



Healthy Built Environment Checklist



A guide for considering health in development policies, plans and proposals



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Executive Summary

A well-designed built environment can help reduce health risks and improve health outcomes. Creating built environments that encourage people to walk, cycle, take part in physical activity, use public transport and interact with community members can contribute to lifelong health and wellbeing. In contrast, poorly designed built environments can have negative effects on the physiological, psychological and social wellbeing of communities.

The Healthy Built Environment Checklist is a practical tool to help NSW health professionals and those outside the health sector, assess built environment factors that impact on health. It is designed to support engagement with planning processes and guide feedback on development policies and plans.

NSW will continue to undergo significant population growth and change over the next 20 to 30 years. How this growth is managed will have a significant influence on the health of the population. Health-focused planning can help deliver the quality local environments needed for well-connected and liveable communities in NSW that meet the needs of our growing population.

The planning and development process in NSW is multi-level and complex. Effective engagement in these processes needs to start early. There are several points in the process where health professionals can give feedback and offer advice, ranging from higher level state environmental planning policies, regional and district plans to local strategic planning statements, local environmental plans and development control plans.

The Checklist aligns well with current NSW Government priorities to deliver better environments and more liveable communities through greener public spaces in urban areas and increased tree canopy in the Greater Sydney area.

Guided by the principles of equity, early engagement, interdependence and partnerships, the Checklist also considers wider health determinants such as education, employment, housing, social networks and relationships, air quality, food, access to social infrastructure and health care. Many of these factors are either part of, or directly affected by, the built environment.

The Checklist aims to improve the amenity of the built environment for people, places and public spaces. It supports the capacity of health professionals to promote healthy planning as a core component of good design.



Healthy built environments support positive health outcomes by making healthy, active lifestyle choices easier.

part

1

How to use this Checklist





Pre-checklist activities

These activities should be carried out before you complete the detailed checklists in Part 4. These steps are designed to help you understand the policy, plan or proposal, the community it will affect and specific considerations for the development type and context.

1. Understanding the policy, plan or proposal

This part of the Checklist will help you to determine the type of development or plan, where it fits in the planning and development cycle and key intervention points.

It may be helpful to engage with council officers, government agencies, the consent authority of a particular development or the council duty planner.

These questions may help you understand the context:

What is being proposed? Is it a design concept, a new strategic plan, a re-zoning proposal, a mixed-use development or planning policy?

Where is it in the design or approvals process and what scope is there to influence the outcome?

Who created it – a private developer, council or another group?

Have you or your health service commented on a similar policy, plan or proposal before?

Who has been consulted during its development?

If it is a policy, what is the stated intent? Does it respond to and address a specific need?

Does it relate to any other relevant policies? If so, how?

Are the data and the information provided accurate? Can they be verified?

2. Understanding a particular development

What local government area is it in?

What are the applicable site boundaries?

What is known about the area, including surrounding land uses, location and quantity of community infrastructure and open space, access to public transport, employment opportunities and demographic trends?

What is the strategic planning context of the site where new infrastructure or development may be planned?

Is the development or plan likely to change population numbers and the community demographic profile?

What are the proposed development densities and housing types? Are there new employment opportunities?

Is there a commitment to affordable housing?

Is there a commitment to open space, active transport infrastructure (such as cycleways and pedestrian pathways) and community infrastructure?

Is there shade availability and canopy coverage?

Is there a colleague in your health service who has experience working in the area and with that community? If so, try to involve those people in the process.

Do you, or your health service, have an existing relationship with the council?

Would a health impact assessment provide insights that could influence the development?

3. Understanding the context

Understanding the community and local area is important when considering how the new development may influence health. You will need to check whether a policy, plan or proposal has considered the specific characteristics of the local community. The type and scale of the project and the planning assessment process will determine the detail needed.

Elements you may need to consider include:

Characteristics of the existing (including surrounding) population and the future (projected) population including size, age, household composition, socio-economic status and ethnicity

Vulnerable, disadvantaged or at-risk groups in the local population that may be further disadvantaged or placed at risk

Health issues of concern to the local community and local health district

Health determinants including housing conditions, types of housing, environmental and social issues, socio-economic status, employment levels, transport, social support, access to healthcare and sport and recreation facilities

Community consultation carried out previously.

For greenfield sites, it may be difficult to identify who the community will be. It could be the surrounding, existing community, the projected, future community, or both. Understanding the physical and social context of the development will help. Discussions with council planners may be useful.

4. Equity considerations

The questions below have been adapted from the Australasian Collaboration for Health Equity Impact Assessment.¹ They are essential in understanding the community and using the Checklist.

Who will benefit and who will most likely be affected?

What is known or understood about the sections of the community most likely to be affected?

How are vulnerable groups in the community being impacted?

What are the foreseeable impacts/ consequences resulting from the policy, plan or proposal?

What is the likelihood of these impacts?

Are effects likely to be differentially distributed by socio-economic status, ethnicity, gender, geography, or some other factor?

What, if any, recommendations or changes could reduce inequities and improve positive impacts?

You may also need to consult with people in the local area who understand the community and its dynamics:

- council strategic planning divisions, social planners or community development services
- community health centre workers and community service providers
- local community development workers
- the local health district.

For new developments, it can be beneficial to understand the demographic profiles of similar or nearby communities to see what the key similarities and differences might be. This is particularly important for greenfield development.

5. Site visit

It is a good idea to visit the site if you are not familiar with the area. It can help you get a better understanding of the context and local community. Check if you need permission from the land owner or whether it is public land and consider sensible safety precautions.

Applying the Checklist

Once you have completed the pre-checklist activities, go through chapters one to 11 in part three of the Checklist.

Part four sets out the checklist questions. The questions are grouped under 'general' and 'built form' headings. General questions relate to the objectives or intent of a policy, plan or proposal. Built form questions relate to physical aspects of the policy, plan or proposal and can be determined by looking at maps and plans that accompany a policy, plan or proposal. The questions can be found on pages 88 - 125.



Tips for drafting your response

The forms at the end of this document will help you follow a two-step process.

Step one: Gather your material

Complete the relevant part of the Checklist for each chapter. It identifies whether there are any significant concerns and possible recommendations or suggestions.

Step two: Shape your response

Decide which of the points you have gathered are most relevant and add them to the written response form. If you find it difficult to decide which ones to incorporate, you may find the advice form on page 140 helpful.



Make sure you identify positive and negative points

The written response requires careful consideration, analysis and structure. This is not a 'tick a box' checklist and your response must reflect that. When you give advice, mention and support the positive elements of the policy, plan or proposal wherever possible. The focus of the Checklist is as much on encouraging positive, health promoting aspects of development as it is on identifying potentially negative impacts and suggesting ways to mitigate them.



Use the strongest evidence you have

It is important to support recommendations with evidence. This may include information from the literature, including evidence cited in the Checklist, data from a community profile, or health statistics from your research. The National Health and Medical Research Council publishes guidelines on grades of evidence.²



Take care when citing evidence of cumulative effects

Some health effects of development are cumulative and can not reasonably be used

against a single development proposal. For example, the effect of a single suburban development on air quality may be negligible, although the cumulative impact of many car-dependant developments may be significant.

In situations like these, the response should acknowledge that no single development can be made responsible for a wider problem and note the likely cumulative health impacts of a number of similar small development proposals.



Talk to the person who will receive the advice if you can

It is a good idea to speak with the person who will receive your advice before you submit it. Do this when you have formed a fairly clear idea of what you want to say and you can gauge whether it will be useful and relevant. This is particularly useful if your response will not wholly support the policy, plan or proposal.



Your response is likely to be one of several submissions

Planners will probably have to review several submissions before they make a decision on a policy, plan or proposal. You need to keep your points concise and make sure they are evidence-based.

part

2

Health, planning and the built environment





Introduction

Chronic disease has overtaken infectious disease as the leading cause of ill-health in Australia. Chronic diseases such as cancer, cardiovascular diseases and musculoskeletal conditions contributed the most burden in Australia in 2015.³

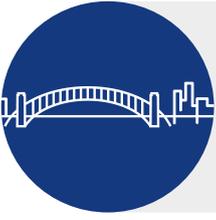
A range of factors influence a person's health. As well as individual characteristics such as age and gender, these factors include education, employment, housing, access to food and social infrastructure.

The World Health Organization's 'social determinants of health' model shifts the focus from the health of the individual to the health of the community.⁴ It also encourages prevention and early intervention, which includes changing aspects of the environment that contribute to ill-health.

The built environment has a direct effect on health

There is growing acceptance that the design of the built environment affects opportunities for people to live healthier lives. In NSW, health is recognised as a core component of good design and a key feature of liveable communities and sustainable development.⁵

Well-designed environments can contribute to lifelong health and wellbeing by encouraging people to walk or cycle, interact with other community members and make healthy food choices.⁶



By 2036, metropolitan Sydney will be home to 6.4 million people, nearly 65 per cent of the NSW population.⁷

Rapid population growth requires health focused planning

The population of NSW was 7.95 million in 2018. By 2026, this figure will have grown a remarkable 14 per cent, adding nearly 1.1 million people to the state's population. By 2036, it will be around 9.9 million – a 29 per cent increase in 20 years. This future population will have a higher average age and higher rates of illness and disability.⁷

Without careful planning, this growth is likely to bring negative health outcomes and entrench current health inequities.

Sydney will be home to 65 per cent of the NSW population by 2036

The Greater Sydney Commission's vision for Greater Sydney is based on a metropolis of three cities: the established Eastern Harbour City, the developing Central River City and the emerging Western Parkland City.⁸

By 2036, metropolitan Sydney will be home to 6.4 million people, nearly 65 per cent of the NSW population.⁷

The population of the Western Parkland City and the Central River City will grow by more than one million people between 2016 and 2036.^{9,10} By 2056, almost half of Greater Sydney's population will reside west of Parramatta.⁸ Significant population growth will be from a new urban corridor from Greater Macarthur in the south west, through to Bringelly and Penrith in the west and Rouse Hill in the north west.⁸

As Greater Sydney grows, Greater Parramatta will be a focal point for Sydney's second CBD – the Central River City. The emerging Western Parkland

City will be established on the strength of the new international Western Sydney Airport and Badgerys Creek Aerotropolis. The Western Parkland City will also be supported by the strategic centres of Liverpool, Campbelltown-Macarthur, Blacktown and Greater Penrith.⁸

The Department of Planning, Industry and Environment has identified a series of planned precincts in the Greater Sydney region. These are locations with good access to existing or planned public transport connections and are suitable for rejuvenation that will create new homes and jobs. The Department is working with councils and communities to plan for increased development supported by priority infrastructure – including schools, parks, transport, hospitals and road upgrades.¹¹

New homes and jobs, supported by infrastructure, for several growth areas in greenfield or new land release areas are also being planned for.

Populations in regional and rural NSW will also grow

Parts of regional NSW are also experiencing significant population growth, particularly near the coast and in larger regional cities. A significant change in settlement patterns is the movement of people from small towns to larger ones.



Features of the built environment that influence health

Macro built environment features can positively influence health

Macro features of the built environment that can promote health include:

- street connectivity and smaller block sizes that influence walkability, permeability and route options
- streetscape safety and amenity, including lighting
- pedestrian pathways that minimise conflict between vehicles, cyclists and pedestrians
- local living destinations such as supermarkets, shops, parks and public transport
- the location, size, amount and connections of open space, vegetation and shade
- transport and movement networks, including public transport, pedestrian pathways and cycleways.

Design approaches can encourage physical activity and improve health outcomes

The right design approach can encourage physical activity. Enjoyable built environments can significantly extend the distances people are willing to walk.¹²

The following built form elements can help increase physical activity among adults:¹³

- the number of destinations such as transit stations, shops, community facilities and open space within walking or cycling distance
- greater diversity in land use
- shorter distance to transit stops
- neighbourhood walkability.

Urban sprawl can lead to physical inactivity and poor health outcomes

Low density suburban development, or 'urban sprawl', does not tend to encourage healthy communities. It often produces increased reliance on cars, decreased ability to walk to destinations, lower neighbourhood cohesion and environmental degradation.^{14, 15}

There is growing evidence of links between contemporary public health epidemics, such as obesity and depression and the increasing suburbanisation of Australian cities.¹⁶

Concerns around low density suburban development also include the separation of home and work, which is linked to behaviour patterns that contribute to poor physical and mental health.¹⁷

Negative features of these environments include:

- shops that are a long way from homes, which increases car dependency
- streetscapes that lack shade, are unfriendly or unsafe, reducing the number of children who walk to school or play outside and preventing other groups from undertaking incidental physical activity
- residential areas with little housing diversity that function as 'bedroom communities' where non-working residents may experience social isolation
- few local jobs, forcing people into long commutes with reduced time for family relationships and activities.¹⁸

Mixed housing types, walkable neighbourhoods and micro features support health

Contemporary planning focuses on more connected forms. Housing types are mixed, neighbourhoods are walkable and shops and jobs are closer to home. Health considerations play an important role in planning and ensuring new suburbs, centres and towns are more sustainable.¹⁹

The built form can also influence health outcomes at the micro level. Stairs encourage incidental activity, while well-placed windows improve natural ventilation and access to sunlight.

The built environment can support rural healthcare solutions

There have been major improvements in rural healthcare, although many people living in rural NSW still experience a range of poor health outcomes. This is compounded by geographic isolation, socio-economic disadvantage, climate and a greater exposure to the risk of injury.

The 2018 NSW Population Health Survey found that people living in outer regional and remote NSW are more likely to be overweight or obese than those living in major cities.²⁰ People living in outer regional and remote areas are also more likely to be admitted to hospital for conditions where hospitalisation could have been prevented by timely and appropriate provision of primary or community-based health care.²¹

People living in rural communities may have to travel greater distances than people in urban areas to access healthy foods and engage in physical activity.²² Public transport is essential for healthcare access.²³ Quality park amenities encourage children and adults in rural communities to take part in physical activity.²⁴

Better quality neighbourhoods promote liveability. Ease of access to services and opportunities for social participation contribute to healthy active ageing and overall life satisfaction.²⁵



Planning and development frameworks

About the NSW planning system

This section provides an overview of the statutory and strategic planning frameworks in NSW and ways you can comment on and inform these processes.

The NSW planning system promotes the social and economic welfare of the community and a better environment through the proper management, development and conservation of the state's natural and other resources.

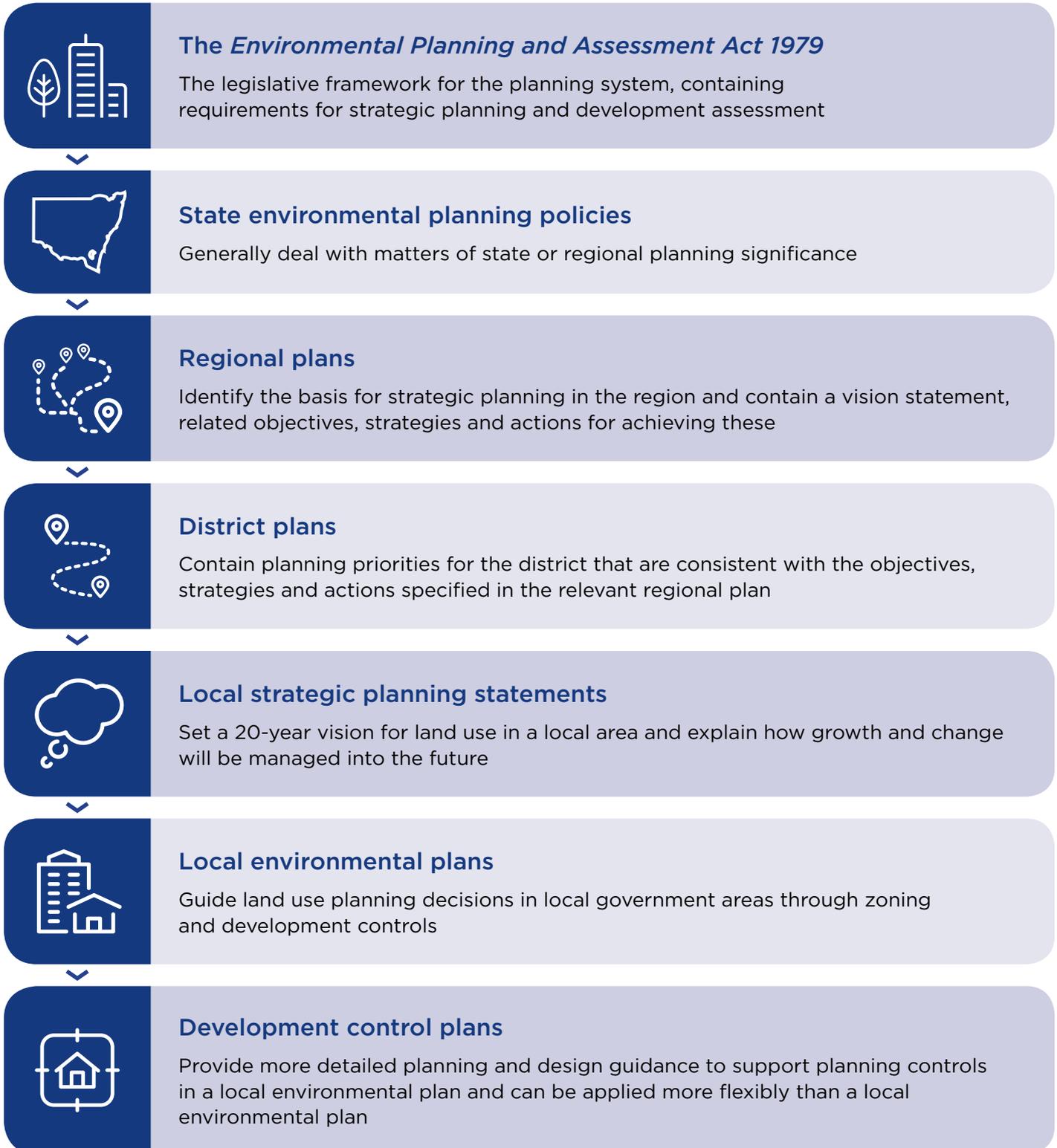
The NSW Department of Planning, Industry and Environment helps to provide homes and services, build great communities, create jobs and protect the environment.

It does this by:

- creating plans for the future of regions and local areas
- revitalising urban areas
- providing land for new homes, services and open space
- assessing important projects to balance the need for new jobs with the needs of the community and environment
- developing policies that guide planning activity for state and local government.

The Greater Sydney Commission coordinates planning to shape the future of Greater Sydney. It operates under the *Greater Sydney Commission Act (2015)* and is responsible for regional and district planning across Greater Sydney.

NSW planning system - a simplified overview



Local infrastructure contributions plans help fund public infrastructure through the dedication of land, the payment of a monetary contribution, or both.

Special infrastructure contributions help fund some state and regional infrastructure.

Voluntary planning agreements help planning authorities and developers work together to provide infrastructure.

Environmental planning and assessment

Land use planning and development in NSW is governed by the *Environmental Planning and Assessment Act 1979*. The Act describes the process for preparing environmental planning instruments and strategic plans, the function of different consent authorities, the approval process and considerations for different development types.

For development that requires consent, section 4.15(1) (b) requires assessment of the likely impacts of the development, including environmental, social and economic impacts in the locality.

State environmental planning policies

State environmental planning policies (SEPPs) generally deal with matters of state or regional planning significance. They cover matters including building design, environmental management, remediation of land, agricultural production and affordable housing. Current state environmental planning policies are available on the NSW Department of Planning, Industry and Environment website.

When a development application is assessed, there is a requirement to consider relevant state environmental planning policies.

Regional plans and district plans

Regional plans and district plans provide direction and actions to guide the planning for housing, jobs, infrastructure and a healthy environment for future populations across NSW.

Each council also prepares a local strategic planning statement for its local government area. This statement includes planning priorities consistent with any regional or district plans and their community strategic plan.

Greater Sydney Region Plan

The Greater Sydney Region Plan, *A Metropolis of Three Cities*, seeks to reshape Greater Sydney as three cities – the Western Parkland City, the Central River City and the Eastern Harbour City. The plan aspires to a 30-minute city, where people live within easy reach of jobs, services and great public places. It also seeks to boost liveability, productivity and sustainability and contains an objective for housing to improve diversity and affordability.

The Greater Sydney Green Grid aims to create a network of high quality green areas that connect centres, public transport and public spaces to green infrastructure and landscape features.

District plans for Greater Sydney

There are five district plans for Greater Sydney which identify the planning priorities and actions for each district, consistent with the Greater Sydney Region Plan.

The five districts are:

- **Western City district** – Blue Mountains, Hawkesbury, Penrith, Camden, Campbelltown, Fairfield, Liverpool, Wollondilly
- **Central City district** – Blacktown, Cumberland, Parramatta and The Hills
- **Eastern City district** – Bayside, Burwood, Canada Bay, Inner West, Randwick, Strathfield, Woollahra, Waverley and City of Sydney
- **North district** – Hornsby, Hunters Hill, Ku-ring-gai, Lane Cove, Northern Beaches, Mosman, Willoughby, Ryde, North Sydney
- **South district** – Georges River, Canterbury-Bankstown, Sutherland.

Each district plan includes chapters on infrastructure, collaboration, liveability, productivity and sustainability and actions to encourage healthy outcomes.



Regional plans for other parts of NSW

Regional NSW has nine Planning regions. Each has a regional plan to 2036 that has been prepared by the NSW Department of Planning, Industry and Environment. These provide a strategic approach for housing, jobs and infrastructure and help to achieve a healthy environment and balanced use of natural resources. Each plan is supported by a delivery coordination and monitoring committee and through annual monitoring.

The nine planning regions are:

- Central Coast
- Central West and Orana
- Far West
- Hunter
- South East and Tablelands
- Illawarra Shoalhaven
- New England North West
- North Coast
- Riverina Murray

Local strategic planning statements

Following changes in 2018 to the *Environmental Planning and Assessment Act 1979*, each council must prepare a local strategic planning statement.

