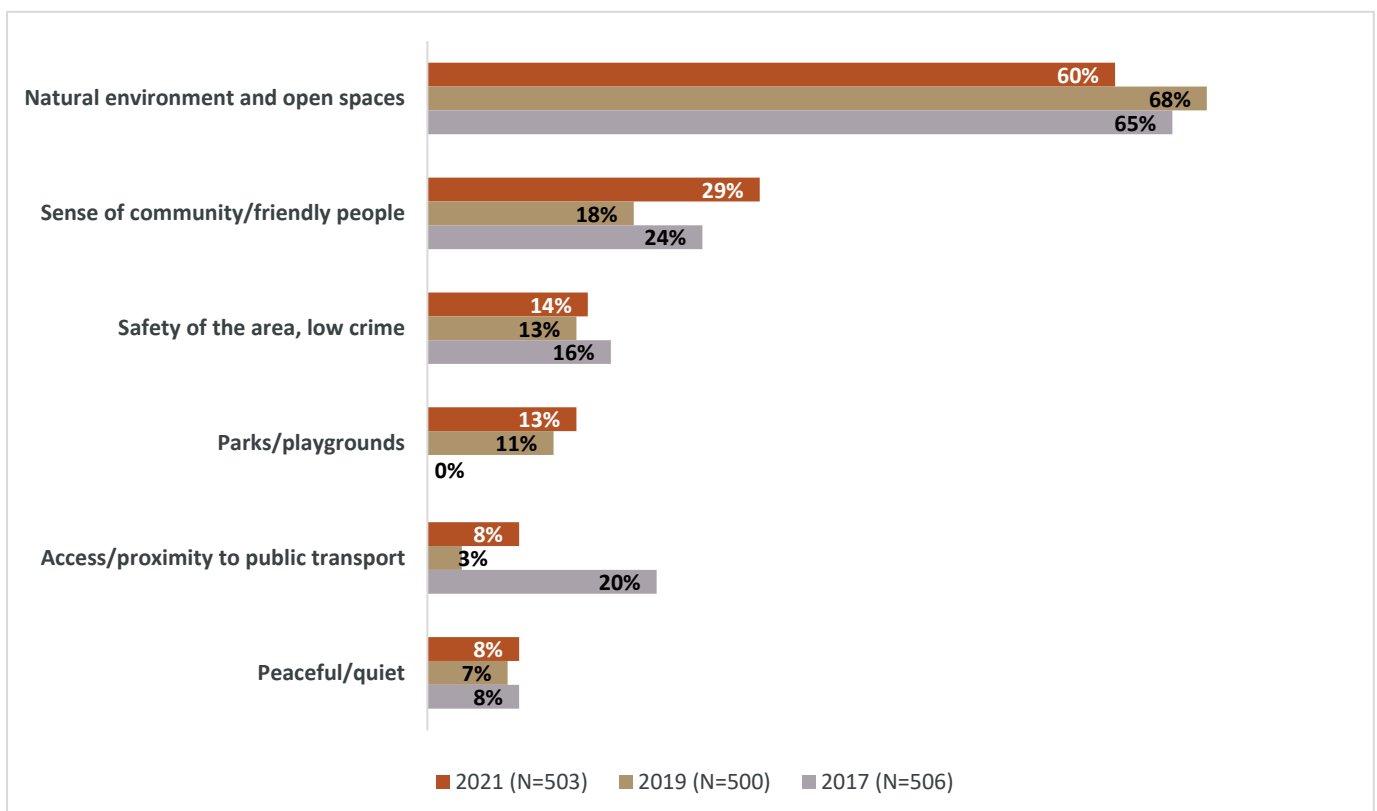
The key objectives of the research were to:

- assess and establish the community's priorities and satisfaction with a broad number of Council's services and facilities delivered to the Ku-ring-gai community (45 in 2017, 46 in 2019 and 48 in 2021)
- identify the community's overall level of satisfaction with Council's performance
- identify the community's top priority areas; and
- compare the 2017, 2019 and 2021 research results.