The statement sets out the 20-year vision for land use in the local area, the special characteristics which contribute to local identity, shared community values to be maintained and enhanced and how growth and change will be managed into the future. It must align with the relevant regional plan and district plan and the council's own community strategic plan.

The local strategic planning statement shapes how the council's local environmental plan evolves over time. The statement identifies planning priorities and the actions required for achieving these priorities.

Each statement is intended to be a succinct and easy to understand document that allows community members to contribute to and understand the future direction of land use in their area. It must also show how the council will monitor and report on progress. Councils should develop their statement as a single document for the whole council area, but may also address matters on a ward basis.

Local strategic planning statements focus on the vision and priorities for land use in the local area. In contrast, community strategic plans have a broader focus on achieving the long-term social, environmental and economic aspirations of the community.



Local environmental plans

Local environmental plans (LEPs) guide land use planning decisions for local government areas. They contain rules about the type of development that can occur on each parcel of land and identify natural areas for protection. They are the main planning tool to shape how the built environment in a local government area can change over time.

These plans assign a zoning to each parcel of land and this determines the type of development, such as housing or industrial activity, that is permissible. They also contain development controls that set rules for the height of buildings, floor space ratio and heritage conservation.

They are typically prepared by councils in consultation with their community and approved by the Minister for Planning and Public Spaces or their delegate.

Consultation with government agencies and the public exhibition period provide opportunities for health professionals to comment on the plans.

Process for preparing a local environmental plan

1. The planning proposal

The planning authority prepares the planning proposal. This is usually the council but could also be the Secretary of the NSW Department of Planning, Industry and Environment, a Sydney Planning Panel, or a Regional Planning Panel.

2. Gateway assessment

The Minister (or delegate) decides if the planning proposal can proceed (with or without variation) and subject to other matters including further studies, public consultation, public hearings, agency consultation and timeframes. A planning proposal does not usually proceed without conditions of this kind. The conditions are then complied with and if necessary, the proposal is changed.

3. Community consultation

The proposal is publicly exhibited as required by the Minister. A person making a submission may also request a public hearing.

4. Assessment

The planning authority reviews public submissions. The Parliamentary Counsel then prepares a draft local environmental plan.

5. The making of the local environmental plan

With the Minister's (or delegate's) approval, the local environmental plan is published on the NSW legislation website.

Opportunities for comment

A planning proposal must outline the proposed community consultation. This includes public exhibition and details of any government agencies that will be consulted.

Large or complex planning proposals may include a community consultation strategy.

Public notification of the planning proposal is generally through council websites, the NSW Department of Planning, Industry and Environment website, local newspapers and letters to surrounding landowners.

Development control plans

Development control plans (DCPs) support local environmental plans with more detailed planning and design guidance, including guidance on land zones.

A development control plan must be publicly exhibited for at least 28 days, with the exhibition notified in a local newspaper and usually on the council website.

This stage is a good opportunity to propose urban design principles that can foster the development of a healthy built environment. The checklist questions in this guide can be used to inform development control plans.

Including health objectives and relevant design principles in a development control plan creates a more proactive approach towards healthy built environments. It requires planners, urban designers, landscape architects and engineers to consider the requirements at the start of the design process. If healthy urban design principles are only introduced at the development assessment stage, after a concept design has been prepared, retrospective changes can be difficult and ad-hoc.

Development contributions plans and agreements

Local infrastructure contributions plans

A council may prepare a local infrastructure contributions plan to help fund public infrastructure through the dedication of land or a monetary contribution.

The plan can levy contributions from a development proponent if the proposed development will increase demand for public amenities and services within the area. These can be used to help cover the cost of local infrastructure such as:

- a) local roads and traffic management
- b) libraries and community centres
- c) open space and drainage
- d) plan administration.

Assessments are often done to determine the demand for social infrastructure in a locality.

The input of health professionals may be useful when the plan is on public exhibition, although the most valuable input is likely to be on social infrastructure studies that determine the quantity and design of community infrastructure needed to support health and wellbeing.

Special infrastructure contributions

Special infrastructure contributions are also used to help fund some key state and regional infrastructure in high growth areas. This can include:

- state and regional roads
- transport facilities such as bus shelters and interchanges
- regional open space, pedestrian links and cycleways
- social infrastructure such as schools, healthcare and emergency services
- planning and offsetting biodiversity impacts.



A council may prepare a local infrastructure contributions plan to help fund public infrastructure through the dedication of land or a monetary contribution.



Voluntary planning agreements

A voluntary planning agreement (VPA) can allow planning authorities and developers to work together to provide infrastructure, such as community facilities, as part of a development proposal. This means the whole community can benefit from a development.

A voluntary planning agreement may be made for a developer to dedicate land, or pay a monetary contribution, for a public purpose. A public purpose can include the provision of (or the recoupment of the cost of providing):

- public amenities or public services
- affordable housing
- transport or other infrastructure relating to land
- the conservation or enhancement of the natural environment.

Development types and specific contexts

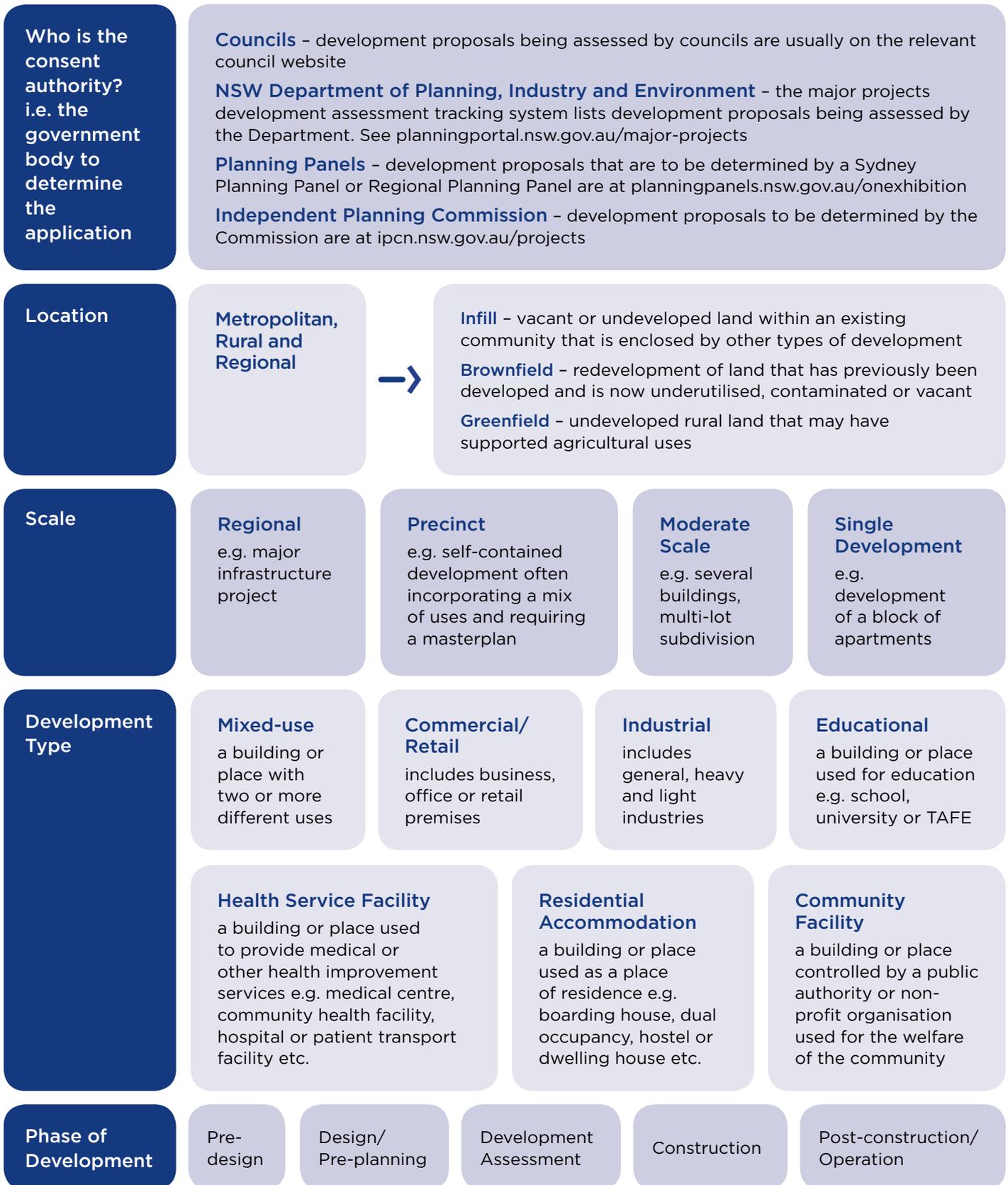
Specific development contexts include urban renewal and infill, greenfield development, semi-rural and rural or regional. Within these, common development types include multi-unit residential, commercial and mixed-use developments.

While the Checklist can apply to different development contexts, a specific development will need to reflect and respond to the surrounding context and its community.



A specific development will need to reflect and respond to the surrounding context and its community.

Understanding development types – a general guide



Note: Definitions and permissible uses may vary between different local environmental plans. The relevant planning instrument should be consulted when undertaking a planning assessment. See also Standard Instrument (Local Environmental Plans) at legislation.nsw.gov.au

Development assessment pathways

In NSW, there are different development assessment pathways depending on the type, complexity, scale and capital investment value. The opportunity for input into development assessment depends on the type of development and its planning approval pathway.

Exempt development

Most exempt development is defined in the *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* and includes low impact development that does not require planning approval.

Complying development

A fast-track approval process for straightforward residential, commercial and industrial development. It can be determined by a council or an accredited certifier. Most complying development is defined in *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

Local development

The most common type of development in NSW, ranging from home extensions to medium-sized commercial, retail and industrial developments. If development consent is required by a local environmental plan or state environmental planning policy it is considered a local development (so long as it is not regionally or state significant development). It is assessed and determined by the relevant council.

Regional development

This is defined in Schedule Seven (regionally significant development) of the *State Environmental Planning Policy (State and Regional Development) 2011*. Regional development includes development with a capital investment value over \$30 million as well as other categories of development. It is assessed by the relevant council and determined by a Sydney Planning Panel (Greater Sydney) or a Regional Planning Panel (outside of Sydney).

State significant development

This is significant due to its size, economic value or potential impact. It is defined in Schedules One and Two of the *State Environmental Planning Policy (State and Regional Development) 2011*. It is assessed by the NSW Department of Planning, Industry and Environment and determined by the Minister for Planning and Public Spaces or the Independent Planning Commission.

State significant infrastructure

This includes major transport and service development that have a wider significance and impact than just the local area. It is defined in Schedules Three and Four of the *State Environmental Planning Policy (State and Regional Development) 2011*. It is assessed by the NSW Department of Planning, Industry and Environment and determined by the Minister for Planning and Public Spaces.

Key involvement points

Providing input on development plans, policies and decisions

The statutory and strategic planning frameworks provide opportunities for input at several stages and when documents are on public exhibition. These include at the draft stage for **state environmental planning policies, regional plans, district plans, local environmental plans, local strategic planning statements and development control plans**.

For **development contributions plans**, there is potential for input into social infrastructure needs assessments.

For **development proposals**, there is potential for involvement if the consent authority requests input during the referral process.

In addition, there are opportunities to set early visions for health related matters during the pre-design phase.

These opportunities depend on developing working relationships with planning authorities and councils. Potential involvement points in a typical development assessment process are on page 25. To enable change and meaningful participation, health workers also need to form working relationships with land use planners and decision makers.

Potential participation points in a development assessment process



Typical development assessment process



Potential for involvement



Design phase

– often involves planners, urban designers, architects, landscape architects and engineers

Build capacity within the design and development sectors. Education can help create change and healthy built environments.



Pre-application consultation

– an applicant meets with the assessment authority before submitting a development application to understand the policies and planning instruments and explain their objectives

Build capacity within councils to include principles of healthy development in council policies and development controls. Use the pre-application consultation to highlight issues early in a project design or assessment process. If principles of healthy development are part of the development control plans, these can be considered in the design of a development.



Referral

– development applications may be referred to other agencies including NSW Health

Environmental planning instruments contain varying referral requirements. Certain developments may require concurrence from other government agencies.



Public exhibition/ consultation

Public exhibitions of policies, strategic plans and development proposals provide an opportunity to comment.



Assessment

– by the consent authority

When assessing the development, the consent authority will consider the requirements of all relevant environmental planning instruments and any applicable development control plan.



Determination

– by the consent authority

Conditions can be imposed by the consent authority.

Rating tools

In Australia, the most common certification tools to rate sustainability at the design and construction stages are the Green Star tools by the Green Building Council of Australia.²⁶ The US Green Building Council tool, Leadership in Energy and Environmental Design (LEED), is also used.²⁷

These tools rate the sustainability performance of a development in different categories and include features to encourage and support healthy built environments. They do not address health considerations in a comprehensive way, although they provide opportunities for co-benefits for health outcomes by encouraging best practice design solutions.

The tools are evolving and there are opportunities for health professionals to work with organisations to better incorporate specific health considerations.

The WELL Building Standard, a rating tool solely on health and wellbeing, was released in 2014.²⁸

Green Star

The Green Star tools assess the environmental attributes of new and refurbished developments.

Tools include:

- **Green Star – Communities:** assesses the planning, design and construction of large-scale development projects at a precinct, neighbourhood and/or community scale across the categories of governance, liveability, economic prosperity, environment, and innovation
-

- **Green Star – Design and As Built:** assesses the sustainability outcomes from the design and construction of new buildings or major refurbishments
- **Green Star – Interiors:** assesses the sustainability outcomes of interior fitouts
- **Green Star – Performance:** assesses the operational performance of buildings.

The Green Star rating system is scaled to a star level from one to six stars. Ratings of four stars or higher can be submitted for certification for best practice (four stars), Australian excellence (five stars) or world leadership (six stars).

Leadership in Energy and Environmental Design (LEED)

The current version has four rating systems available: building design and construction, interior design, neighbourhood development and operations and maintenance.

The WELL Building Standard

This is a performance-based standard that merges best practice in design and construction with evidence-based health and wellness interventions. It is administered by the International WELL Building Institute, a public benefit corporation.

It assesses the performance of a project against seven categories of wellness: air, water, nourishment, light, fitness, comfort and mind. It offers three levels of WELL certification: silver, gold and platinum.

Other rating tools include the National Australian Built Environment Rating System (NABERS), the Living Building Challenge and the Building Sustainability Index (BASIX).



Community strategic plans

An additional opportunity for involvement exists under the *NSW Local Government Act 1993* within council's Integrated Planning and Reporting (IPR) framework. Under this framework, community strategic plans are the highest level of strategic planning by a council. They identify the main priorities and aspirations of the community and provide a clear set of strategies to achieve these.

Councils must take into account relevant state and regional plans and strategies, allowing for integrated planning.

The plan identifies who is responsible for all aspects of its implementation, as not all activities are the responsibility of the council.

The community strategic plan is an important intervention point for including health considerations in local government planning. Health priorities can be promoted in a council's community strategic plan by:

- identifying health issues during community engagement when developing the community strategic plan
- including health priorities in the goals, objectives and/or strategies of the plan
- including health outcomes as performance measures
- bringing attention to other determinants of health.

Councils are also required to produce a resourcing strategy, four-year delivery program and annual operational plans.

Joint Organisations (of councils) in regional NSW prepare separate statements of strategic regional priorities which set out a vision for the region and a strategic work program to deliver it.



Councils' community strategic plans must take into account relevant state and regional plans and strategies.



More information

Addressing active living and healthy eating through local council's Integrated Planning and Reporting Framework, Active Living NSW. See heartfoundation.org.au

Government Architect NSW policies and guides including *Better Placed*, *Greener Places*, *Integrating Urban Design*, *Urban Design for Regional NSW*, and *Aligning Movement and Place*, Government Architect New South Wales. See governmentarchitect.nsw.gov.au

Greater Sydney Region Plan, Greater Sydney Commission. See greater.sydney

Green Star rating tools and resources, Green Building Council of Australia. See new.gbca.org.au/green-star

Health Impact Assessment: A Practical Guide, NSW Health, UNSW. See hiaconnect.edu.au

Healthy Active by Design, Australian Heart Foundation. See healthyactivebydesign.com.au

Healthy Streets. See healthystreets.com

Local Character and Place Guideline, Department of Planning, Industry and Environment. See planning.nsw.gov.au

Planning portal, state environmental planning policies, local environmental plans and regional plans, and district plans, Department of Planning, Industry and Environment. See planning.nsw.gov.au and planningportal.nsw.gov.au

Resources for designing and planning good quality shade for skin cancer prevention, Cancer Institute NSW. See cancer.nsw.gov.au

Resources from the WHO Healthy Cities Movement, World Health Organization. See euro.who.int



Useful data sources

Australian Institute of Health and Welfare. See aihw.gov.au

Bureau of Crime Statistics and Research. See bocsar.nsw.gov.au

Cancer incidence and mortality data, NSW Cancer Registry. See cancer.nsw.gov.au

Census data and socio-economic indexes, Australian Bureau of Statistics. See abs.gov.au

Family and Community Services data and statistics. See facs.nsw.gov.au/facs-statistics

HealthStats NSW. See healthstats.nsw.gov.au

part

3

The 11
checklist
themes







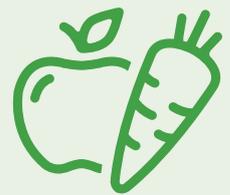
01 | Healthy eating



Key questions

How does the policy, plan or proposal:

- a** promote access to fresh, nutritious and affordable food and drink?
- b** discourage over-consumption of unhealthy food and drink including alcohol?
- c** preserve food growing (agricultural) areas?
- d** support local food production?



Why healthy eating and drinking matters

Access to clean water and fresh, nutritious, affordable food is a basic requirement for health

Clean water and fresh, nutritious, affordable food are essential for health and wellbeing.

The built environment has a direct influence on access to healthy food. Some Australian families find it hard to access healthy food because they do not have affordable healthy food outlets locally or within easy reach.²⁹ Other factors affecting healthy food access include income, physical ability, public transport, safe walking routes and facilities to store and prepare healthy food.³⁰

The NSW Population Health Survey found that between 2005 and 2014, 6.1 per cent to 6.9 per cent of people lived in a household that had run out of food in the past 12 months and could not afford to buy more.²⁰

Over-consumption of unhealthy food is detrimental to health

Eating healthier foods, especially more fresh fruit and vegetables, helps to reduce the risk of obesity and chronic disease.³¹

Poor diets are a major contributor to disease and a risk factor for coronary heart disease, some cancers, Type 2 diabetes and obesity.³²

Poor diets also reflect wider social inequalities. Those most at risk of having limited access to healthy food include low income families, people who are unemployed or have limited formal education, people with a disability or mental illness, people from culturally and linguistically diverse backgrounds, frail elderly people, people affected by alcohol and/or substance use, homeless people and people from Aboriginal backgrounds.²⁹

Preserving food growing areas helps guarantee food supplies

To keep fresh food available locally, it is important to retain and where possible, increase opportunities for agricultural and horticultural uses.⁸

Landholders, developers and regulators can use a 'land use conflict risk assessment' to look at conflicts and risks around developments on agricultural land to avoid and manage them.

Local food production can improve access to affordable fresh food

Growing food locally can reduce transportation costs. It can also improve the affordability of healthy food, create opportunities for local employment in agricultural production and reduce traffic congestion and air and noise pollution.³³

It can also mean less need for transport infrastructure and additional processing that can stop food from spoiling.³⁴

'Food-sensitive urban design'³³ and the 'edible city'³⁵ methods show we can grow food in urban areas. These methods aim to keep the most productive agricultural lands for food use rather than development and recommend zoning to allow food production in employment areas and industrial zones. These methods also promote food items including edible plants in landscaping such as on roofs, in parks, streetscapes and community gardens.





Evidence and leading practice



Promote access to fresh, nutritious, affordable food and drink

Increasing the proportion of healthy food stores such as supermarkets and greengrocers can lead people to buy more fruit and vegetables.³⁶

Food choices are affected by the types of food outlets located near the home as well as the distance and location of healthy and non-healthy food outlets.³⁷

A US study showed that having a variety of healthy food outlets within 500m of a residential location can increase fruit and vegetable consumption.³⁸ Other research from the US suggests that each extra healthy food outlet within 800 metres of a home can help reduce obesity risks by 20 per cent.³⁹

A high prevalence of fast food outlets near schools and workplaces has been shown to negatively impact on people's food choices.^{40, 41, 42} US research shows that increased exposure to fast food restaurants can negatively influence children's eating habits.⁴³

Healthy food displays encourage healthier choices

Increasing the visibility of healthy foods in shops can encourage people to buy more fruit and vegetables.^{44, 45, 46, 47}

Public transport can improve access to healthy food

Public transport can help people access healthy food shops. Low-income families often have difficulty buying affordable healthy food because shops can not be easily reached by public transport.²⁹ Transport routes, schedules and the lack of space on board to store shopping are all factors.⁴⁸

'Shopping shuttles', home delivery services and support for local shops and convenience stores may be effective. New developments, particularly in high density environments, can provide opportunities for additional local shops, for example, adequate retail floor space for a supermarket.⁶

Drinking water fountains in public places support healthy choices

Water is vital for a healthy diet, especially for children. Not drinking enough water has been linked with poor health, including obesity.⁴⁹ The Australian Dietary Guidelines recommend water instead of sugar-sweetened drinks,⁵⁰ which are linked to a higher risk of obesity.⁵¹

Installing drinking water fountains and water bottle refilling stations in public areas can increase water intake.⁵² It can also reduce the use of single use bottles. Providing reusable bottles, as part of a community-wide intervention, can encourage people to use water refill stations.⁵²



Not drinking enough water has been linked with poor health, including obesity.⁴⁹

Space for breastfeeding mothers can benefit infants

Breastmilk contains all the nutrients infants need for proper growth and development. Breastfeeding mothers need safe and appropriate spaces for breastfeeding. Designated mothers' rooms and spaces in new developments can support this.⁵³



Discourage over-consumption of unhealthy food and drink including alcohol

In Australia, the top three preventable risk factors for disease are tobacco, overweight and obesity and all dietary risks.⁵⁴ The consumption of unhealthy food and drink is a significant risk factor for overweight and obesity.³² Higher densities of alcohol outlets can contribute to poorer health outcomes and increased violence.⁵⁵

C Preserve food growing (agricultural) areas

Green infrastructure and urban agriculture add to the food network

Green infrastructure is the network of green spaces in urban communities – from farms, parks, backyards and street planting to sports fields. These spaces are used in urban agriculture to grow food, creating a food network that complements the traditional commercial network.

d Support local food production

Home and community gardening improves health and wellbeing

Community gardens allow community members to develop the skills and knowledge to grow and harvest their own fresh produce.³¹ Community gardening benefits the people who do the gardening and those who eat the fresh produce and enjoy an improved local environment.⁵⁶

Research in Queensland shows community gardens in schools introduce children to different vegetable types and their nutritional value.⁵⁷

Growers' markets and mobile shops help support local food production

Growers' markets can increase fruit and vegetable consumption among low-income consumers.⁵⁸ To reach low-income consumers, farmers markets must be accessible, operate during flexible hours and conduct promotions and offer payment options that match the cash flow of low-income customers.⁵⁹ Growers' markets should not take the place of outlets with more regular access to healthy foods.

Local mobile food vans and farm stands have also been found to increase healthy food consumption.^{60, 61, 62}



More information

Nutrition and dietary requirements

Australian Dietary Guidelines 2013, National Health and Medical Research Council. See nhmrc.gov.au

Strategies and examples for availability and access to healthy food

National Monitoring in Public Health Nutrition, Australian Government, Department of Health and Ageing. See health.gov.au

NSW Healthy Eating and Active Living Strategy: Preventing overweight and obesity in New South Wales, NSW Ministry of Health. See health.nsw.gov.au

Land use planning and healthy eating

Agriculture and Land Use Planning and Land Use Conflict Risk Assessment Guide 2011, and **Right to Farm Policy 2015**, NSW Department of Primary Industries. See dpi.nsw.gov.au

Biophysical strategic agricultural land maps: NSW Department of Planning, Industry and Environment. See planning.nsw.gov.au

Trends in Alcohol Use and Health-Related Harms in NSW, Centre for Epidemiology and Evidence, NSW Ministry of Health. See health.nsw.gov.au



02 | Physical activity



Key questions

How does the policy, plan or proposal:

- a** encourage physical activity?
- b** promote opportunities for walking, cycling and other forms of active transport?
- c** promote access to quality open spaces, including green space and recreational facilities?



Why physical activity matters

Regular physical activity has many health benefits. It reduces overall mortality, symptoms of stress and depression, the risk of preventable injury, type 2 diabetes and certain cancers.⁶³

Physical activity can be planned or incidental. Planned physical activity is deliberate activity, such as going for a jog or swimming laps. Incidental physical activity is part of normal daily activity, such as walking to the bus stop, using the stairs at work or doing household tasks.⁶⁴

Urban design features that increase physical activity include separated and well-connected walkways and cycleways, footpaths and pedestrian crossings, awnings along pathways and pathways that avoid steep slopes.

Other built environment factors that influence physical activity are discussed in our chapters on transport and connectivity (chapter 4), community safety and security (chapter 6), open space and natural features (chapter 7), social infrastructure (chapter 8) and social cohesion and connectivity (chapter 9).

Children and adults need regular physical activity

The Australian 24-Hour Movement Guidelines for Children and Young People (five-17 years) recommend children and young people aged five to 17 years have at least one hour of moderate to vigorous physical activity a day.⁶⁵ To reduce health risks, children and young people aged five to 17 years should limit recreational screen time to no more than two hours per day.

Australia's Physical Activity and Sedentary Behaviour Guidelines for adults and older Australians recommends adults (18 to 64 years) should total at least 2.5 to five hours of moderate intensity activity or 1.25 to 2.5 hours of vigorous intensity physical activity per week.⁶³

Older adults, regardless of age, weight, health or ability, should do at least 30 minutes of moderate activity on most or all days.⁶⁶

Sedentary behaviour is a growing public health concern

Sedentary lifestyles are linked to obesity. In 2008, the financial cost of obesity in Australia was estimated to be \$8.3 billion. Of this, \$3.6 billion was estimated to be related to productivity costs, \$2.0 billion related to health system costs and carer costs were in the order of \$1.9 billion.⁶⁷

The costs of individuals' lost wellbeing was valued at \$49.9 billion bringing the total cost of obesity to \$58.2 billion across Australia. Of this, \$19.0 billion was apportioned to NSW.⁶⁷

In NSW, 39.8 per cent of adults aged 16 years and over⁶⁸ and 75.8 per cent of children aged five to 15 years,⁶⁸ do not meet the national guidelines for physical activity. In 2018, 24.0 per cent of children and young people (five to 16 years) and 54.2 per cent of adults were estimated as overweight or obese.⁶⁸

In NSW, there has been a significant increase in the proportion of children and adolescents who are driven to school by car from 36 per cent in 2010 to 43 per cent in 2015.⁶⁹

Active transport can promote health

Active transport choices, such as walking, cycling and using public transport for daily travel, can help people meet physical activity requirements.

Built environment factors that encourage more walking and cycling include density, design, diversity, distance to public transport, destination accessibility and demand management (cost and availability of parking) – the 'six Ds'.⁷⁰

Access to quality open spaces promotes physical health

Parks are important for physical health,⁷¹ with park users more likely to meet recommended levels of physical activity.⁷²

Park amenities and improvements can increase park use and physical activity.^{72, 73} The number of people visiting, walking and being highly active in parks increases significantly with improvements to facilities.⁷⁴

People are more likely to use nearby parks for physical activity.⁷⁵





Evidence and leading practice



Encourage physical activity

Shorter walking distances and design features can promote physical activity

Around 400m to 500m (a five-minute walk) between destinations is seen as a comfortable walking distance for most people.⁷⁶

People-friendly urban design can increase the distances people are willing to walk to a destination.⁷⁷ People are more likely to use the stairs in buildings with prominent staircases rather than prominent lifts.⁷⁸



People-friendly urban design can increase the distances people are willing to walk to a destination.⁷⁷

Carefully sited public transport hubs boost incidental physical activity

Use of public transport usually involves some walking to and from transit stops such as train stations or bus stops.

Good access to public transport is associated with walking sufficiently each week to meet physical activity guidelines.⁷⁹ One study found public transport use can add eight to 33 minutes of physical activity per day.⁷⁹



Promote opportunities for walking, cycling and other forms of active transport

Active transport options increase physical activity and reduce health costs

Neighbourhoods that are easy to walk or cycle in have higher levels of physical activity.^{80, 81, 82} Access to public transport, higher residential densities close to local destinations, shops, services and connected, well-designed streets and pathways also increase rates of walking and cycling.^{13, 83}

The health-related benefits of walking and cycling are costed at \$1.04 to \$2.08 for each additional kilometre walked and \$0.02 to \$1.12 for each additional kilometre cycled.¹³

Higher density neighbourhoods encourage walking

Walkable neighbourhoods have higher residential densities with pedestrian-friendly street networks, mixed land uses and high-quality pedestrian infrastructure.⁸⁴

Providing diverse, interesting and accessible destinations also encourages people to walk around their local area and beyond.⁸⁴ This may have a stronger influence on physical activity than safety and recreational facilities.⁸⁵

Good levels of social interaction and social inclusion within localities also encourage walking and outdoor physical activity.

Incidental walking increases when shops and transport are nearby, while recreational walking increases when parks and open spaces are available and walking routes are more attractive.⁸⁶

Design, maintenance and perceived safety can encourage walking

Barriers to walking include weather, lighting, inadequate shade and seating, unattended dogs, footpath quality and connections, a lack of destinations or interesting places and perceptions of a lack of safety from crime.^{87, 88}

The design of pathways and other public spaces can create areas that present a real or perceived threat to people walking or cycling. Layout, landscaping and inadequate lighting can create areas of concealment and make casual surveillance or emergency response difficult.

Poor maintenance and management of public spaces can negatively impact on perceptions of neighbourhood safety, which can challenge physical activity.¹²

A continuous row of buildings with windows and entrances facing the street can help create an interesting and secure walking and cycling environment. Garage doors, blank walls, open parking areas and too many driveways facing the street can discourage walking and cycling.

In addition to the factors above, older adults are influenced by access to facilities including walking facilities, traffic safety, familiarity, aesthetics, rest rooms and social contacts.⁸⁹

Good design encourages people to walk and cycle

People are more likely to walk and cycle if they have a dedicated path with minimal delays in street crossing. People who walk and cycle are more likely to ignore the traffic signal and risk injury if wait times are seen as too long.⁹⁰ In addition, traffic conditions, motorist aggression and concerns for safety discourage cycling and can lead to a preference for off-road cycle paths.⁹¹

Street crossings, including side streets and driveways, can be a challenge to walking and cycling and intersections with wide streets often have high pedestrian crash rates.⁹²

Complete Streets is an approach to urban planning that considers the needs of all users to ensure the streets are pedestrian-friendly, provide good access to public transport, accommodate cyclists, are safe and benefit the local economy.⁹³

The Healthy Streets approach is a system of policies and strategies that puts people at the centre of planning processes to deliver a healthier, more inclusive city, where people choose to walk, cycle and take public transport.⁹⁴

Children using active transport to get to school are healthier

The built environment can encourage children to walk or cycle to school.⁹⁵ Sustained active travel to school can provide significant health benefits⁹⁶ and children who walk or cycle to school are more likely to be active in general.⁹⁷

Research in Sweden shows children who cycle to school have higher levels of fitness than those who walk or use 'passive' modes.⁹⁸ A Canadian study shows six to eight year old children using sustained active travel have a healthier body mass index trajectory in their early school years.⁹⁹

Design features that increase physical activity levels in children include good access to amenities and open space and consider all user groups when designing and implementing road policies.¹⁰⁰

The dominance of cars in cities is one of the biggest barriers to child-friendly built environments and a major obstacle to the independent mobility of children.¹⁰¹ Parent perceptions of neighbourhood safety also influence a child's physical activity.^{102, 103}

For example, a study in Melbourne showed that parent perceptions of road safety are a major factor in encouraging girls aged 15 to 17 to engage in physical activity.¹⁰⁴





Promote access to quality open spaces, including green space and recreational facilities

Parks and green spaces can have positive health effects

Parks play an important role in promoting health.¹⁰⁵ Park proximity is related to park use and park-based physical activity in children and adults.^{75, 71} Park users are more likely to achieve recommended levels of physical activity compared with non-users.⁷²

Evidence from Victoria suggests that parks greater than 1.5 hectares in size are needed to encourage recreational walking.⁸⁴

Some studies have linked living far from usable green areas or waterfront in urban areas to overweight and obesity.^{106, 105}

Outdoor gyms can positively affect health, increase park visits and encourage social interactions.¹⁰⁷

Older people significantly increase moderate to vigorous physical activity with access to an outdoor gym in a park. Outdoor gyms should offer different equipment types and shade.¹⁰⁸

Park design can encourage park use

Improvements to park amenities and facilities have been shown to increase park use in children and adults.^{73, 109} Features that encourage physical activity in children include playgrounds, basketball courts, walking paths, running tracks, swimming areas, lighting, shade and water fountains.⁷¹

A Western Australian study shows that young people are much more likely to use parks with skate facilities, walking paths, barbeques, picnic tables, toilets, lights and more trees.¹¹⁰

Young people also increase physical activity when they have opportunities to connect with peers in their neighbourhood. Other influences include access, neighbourhood aesthetics, physical and social safety and support/interference and boundary setting by adults.¹¹¹

Streets can provide local public spaces for active play

Cul-de-sacs can encourage children's neighbourhood-based play close to home.¹¹² Street play programs, also known as 'Play Streets', involve the temporary closure of streets to traffic to encourage children and neighbours to use the street as a playground.¹¹³



More information

Blueprint for an Active Australia, Heart Foundation. See heartfoundation.org.au

Global action plan on physical activity 2018–2030: more active people for a healthier world, World Health Organisation. See who.int/ncds/prevention/physical-activity/

Open space design guidelines, UrbanGrowth NSW/Landcom. See landcom.com.au

Other resources for built environment professionals and healthy active communities, Heart Foundation. See heartfoundation.org.au

Sydney's Walking Future – Connecting people and places and Sydney's Cycling Future – Cycling for everyday transport, Transport for NSW. See transport.nsw.gov.au

Walking and Cycling. Transport for NSW. See rms.nsw.gov.au



03 | Housing



Key questions

How does the policy, plan or proposal:

- a** encourage housing that supports human and environmental health?
- b** encourage dwelling diversity?
- c** promote affordable housing?
- d** ensure housing is adaptable and accessible?



Why housing matters to health

Housing is fundamental to human health. It affects many aspects of life, including personal and family wellbeing, mental and physical health, employment opportunities, social connectedness and environmental sustainability.¹¹⁴

Limited housing options can mean lower levels of social and economic participation and less access to healthcare and healthy environments.¹¹⁵

Dwelling diversity is important for meeting different needs

The quality and diversity of housing options in an area ideally allow people to choose the housing types and living arrangements that suit different stages of their lives.¹¹⁶

Housing choice should respond to different household sizes, compositions and the needs of vulnerable groups such as older people, those with disability, Aboriginal people and those who are economically disadvantaged. Social trends that affect housing choice and affordability in Australia include changes in population age, household size, family composition and economic opportunity.¹¹⁷

Australian cities have been designed for cars, with separate residential, commercial and industrial areas. This has led to sprawling, low-density suburban development.¹¹⁸ As our cities have grown, low to moderate income households have increasingly turned to middle and outer suburban areas for more affordable housing. Many people commute long distances to work and to access basic services.



Dwelling diversity is important for meeting different housing needs.

Unaffordable housing creates a set of interconnected problems

Housing affordability is a key component of housing choice.¹¹⁹ A lack of affordable housing can lead to crowding as households on low incomes seek smaller dwellings for lower rent. An inability to access affordable housing can mean people having little choice about the location of their housing and it may result in them living in areas that have poor access to community services, employment opportunities and support networks.¹²⁰

As housing becomes less affordable, it also becomes less secure. Secure housing is stable, safe, private and comfortable.¹²¹



Evidence and leading practice



Housing supports human and environmental health

Poor housing can significantly affect public health

Childhood lead poisoning, injuries, respiratory diseases such as asthma and quality of life issues have been linked to substandard housing units. Residents of poor housing may also be at increased risk of fire, electrical injuries, falls, rodent bites and other illnesses and injuries. Other issues of concern include exposure to pesticide residues, indoor toxicants, tobacco smoke and combustion gases.¹¹⁵ Burning oil, gas and kerosene for lighting, heating or cooking purposes within dwellings can release combustion products including carbon monoxide, a known cause of illness and death.

Well-designed and built housing and health hardware supports healthy living

Good design, construction and maintenance of housing and health hardware supports healthy living. It has been shown to reduce the incidence and hospital separation rates of Aboriginal people for infectious diseases including respiratory, skin, intestinal and ear infections.¹²²

Household crowding is a risk to health

Many studies show overcrowding increases health risks while living in crowded conditions and later in life.¹²³ Health risks include respiratory issues, some bacterial infections and mental illness.¹¹⁵



Density, design features and active infrastructure are important for health

Higher density housing development can influence physical activity levels¹²⁴ when combined with mixed land use and micro-design elements.⁶

A compact city can promote health by providing shorter distances to key destinations and good quality infrastructure. Urban features that encourage walking and cycling, include increased residential density, mixed land use and effective public transport.¹²⁵

Private open space can improve physical health

Private open space can help alleviate stress and other mental health problems.¹²⁶ Ideally, private open space includes deep soil zones for planting and gardening (see chapter 7), as well as 'greenness'¹²⁷ and space for outdoor clothes drying for greater household energy efficiency (see chapter 10).

b Dwelling diversity

A range of housing types support family lifecycles

Housing diversity helps families find what they need at each stage of their lifecycle. Family changes include children leaving home, students needing inexpensive housing, couples separating or the death of a spouse. These influence housing needs in terms of size, cost, proximity or access to amenities.

Without diverse housing options available, people may have to move out of the area or adopt unsatisfactory accommodation arrangements. This can lead to poorer health and wellbeing for individuals and families and affect their relationships and social support.¹²⁸

c Affordable housing

Affordable, secure housing encourages healthier, more diverse communities

Areas that have no affordable housing are less socially diverse. Those on higher incomes can afford higher housing costs while people on lower incomes are pushed into living further from where they work.¹²¹

A lack of affordable housing concentrates people with economic disadvantage into cheaper neighbourhoods. 'Social mix' policies that aim to create more diverse neighbourhoods are often justified on equity grounds.^{120, 129}

Secure housing is important. Families need to feel settled before they can start looking for paid work.¹²¹ People in secure housing have better health than those in precarious housing (housing that is unaffordable, unsuitable or insecure).

Precarious housing and housing problems are also linked to poor mental health¹³⁰ and substance use problems.¹³¹

Home ownership may have psycho-social benefits

These include feelings of greater security, privacy, control and freedom. Studies suggest home ownership may produce higher levels of health and social wellbeing.¹³²

d Housing that is adaptable and accessible

Many older people want to age in place

Ageing in place means people can live in their home safely, independently and comfortably, regardless of age or ability level. Universal design principles create homes that work well for older people and remove the need for a move to assisted living facilities. Home modifications can address the individual needs of older people who want to age well in their existing home.¹³⁵

People with disability are more likely to have housing stress

Many people with disability experience very different housing and living arrangements to the rest of the population, including living with family, in group homes or in institutions. They are also more likely to experience housing stress or be homeless, are over-represented in housing assistance programs and are less likely to own their homes.¹³⁴



Universal design principles create homes that work well for older people and remove the need for a move to assisted living facilities.



More information

About Affordable Housing, NSW Department of Family and Community Services. See facs.nsw.gov.au

Building Sustainability Index (BASIX), NSW Department of Planning, Industry and Environment. See planningportal.nsw.gov.au/basix

Diverse and Affordable Housing, Department of Planning, Industry and Environment. See planning.nsw.gov.au

Housing for seniors or people with a disability, (State Environmental Planning Policy 2004), NSW Department of Planning, Industry and Environment. See planning.nsw.gov.au

National Indigenous Housing Guide: improving the living environment for safety, health and sustainability, Department of Social Services. See dss.gov.au

NSW Aboriginal Housing Office See aho.nsw.gov.au

Resources on urban planning and built environment, Shelter NSW. See shelternsw.org.au

WHO Housing and Health Guidelines, World Health Organization. See who.int

Your Home - the liveable and adaptable house, Australian Government. See yourhome.gov.au/housing



04 | Transport and connectivity



Key questions

How does the policy, plan or proposal:

- a reduce car dependency and encourage active transport?
- b improve public transport services?
- c encourage infill development and integrate new developments into existing ones, including key destinations and active transport infrastructure?



Why transport and connectivity matter

Careful design can reduce car dependency and encourage active transport

The design and management of the built environment shapes transport options and choices.⁶ Densities and urban design can support more active forms of transport, including walking and cycling.¹³⁵

Reducing the kilometres travelled by private vehicle and encouraging more active forms of transport is an important objective for healthy development and environmental sustainability.

Relying on private cars makes people less likely to reach recommended physical activity levels (see chapter 2) and can have negative effects on their mental health and sense of community.¹³⁶

Public transport can promote health

Public transport affects health and wellbeing in several ways. Private car use is a major contributor to air pollution and greenhouse gas emissions. It increases the risk of obesity, traffic-related accidents and death.¹³⁷



The design and management of the built environment shapes transport options and choices.

Infill developments create higher density areas that encourage active transport

Higher density areas can encourage active transport such as walking and cycling. Infill developments and developments that integrate with other built environments create higher density areas and can make good use of existing transport infrastructure.



Evidence and leading practice



Reduce car dependency and encourage active transport

Design features can encourage active transport

Grid street patterns tend to create greater connectivity, slow traffic speeds and decrease distances between destinations – factors that can encourage more walking and cycling.¹³⁸

Other design features that can encourage walking and cycling include street surfaces, street widths, the existence of separate pedestrian and bicycle paths and the quality of streetscapes.^{139, 140} See chapter 2 on physical activity.

Street blocks in the range of 70m by 120m to 240m, with shorter blocks at town and neighbourhood centres, are considered more 'walkable'.¹⁴¹

Increased active transport is also associated with living within 800m of a train station and/or 400m of a bus stop.¹⁴²

Real and perceived traffic danger discourages walking and cycling

Traffic danger, both real and perceived, can discourage people from walking and cycling and from allowing their children to do so.¹³⁶ Fear of falling and inadequate time to cross intersections is also a major concern for children and the elderly.¹⁴³ See chapter 2.