A summary of results for strengths of Ku-ring-gai, the community's priorities and satisfaction with Council and the local area, and quality of life are provided below.

Strengths of the Ku-ring-gai LGA

Residents believe that the natural environment and open spaces are the biggest strengths of the local area. Other popular strengths included clean area, educational facilities, good facilities/infrastructure, good location/convenience and low density population/housing/development as shown below.

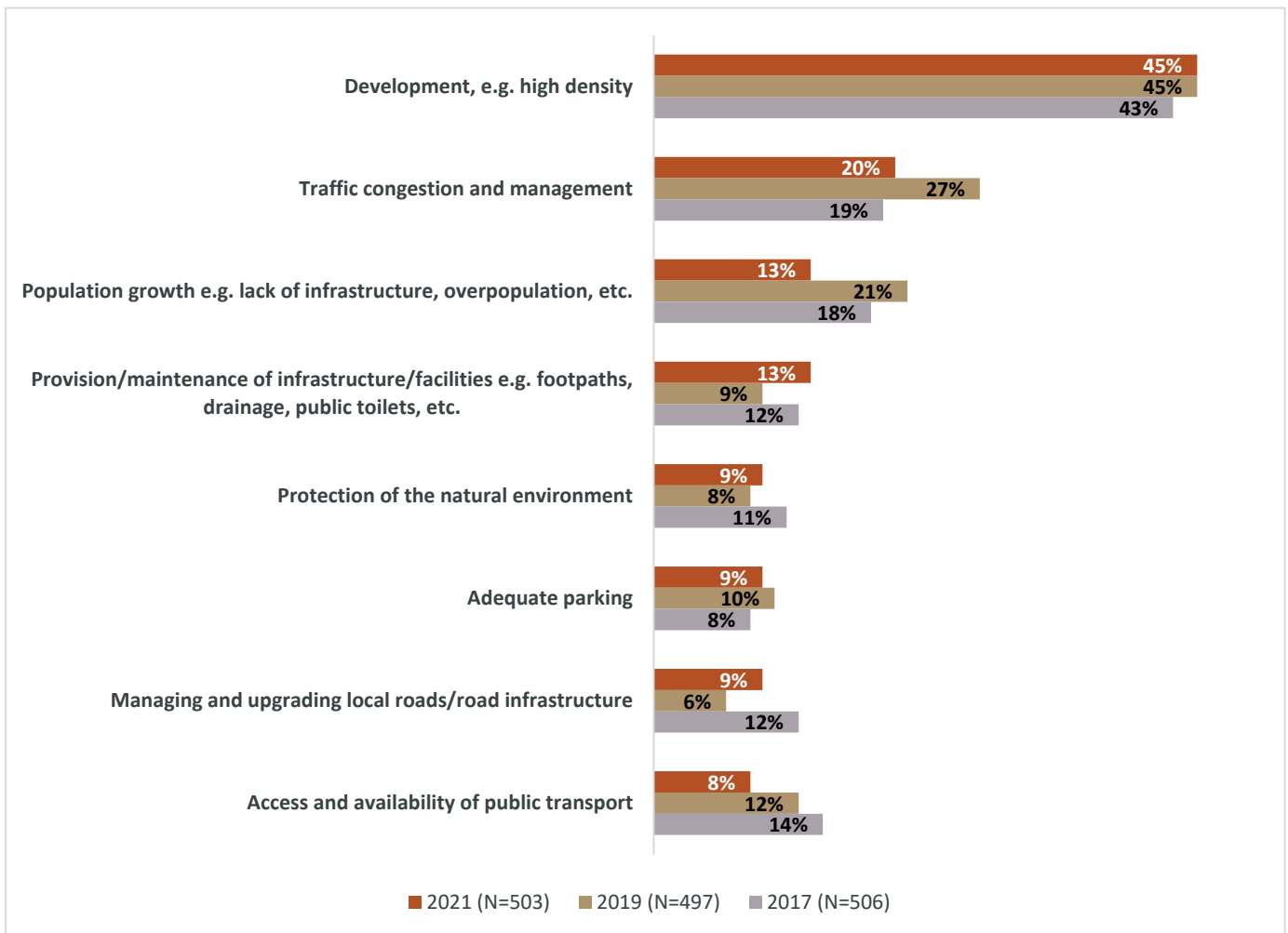


Resident's key strengths of Ku-ring-gai

Note: Only responses $\geq 8\%$ in 2021 are shown.

Highest priority issues within the Ku-ring-gai LGA

Residents believe that managing development is the highest priority issue within the area over the next 10 years. Residents are also concerned about the flow-on effects of development ie. traffic congestion and management, population growth and the provision and maintenance of infrastructure/facilities as shown below.