Studies show that increasing the number of people walking and cycling in an area improves road safety, as motorists take more care when driving in these areas.¹⁴⁴

More sustainable forms of transport development include investing in improving walking and cycling infrastructure, increasing access to bikes and investing in improving public transport options.¹³⁵

Active transport or car-share commuting improves physical and mental health

Studies suggest that active commuting has physical and mental health benefits^{145, 146} and that car-sharing programs have potential health benefits by helping to reduce private car ownership and change travel behaviour.¹⁴⁷

b Improve public transport services

Public transport encourages incidental physical activity

Public transport extends the distances people travel by foot and bicycle as it encourages higher levels of incidental physical activity, such as walking to the bus stop or train station, than private vehicle use.¹⁴³

A lack of public transport can make it harder for people to access vital goods and services, including jobs, healthcare and healthy food.

c Encourage infill development and integrate new developments into existing ones (including existing key destinations and active transport infrastructure)

Areas with low density, poorly connected street networks and limited access to local destinations discourage active forms of transport. Areas with a higher population, a mix of land uses, identifiable centres and more connections are more likely to promote active transport.¹³

Studies show that trips by walking and cycling grow with higher housing density and mixed land uses. Mixed uses within buildings can help increase the diversity of land use in higher density areas.¹⁴⁸



More information

Active transport planner's toolkit, Transport for NSW. See transport.nsw.gov.au

Active transport - walking and cycling, Infrastructure Australia. See infrastructure.gov.au

Aligning Movement and Place, Government Architect NSW. See governmentarchitect.nsw.gov.au

Australian transport assessment and planning guidelines - urban amenity and liveability, Transport and Infrastructure Council, Commonwealth Department of Infrastructure, Regional Development and Cities. See atap.gov.au

Future Transport Strategy 2056, Transport for NSW. See transport.nsw.gov.au

Healthy transport = Healthy lives, British Medical Association. See bma.org.uk

Walking, NSW Department of Education. See education.nsw.gov.au





05 | Quality employment



Key questions

How does the policy, plan or proposal:

- a** improve the location of jobs in terms of housing and community options?
- b** increase access to a range of quality employment opportunities?
- c** increase access to appropriate job training?



Why quality employment matters

Employment can have a powerful effect on health and wellbeing.¹⁴⁹ The quality of work and working environments impact on people's health in terms of job strain and work-related hazards. The money people earn and the location of their jobs shape other factors important to health, including housing, transport choice and healthy food options.

Unemployment and job loss have negative physiological and psychological effects that can impact on immediate and long-term health.¹²³

Creating jobs in high unemployment areas supports local communities

Unemployment rates vary significantly across NSW¹⁵⁰ and within the Greater Sydney region, high unemployment rates tend to be concentrated in particular suburbs.¹⁵¹ Quality jobs are needed in locations that are well served by public transport and that meet the needs of the local population.

Higher levels of car-based commuting can have adverse health impacts.¹⁵² Commuting adds to stress levels and reduces time available to spend with family and friends or on social activities and community events.¹⁵³ See chapter 4 on transport and connectivity.

Locally-based jobs can improve health outcomes

It is important to provide for the employment needs of the predicted and desired population growth in NSW. This means attracting a greater diversity of quality jobs and establishing the public transport and training infrastructure needed to best serve the current and future workforce.¹⁵¹

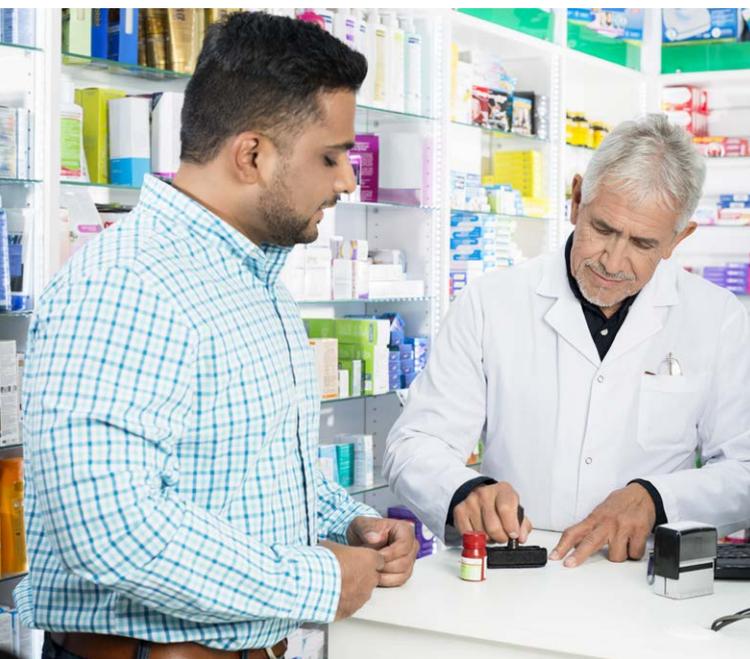
Local co-working spaces can support people to work close to home in an agile environment.

Higher levels of socio-economic disadvantage are strongly linked to poor health outcomes.¹⁵⁴ Low levels of public transport access make it more difficult to access available jobs and health services in these areas.¹⁵⁵

Rural areas have lower shares of employment generated by primary industries relative to metropolitan industries and declining opportunities for unskilled work. Many rural landowners are asset rich but income poor, meaning they are unable to provide consistent employment and support for other local businesses. Major rural industries are often seasonal, particularly tourism and agriculture. These areas often rely on single sector industries, making them vulnerable to changing economic and policy conditions.¹⁵⁶



Local co-working spaces can support people to work close to home in an agile environment.





Evidence and leading practice



Improve the location of jobs in terms of housing and community options

Being employed improves health and wellbeing

Work is generally good for health and wellbeing.¹⁵⁷ For all population groups of working age, including vulnerable groups, not working is associated with poorer physical and mental health and wellbeing.¹⁵⁷

Creating jobs nearer to where people live reduces commuting time

When commuting times to work are longer than 30 minutes and the transport mode is sedentary, a worker's time for physical activity, social contact and community participation can be negatively impacted.¹⁵²

Overwork (more than 40 hours per week) and imbalance between work and private life can have negative impacts on health and wellbeing.¹⁵⁸



Increase access to a range of quality employment opportunities

Jobs should be safe and not cause stress

Stress from work is associated with a 50 per cent excess risk of coronary heart disease.¹⁵⁸ Jobs with high demands, low control and effort-reward imbalance are a risk factor for health problems including major depression, anxiety disorders and substance use disorders.

Jobs that require people to sit for long periods are linked to poor health

Over 50 per cent of Australian workers now spend most, or all, of their work time sitting.¹⁵⁹ Excessive sitting is associated with poor health, although the link between poor health and occupational sitting is less clear.¹⁵⁹



Increase access to appropriate job training

Vocational training must meet the needs of the community, including the need to retrain ageing populations.¹⁵⁸



More information

Principles of good work design, Safe Work Australia. See safeworkaustralia.gov.au

Regional plans and district plans, Department of Planning, Industry and Environment. See planning.nsw.gov.au

Smart cities plan, Department of Infrastructure, Transport, Cities & Regional Development, Australian Government. See infrastructure.gov.au/cities/smart-cities



06 | Community safety and security



Key questions

How does the policy, plan or proposal:

- a consider crime prevention and a sense of security?
- b address risks associated with alcohol use?



Why community safety and security matter

Good design can prevent crime and give residents a sense of security

Safety and security include access to basic needs such as food and shelter, as well as protection from crime, violence and the impacts of natural disasters.

Good design and planning add to a sense of safety and security in specific communities. Poor urban design exacerbates crime risk regardless of gender, race, age or class.¹⁶⁰

Fear, vulnerability and the impacts of crime and violence vary across different communities. While some communities may experience sporadic episodes of crime and violence, others are subject to more systemic problems that have cumulative and interacting impacts.

Low levels of community safety and security also affect the use of public spaces for social interaction, physical activity, active transport and access to the natural environment.

Place-based design can minimise crime and the fear of crime

Crime prevention through environmental design (CPTED),¹⁶¹ also called ‘designing out crime’ or ‘safer by design’, is a proven crime prevention strategy.^{162, 163} It is based on the principle that proper design and use of the built environment can reduce fear and the incidence of crime and increase neighbourhood cohesion.

This place-based model includes strategies to increase community participation, cohesion^{164, 165} and a sense of ownership, as well as natural surveillance and other crime prevention measures.¹⁶⁶ It also addresses issues arising from displacement of crime from one locality to others.¹⁶⁷



Good design and planning adds to a sense of safety and security in specific communities.

Social and community initiatives can also improve safety

‘Crime prevention through social development’ uses preventive measures to address the risk factors that may lead to crime. These may include inadequate living conditions, family and relationships, poverty, employment and educational opportunities, personality and behavioural issues and a sense of community and belonging.¹⁶⁸

Designing places that encourage high levels of use and promote a sense of belonging and ownership supports this approach.

Community safety precinct committees can help develop local crime prevention plans. These include a local police commander, community and council representatives and they enable community consultation, report on safety risks and help prevent crime.

Greater density of alcohol outlets and longer opening hours can increase health risks

Rates of violence and poorer health outcomes increase as the density of alcohol outlets increases in an area.¹⁶⁹ There is also good Australian and international evidence to suggest that cessation of late night sales of alcohol can reduce violence.¹⁷⁰ This is best managed in planning, licencing and policy processes as it is difficult to assess individual applications for cumulative impacts on an area.

Liquor licencing is the responsibility of Liquor and Gaming NSW (LGNSW). The *Liquor Act 2007* requires licence applicants to consult with the local community and other stakeholders as part of the application process. Health services are identified as a stakeholder for high risk licences.

NSW Health has an evidence-based package on its website to support local health districts to provide information about health and social-related harms to Liquor and Gaming NSW with regard to licence applications.

Place-based approaches are available to reduce alcohol-related harm

The *Liquor Act 2007* and *Liquor Regulation 2018* outline initiatives to reduce alcohol-related harm through place-based approaches and related licence conditions. The most notable examples are ‘prescribed precincts’, such as the Kings Cross area in Sydney.

The *Liquor Act 2007* also includes other precinct approaches such as voluntary liquor accords and restricted alcohol areas. The *Local Government Act* identifies areas such as alcohol-free zones. Evidence for their effectiveness in reducing alcohol-related harm in the Sydney central business district and Kings Cross precinct is strong, especially in the context of licence conditions such as 3:00am ‘last drinks’. Liquor accords are industry-based partnerships that address concerns about the impact of alcohol consumption on the safety and amenity of local areas. Liquor accords operate along with restricted alcohol areas and precincts¹⁷¹ and alcohol-free zones.¹⁷² However, the evidence for the effectiveness of liquor accords, restricted alcohol areas and alcohol-free zones is limited.

Diversity of businesses may improve community safety and amenity

An observational study conducted in South Australia found that areas of mixed business types (small bars, restaurants) rated more positively for user experiences than areas of single business types (for example larger hotels).¹⁷³ The study suggests that diversity of business types is important for overall user safety and amenity.

A review of small bars in central Sydney and suburban and regional NSW concluded they had lower rates of alcohol-related violence and added to night-time entertainment options.¹⁷⁴

Community engagement and action can help reduce alcohol related harm

Community Drug Action Teams can support community organisations with programs that prevent or minimise harm from alcohol and other drugs.

Community members can also help reduce alcohol-related harm by contributing to community impact statements for liquor licence applications and providing feedback at the development application and approval stages.

The Alcohol and Drug Foundation and the NSW Ministry of Health have developed a toolkit to support Community Drug Action Teams and community members to respond to liquor licence applications¹⁷⁵ to identify risks associated with those applications.



Evidence and leading practice

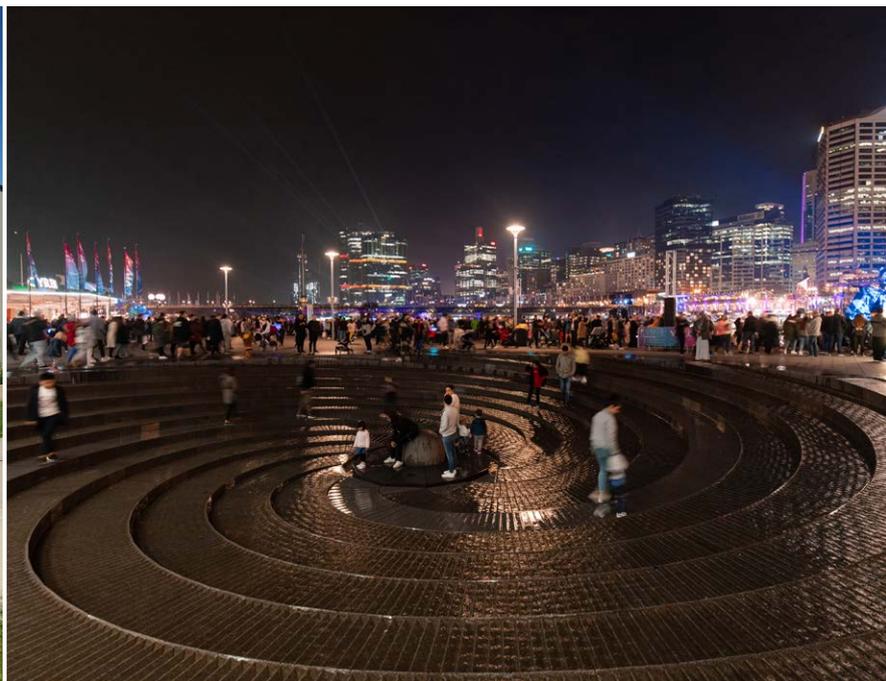


Consider crime prevention and a sense of security

Good design increases feelings of security and improves health and wellbeing

Environments that feel safe can also contribute to overall feelings of wellbeing and restoration.¹⁷⁶ Place-based design can reduce depression,¹⁷⁷ improve wellbeing¹⁷⁸ and support mental health¹⁷⁹ by promoting community capacity, cohesion and connections.

It can also help reverse the negative impacts on a particular community that has experienced people moving away because it is perceived as unsafe.¹⁸⁰



Urban design, lighting and street planting can make places feel safer

Places with clear and logical layouts, including well defined routes, spaces and entrances, discourage crime, enhance perceptions of safety and help orientation and wayfinding.¹⁸¹

Security concerns can be alleviated with better lighting, reducing places of concealment, improving overall amenity and providing good informal surveillance or ‘eyes on the street’.

Streets that have tree canopy cover enhance feelings of security.¹⁸² ‘Greening’ of vacant lots can improve perceptions of safety and may reduce actual levels of crime.¹⁸³

Busy public spaces tend to make people feel safer

High-quality public spaces with a compatible mix of uses and increased human activity reduce the risk of crime and promote safety and a sense of place.^{181, 184}

Although busy environments can improve perceptions of safety, they may have increased crime levels and increases in security concerns – such as in shopping malls and transport interchanges.¹⁸⁵ Place-based design can be effective in these cases.¹⁶³

Community partnerships help improve community safety and behaviours

Safety initiatives are likely to be more effective if done in partnership with local communities, service providers and government.¹⁶⁸

Crime and fear of crime are often centred on specific areas. Crime and fear of crime are not evenly distributed in locations or over time. Environments such as rail and bus stations, drinking establishments and alcohol outlets, car parks and shopping malls are associated with higher levels of crime.¹⁸⁶

Less socially safe areas may discourage physical activity

Some studies show security concerns associated with public places can inhibit outdoor physical activity^{187, 188} while others show distance to destinations is a greater deterrent.¹⁸⁹

While studies are mixed, there is no clear link between more walkable neighbourhoods and increased actual crime rates.¹⁹⁰

Other studies show people are more likely to take part in sport and physical activity as feelings of trust and social safety increase, including in indoor sports facilities.

b Address risks associated with alcohol use

Greater density of alcohol outlets and longer opening hours can increase health risks

Rates of violence and poorer health outcomes increase as the density of alcohol outlets increases in an area.¹⁶⁹ This is best managed at the planning and policy level as it is difficult to assess individual applications for cumulative impacts on an area.

Design can mitigate alcohol-related problems in public spaces

Drinking patterns can vary between nightlife areas in the same city and by region due to different local attractions, population profiles and choices, according to a major review of international cities and their night-time economies commissioned by the City of Sydney Council.¹⁹¹ This review found that programs addressing levels of crime and disorder around licensed premises must consider a range of interrelated factors. These include: intoxication, the behaviour of bar and door staff, the design and management of the premises, the design of public spaces and behavioural norms.

The review notes that design features to address these include: better street lighting, more public toilets and late-night transport and consideration of potential points of congregation around taxi-ranks, transport stops and food outlets. It also highlights that encouraging socially and culturally diverse patrons to an area can help ‘normalise’ the local social environment, as happens during the day.



More information

Community Drug Action Teams, Alcohol and Other Drugs section on the NSW Health website. See health.nsw.gov.au

Crime prevention factsheets, NSW Department of Justice. See crimeprevention.nsw.gov.au

Liquor Act 2007 - Consideration of social impact under section 48(5) of the Act. See legislation.nsw.gov.au

NSW Healthstats - Alcohol data and harms. See healthstats.nsw.gov.au

Reducing alcohol-related harm snapshot 2018, See health.nsw.gov.au/aod

Review of small bars legislation (2016), and **Environment and Venue Assessment Tool**, Liquor and Gaming NSW. See liquorandgaming.justice.nsw.gov.au

Safer by Design, Community and Safety Precinct Committees, Alcohol Strategy, Crime Prevention Strategy and Crime prevention and the assessment of development applications, NSW Police Force. See police.nsw.gov.au

Trends in Alcohol Use and Health-Related Harms in NSW (2016). NSW Ministry of Health, Centre for Epidemiology and Evidence. See health.nsw.gov.au





07 | Open space and natural features



Key questions

How does the policy, plan or proposal:

- a** provide access to green and blue open spaces and natural areas?
- b** ensure that public open spaces are safe, accessible, attractive and easy to maintain?
- c** promote quality streetscapes that encourage activity?
- d** engender a sense of cultural identity, sense of place and incorporate public art?



Why open spaces and natural features matter

Increasing population density makes public spaces more important for maintaining health

Quality public spaces are important for residents in higher density housing who have smaller living areas. Residential areas will have to incorporate new public spaces to help residents maintain healthy lifestyles. This means spaces that encourage physical activity, children's play, relaxation and wellbeing, social and community connections and food production.

People need access to green and blue spaces and natural areas

Open space and natural areas include 'blue' water areas and 'green' land areas.¹⁹²

Public open space includes parks, gardens, shopping areas, sporting fields, streets, public squares and plazas, playgrounds, walking and cycling trails and natural areas. It also includes less formal 'open' spaces such as infrastructure corridors, drainage lines and leftover land.

Physical activity and contact with nature improve health and wellbeing

Greater levels of physical activity contribute positively to health and reduce the risk of a wide range of diseases.¹⁹³ Public open spaces, including parks, provide different settings and facilities for formal and informal sport, recreation and leisure activities. Even brief contact with nature can improve emotional wellbeing and reduce psychological stress, while inactivity is less common among residents in greener neighbourhoods.^{194, 195, 196, 197}

Access to natural environments is even more important as cities grow

Public access to the natural environment is important for good health.^{198, 199, 200, 201} This access is becoming increasingly difficult to maintain.²⁰²

Green spaces, natural systems and semi-natural systems such as parks, rivers, bushland and private gardens, are essential 'green infrastructure' that support quality of life in an urban environment.²⁰³ Areas transitioning to high density should incorporate more open space, including green space, while existing areas should be re-designed and managed to achieve more from the available area.²⁰⁴

Natural environments help children develop and improve older adults' wellbeing

Access to the natural environment is essential for healthy development in children.^{205, 206}

Children need opportunities for unstructured and imaginative outdoor play in their neighbourhoods in addition to fixed equipment playgrounds. These spaces allow for communal games, which help create a sense of belonging to local places.²⁰⁷

Higher levels of 'greenness', not necessarily formal park spaces, are associated with lower risks of being overweight and lower levels of sedentary screen time in children aged nine to 12.²⁰⁸

Being near green space and visible blue spaces improves the overall wellbeing of older adults²⁰⁹ and supports their cognitive ability and the ability to delay dementia.²¹⁰



Access to the natural environment is essential for healthy development in children.^{205, 206}

Public open spaces should be safe, accessible, attractive and easy to maintain

Public open spaces improve physical and psychological health and social connections.²¹¹ Green spaces also support health through improved air quality.²¹²

The health of a city depends on social, economic, cultural and environmental interactions and public spaces enable these interactions to happen.²¹³

The International Project for Public Spaces identifies four main qualities for successful public spaces. These spaces are accessible, have people engaged in activities, are comfortable, have a good image and are sociable places where people meet each other.²¹⁴

When public spaces are inaccessible, unpleasant or unsafe, many people are discouraged from using them and this can adversely impact their health. Collaboration between health services and open space providers is therefore important in chronic disease prevention.²¹¹



Planning for parks should consider multiple users

Parks should be designed so people with different needs and interests can use the parks at different times of the day.

The public spaces people value most are ones that are actively used and shared by many different individuals and groups.²¹³

Some playing fields can also be redesigned for different uses by organised sports participants, walkers and passive recreational users.⁷²

Greening streets, vacant lots and informal spaces supports health outcomes

In many areas, streets are the main public space but they are dominated by cars. This reduces opportunities for social interaction and different uses.²¹⁵ Adding streetscape greenery to promote usage can have beneficial health outcomes.^{216, 217}

Street trees and gardens can beautify an area and help improve mental health outcomes.¹²⁷ Community gardens also provide opportunities to access nature.²¹⁸

Greening vacant lots can reduce crime and improve perceptions of overall community safety.¹⁸³

Informal green spaces can also offer experiences with nature and opportunities for recreation.²¹⁹ These include street verges, vacant lots, brownfield sites, railway and powerline corridors and waterside areas.

Engender a sense of cultural identity, sense of place and incorporate public art

The design of public open spaces should also reflect local culture, character and identity. Incorporating public art is one way to achieve this. This process should be informed by the community, involving them in the design and development of public art and spaces.