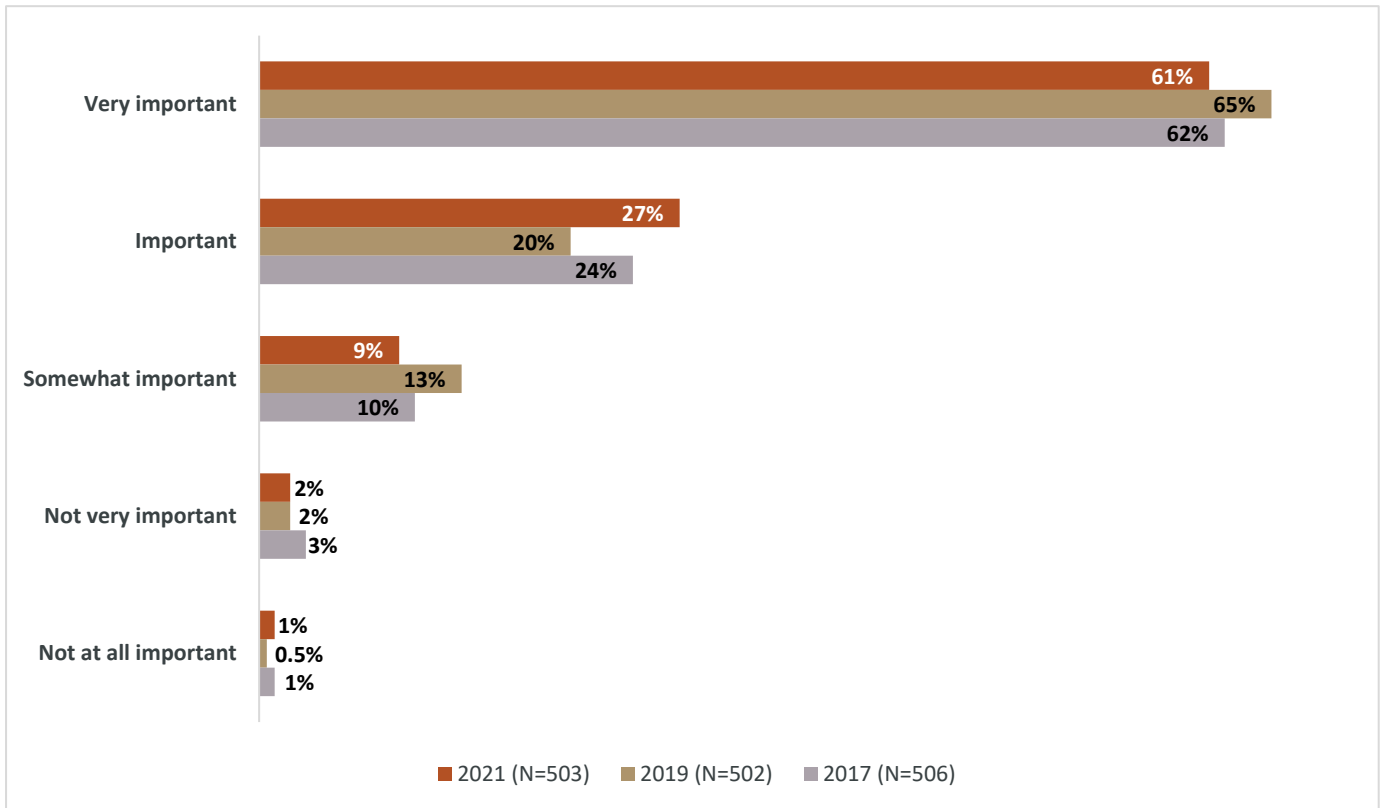


Resident's highest priority issues within Ku-ring-gai in the next 10 years

Note: Only responses ≥ 8% in 2021 are shown.

Importance of maintaining Ku-ring-gai's unique visual character and identity

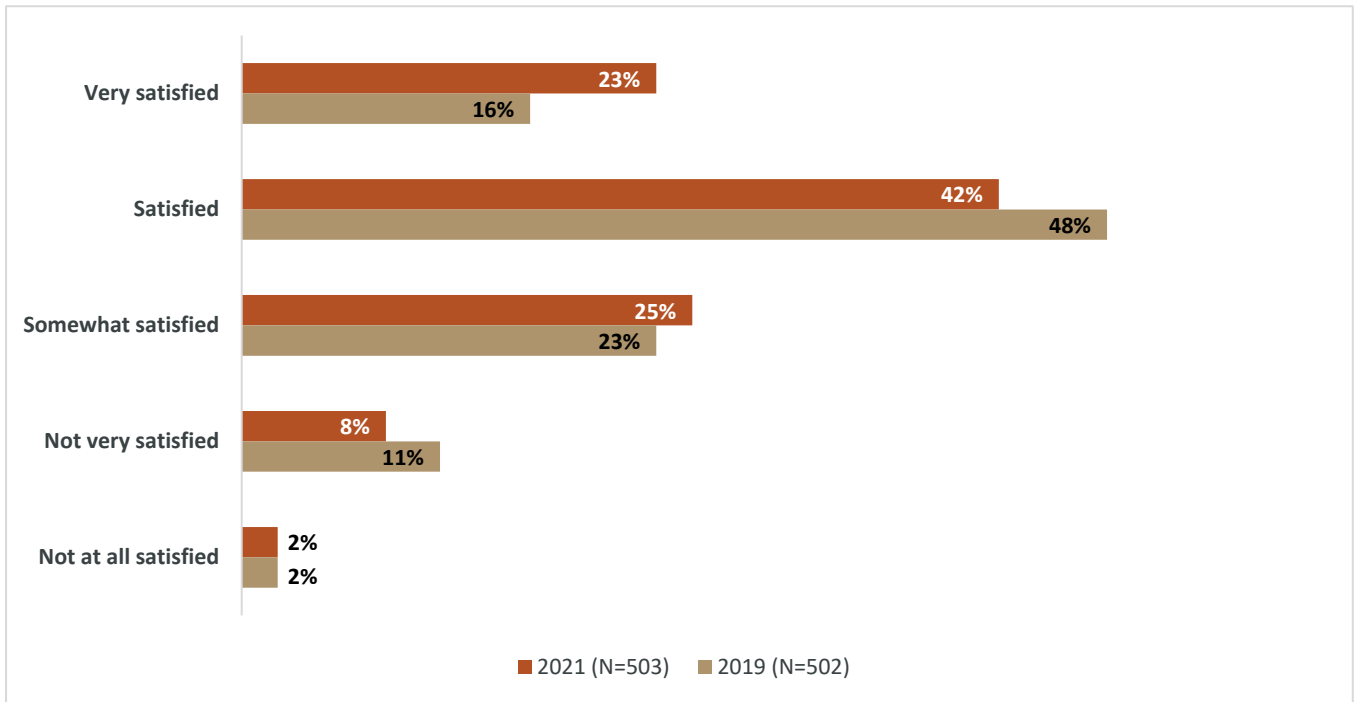
In 2021, 88% of residents believe it is important/very important for Council to maintain it's unique visual character and identity as shown below. A high level of importance has remained throughout the time period.