Public open spaces are important forums for the expression of local identity and culture and for celebrating community and place. They provide opportunities for social interaction, help strengthen neighbourhood connections and help create more inclusive communities.²⁰⁷



Evidence and leading practice



Provide access to green and blue open spaces and natural areas

Green spaces and natural environments improve wellbeing for individuals and communities

Exposure to green space and greenery can reduce stress and increase social cohesion.²²⁰ Greener neighbourhoods have higher levels of 'neighbourhood satisfaction', which also contributes to overall personal health.²²¹

Natural environments, such as parks and bushland, enhance people's ability to cope with and recover from stress.²²²

Nearby parks contribute to a sense of community.²²³

Green and blue spaces benefit mental health and promote social capital

People's mental health may benefit by active use of nearby useable green spaces and having observable green space in the neighbourhood environment.²²⁴

Levels of 'social capital' (trust and social connections) in the neighbourhood may influence sports activity among young people as much as the availability of parks.²²⁵

Interaction with blue space such as lakes, rivers, ponds, oceans or swimming pools has been shown to improve wellbeing including improved physical and mental health and social interaction.²²⁶

People with lower incomes typically have less access to green spaces

Although equity in access should be viewed in context, an Australia-wide study using data from the 2011 census indicates that green space availability is significantly lower in areas with a higher percentage of low-income residents.²²⁷



Ensure that public open spaces are safe, accessible, attractive and easy to maintain

Principles for effective open spaces include being meaningful, accessible and sustainable

UrbanGrowth NSW guidelines apply eight tests for effective open space. These are: being meaningful to place and community, multi-function and adaptability, providing for diversity, encouraging social interaction, promoting health and wellbeing, providing for equity and accessibility, embodying environmental sustainability and ensuring financial sustainability.

While planning concentrates on the size of public space relative to population, recent Australian research shows quality also influences use.²²⁸ Large and attractive public open spaces with physical activity facilities increase participation in active recreation.²²⁹

Open space design should encourage walking and cycling as well as sports

Research suggests that when people have access to parks, they are more physically active.²³⁰ The chance of adults being overweight or obese has been shown to be lower in localities with higher overall levels of 'greenness'.¹⁰⁵

Designs that include trees and shrubs will increase interest and visibility and encourage people to walk.²³¹ These spaces need to be well kept, as litter, vandalism and unclean washrooms can deter use.⁷¹



Research suggests that when people have access to parks, they are more physically active.²³⁰

Design features can encourage dog owners to use parks

As well as providing companionship, owning a dog can increase physical activity and social interaction.²³² Design features in public open spaces can include off-leash areas in parks, water bowls and tie-up points.

A range of park features encourage use by children and parents

Features that encourage physical activity by children include playgrounds, basketball courts, walking paths, running tracks, swimming areas, lighting, shade and drinking water fountains.⁷¹

Amenities such as toilets, barbecues, lights, walking paths and picnic tables may allow people to stay longer and increase their physical activity.



Playgrounds, basketball courts, walking paths, running tracks, swimming areas, lighting, shade and drinking water fountains encourage physical activity.⁷¹

Proximity and access can increase how often people use public spaces

Factors influencing the use of public open space include perceived proximity, access, features such as trees, water and birdlife, levels of maintenance, size, availability of amenities such as walking tracks and perceived levels of safety.⁷²

Access to public open space close to where people live is directly associated with increased physical activity in all age groups.^{71, 233} People who have access to nearby useable green space are twice as likely to report better health than those who do not.²³⁴

Public open spaces and streets are also important in providing opportunities for social interaction.²³⁵ In Australia, there is a correlation between the life satisfaction of people living in higher density areas and levels of green space nearby.²³⁶

Given demographic trends and an ageing population, access and inclusive design remain high priorities in planning public space.²²²

Natural and built shade helps reduce skin cancer risk

Australia has one of the highest rates of skin cancer in the world. The major cause of skin cancer is exposure to ultra violet radiation.²³⁷ Adequate protection from UV radiation is an important consideration for public space design. Shade, either natural or built, is one of the best and easiest ways to protect against this.²³⁸ Well-designed shade can reduce exposure to UV radiation by up to 75 per cent.²³⁸

Shade and drinking water should be included to help reduce heat stress

Access to shade and drinking water fountains is important in preventing heat stress, particularly in areas with extreme heat such as western New South Wales and western Sydney.

Shade structures are important at playgrounds, swimming pools and other outdoor areas used by children and young people.²³⁹

Smoke-free environments protect against harmful second-hand smoke

Tobacco smoking remains the leading cause of morbidity and mortality in NSW, causing around 6,850 deaths and 60,250 hospitalisations in 2017-18.²⁴⁰ The *Smoke-free Environment Act 2000* bans smoking and using e-cigarettes in all enclosed and certain outdoor public areas including within 10 metres of children's play equipment, spectator areas at sports grounds during organised sporting events, public transport stops and stations, within four metres of a pedestrian access point to a public building and in commercial outdoor dining areas. These bans aim to protect people from harmful second-hand smoke or vapour from e-cigarettes as there is no safe level of exposure to second-hand smoke.

Safety considerations include having clear sight lines

Clear lines of vision and few hiding places contribute, not just to feelings of safety, but to broader feelings of mental wellbeing and restoration.²⁴¹

In the US, an evaluation of parks by residents showed a negative association between physical activity in parks and safety concerns and a positive association between physical activity and the number of amenities.²⁴²

Another US study of parks in areas of economic disadvantage found that the presence of dedicated staff and programs of activities may encourage use.²⁴³

Alcohol bans in public spaces are commonly used

Alcohol bans in public spaces are a commonly employed initiative across Australia. Local government has powers to implement 'alcohol free zones' and alcohol-restricted areas.¹⁷² However the evidence of their effectiveness in reducing alcohol-related harm is poor.

C Promote quality streetscapes that encourage activity

Streetscapes should include a range of design features and provide for different uses

Residential streets are spaces for social interaction as well as movement.²⁴⁴

Features of safe and inviting streets include good quality footpaths, kerb cuts, slowed traffic, pedestrian separation from traffic and amenities including trees, benches and public art.¹⁴³

Specific features that encourage walking and cycling include attractive neighbourhoods, pathways and scenery, street lighting and planted strips.²⁴⁵

Inviting streets and spaces encourage interactions between neighbours and help increase a sense of community, which can improve mental and physical health.^{137, 246} Opportunities in green spaces to talk with neighbours and friends can also encourage physical activity.²⁴⁷



Residential streets are spaces for social interaction as well as movement.²⁴⁴

d Engender a sense of cultural identity, sense of place and incorporate public art

Having public spaces nearby helps bring communities together

Properly designed and cared for public spaces bring communities together, provide meeting places and foster social ties.²⁴⁸

Public spaces can also provide environments for restoration from mental fatigue, solitude and quiet, education, artistic expression, contemplation, reflection and inspiration.²⁴⁹

Planning practice sets a walkable distance for most people at 400 metres (a five-minute walk). Having neighbourhood focal points – shops, community facilities and public spaces – within 400 to 500 metres of where most people live is desirable.²⁵⁰ This radius extends to 800 metres if centred on a railway station, which tends to encourage people to walk from a greater distance.²⁵¹



More information

Aboriginal people and cultural life, NSW Department of Planning, Industry and Environment. See environment.nsw.gov.au

A Metropolis of Three Cities and The Pulse of Greater Sydney: Measuring what matters in the Metropolis, Greater Sydney Commission. See greater.sydney

Everyone Can Play: A Guideline to Create Inclusive Places, NSW Department of Planning, Industry and Environment. See everyonecanplay.nsw.gov.au

Green Cover Project, NSW Department of Planning, Industry and Environment. See climatechange.environment.nsw.gov.au

Guidelines to Shade, Cancer Council NSW. See cancercouncil.com.au

Healthy Streets Indicators. See healthystreets.com

How schools, councils and community groups and sporting organisations created shade, Cancer Institute NSW. See cancer.nsw.gov.au

Metropolitan Greenspace Program, NSW Department of Planning, Industry and Environment. See planning.nsw.gov.au

Open space design guidelines and public art guidelines, UrbanGrowth NSW/Landcom. See landcom.com.au

Sydney Green Grid and other Government Architect NSW policies and guides including the Greener Places Policy, Government Architect NSW. See governmentarchitect.nsw.gov.au

Urban Green Spaces: A Brief for Action, World Health Organisation. See who.int





08 | Social infrastructure



Key questions

Does the policy, plan or proposal:

- a provide access to a range of facilities to attract and support a diverse population?
- b respond to existing and projected community needs and current gaps in facilities and services?
- c provide for early delivery of social infrastructure?
- d promote an integrated approach to social infrastructure planning?
- e maximise efficiencies in social infrastructure planning and provision?



Why social infrastructure matters

Services and facilities can help meet community needs

Social infrastructure comprises services and facilities that meet community needs for health, social support, recreation, cultural expression, social interaction and community development.

It includes schools, community centres, libraries, healthcare facilities (hospitals, community health centres, general practitioners), childcare centres and recreational facilities. It also includes basic services such as local shops, pharmacies, post offices and banking facilities.

Planning and investment help create social cohesion

Social infrastructure planning helps create healthy and sustainable communities. It supports population growth with facilities and services that are accessible, affordable and responsive to local needs.

These facilities and services help bring people together, develop social capital, maintain quality of life and develop the skills and resilience essential for strong communities.^{252, 253}

Social infrastructure has to balance competing demands

Effective social infrastructure planning has to balance services for a rapidly growing population equitably within and between regions, in rural areas with a more dispersed population and for population groups with special needs.

Social infrastructure is more than facilities and their related services

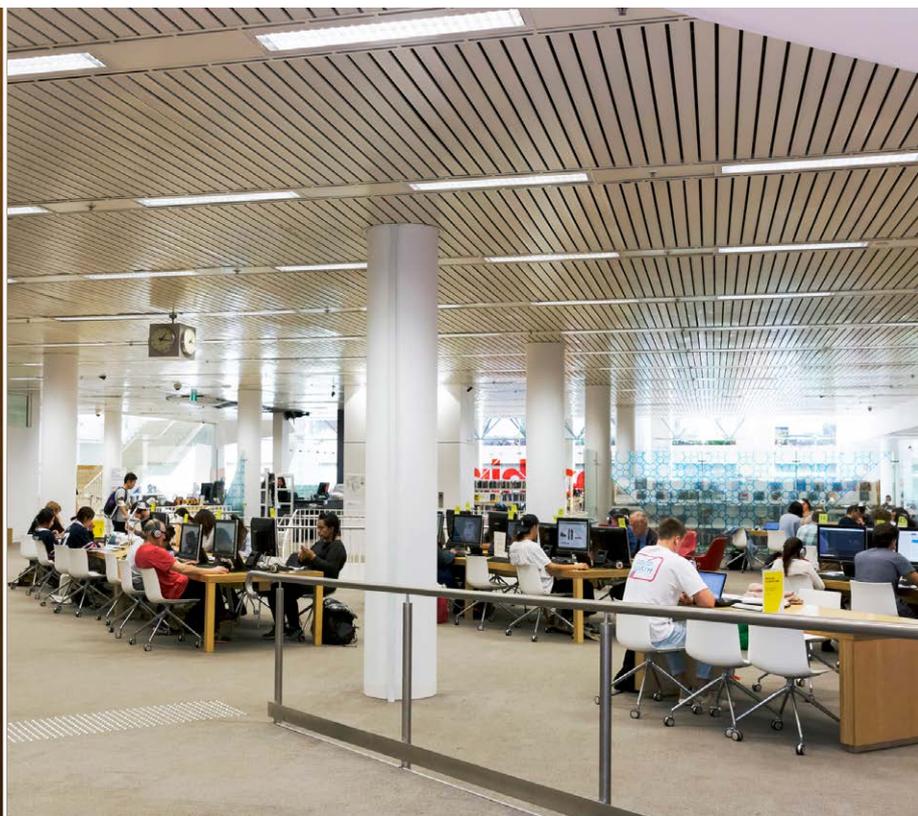
Social infrastructure can include community events, exercise and activity programs in parks, local crime prevention programs, welcome programs in new estates and nutrition and food programs.

Plans must respond to existing and projected community needs

Social infrastructure, along with physical planning, design and policy approaches, can help to create links between new and existing communities and bring different cultural and socio-economic groups together.²⁵⁴

Social infrastructure planners should consider an area's wider needs and aim to address existing and projected needs. New facilities can draw nearby residents to a new area, which helps break down physical and social barriers.²⁵⁵

While it may be difficult to manufacture a sense of community,²⁵⁶ providing places that help form friendships and neighbourhood networks can be an important catalyst.





Social infrastructure is an important part of the planning process. Master planning is an opportunity to integrate community facilities into new communities and developments.

Good social infrastructure is clustered, near transport hubs, flexible and accessible

Principles for providing social infrastructure include:

- **Cluster facilities with activity centres.** Locate facilities with shops, schools and other activity centres to create community focal points and promote safety. This can reduce the need to travel to different places and encourage active transport such as walking and cycling.
- **Consider locations carefully.** Facilities should be in convenient, central locations that are accessible by public transport. When they are next to open spaces they allow for overflow activities such as children's play, festivals and markets.
- **Design for flexibility.** Make sure facilities can respond and change to meet evolving community needs.
- **Create buildings that inspire community pride.** Buildings are community spaces and should evoke a sense of identity, pride and ownership.
- **Promote equitable access.** Do this through distribution, design and management.

Social infrastructure needs to be planned at the same time as planning for other infrastructure

People want to live in areas with good schools, health services, high-quality open spaces and recreational activities, all in accessible and convenient locations.²⁵⁴

Social infrastructure, or 'soft infrastructure', should be an integral part of development planning, along with transport, water, electricity and other forms of 'hard infrastructure'. If social infrastructure is considered after residential development occurs, it can cause inequities in access to services.¹⁵¹

Social infrastructure is important in new developments where links between neighbours have not yet been forged. It creates a sense of ownership of place and a sense of community.^{151, 254}

Well-planned social infrastructure can attract people of different ages, cultures and socio-economic backgrounds to an area, helping create a sustainable community.

Maximise efficiencies in social infrastructure planning and provision

Facilities and the processes around them must be designed for multiple and shared uses.

Sharing social infrastructure facilities also makes them more cost efficient. For example, community halls and school grounds can be used by different groups for different purposes.



Evidence and leading practice



Provide access to a range of facilities to attract and support a diverse population

Social infrastructure planning needs to be integrated across disciplines

Social infrastructure is an important part of the planning process. Master planning is an opportunity to integrate community facilities into new communities and developments.

Integration is important across social infrastructure providers, government agencies and service providers. For large developments and new precincts, a high level of coordination is required to ensure social infrastructure is integrated early in the planning process.



Respond to existing and projected community needs and current gaps in facilities and/or services

Social infrastructure planning should anticipate the needs of new developments

Social infrastructure planners should not assume that new developments will automatically get facilities and services.

A community plan, or social plan, is a strategic approach to providing social infrastructure. Major development plans and proposals should include a community planning study. The study should consider the social infrastructure and service needs of the new population and set out strategies to meet those that include providers and funding models.

Social infrastructure professionals should anticipate and track cumulative demand

Planning does not often consider the cumulative impact of small developments on surrounding services. A single development may not have a significant impact, but when developments are considered cumulatively, the impact on services and facilities can be an issue. Planning practice should consider how previous or future development may affect demand for social infrastructure.

c Provide for early delivery of social infrastructure

Social infrastructure should be in place when residents move in

There is often a time lag between residents moving in and having social infrastructure in place. This is partly caused by the developer contribution system that ties funds to the development of housing lots. This means that funds to build facilities may not be available until the last lot is developed.

A strategic, integrated approach to planning social infrastructure will help identify opportunities and alternative approaches to the provision and timing of social infrastructure.

Early-stage studies can help identify social infrastructure needs

Increases in allowable densities in residential development should be linked with the provision of social infrastructure such as new open spaces, affordable housing and other amenities.²⁵⁷

A study on new residential areas found higher levels of satisfaction when there is a visible on-the-ground worker who can be contacted, but low levels when programs relied mainly on social media.²⁵⁵

d Promote an integrated approach to social infrastructure planning

Integration needs to occur both physically and across professional disciplines. Master planning provides an opportunity to physically integrate community facilities into new communities and developments.

Integration across social infrastructure providers, human service agencies and service providers should occur early in the planning process to ensure that all issues are considered.

e Maximise efficiencies in social infrastructure planning and provision

Multipurpose facilities can meet different needs in one location

Multipurpose facilities can accommodate a variety of uses and allow different groups to use these facilities for different purposes, at different times. This means that a range of services can be accessed in one convenient location, close to where people live.

Schools, universities, parks, sporting fields and others are increasingly moving to this model of delivery.



More information

Building Momentum: State Infrastructure Strategy 2018-2038, Infrastructure NSW. See [insw.com](https://www.insw.com)

Community centre guidelines, community centre ideas bank and fact sheet, UrbanGrowth NSW/Landcom. See [landcom.com.au](https://www.landcom.com.au)

Schools as Community Centres, NSW Department of Education. See [education.nsw.gov.au](https://www.education.nsw.gov.au)

Share Our Space, NSW Department of Education – School Infrastructure NSW. See [schoolinfrastructure.nsw.gov.au](https://www.schoolinfrastructure.nsw.gov.au)

Social Infrastructure – Australian Infrastructure Audit 2019, Infrastructure Australia. See [infrastructureaustralia.gov.au](https://www.infrastructureaustralia.gov.au)



09 | Social cohesion and connectivity



Key questions

Does the policy, plan or proposal:

- a** provide environments that will encourage social interaction and connection?
- b** promote a sense of community and attachment to place?
- c** encourage local involvement in planning and community life?
- d** minimise social disadvantage and promote equitable access to resources?
- e** avoid community severance, division or dislocation?



Why social cohesion and connection matter

Social connectedness supports lower rates of disease and mortality and better mental health

Environments that encourage social interactions and connections improve health and wellbeing.

Stronger social connections are associated with lower rates of chronic illness, depression, anxiety, stress related problems, suicide, binge drinking and violent crime.¹⁵¹ They are also associated with better recovery from serious illness.

Social connections, cohesion and attachment to place improve health

Socially cohesive communities support healthy behaviours. They provide support, practical help and a sense of belonging and community.

Attachment to place is strongly associated with mental health. Feelings of disconnection are associated with mental illness and the experience of dispossession or loss of place can have significant psychological impacts.²⁵⁸

The built environment can help – or hinder – social cohesion

The built environment can encourage social contact among neighbours, involvement in neighbourhood activities and community organisations, perceptions of safety and security and feelings of belonging. It can also provide fair and equitable access to resources and support participation in decision-making.²⁵⁹ However, some forms of development can undermine social cohesion. Examples include housing projects that segregate disadvantaged groups and transport corridors that sever community links.

Features that encourage social interaction include walkable neighbourhoods, attractive public spaces and accessible community facilities that allow people to meet and take part in community events.¹⁵¹ Good social infrastructure can also help generate social cohesion.

Social interaction can be unstructured or structured, weak or strong

Unstructured interactions include casual encounters with neighbours, with people in parks or cafes, while shopping or walking the dog. Structured social interactions include taking part in community activities, voluntary groups and civic organisations, such as playgroups or sports clubs.

Research suggests unstructured encounters create weak social connections, while structured interactions create strong ties.²⁶⁰ Increasing the number of weak connections helps people feel connected to their community and improves social cohesion.²⁶⁰

Social connections foster further interaction and healthy behaviours. These include higher levels of physical activity, improved feelings of safety and security and healthier eating and drinking.

Social cohesion is particularly important to multi-unit developments

Residents in multi-unit developments often find it difficult to meet and get to know their neighbours and this reduces levels of social support and social cohesion.

A Brisbane study shows that residents in multi-unit developments may not develop strong social ties due to concerns for privacy, resident homogeneity, tenure and safety and security.²⁶¹ Recent studies of multi-unit developments in Sydney show that residents are concerned that they do not know their neighbours.^{262, 263}



Design features within multi-unit developments can improve social cohesion

Circulation routes and spaces should encourage residents to cross paths. Creating opportunities to form weak ties and common areas should encourage longer interactions. This includes indoor and outdoor spaces and common areas on various floors in larger developments.

High levels of maintenance, with visible workers in higher density developments can have a greater impact on resident satisfaction than increases in security.^{260, 264}

Careful neighbourhood design can also improve cohesion and build community

Civic facilities and public spaces provide opportunities for social interaction and involvement in neighbourhood activities. These help strengthen neighbourhood ties and build social support networks and a sense of belonging.

Neighbourhood buildings with distinctive and attractive character, often incorporating design elements that reflect local cultural values, can help build a sense of community.

Local involvement in planning and community life is important for health

The opportunity for residents to help shape decisions that affect their lives and their surroundings is essential to psychological health for the individual residents and the community as a whole.²⁶⁵

Socially disadvantaged communities have poorer health outcomes

There are clear links between social disadvantage and poor health outcomes.²⁶⁵ People of lower socio-economic status suffer higher rates of physical disease, mental illness, injury and premature death. They also have a higher prevalence of health damaging behaviours and obesity.

When socially disadvantaged groups are concentrated in disadvantaged neighbourhoods, these health outcomes are exacerbated. This is often due to lack of access to education, employment, health and social services, affordable housing and transport.²⁶⁶

New development presents opportunities to create communities where people have a range of incomes, backgrounds and demographic characteristics. Providing fair and equitable access to community resources promotes inclusive communities.



New development presents opportunities to create communities where people have a range of incomes, backgrounds and demographic characteristics.

Dispersed developments tend to have a weaker sense of community

Adjacent development enables new residents to link with existing communities using shared facilities and services such as shops, cafés, neighbourhood centres, schools, libraries, sporting facilities and clubs.

Geographically dispersed development creates physical and social barriers and weakens a sense of community.

Physically disrupting neighbourhoods can damage cohesion

Dissecting communities with busy arterial roads, railway lines or other substantial barriers can sever community networks and access to facilities.



Evidence and leading practice



Provide environments that will encourage social interaction and connection

Social cohesion and connection support mental health

Major influences on mental health include social connectedness, freedom from discrimination, violence and economic participation.²⁶⁵ The presence of diverse, inclusive and tolerant communities fosters mental health. Social connectedness means access to social networks, supportive environments and a variety of social and physical activities.

Meeting people and establishing social contacts reduces the risk of stroke and depression and can help people live longer and have better physical and mental health.¹³⁵

Lower levels of social participation and walking among older adults may be a factor in the onset of clinical depression.²⁶⁷

Careful design creates a stronger sense of community

A sense of community is increased in neighbourhoods with visually diverse and attractive buildings, sufficient privacy, good access to amenities and town or neighbourhood centres. Pedestrian-friendly spaces, streetscapes with houses that have views of the surrounding neighbourhood, open verandas and low fences also encourage social interaction.²⁵⁹

Green spaces and walkable neighbourhoods encourage physical activity and cohesion

Personal safety, neighbourhoods that encourage physical activity and social cohesion are all positively associated with better mental health outcomes.²⁶⁸ More leisure time spent walking and being physically active can lead to higher levels of social cohesion.²⁶⁸

Participation in sport and physical activity declines as feelings of trust diminish, while participation rates are highest among those who have daily contact with friends and family.²⁶⁹

Residents who move into more walkable neighbourhoods in the US tend to increase their physical activity levels and social interactions.²⁷⁰

Exposure to green space in residential areas leads to lower levels of stress and higher levels of social cohesion, even when this does not involve physical activity. Both the quantity and quality of green space affect mental and social health.²²⁰

According to US research, parks increase a sense of community.²²³

Increased neighbourhood social cohesion can also increase an adult's willingness to permit children (aged eight to 12 in the study cited) to independently travel and play.²⁷¹

Social cohesion supports independence and encourages physical activity

Social cohesion is an important factor in supporting independent lifestyles of older people. This depends more on perceptions of neighbourhood safety than on amenity.²⁷²

A UK study found that people who felt safe, or trusted their neighbours, tended to walk more often even when actual crime rates were high.²⁷³



Social cohesion is an important factor in supporting independent lifestyles of older people.



Community gardens encourage social connections

Community gardens provide opportunities for social interaction and therefore, overall wellbeing and stress reduction.²⁷⁴ The design of community gardens should consider both the need for solitary time and social interaction.²⁷⁵



Promote a sense of community and attachment to place

A sense of community improves health outcomes for individuals and groups

A sense of community has significant positive impacts on a range of outcomes for individuals and groups, while a lack of connections, identity and supports can lead to less positive health outcomes.²⁷⁶

Safe, accessible public areas and mixed land use encourage cohesion

A sense of community and attachment to place increase perceptions of the attractiveness, quality and character of the built environment.

Higher levels of neighbourhood social interaction and well-maintained, accessible public spaces provide high levels of natural surveillance and security.²⁵⁹

Walkable neighbourhoods have higher levels of social interaction and sense of community.^{135, 256}

There appears to be more social capital in communities which have a mix of different land uses rather than a single land use, such as all residential.²⁷⁷

Active travellers feel a stronger sense of attachment to place

A study of active travel to school in Canada found active travellers have more positive feelings of connection than passive travellers.²⁷⁸ The parents of these active travellers and parents who feel their neighbourhood is safe, also have the strongest feelings of wellbeing.

Community building programs foster cohesion in new communities

Leading practice recognises the need for community building in new neighbourhoods. This includes providing resources for community development workers, community development programs and facilities for social interaction and community activities.

Programs can provide welcome initiatives for new residents, set up community activities and support groups, establish local organisations and support community events that bring people together. Programs may be financed by developers, councils or government funding programs.

Cultural development strategies can be an important tool for community participation and engagement.

c Encourage local involvement in planning and community life

Healthy communities provide residents with an opportunity to take part in decision making and influence the planning and development of their community. There should be mechanisms for new residents to become involved and opportunities for the broader community to take part in the planning process.

Community engagement may include public consultation on a planning proposal or policy and involvement in the design of community centres and parks. More hands-on activities can include tree planting and helping to run community events and organisations.

d Minimise social disadvantage and promote equitable access to resources

Neighbourhoods with mixed incomes deliver better health outcomes

Living in areas of concentrated social disadvantage results in physical and psychological deprivation, poor access to facilities and opportunities, higher disease rates and premature death.²⁷⁹

People living in disadvantaged neighbourhoods are more likely to report depression than peers living in less disadvantaged areas with substandard housing, crime, noise, poor amenity and poor access to services and opportunities.²⁶⁶

Mixed-income neighbourhoods are linked to health benefits for disadvantaged groups.²⁸⁰ A Canadian study found that in neighbourhoods of mixed income, the less affluent residents had better health and quality of life compared to those of similar income living in neighbourhoods with a concentration of less affluent people.²⁸¹

Several planning mechanisms support affordable housing

The *State Environmental Planning Policy (Affordable Rental Housing) 2009* provides mechanisms aimed at increasing supply.

Under the *Environmental Planning and Assessment Act 1979*, planning authorities can negotiate affordable housing components in larger developments through voluntary planning agreements.



Facilities that serve a wider area can improve equitable access and cohesion

Community services and facilities that serve an area beyond a local development can promote integration with surrounding communities and enhance inclusion and social cohesion.

Social integration and inclusion may be a challenge for community title developments if they do not allow public access through the site or to key facilities. This is an issue in larger, master-planned estates that include a range of social infrastructure.

Gated communities are a particular case. A review of gated communities in Sydney found they were popular because they gave residents a sense of security and governance control.²⁸² However, recent local real estate commentary indicates that the appeal of gated communities appears to have waned as security fears have generally been overstated and there is a growing preference for more inclusive 'standard' neighbourhoods.²⁸³



Physically connected communities support social cohesion and positive health outcomes.

Social infrastructure facilities should cater to the needs of older people

Older people have different needs, activity patterns and experiences and should be included in decision making in the planning process.²⁸⁴



Avoid community severance, division or dislocation

Physically connected communities support social cohesion and positive health outcomes

Geographically dispersed development creates physical and social barriers and weakens a sense of community. Physical change in communities, such as a new freeway or a rail line, has a significant effect on the social fabric of a community.²⁸⁵



More information

Building stronger communities through physical activity, and **Community Development Guidelines**, Active Living NSW. See heartfoundation.org.au

General resources, Department of Family and Community Services. See www.facs.nsw.gov.au

NSW Local Character and Place Guideline 2019, NSW Department of Planning, Industry and Environment. See planning.nsw.gov.au



10 | Environment and health



Key questions

Does the policy, plan or proposal:

- a help improve air quality?
- b help improve water quality, safety and supply?
- c minimise disturbance and health effects caused by noise, odour and light pollution?
- d consider the potential for hazards (both natural and manmade) and mitigate them?
- e consider pest management strategies when determining the location of new urban development?



Why environment matters to health

Building sustainable communities leads to better health outcomes

Planning and development affects environmental health and can increase the liveability of urban environments or damage the environment and our health.²⁸⁶

Our health depends on natural, built, social and cultural features in the environment.²⁸⁷ Environmental pollution (air, water, soil, noise or odour) can have significant health impacts.

Environmental health is the interaction between the environment and people's health and includes physical, biological, and social factors. Issues include air quality, safe drinking water, recreational use of water, noise, odour, light, microbial control, solid waste management and the management and avoidance of pests. It also includes meteorological and climatic conditions such as heatwaves.

Other considerations are the potential for hazards, both natural and manufactured and how they can be avoided.

Major legislation, regulation and policies relevant to environmental health

- a) **The *Public Health Act 2010*** is the key public health protection legislation in NSW and regulates environmental health risks.
- b) **The *Water Industry Competition Act 2006*** regulates private sector entrants in the water and wastewater industries to ensure continued protection of public health, consumers and the environment.
- c) **The *Local Government Act 1993*** regulates water and wastewater services including water recycling provided by local government authorities and persons carrying out specified water and wastewater activities.
- d) **The *Protection of the Environment Operations Act 1997*** is the key environmental protection legislation in NSW and allows for 'explicit protection of the environment' and innovative approaches to reduce pollution. It regulates water, air and noise pollution in NSW with responsibility shared between local government and the NSW Environment Protection Authority.
- e) **NSW environmental standards and policies** - several policies are also in place to provide guidance on managing noise and air quality from industrial processes, new development and transport infrastructure. The NSW Environment Protection Authority has extensive resources on noise and air quality.
- f) **The NSW Government's Building Sustainability Index (BASIX)** is a measure which looks at improving the energy efficiency of buildings and aims for a reduction in energy use and potable water consumption.
- g) **Water sensitive urban design** is a planning and engineering approach that focuses on minimising the impacts of development on the natural water cycle by protecting natural systems and water quality, integrating stormwater into the landscape, reducing run off, peak flows and demand for potable water.²⁸⁸





Total health costs for air pollution are about \$6.4 billion per year

There is a direct link between urban air quality and respiratory problems and growing evidence about the adverse health impacts of airborne particles.

A 2015 review of the health impacts of particulate matter air pollution in NSW found these have impacts on mortality and respiratory and cardiovascular health.²⁸⁹ Bushfires, agricultural burning, dust storms, mine dust and wood heaters can all cause particulate pollution.²⁹⁰

A 2005 analysis estimated the air pollution health costs in the Greater Sydney metropolitan area at \$6.4 billion per annum.²⁹¹

The impact of development on water quality, safety and supply is a health issue

All suppliers of drinking water in NSW need to establish and adhere to a quality assurance program under the Australian Drinking Water Guidelines.

The most common health risk associated with drinking water is contamination by disease-causing micro-organisms.²⁹² These organisms include cryptosporidium, giardia and coliform bacteria.²⁹³

Water recycled from sewage or stormwater harvesting for non-potable uses may be used in new developments or upgrades. Suppliers should comply with the preventive risk management framework in the Australian Guidelines for Water Recycling and consult with the local public health unit to ensure public health risks are adequately considered and managed.

Unpleasant odours are a major source of community complaints

The NSW Environment Protection Authority notes that odour can have a significant impact on quality of life and is a major source of community complaints.²⁹⁴

Odour impacts often arise from inappropriate land use decisions. These may be decisions that allow residential areas to grow around rural, odour-generating activities or allow odour-generating uses near existing residential areas.

Odour-generating uses include waste industries, processing and manufacturing, food and agricultural processing, intensive agriculture and service industries such as dry cleaners and fast-food outlets.²⁹⁴

Regulators should consider the compatibility of a proposal with current and likely future land uses at the project planning stage, as it is usually more difficult and costly to address odour impacts retrospectively.²⁹⁴

Excessive noise can cause anxiety and a range of other health problems

Noise pollution is unwanted sound that unreasonably intrudes on daily activities. There are many sources of noise pollution including road, rail and air transport, industrial noise, neighbourhood and recreational noise.²⁹⁵

Noise can interfere with communication, disrupt sleep and interrupt work. Prolonged exposure to noise can result in hearing loss, sleep disturbance, cardiovascular disease (including high blood pressure), cognitive performance and other health effects.²⁹⁵

Like odour, noise can negatively impact on quality of life and health and needs to be considered in planning.

Urban renewal projects and greenfield developments may face noise and odour pollution

NSW needs to find land for housing in order to meet projected population growth. This means more developments on urban renewal and greenfield land.

Infill development in existing lower density suburbs may require land decontamination. Some industrial tenants may remain in the area and new residents may face noise and odour pollution.

Greenfield sites may require considerable buffering and physical separation from existing uses that may generate noise and odour. They may also be considerable distances from employment and services and lack public transport. This may reduce air quality with new residents commuting by private car.



NSW needs to find land for housing in order to meet projected population growth. This means more developments on urban renewal and greenfield land.

Water bodies and other features can influence pest levels and impact on health

A number of pests in NSW, particularly insect pests, can transmit diseases to humans. These include parasites between humans (head lice and scabies) and diseases transmitted by insect bites.

Mosquitoes in NSW can transmit certain diseases like Ross River and Barmah Forest virus. Midges can cause significant nuisance issues.

The location, design and management of water bodies can influence the level of contact between these pests and humans.^{296, 297, 298}



Evidence and leading practice



Help improve air quality

Particulate matter air pollution is a significant health risk

In NSW, the main sources of particulate matter air pollution are industrial emissions, motor vehicle emissions, domestic wood burning, coal burning for electricity generation and burning native vegetation (bushfires or hazard reduction burns).²⁸⁹

The health effects caused by air pollutants may range from subtle biochemical and physiological changes to difficulty in breathing, wheezing, coughing and aggravation of existing respiratory and cardiac conditions.²⁹⁹

Ozone is linked to photochemical smog and negative health effects

The NSW Environment Protection Authority notes that ground-level ozone is an indicator of photochemical smog, characterised by a white atmospheric haze during warmer months.³⁰⁰ Excessive ozone in the air can have a marked effect on human health, reducing lung function and exacerbating lung disease.

b Help improve water quality, safety and supply

Microbial contamination is a risk to water quality

The contamination of natural waters used for recreation can result in disease outbreaks and illness in the community. The greatest potential risk is posed by microbial contamination of waters by fungal infections, bacteria, viruses and algae and waterborne parasites.³⁰¹

Swimming pools can harbour harmful viruses and bacteria. Waterborne parasites such as giardia lamblia, viruses such as hepatitis A and bacteria such as shigella can all be transmitted via inadequately disinfected swimming pool water.³⁰² Cryptosporidium is a particular concern, as it is resistant to chlorine and can survive in a pool for weeks.

c Minimise disturbance and health effects caused by noise, odour and light pollution

Unpleasant odours can harm health

Odours can affect public amenity and the community's quality of life. While undesirable odours have historically not been considered direct triggers of health effects, odour sensations may produce health symptoms. Some odour-creating industries such as intensive agriculture are a particular concern.³⁰³

Buffer zones can reduce noise and odour pollution issues

A common practice for reducing conflict between incompatible land uses is to provide a physical separation or buffer zone between them. Councils should establish buffer areas for different land uses (including agriculture, industry, public utilities and environmentally sensitive areas) based on state requirements and local conditions.³⁰⁴

Landfill sites need to be carefully located

Landfill sites are covered by statewide guidelines. It is important to ensure the community is not exposed to undesirable odours or the risk of infection from pests. For this reason, the creation or expansion of landfills generally requires development approval.³⁰⁵ The NSW Environment Protection Authority provides guidelines for the development of solid waste landfills and notes careful location of a landfill is the most effective environmental management tool.³⁰⁵

The guidelines list inappropriate locations for solid waste landfills, including within 250 metres of identified conservation zones and residential areas, schools, hospitals and in designated drinking water catchments.³⁰⁵ Preventing drinking water supplies from contamination by human and animal waste is one of the two most important strategies (along with disinfection) for protecting the community from illness caused by waterborne pathogens.³⁰⁶

Light pollution can disturb sleep patterns and light sources should be placed well

Public lighting is an important contributor to a safe, secure and attractive visual environment for pedestrian and vehicular traffic. When poorly placed, lighting can disturb sleep patterns and cast obtrusive light onto residents' properties, spill light to the night sky and cause excessive glare.³⁰⁷



Public lighting is an important contributor to a safe, secure and attractive visual environment for pedestrian and vehicular traffic.

d Consider the potential for natural and man-made hazards and mitigate them

Industrial sites need to be carefully assessed

Industrial sites need to be carefully assessed, especially when a change of land use to a more sensitive use (residential) is considered. Contaminated industrial sites have the potential to increase public health risks to surrounding communities. The nature of the contamination and best remedial options must be assessed before these sites are redeveloped. Substances and chemicals such as lead and asbestos can cause significant contamination of residential land if not assessed and managed appropriately.

e Consider pest management strategies when determining the location of new urban development

Water bodies need to be carefully planned and managed

The location, design and management of water bodies can influence the level of contact between pests and humans.^{296, 297, 308}



More information

Air pollution economics, NSW Department of Planning, Industry and Environment. See environment.nsw.gov.au

Building Sustainability Index (BASIX), NSW Department of Planning, Industry and Environment. See planningportal.nsw.gov.au/basix

Drinking water management manual, Sydney Water. See sydneywater.com.au

Electromagnetic fields, World Health Organization. See who.int/peh-emf

General resources, Green Building Council of Australia. See gbca.org.au

General resources, NSW Arbovirus Surveillance and Vector Monitoring Program, NSW Health. See health.nsw.gov.au/environment/pests/vector

Guidelines for drinking water, water recycling and managing risks in recreational water, National Health & Medical Research Council, Australian Government. See nhmrc.gov.au

NSW public lighting code, NSW Department of Planning, Industry and Environment. See energy.nsw.gov.au

Regional Air Quality, NSW Environment Protection Authority. See epa.nsw.gov.au

State emergency management plan, Office of Emergency Management (NSW). See emergency.nsw.gov.au

Wastewater and sewage (general resources) NSW Health. See health.nsw.gov.au

Water sensitive urban design guideline. Transport for NSW. See rms.nsw.gov.au

Your home - noise control and **Your home - healthy home**, Australian Government. See yourhome.gov.au



11 | Environmental sustainability and climate change



Key questions

How does the policy, plan or proposal:

- a meet environmental sustainability objectives?
- b consider climate change mitigation?
- c adopt measures to adapt to climate change?
- d promote community resilience?



Why environmental sustainability and climate change matter

Direct and indirect effects of climate change on health are widespread and significant

The direct effects of climate change on health include more heart attacks, strokes, accidents, heat exhaustion and death (from heatwaves) and more injuries, deaths and post-traumatic stress (from extreme weather events, such as flooding and cyclones), smoke-induced asthma attacks and burns (from increased bushfires).³⁰⁹

Some population groups are particularly vulnerable to extreme events. Older people, those with infirmities and pre-existing medical conditions and children are particularly vulnerable to heatwaves.³¹⁰

Indirect effects of climate change on health include exacerbation of respiratory illnesses, heart and lung diseases (due to more exposure to some air pollutants and airborne allergens), an increase in foodborne infections and the spread of mosquito transmitted diseases (from increased rainfall and temperature) and mental health problems (from drought especially in rural areas).³¹¹

Environmental sustainability focuses on the needs of future generations

Environmental sustainability is about reducing our impact on the environment and adopting practices that use natural resources sustainably. It has had a major influence on the planning process.

Following the 1992 United Nations Conference on Sustainable Development, the Australian Government adopted a national strategy for ecologically sustainable development.³¹²

Good environmental management is part of environmental sustainability

This includes energy use, greenhouse gas emissions, ozone depletion, water use, waste reduction and management and use of materials. Protecting biodiversity is also important.

The term 'sustainable development' is often used in planning documents to address environmental and ecological concerns as well as social and economic aspects of development. Recent definitions also include institutional, cultural and/or spiritual factors³¹³ and 'regenerative' development that restores previously degraded conditions.³¹⁴

In 2015, the United Nations adopted a new 2030 agenda for sustainable development that includes good health and wellbeing and climate change action.³¹⁵

Environmental sustainability is a growing issue in providing health services and the construction of health facilities.

All built environments should consider ways to mitigate climate change

Strategies to mitigate climate change include reducing greenhouse gases, using energy-efficient design and renewable energy technologies and incorporating green products and technologies.

Adapting to climate change will help communities cope with its effects

Communities that adapt to climate change will be better able to mitigate its adverse effects and cope with those that remain. Adverse effects can include extreme weather events like floods and bushfires, heat stress and the spread of infectious diseases.

Resilient communities are more able to deal with the effects of climate change

The World Health Organization highlights the need to build 'climate resiliency'.³¹⁶ This includes economic viability, community vitality, social cohesion, people's skills and capacities and governance systems.

Programs to improve a community's resilience tend to have significant health co-benefits. Community consultation and participation is an important part of establishing resilient and connected communities.





Evidence and leading practice



Meet environmental sustainability objectives

NSW has a legal framework for environmental sustainability

The *NSW Protection of the Environment Administration Act 1991 (s.6(2))* defines ecologically sustainable development and states that this requires the effective integration of economic and environmental considerations in decision making. Objectives 1.3(b) and (e) of the *Environmental Planning and Assessment Act 1979* facilitate ecologically sustainable development and protect the environment.

In 2016, the NSW Government released a climate change policy framework, which aims to maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate and international and national policy and actions.³¹⁷

Climate change will bring extreme weather that will affect population health

The 2011 Garnaut Review of the impact of climate change on the Australian economy warned that the regional variability of climate change may manifest in severe unseasonal weather events. Such events include more frequent and severe heatwaves, heavy rainfall and floods, droughts, tropical cyclones and bushfires.³¹⁸ These events all have implications for population health, particularly vulnerable groups in the community.

Coastal areas are particularly vulnerable

Although there are considerable variations in actual projections, ongoing sea level rise is predicted to 2100 and beyond.^{309, 319} This will increase the risks for coastal areas in NSW from physical exposure to sea level rise, erosion and storm surges, with implications for both coastal infrastructure and homes in vulnerable coastal locations.³²⁰

Urban heat islands demand more energy for cooling

The urban heat island effect is exacerbated by climate change. A heat island is where the centres of heavily built up cities are several degrees warmer than surrounding areas. This creates a harmful feedback loop with more energy being used for cooling, which produces more heat and increases carbon emissions.³²¹



Consider climate change mitigation

Infrastructure choices affect sustainability

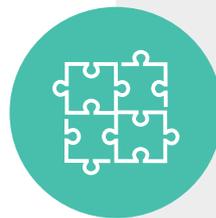
Infrastructure choices are very significant determinants of sustainability, such as the provision of public transport or the choice of waste management technologies.



Adopt measures to adapt to climate change

Health professionals need to work across disciplines and at all levels

Effective action on the health impacts of climate change requires integrated policy and planning from all levels of government. Improved metropolitan and regional planning, which embeds principles for sustainable city governance, population health and health impact assessment, can also contribute.



Effective action on the health impacts of climate change requires integrated policy and planning from all levels of government.

The key climate change responses are mitigation and adaptation

Most countries have policies to mitigate and adapt to climate change. Mitigation refers to strategies to reduce the emissions of greenhouse gases – from energy efficiency programs, switching to renewable energy, to planting forests.