Resident's level of importance of maintaining Ku-ring-gai's unique visual character and identity

Moving in and around Ku-ring-gai

In 2021, 90% of residents are at least somewhat satisfied with the ease of moving in and around the Ku-ring-gai LGA, with satisfaction increasing since 2019 as shown below.

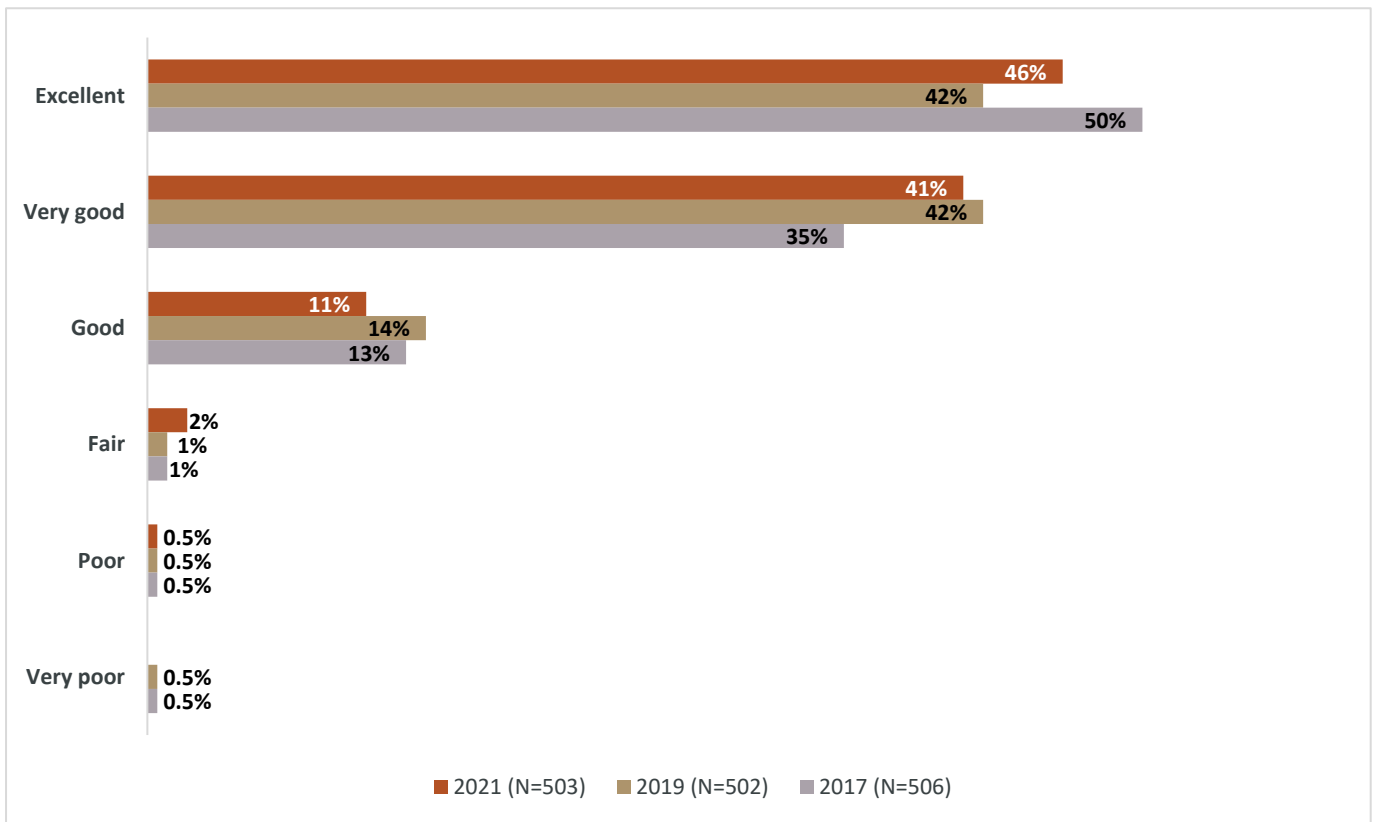


Resident's satisfaction with the ease of moving in and around Ku-ring-gai

Note: This data was not collected in the 2017 research.

Quality of life of residents in Ku-ring-gai

Quality of life in the Ku-ring-gai area is high, with the majority (98%) of residents rating their quality of life as good, very good or excellent in 2021. This high result has remained constant throughout the time period as shown below.



Resident's quality of life in Ku-ring-gai

More information regarding this research and findings are available in Council's End of Term Report 2017 – 2021 on pages 27-31 and 136-143.

Copies of research reports for 2017, 2019 and 2021 are available on Council's website at www.krg.nsw.gov.au/Communityfeedback

Performance Summary 2017 – 2021

Community Strategic Plan 2038

Progress results are provided, under the six themes contained in the Community Strategic Plan, for long term objectives and related performance indicators.

Community's long term objectives – progress

Long term objectives that contribute to environmental outcomes for Ku-ring-gai were assessed for the 2017 – 2021 period across the six themes in the Community Strategic Plan. Results indicated that satisfactory progress was made for 13 Long Term Objectives (93%) being assessed as 'on track', with one (7%) exception identified as being behind schedule within Theme 3: Places, Spaces and Infrastructure as follows:

P4.1: Our centres offer a broad range of shops and services and contain lively urban village spaces and places where people can live, work, shop, meet and spend leisure time.

Performance indicators – trend analysis

An assessment of performance indicators that contribute to environmental outcomes for Ku-ring-gai was also undertaken for the 2017 – 2021 period across the six themes in the Community Strategic Plan. Results indicated that 20 (77%) of the 26 performance indicators were achieved, and 6 (33%) were not achieved. One indicator had no results due to data not being available.