Adaptation policies are designed to minimise the adverse effects of climate change and help communities cope with the remaining effects. Adverse effects include the increased risk of extreme weather events (such as flooding, bushfires and tropical cyclones), heat stress and infectious diseases.

Responses to climate change can bring positive health benefits

There are positive health and environmental ‘co-benefits’ from policies to both mitigate and adapt to climate change.^{322, 323} Health professionals should seek to maximise these co-benefits.^{324, 325}

Health and environmental co-benefits of a sample of mitigation and adaptation strategies are shown below.

Examples of co-benefits of climate change mitigation strategies

Mitigation strategies	Environmental co-benefits	Health co-benefits
Decreased fossil fuel combustion	<ul style="list-style-type: none"> Cleaner air 	<ul style="list-style-type: none"> Lower rates of respiratory and cardiorespiratory disease
Improved public transport and mass transit systems	<ul style="list-style-type: none"> Reduced consumption of a range of non-renewable resources, including oil and metals Reduced pollution from fossil fuel combustion 	<ul style="list-style-type: none"> More people walking and cycling to and from stations promotes health and fitness and reduces overweight and obesity Lower rates of respiratory and cardiorespiratory disease
Increased fruit and vegetable consumption	<ul style="list-style-type: none"> Reduced ecological footprint 	<ul style="list-style-type: none"> Promotes good health and nutrition and lowers rates of cancer and several chronic diseases

Examples of co-benefits of climate change adaptation strategies

Adaptation strategies	Environmental co-benefits	Health co-benefits
Early warning systems for weather extremes and disease outbreaks	<ul style="list-style-type: none"> Prevention or minimisation of environmental damage 	<ul style="list-style-type: none"> Reduced death and disease following natural disasters and better control of infectious diseases
Improved programs to adapt rural economies to a changing climate	<ul style="list-style-type: none"> Prevention or minimisation of land degradation 	<ul style="list-style-type: none"> Strengthened social capital and beneficial effects on mental health

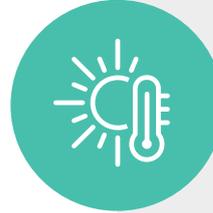
Some communities are more vulnerable to climate change than others

Coastal communities and settlements in flood plains are highly vulnerable to the effects of climate change.

Farming communities may be vulnerable to drought, which has an impact on both day-to-day living and livelihoods by increasing agricultural production costs and lowering crop yields.

People living in remote areas may be more vulnerable due to the greater impact of extreme weather events.

Disadvantaged groups in the community, such as people on low incomes, may have fewer resources and options in terms of adapting to some of the effects of climate change. Older people are generally more vulnerable to heat stress.



People living in remote areas may be more vulnerable due to the greater impact of extreme weather events.

d Promote community resilience

Community resilience is essential to withstand stresses and changes

The World Health Organization refers to the necessity to build 'climate resiliency'.³¹⁶ This includes economic viability, community vitality, social cohesion, people's skills and capacities and governance systems.

Resilient communities are better at adapting to change

Communities with a high degree of social capital, that is, more neighbourliness and connections to local political institutions, are better at adapting to change.

Programs to improve a community's resilience tend to have significant health co-benefits. Community consultation and participation is an important part of establishing resilient and connected communities.





More information

About climate change in NSW, NSW Office of Environment and Heritage.
See climatechange.environment.nsw.gov.au

Building Sustainability Index (BASIX), NSW Department of Planning, Industry and Environment.
See planningportal.nsw.gov.au/basix

Circular Economy Policy, NSW Environment Protection Authority. See www.epa.nsw.gov.au

Green Star rating tools, Green Building Council of Australia. See gbca.org.au/green-star/rating-tools

General resources, National Cooperative Research Centre for Low Carbon Living.
See lowcarbonlivingcrc.com.au

Protecting health from climate change: connecting science, policy and people,
World Health Organization. See who.int/globalchange

UN Framework Convention on Climate Change, United Nations. See unfccc.int



part

4

The 11 checklist questions



01 | Healthy eating



a) Promote access to fresh, nutritious and affordable food and drink

General questions

Question	Topic	Details about the policy, plan or proposal
1	access to healthy food	Does it include access to healthy food in its aims, objectives or provisions? Is it recognised as an issue?
2	vulnerable groups	Does it have an impact on vulnerable groups (such as the elderly, children, low income groups) accessing healthy food? This could be part of a health impact assessment.
3	range of healthy food outlets	Does it encourage a range of opportunities for the supply of healthy food including supermarkets, fruit and vegetable shops, corner shops, food co-ops and farmers' markets?
4	prioritise healthy food outlets	Does it provide easy access to healthy foods and decreased access to unhealthy foods?
5	easy access	Does it include measures to ensure early provision of healthy food outlets in new developments when these are not within easy access to existing facilities?

Built form questions

Question	Topic	Details about the policy, plan or proposal
6	walking distance from homes	Are most homes within a comfortable walking distance (around 400-500 metres) of healthy food outlets such as supermarkets and fruit and vegetable shops?
7	walking distance from busy areas	Is there a good range of healthy food outlets within a comfortable walking distance of places where people congregate and are likely to want to buy food?
8	non shop outlets	Are there public spaces available for potential use for different types of non-shop food outlets such as markets and stalls?
9	drinking water fountains	Are drinking water fountains provided within public spaces (both publicly-owned and privately-owned and/or managed)?
10	breastfeeding facilities	Are breastfeeding facilities provided within public buildings?
11	access via public transport	Can healthy food outlets be easily accessed by public transport?

b) Discourage over-consumption of unhealthy food and drink including alcohol

General questions

Question	Topic	Details about the policy, plan or proposal
1	access to healthy food and drink	Does it discourage access to unhealthy food and drinks?

Built form questions

Question	Topic	Details about the policy, plan or proposal
2	density of alcohol outlets	Does it discourage density of outlets selling or serving alcohol?

c) Preserve food-growing (agricultural) areas

General questions

Question	Topic	Details about the policy, plan or proposal
1	food-growing land	Does it affect food-growing (agricultural) land?
2	urban-agricultural land conflicts	Does it address the potential conflicts between urban and agricultural land uses? Does a land use conflict risk assessment need to be undertaken? This may include the establishment of buffer or transitional zones and informing those who decide to reside near agricultural lands of the potential consequences of living in an agricultural area, such as noise, odour and dust.
3	agricultural land	Where development must impact on agricultural lands, are lands of marginal agricultural value targeted first for development?

Built form questions

Question	Topic	Details about the policy, plan or proposal
4	agricultural land	Where development must impact on agricultural lands, does it include ways to retain and integrate agricultural activities?
5	buffer zones	Are there adequate natural or built buffers, or transitional zones between agricultural land and sensitive development types, such as residential, so as to minimise the impact on sensitive land uses so that both can co-exist? Do these buffers minimise the loss of viable agricultural land in their establishment?

d) Provide support for local food production

General questions

Question	Topic	Details about the policy, plan or proposal
1	promoting local food production	Does it promote local food production as a viable approach to increasing access to healthy food? For instance, community gardens, common areas in developments, verge planting and public open spaces for edible landscaping?
2	zoning	Does it promote local food production by making this activity a permissible use within appropriate land zonings?

Built form questions

Question	Topic	Details about the policy, plan or proposal
3	home gardens	Does it provide some private open space suitable for home gardening? There are no minimum standards for home gardening and different areas may be appropriate for different housing types.
4	community gardens	Does it support community gardening by providing space for this use? If so, is the community garden space within comfortable walking distance of homes?
5	school gardens	If schools are proposed, do they include space for an edible garden?



02 | Physical activity

a) Encourage physical activity

General questions

Question	Topic	Details about the policy, plan or proposal
1	encourage physical activity	Does it include aims or objectives related to increasing or encouraging physical activity?
2	encourage physical activity	Does it have an impact on people in the community who are at risk of not achieving national physical activity guidelines?

Built form questions

Question	Topic	Details about the policy, plan or proposal
3	walkable neighbourhood	Are most homes and places of employment within a comfortable walking distance (400 to 500 metres) of destinations to meet everyday basic needs such as shops, schools, parks, transport stops?
4	active transport	Are land uses arranged to encourage walking, cycling and other forms of active transport between activities?
5	street connections	Are streets (including pedestrian and bicycle networks) highly connected, offering direct routes to destinations of choice?
6	streetscape design	Are streetscapes designed to be attractive, interesting and welcoming to pedestrians and cyclists, including by providing enjoyable scenery, appropriate amenities and shelter from the weather? See chapter 7 on public space.
7	transport connections	Are retail and commercial areas designed to encourage physical activity and active transport? Are they linked to public transport, pedestrian and bicycle networks? Is there a network of connecting footpaths within the area? See chapter 7 for more about streetscapes.
8	universal design	Are pedestrian areas (such as public plazas, squares, pathways, trails, shopping areas) universally accessible (designed to accommodate the widest range of potential users)? Universal design can encourage opportunity for incidental physical activity for instance by providing stairs instead of a lift. Designs could also consider watering and tie-points for companion animals.

b) Promote opportunities for walking, cycling and other forms of active transport

General questions

Question	Topic	Details about the policy, plan or proposal
1	active transport	Does it promote walking, cycling and active transport as part of its stated aims or objectives?
2	active transport/ funding	Does it include provisions for pedestrian and bicycle pathways or networks and a strategy for funding them?
3	early delivery	Will pedestrian and bicycle provisions be available from the earliest possible stages of planned use and/or settlement?

Built form questions

Question	Topic	Details about the policy, plan or proposal
4	active transport	Are pedestrian and bicycle pathways provided throughout the proposed development? Do they link activity generators like schools and shopping areas with residential areas? Have the pedestrian and bicycle networks been mapped?
5	active transport connections	Do pedestrian and bicycle pathways link with regional networks and key destinations such as residential areas, open space, schools, shops, employment areas, sporting fields, public transport stops and hubs?
6	active transport	Do pathways consider topography, minimising steep slopes and providing alternatives to steps?
7	active transport	Are footpaths and shared paths designed to comfortably accommodate users travelling in each direction?
8	active transport	Does it promote safe movement for pedestrians and cyclists? This could include traffic calming in high pedestrian and cycling areas, minimising vehicle crossings of paths, clear signs, bicycle paths running parallel with roads where possible, adequate lighting, freedom from obstacles such as poles.

Question	Topic	Details about the policy, plan or proposal
9	active transport	<p>Does the design of streets promote pedestrian activity and bicycle use by considering the comfort and amenity of users? Does it:</p> <ul style="list-style-type: none"> • provide footpaths along both sides of the street (may not be appropriate in some locations including semi-rural and rural areas) • include a buffer zone between the roadway and the walking area to provide a safer, more comfortable walking environment • avoid placing pedestrian and bicycle crossing points at busy intersections • locate pedestrian and bicycle crossings as close to the direct line of travel as possible • include rest facilities along well-used paths and trails • ensure there are clear views of traffic at crossing points • provide kerb ramps • provide alternatives to pedestrian and bicycle crossings at roundabouts?
10	active transport	<p>Is bicycle use encouraged by providing:</p> <ul style="list-style-type: none"> • ample, safe, attractive and convenient bicycle parking at key destinations • bicycle paths of sufficient width to enable two cyclists going in opposite directions to pass comfortably • path continuity, so cyclists do not have to stop frequently • bicycle lanes that are outside the 'door zone' of parked cars • clearly marked bicycle lanes or pathways that are easily identified by both cyclists and motorists?

c) Promote access to quality open spaces, including green space and recreational facilities

See chapter 7 for more information on public open space.

General questions

Question	Topic	Details about the policy, plan or proposal
1	open space	Does it provide for an allocation of public open space to meet the needs of the future community? On what basis has the amount of open space been determined? Has there been a needs analysis? What benchmarks have been used? Has the proposed development considered the additional demand on organised sport?
2	open space	Will the future population have access to a range of public open spaces and sport and recreational facilities within the local area?
3	open space	Do proposed new areas of open space, sport and recreation facilities complement existing recreational opportunities in the area?
4	community needs	Are proposed resources adequate and appropriate for all sections of the expected population, especially vulnerable groups and those most at risk for not achieving national physical activity recommendations?
5	community needs	Will the design and management of open space and sport and recreation facilities encourage a broad range of activity choices, including users with companion animals?
6	open space funding	Does it provide a suitable funding source for the proposed open spaces and sport and recreation facilities (such as voluntary planning agreements or local infrastructure contributions plans) and ongoing maintenance?
7	early delivery	Does it propose that open space and recreation facilities will be available from the earliest possible stages of planned use and/or settlement?
8	access to open space	Is there local open space within a reasonable walking distance (400 to 500 metres) of most homes?

Built form questions

Question	Topic	Details about the policy, plan or proposal
9	active transport	Are open space areas and recreation facilities safely and comfortably accessible to pedestrians and cyclists?
10	equitable access	Are recreation opportunities equitably located, with regard to access by vulnerable groups and based on population densities?
11	community needs	Do parks and open spaces include places to rest, quiet areas, places for gatherings, drinking water fountains, shaded areas, public toilet facilities and pathways that connect to the greater area?
12	access	Are parks and open spaces designed to be universally accessible and appropriate to different ages? Do they also maintain opportunities for incidental physical activity and more active recreation options? Australian Standard 1428.1 refers to accessibility of the built environment by people with a disability.
13	active recreation	Is outdoor gym and training equipment provided along pathways to provide opportunities for more vigorous forms of physical activity?
14	active recreation	Does it provide and/or plan for sufficient spaces and facilities (indoor and outdoor, public and private) to cater for sports and other active recreation needs?

03 | Housing



a) Encourage housing that supports human and environmental health

General questions

Question	Topic	Details about the policy, plan or proposal
1	basic housing standards	Does it encourage or provide housing that demonstrates the basic qualities of healthy housing, including safety, sanitation and ventilation?
2	compact city	Does it provide housing in locations that allow residents to walk, cycle or travel by public transport to work and services?
3	compact city	Does it locate housing within a reasonable walking distance (around 400 to 500 metres) of shops, schools, public transport hubs and other important community services and destinations?
4	compact city	Does it encourage or provide compact development and/or housing that integrates with existing development (including infill development)?
5	car dependency	Does it prevent car dependency? If residents living in this area did not have a car, could they access public transport, employment, shops, schools, entertainment and recreation?
6	national Indigenous housing guide	Does it provide suitable housing for Aboriginal people? If so, is the design and construction in line with the National Indigenous Housing Guide?
7	energy efficiency	Does it indicate compliance with BASIX or other relevant energy efficiency ratings systems? See chapter 10 on environmental health.
8	contaminated land	Does it discourage or prevent housing on contaminated sites that have not yet been mitigated? See chapter 10 on environmental health.

b) Encourage dwelling diversity

General questions

Question	Topic	Details about the policy, plan or proposal
1	dwelling diversity	Does it encourage a diversity of lot sizes and housing types in residential areas to accommodate households at different life cycle stages and with different levels of affordability?

c) Promote affordable housing

General questions

Question	Topic	Details about the policy, plan or proposal
1	affordable housing	Does it provide affordable housing opportunities for households with low and moderate incomes?
2	affordable housing	Does the proposed provision of housing meet the need for affordable housing in the area, including dwelling type, size and location?

Built form questions

Question	Topic	Details about the policy, plan or proposal
3	affordable housing	Is affordable housing distributed throughout the development and not concentrated in an identifiable cluster?
4	affordable housing	Is affordable housing designed to be indistinguishable from other forms of housing?

d) Ensure that housing is adaptable and accessible

General questions

Question	Topic	Details about the policy, plan or proposal
1	adaptable housing	Does it encourage housing that is capable of being adapted to meet the needs of people as they age or their abilities change?

04 | Transport and connectivity



a) Reduce car dependency and encourage active transport

General questions

Question	Topic	Details about the policy, plan or proposal
1	car dependency	Is a stated goal to reduce car dependency and car use and encourage more active forms of transport?
2	active transport	Does it propose measures to encourage walking and cycling such as vehicle speed limits, restrictions on vehicle access and parking requirements?
3	car sharing	Does it encourage carpooling or car sharing, including through designated parking spaces for car share programs?
4	encourage cycling	Does it include incentives to encourage bicycle use such as 'park and bike' measures, shared bicycle schemes or end-of-trip facilities?
5	car dependency/ active transport	Does it encourage the reduction of car parking spaces in urban areas (particularly where there is good public transport available) including the re-allocation of car parking spaces for bicycle parking and cycling routes?

Built form questions

Question	Topic	Details about the policy, plan or proposal
6	walkable neighbourhoods	Does it provide a well-connected street pattern? This includes blocks that are relatively short, a road and pedestrian network that provides numerous alternative routes, mid-block pedestrian access links and pedestrian and bicycle through access for all cul-de-sacs.
7	transport safety	Are there particular features that present potential safety hazards, such as busy roadways separating schools from residential areas, level crossings of rail lines?
8	transport safety	Are there areas with both high pedestrian and bicycle activity and high vehicle traffic that could benefit from additional safety measures?
9	streetscape design	Do trees border streets where walking and cycling is desired (as a means for improving amenity and helping to reduce traffic speeds)?
10	active transport	Are walking and cycling entrances to buildings prioritised and safe (avoiding conflict with cars)?
11	active transport	Are walking and cycling routes through parking areas clearly marked and safe (avoiding conflict with cars)? Is bicycle parking prioritised?
12	active transport	Where traffic 'squeeze points' are introduced (to slow traffic speeds and provide safer pedestrian crossings) are there provisions for cyclists to pass through unobstructed?
13	universal design	Are pedestrian areas (such as public plazas, squares, pathways, trails, shopping areas) designed to be universally accessible?

b) Improve public transport services

General questions

Question	Topic	Details about the policy, plan or proposal
1	public transport	Does it identify the provision of public transport as a priority?
2	transport connections	Does it make provision for public transport routes/services to link the proposed development to the wider area?
3	community needs	Does it identify public transport routes that address the needs of different groups in the population, such as travel to education, shopping, recreation and employment areas?

Built form questions

Question	Topic	Details about the policy, plan or proposal
4	walkable neighbourhoods	Are public transport stops located within comfortable walking distance (around 400 to 500 metres for bus stops and 800m for train stations) of housing, employment and other local destinations?
5	access	Are public transport systems and nodes designed to be universally accessible?
6	active transport	Are public transport nodes safe and easy to approach on foot and bicycle (are they clearly signed and well-lit with direct routes and safe and convenient crossing points)?
7	encourage cycling	Do public transport nodes include places to park and/or rent bicycles? Can bicycles be taken onto trains and/or buses?
8	community needs	Do public transport nodes include amenities such as: shelter, seating, proper lighting, transport user information, wayfinding guidance, washrooms, refreshments, bicycle parking, power outlets and internet service, as well as information about the surrounding area and transport options (including walking or cycling) for the onward journey?
9	transport connections	Is the area affected near an existing transport node and if so, does the node need upgrading to ensure it can meet future population needs?

c) Encourage infill development and integrate new developments into existing ones (including existing key destinations and active transport infrastructure)

General questions

Question	Topic	Details about the policy, plan or proposal
1	efficient development	Does it encourage the integration of new development with existing development and key destinations?

Built form questions

Question	Topic	Details about the policy, plan or proposal
2	active transport connections	Does the street network (including walking and cycling pathways) build from and add new connections to an existing street network?
3	active transport	Are block sizes conducive to walking and cycling and do they integrate with existing blocks?

05 | Quality employment



a) Improve the location of jobs in terms of housing and community options

General questions

Question	Topic	Details about the policy, plan or proposal
1	accessible employment	Does it enable the residential population to have access to a range of employment opportunities within a 30-minute commute of where they live?
2	accessible employment	Does it encourage employment to be located in employment centres or clusters close to homes (to support more active forms of transport to work)?
3	active transport	Does it encourage employees to utilise public transport and active transport for journeys to work?
4	transport connections	Does it ensure that public transport serves employment centres?
5	home working	Does it support home-based employment?

Built form questions

Question	Topic	Details about the policy, plan or proposal
6	mixed-use	Are major centres designed to be mixed-use (including providing employment, residential, open space, education and training facilities)?
7	active transport	Do places of employment include amenities that encourage people to walk or cycle to work (such as showers and bicycle parking)?

b) Increase access to a range of quality employment opportunities

General questions

Question	Topic	Details about the policy, plan or proposal
1	employment	Does it encourage access to a variety of employment opportunities in different job sectors, for different levels of skill?

Built form questions

Question	Topic	Details about the policy, plan or proposal
2	community needs	Do proposed places of employment include, or are near to, stress-relieving and health-improving features? Examples include places to have a break, places for social interaction and networking, exercise equipment, open space, quiet areas and access to healthy food and drinks.
3	encourage physical activity	Do places of employment include the option of staircases to access multiple levels of the workplace?

c) Increase access to appropriate job training

General questions

Question	Topic	Details about the policy, plan or proposal
1	access to training	Will the future population have reasonable access to higher education and job training facilities?
2	access to training	Does it require places of education to be located in close proximity to employment centres and residential areas, as well as public transport nodes?
3	community needs	Does it encourage training to be aligned with current and projected employment needs in the local area and region?
4	universal design	Are employment training facilities universally accessible and designed to be inclusive?
5	child care	Is child care available for use by participants of employment training?