Achievements

Council delivered highly successful outcomes from environmental and sustainability programs and initiatives across the key areas of biodiversity, energy, water, sustainable transport, community recreation and community engagement and environmental education during the four year period.

Further details of environmental achievements will be provided in the complete State of the Environment Report 2017 – 2021, which will be published on Council's website following the December 4 local government elections.

Issues and challenges

There were significant issues and challenges that impacted on the progress of some environmental programs and initiatives over the period. Further details of issues and challenges and Council's responses will be provided in the complete State of the Environment Report 2017 – 2021, which will be published on Council's website following the December 4 local government elections.

Overview – State of the Ku-ring-gai environment

This section provides a description of the environment by areas identified within Council's adopted local Strategic Planning Statement 2020. The areas are:

- Open Space Network
- Bushland and Biodiversity
- Urban Forest
- Green Grid
- Water Sensitive City
- Energy and Greenhouse Gas Emissions
- Climate Resilience and Adaptation to the Impacts of Urban and Natural Hazards
- Waste

Further details of issues and challenges and Council's responses will be provided in the State of the Environment report, which will be published on Council's website following the December 4 local government elections.

Open Space Network

Ku-ring-gai Local Planning Priority

K27: Ensuring the provision of sufficient open space to meet the need of a growing and changing community

The Ku-ring-gai local government area has 3,356 hectares of open space, including the following:

- 1,747 hectares of bushland within three local national parks
- 1,151 hectares of natural areas
- 98 hectares of parkland and gardens
- 116 hectares of sportsgrounds
- 68 hectares of Council owned golf course; and
- 176 hectares of drainage reserve.

Bushland and Biodiversity

Ku-ring-gai Local Planning Priorities

K28: Improving the condition of Ku-ring-gai's bushland and protecting native terrestrial and aquatic flora and fauna and their habitats

K29: Enhancing the biodiversity values and ecosystem function services of Ku-ring-gai's natural assets

The Ku-ring-gai Local Government Area (LGA) contains significant bushland and a unique combination of soils, topography, vegetation and fauna habitats which support high biodiversity. The unique vegetation provides critical habitat for many species with highly restricted distributions. Many threatened plants, mammals, birds, reptiles, amphibians and invertebrates have been recorded within the LGA and the adjoining national parks. A number of significant vegetation associations are also present in the area, including many that are commensurate with threat-listed ecological communities under the *NSW Biodiversity Conservation Act 2016* and *Environment Protection and Biodiversity Conservation Act 1999*. Ku-ring-gai also contains a nationally significant camp of Grey-Headed Flying-Fox.

Urban Forest

Ku-ring-gai Local Planning Priorities

K30: Improving the quality and diversity of Ku-ring-gai's urban forest

K31: Increasing, managing and protecting Ku-ring-gai's urban tree canopy

Ku-ring-gai's urban forest comprises of all trees, other vegetation and the soil and water that support these. It includes the network of vegetation within both public and private ownership, encompassing the spectrum of vegetation growing within:

- natural soils that exist independent of human involvement
- altered soils, including gardens, bioretention basins, raingardens
- engineered structures such as tree cells/vaults, vertical and roof top gardens.

Like many cities around the world, Ku-ring-gai recognises our urban forest as a significant asset that is a fundamental part of a liveable, economically and ecologically sound community. Unlike traditional infrastructure such as roads and storm water systems, a well-managed urban forest accrues value and provides a greater variety of benefits including:

- increased public and private amenity
- contribution to areas current and desired future character
- enabling reduction of energy consumption
- increased land and property values
- increased social and health wellbeing
- recreational opportunities
- provision of shade and reduction of Urban Heat Island Effects
- reduced air pollution
- carbon sequestration
- provision and support of biodiversity
- increased ground water infiltration (improving drought tolerance and reducing storm water runoff).

Green Grid

Ku-ring-gai Local Planning Priorities

K32: Protecting and improving Green Grid connections

K33: Providing a network of walking and cycling links for leisure and recreation

K34: Improving connections with natural areas including river and creek corridors, bushland reserves and National Parks

Ku-ring-gai's liveability and sustainability rely on maintaining, managing and planning for green infrastructure. Green infrastructure is the network of green spaces and water systems within both public and private ownership, that deliver multiple environmental, economic and social values and benefits to urban communities. It extends beyond physical vegetative structures (such as the urban forest) and includes natural and semi-natural systems as well as the management and integration of various components of urban environments Greener Places (the draft green infrastructure policy by Government Architect New South Wales 2017) and the Greater Sydney Region Plan and North District Plan highlight the importance of planning for, protecting, creating and maintaining green infrastructure within Greater Sydney. This planning framework has sought to protect and improve Sydney's network of water related systems (our Hydrological Grid), biodiversity and urban forest (our Ecological Grid) and passive and active recreation and transport (our Recreational Grid).

Water Sensitive City

Ku-ring-gai Local Planning Priorities

K35: Protecting and improving the health of waterways and riparian areas

K36: Enhancing the liveability of Ku-ring-gai's urban environment through integrated water infrastructure and landscaping solutions

K37: Enabling water resource recovery through the capture, storage and reuse of water; alternative water supplies; and increased water efficiency

Ku-ring-gai Council is located to the north of Sydney's CBD and is best known for its natural beauty and urban villages dominated by green leafy streets with large residential blocks. Environmental values and water management are important to the community, and Council has a history of prioritising and investing in environmental issues and water sensitive urban design assets to protect high quality waterways.

A water sensitive city is one that takes an integrated approach to urban water management. In practice, this requires a holistic view of both the challenges and solutions related to urban water. It is a city that understands the complex and inter-related nature of the urban water cycle and seeks to deliver a more sustainable, liveable and prosperous city through smarter water management¹.

¹ CRC Water Sensitive Cities, 2021. What is a water sensitive city? Accessed at <https://watersensitivecities.org.au/what-is-a-water-sensitive-city/>

Energy and Greenhouse Gas Emissions

Ku-ring-gai Local Planning Priority

K38: Reducing greenhouse gas emissions by Council and the Ku-ring-gai community to achieve net zero emissions by 2045 or earlier

Climate change ranks amongst the most pressing issues facing our world and the way we live and addressing climate change is a top management priority for Council. It requires action and innovation from community, business and all levels of government. The warming of our climate system is unequivocal and since the 1950s many of the observed changes are unprecedented. Anthropogenic greenhouse gas (GHG) emissions are rising and are the dominant cause of warming, particularly from the burning of fossil fuels such as coal, oil and gas, for energy use. The impacts of climate change are accompanied by far-ranging economic, environmental and social costs that will increase over time with higher levels of warming. The rate of increase in GHG emissions is proportionate to the rate of increase in the risk of climate related impacts; the higher the concentration of GHGs in the atmosphere the greater the likelihood and magnitude of impact. Council has a responsibility to the Ku-ring-gai community to undertake activities that:

- effectively reduce the degree of climate change that occurs (through mitigation); and
- reduce the vulnerability, and increase the resilience, of the built and natural environment, the community and the economy to the risks of climate change (through adaptation).

Climate Resilience and Adaptation to the Impacts of Urban and Natural Hazards

Ku-ring-gai Local Planning Priorities

K39: Reducing the vulnerability, and increasing resilience, to the impacts of climate change on Council, the community and the natural and built environment

K40: Increasing urban tree canopy and water in the landscape to mitigate the urban heat island effect and create greener, cooler places

K43: Mitigating the impacts of urban and natural hazards

Recent climate-related extremes, such as heat waves, droughts, floods and bush fire, reveal that some ecosystems and many human systems are significantly exposed and vulnerable to current climate variability. The impacts of such events include altered ecosystems and terrestrial and freshwater species risk, disrupted food production and critical services, including power and water supply, damage to infrastructure and settlements and escalating costs of disaster recovery, and negative mental health and human wellbeing consequences, including morbidity and mortality. The impact of rapidly warming conditions on biodiversity is a common problem for land managers across the world. Conserving biodiversity is critical for the health and wellbeing of a community, with carbon storage, forage production, enhanced water supply and quality, pollinator support and outdoor recreation as just a few of the ecosystem services that may be impacted with a decline in biodiversity.

Waste

Ku-ring-gai Local Planning Priorities

K41: Reducing the generation of waste

K42: Managing waste outcomes that are safe, efficient, cost effective, maximise recycling, and that contribute to the built form and liveability of the community

The North District Plan acknowledges the diminishing capacity for land filling in Greater Sydney. It identifies planning priorities, objectives and actions, focused on managing waste efficiently, highlighting the need for innovative solutions to reduce the volume of waste and reduce waste transport requirements, as well as protecting and identifying new locations for waste recycling and management. The need to reduce waste and minimise the amount of waste sent to landfill have taken on even greater importance as state and federal governments address the future of recycling in Australia, given the reduction in recycling materials that can be exported. There are no landfills or resource recovery facilities within the Ku-ring-gai area to manage waste and recycling locally. Ku-ring-gai currently sends the majority of its waste to Woodlawn Bioreactor Landfill, with kerbside greenwaste being sent to an organics processing facility.

Waste management in multi-unit developments is a major issue for Ku-ring-gai due to a range of waste-related problems that are more prevalent than in single dwellings. Recycling streams tend to be more highly contaminated than those in single dwellings. Council has also experienced issues with dumped waste and the size of bulky waste collections outside large unit blocks. Increases in the number of multi-unit developments will amplify these problems.