06 | Community safety and security



a) Consider crime prevention and a sense of security

General questions

Question	Topic	Details about the policy, plan or proposal
1	community safety	Does it include community safety and crime prevention in its objectives?
2	community safety	Is it consistent with any local crime prevention plan?
3	community safety	<p>Has it been assessed as part of a community safety audit by the Local Area Command of the Police, a local community safety precinct committee or other appropriate group?</p> <p>If the answer is yes, there may be no additional value in the health service providing comments on crime prevention and community safety.</p> <p>If the answer is no, an appropriate action may be to recommend that review by the Police, or another accredited body, occurs.</p>

Built form questions

Question	Topic	Details about the policy, plan or proposal
4	community safety	<p>Does it promote natural surveillance and clear sightlines?</p> <p>Factors to consider include:</p> <ul style="list-style-type: none"> opportunities for surveillance from adjoining buildings or from nearby streets or shops design that prevents opportunities for concealment in public spaces improving visibility through the type of fence, landscape and streetscape used use of appropriate lighting.
5	community safety	<p>Does it promote safe and easy movement?</p> <p>Factors to consider include:</p> <ul style="list-style-type: none"> the inclusion of a simple and logical layout with appropriate signs and wayfinding whether the proposal improves environmental conditions and enhances personal safety whether the entrance and exit points of public spaces are clearly signed and easily accessible whether the landscape helps to make the places easier to navigate (such as clear and direct routes and the ability to view the surrounding area when walking in public).
6	mixed-use	<p>Does it promote an active mix of land uses?</p> <p>Factors to consider include:</p> <ul style="list-style-type: none"> the inclusion of mixed-use and activity generators into public spaces, community facilities and other buildings the compatibility of uses within an area consideration of appropriate night-time uses.
7	community needs	<p>Do spaces appropriately identify their intended use? Will it be clear to future users who owns the space (public, private or communal), what the space is supposed to be for and who is able to use it?</p>
8	maintenance	<p>Does it provide for a good level of ongoing maintenance?</p>

b) Address risks associated with alcohol use

General questions

Question	Topic	Details about the policy, plan or proposal
1	alcohol access restrictions	Has it, where relevant, been: <ul style="list-style-type: none"> • referred to any local Community Drug Action Team? • referred to local government committees?
2	alcohol access restrictions	Does it relate to a high-risk area for: <ul style="list-style-type: none"> • alcohol-related assaults • domestic violence assaults • alcohol-attributable hospitalisations and deaths • alcohol-related emergency department presentations/ ambulance call-outs?
3	alcohol access restrictions	Does it relate to a socio-economically disadvantaged community, which may be placed further at risk by an increase in alcohol availability?
4	alcohol access restrictions	Is the location within close proximity to vulnerable facilities such as: <ul style="list-style-type: none"> • schools and early childhood centres • youth services • mental health facilities/alcohol and other drugs services • social housing • alcohol-free zones or alcohol-prohibited areas • public transport hubs?

Built form questions

Question	Topic	Details about the policy, plan or proposal
5	alcohol access restrictions	Does it discourage an oversaturation or clustering of premises/outlets (such as bottle shops, hotels and clubs)?
6	alcohol access restrictions	<p>Is the licensed premises located in an area where:</p> <ul style="list-style-type: none"> • there are other diverse late-night attractions not focused on the supply of alcohol • late-night congregation points are designed and managed to reduce the potential for violent and unruly behaviour • there are alcohol-attributable hospitalisations and deaths • there are suitable late-night public facilities (such as public transport, public toilets, adequate lighting and taxi ranks)?
7	alcohol access restrictions	Does it address the physical amenity impacts on the local community including noise, traffic, parking, litter and disorderly behaviour?
8	alcohol advertising	Does it discourage or prohibit an over-abundance of advertising of alcohol and exposure to vulnerable people (such as children, young people and people with mental health conditions)?
9	alcohol-free zones	Does it address any potential need to establish an alcohol-free zone or alcohol-prohibited area?
10	reduce harm from alcohol consumption	Does the built form create spaces to reduce alcohol-related harm?

07 | Open space and natural features



a) Provide access to green and blue open spaces and natural areas

General questions

Question	Topic	Details about the policy, plan or proposal
1	open space access	Does it include access to green and/or blue spaces and natural areas in its objectives?
2	open space	Will the future population have access to green and/or blue spaces and natural areas within their local neighbourhood?
3	community needs	Has the amount of public open space provided considered the projected population growth and nature of demand, the potential for wider regional use, existing deficits in the area and the context of the development (greenfield, urban renewal)?
4	open space access	Are green and/or blue spaces and natural areas (such as parklands, remnant bushlands, creeks, forests and wetlands) accessible from where most people live?
5	open space access	Are most homes within a reasonable walking distance (around 400 metres) of a park, playground or other form of useable public open space?
6	open space access	Where new development is proposed, does it preserve or enhance access to green and/or blue spaces and natural areas?
7	open space access	Are there measures in place to protect and improve existing public open space?
8	protected areas	Have natural areas of significance been identified and protected through the proposed planning controls?

Built form questions

Question	Topic	Details about the policy, plan or proposal
9	active transport connections	Are public open spaces connected with a network of footpaths, bicycle paths, trails and public transport?
10	access to open space	Is there a public transport stop within easy walking distance (around 400 to 500 metres or up to 800 metres to 1 kilometre for a railway station) of major public open spaces?
11	access to open space	Can people, including children, walk and cycle safely from major residential areas to a local park, playground or natural area?

b) Ensure that public open spaces are safe, accessible, attractive and easy to maintain

General questions

Question	Topic	Details about the policy, plan or proposal
1	universal design	Does public open space planning support a range of experiences and potential users? Are there opportunities for active and passive recreation, reflection, learning, play, adventure, gathering and celebration?
2	access	Is there good access to formal, informal, structured and unstructured public space?
3	amenities	Are amenities (such as seating, public toilets, access to drinking water, shade and baby changing facilities) proposed to encourage use of public space by a wide range of user groups?
4	community safety	Has safety been considered in such a way that it does not 'design out' people or fun, adventure and excitement?
5	mixed-use	Is public open space integrated with other uses such as commercial, retail and community facilities including libraries, community centres, schools and child care?
6	universal design	Is the space universally accessible and designed to be inclusive for a range of community members (such as elderly, children, youth, multicultural groups)?
7	universal design	Does it encourage a wide variety of uses in public open space, both day and night?
8	dog walking	Does it include dog walking or leash-free areas and if so, are the appropriate amenities and services provided (such as bins, bags, seating, water access)?
9	community safety	Does it encourage a public domain that provides protection against traffic and accidents, crime and violence and climatic extremes? Examples include opportunities for passive surveillance, visibility, and verges or barriers to prevent traffic entering and shelter.
10	community health	Does it address restrictions on smoking and drinking in public open space?
11	community health	Does it provide adequate protection from heat and UV radiation from the sun? Has a shade assessment been done? Examples include well-designed natural and built shade that improves thermal comfort and blocks UV radiation, particularly during peak UV times.

Built form questions

Question	Topic	Details about the policy, plan or proposal
12	community safety	Are play areas designed to be easily observable by parents? Is seating available for parents/guardians to observe children when playing?
13	community safety	Can you see the public open space from a distance? Is its interior visible from the outside?
14	universal design	Can people using wheelchairs and prams/strollers get to and move freely about the space?
15	transport safety	Are public open spaces sufficiently buffered from traffic in terms of noise, fumes and pedestrian safety?
16	community safety	Do public open spaces offer clear lines of sight, with few 'hiding' or unobservable spaces?
17	community needs	Are some public open spaces 'intimate', allowing space for quiet reflection and moderate privacy?

c) Promote quality streetscapes that encourage activity

General questions

Question	Topic	Details about the policy, plan or proposal
1	streetscape design	Does it promote the design of streets and other public spaces that encourage people to use and linger in them (for instance through attractive landscaped streetscapes, benches for chatting or people watching)?
2	design quality	Does it encourage high quality building facades and ground floor street frontages on important streets?
3	streetscape design	Does it discourage through traffic in areas where enhanced public life is desired?

Built form questions

Question	Topic	Details about the policy, plan or proposal
4	streetscape design	Are design features included to encourage activity on streets such as street trees, landscaped nature strips and street furniture?
5	active transport	Are streets designed to prioritise use by pedestrians and cyclists by including bicycle lanes and wide footpaths free from obstacles?
6	community safety	Are streets and other public spaces appropriately lit to encourage safe use after dark?
7	active transport	Do walking and cycling paths offer travel at a good rhythm with few interruptions, such as crossing busy intersections without long waiting times?

d) Engender a sense of cultural identity, sense of place and incorporate public art

General questions

Question	Topic	Details about the policy, plan or proposal
1	public art	Does it include a public art strategy? Will public art be included in the planned public spaces?
2	community identity	Have measures been taken to ensure that public art reflects local community identity?
3	community participation	Is there potential for users to be involved in the design and management of public space?
4	community identity	Will local community character be reflected in the design of the public space?
5	local heritage	Have items of local heritage (Aboriginal and non-Aboriginal) significance been preserved? How have these items been reflected in the proposed public spaces?

Built form questions

Question	Topic	Details about the policy, plan or proposal
6	multipurpose public space	Are public spaces designed to accommodate community celebrations, festivals and other events?
7	park amenities	Are amenities such as picnic areas and cooking facilities (barbeques) included in park design?
8	wayfinding	Is interpretive signage provided and well designed?

08 | Social infrastructure



a) Provide access to a range of facilities to attract and support a diverse population

General questions

Question	Topic	Details about the policy, plan or proposal
1	equitable access	Will the new population have access to adequate social infrastructure either within the proposed development or in the wider area?
2	universal design	Do planned facilities respond to the demographic profile and likely needs of the future population?
3	equitable access	Does it support access to health services including hospitals, community health centres, general practitioners and allied health professionals?
4	equitable access	Does it support access to affordable and high quality child care?
5	access to training	Does it support access to high quality educational and training facilities?
6	equitable access	Does it promote equitable access to services and facilities (including affordability, accessibility, responsive to the needs of a range of population groups)?
7	universal design	Are planned facilities universally accessible and designed to be inclusive?
8	equitable access	Are there strategies to attract private and non-government providers of important services (such as GPs, welfare and aged care services)?

Built form questions

Question	Topic	Details about the policy, plan or proposal
9	mixed-use	For larger developments, does it include a mix of facilities including local shopping, community, health, recreational, leisure, entertainment and cultural facilities?
10	equitable access	For smaller developments, will there be reasonable access to a mix of facilities including local shopping, services, community, health, recreational, leisure, entertainment and cultural facilities?

b) Respond to existing and projected community needs and current gaps in facilities and/or services

General questions

Question	Topic	Details about the policy, plan or proposal
1	community needs	For developments or plans of a larger scale, has a community planning study or social plan been developed that identifies: <ul style="list-style-type: none"> • existing service provision including gaps • characteristics and likely needs of the future population • translation of projected population needs into facility/service requirements • identification of facility requirements • possible locations and facility models?
2	community needs	Have facilities been planned to recognise and complement wider, district needs as well as the needs of the immediate resident population? This may not be appropriate in every case.

c) Provide for early delivery of social infrastructure

General questions

Question	Topic	Details about the policy, plan or proposal
1	early delivery	Are mechanisms in place to ensure early provision of social infrastructure? Do these mechanisms include funding strategies to ensure that social infrastructure is available from the earliest possible stages of planned use and/or settlement?

Built form questions

Question	Topic	Details about the policy, plan or proposal
2	dedicated land	Has land been dedicated for the provision of social infrastructure? Is this land centrally located and easily accessible?

d) Promote an integrated approach to social infrastructure planning

General questions

Question	Topic	Details about the policy, plan or proposal
1	integrated planning	For larger developments or regional plans, have the full range of social infrastructure providers and human service agencies been involved in a joint planning process to consider an integrated approach to social infrastructure and human service delivery?
2	integrated planning	For larger developments or regional plans, is there a coordinating mechanism and/or agency that is responsible for a coordinated approach to planning for social infrastructure?
3	community participation	Are mechanisms in place to ensure local community members, service providers, delivery agencies and other stakeholders will have an opportunity to participate in planning and designing social infrastructure?
4	active transport	Have schools, child care, community centres and other key social infrastructure been planned to encourage active transport and reduce private car use?
5	community needs	Has social infrastructure been planned to consider the needs of and encourage use by both new and existing communities?
6	community needs	Is key social infrastructure planned to be part of community hubs and to create focal points for community activity?

Built form questions

Question	Topic	Details about the policy, plan or proposal
7	integrated planning	Has the planning and design of social infrastructure been integrated with the physical/master plan?
8	mixed-use	Are the sites centrally located, co-located with other activity generators like shops and linked with public space?
9	connectivity	Are social infrastructure sites well linked with proposed public transport routes?

e) Maximise efficiencies in social infrastructure planning and provision

General questions

Question	Topic	Details about the policy, plan or proposal
1	multipurpose use	Where appropriate, are facilities planned to be multipurpose?
2	multipurpose use	Is social infrastructure planned to be shared, jointly used and available for maximum community access? For example, is there a process in place for discussions with local government and educational agencies about shared use of school facilities?

Built form questions

Question	Topic	Details about the policy, plan or proposal
3	mixed-use	Are key facilities co-located/clustered?

09 | Social cohesion and connectivity



a) Provide environments that will encourage social interaction and connection

General questions

Question	Topic	Details about the policy, plan or proposal
1	mixed-use	Does it promote the creation of active mixed-use centres or hubs that will provide a focal point for community interaction and identity? Examples include co-location of retail, commercial, civic and community uses.
2	community needs	Does it promote the creation of small-scale neighbourhoods that facilitate social interaction and local identity?
3	early delivery	Are arrangements in place for the timely provision of key community facilities that build social networks and support services, such as a community centre and primary school? See chapter 8 on social infrastructure.
4	mixed-use	Will it provide venues for community and cultural events and activities that are conveniently located, accessible and easily reached by public transport? See chapter 8 on social infrastructure.
5	public space	Are attractive public spaces provided where people can meet, gather and socialise informally, such as parks with playgrounds or barbecue areas, plazas, cafés? See chapter 7 on open space and natural features. Are there watering and tie-points for companion animals?
6	public space	Are shopping centres designed and placed to provide opportunities for social interaction and maximise neighbourhood activity?
7	walkable neighbourhoods	Does it encourage walking through neighbourhood design and location of key destinations? See chapter 2 on physical activity and chapter 4 on transport and connectivity.
8	community identity	Are resources provided for community development strategies that will initiate community activities and events and develop social support groups and community organisations?

Built form questions

Question	Topic	Details about the policy, plan or proposal
9	public space	Are communal areas provided within large housing developments?
10	accessible employment	Does it provide for local employment options to enable people to work in their local communities and minimise commuting times? See chapter 5 on access to quality employment.

b) Promote a sense of community and attachment to place

General questions

Question	Topic	Details about the policy, plan or proposal
1	design	Does it promote neighbourhoods and/or buildings with distinctive character that are likely to be perceived as attractive, quality development? See chapter 7 on open space and natural features.
2	local heritage	Does it recognise and build on the site's natural and cultural heritage? See chapter 7 on open space and natural features.
3	public art	Are public art or design features proposed that will encourage a sense of place? See chapter 7 on open space and natural features.
4	community identity	Is support provided for community or cultural development initiatives that will encourage a sense of belonging? Examples include welcome programs for new residents.

c) Encourage local involvement in planning and community life

General questions

Question	Topic	Details about the policy, plan or proposal
1	community participation	Have local communities been consulted?
2	community participation	Are there opportunities for community involvement in the implementation of the plan or delivery of the strategy? For example, through community cultural development processes and involvement in the design of public spaces.
3	community participation	Does it encourage opportunities for local involvement in community and civic life?
4	community participation	Has provision been made for community-based projects such as community gardens or community involvement in running local services?

d) Minimise social disadvantage and promote equitable access to resources

General questions

Question	Topic	Details about the policy, plan or proposal
1	equitable access	Does it provide opportunities for improving levels of health equity within the area? Are existing health inequalities likely to be reduced?
2	equitable access	Does it exacerbate socio-economic divisions and is it likely to result in concentrations of socio-economically disadvantaged people?
3	equitable access	Is social mix encouraged through housing diversity? See chapter 3 on housing. Does it encourage inclusion and integration of a wide range of local demographic groups? Examples include lower socio-economic groups, culturally and linguistically diverse communities, and Aboriginal people.
4	equitable access	Do vulnerable and disadvantaged groups have fair and equitable access to services and facilities, employment opportunities and transport? Examples include low-income households, single parent families, unemployed people, recently arrived immigrants and refugees, Aboriginal people, people with disability and older people.

e) Avoid community severance, division or dislocation

General questions

Question	Topic	Details about the policy, plan or proposal
1	equitable access	Are vulnerable or disadvantaged groups likely to be displaced or disadvantaged by the plan or proposal? If so, what strategies are proposed to minimise impacts and support individuals and groups?

Built form questions

Question	Topic	Details about the policy, plan or proposal
2	connectivity	Does it promote physical integration with adjacent areas and existing development through road connections, layout and open space networks?
3	connectivity	Are there any physical structures such as main roads, rail lines or industrial estates that will create barriers to movement and sever connectivity between communities?
4	equitable access	Does it encourage social integration across communities, for instance through provision of community facilities that can also benefit adjacent areas?

10 | Environment and health



a) Help improve air quality

General questions

Question	Topic	Details about the policy, plan or proposal
1	transport connections	Is it located in an area that allows for good access and integration with existing or proposed public transport networks, either bus or rail?
2	early delivery	Does it include the early provision of public transport infrastructure?
3	public transport	Does it include any strategies for encouraging greater use of public transport? See chapter 4 on transport and connectivity.

Built form questions

Question	Topic	Details about the policy, plan or proposal
4	active transport	Does it promote non-car based transport by encouraging development to be focused around defined centres that are served by public transport and within walking catchments of 400 to 500 metres to shops, schools, parks or public transport hubs? See chapter 4 on transport and connectivity.
5	active transport	Are public transport, walking and cycling networks integrated into the design of the plan or proposal? See chapter 4 on transport and connectivity
6	buffer zones	Is residential development planned to be buffered or located away from major roads with heavy vehicle traffic?
7	green space	Are there green spaces to reduce exposure to dust? Is native vegetation being retained in green spaces and buffer zones?

b) Help improve water quality, safety and supply

General questions

Question	Topic	Details about the policy, plan or proposal
1	water quality	Are measures in place to prevent the risk of contamination of drinking/recreational water?
2	water demand	Does it protect the natural water cycle through the incorporation of water sensitive urban design principles?
3	water demand	Has consideration been given in planning to ways to reduce potable water demand?
4	water quality	Is wastewater and water recycling (including stormwater harvesting and reuse) managed in a way that protects health and meets regulatory requirements?
5	water quality	Are the health and safety risks of any recreational water body adequately managed?
6	water demand	Are there sustainable water management practices in place for any areas of the proposed development that may require watering?

c) Minimise disturbance and health effects caused by noise, odour and light pollution

General questions

Question	Topic	Details about the policy, plan or proposal
1	buffer zones	Does it demonstrate an awareness of noise, odour and light pollution issues and address these through the location and/or separation of land uses?
2	noise pollution	If residential activities are being located in established commercial or industrial areas, is there a requirement for the new residential use to insulate itself from noise rather than expect existing commercial uses to comply with acceptable residential noise levels?
3	buffer zones	If residential activities are being located in established rural use areas, does the residential area introduce appropriate buffers to rural uses and are new residents alerted to any 'right to farm' in the area? See chapter 1 on healthy food.
4	pollution studies and mitigation	If industrial or other potentially noise, odour or light producing uses are being located adjacent to established residential areas, have the appropriate studies been undertaken? Have the relevant mitigation measures been introduced to prevent harmful impacts?
5	noise pollution	Does it encourage barriers to control or reduce noise, such as insulation and double glazing? Note that vegetation is not considered an effective noise barrier.
6	noise pollution	Does it specify how noise will be managed during construction and operational phases of projects?
7	noise pollution	Does it comply with the allowable noise limits for residential locations - usually around 45 to 55 dBA?

Built form questions

Question	Topic	Details about the policy, plan or proposal
8	noise pollution	Are noise-sensitive land uses, such as residential activities, separated from commercial areas, industrial uses, rural uses or major infrastructure such as ports or airports?
9	buffer zones	Are adequate buffer zones provided between residential areas and uses that generate noise, odour and light pollution such as industrial areas, waste management facilities or aircraft facilities?
10	noise pollution	For specific noise emitting facilities, are the biggest sources of noise, such as loading bays, doors and windows, orientated to face away from noise sensitive areas?
11	noise pollution	Are noise emitting building devices (such as air conditioning units and industrial fans) orientated away from public and private areas where such noises could be a nuisance (such as parks, beaches or places of work or residence)?
12	light pollution	Are public areas that will be lit at night planned so as to minimise impacts on adjacent uses including residential areas?

d) Consider the potential for natural and manmade hazards and mitigate them

General questions

Question	Topic	Details about the policy, plan or proposal
1	natural hazards	Has it addressed potential hazards such as flooding and bushfire? Have the relevant legislative requirements and regulations on flooding and bushfire prevention been addressed?
2	hazard review	Does it identify and respond to all the natural and non-natural hazards that may impact on the local community?
3	community safety	Have evacuation routes and safe marshalling/gathering areas been identified in case of natural disaster or other hazard?
4	contaminated land	Has site contamination been considered? What studies have been conducted to examine the potential for site contamination? Has the Environmental Health Unit of NSW Ministry of Health been involved?
5	electromagnetic risks	Does it encourage efforts to minimise the health impacts on local residents of possible electromagnetic field sources, such as high voltage power lines, some energy sources in light industry and commercial radio towers?
6	environmental sustainability	Are there any features that pose a potential threat to environmental sustainability? If so, is there an appropriate management or mitigation plan in place?

e) Consider pest management strategies when determining the location of new urban development

General questions

Question	Topic	Details about the policy, plan or proposal
1	pest management	Has the proposed development site been investigated for pest infestation and the application of effective control measures when necessary?

Built form questions

Question	Topic	Details about the policy, plan or proposal
2	water bodies	Is residential development appropriately separated from water bodies and other areas that may be potential pest habitats?
3	water bodies	If there is a water body, has there been consideration of health and safety issues including water circulation and native species use as a deterrent for predators? Has run-off been controlled?

11 | Environmental sustainability and climate change



a) Meet environmental sustainability objectives

General questions

Question	Topic	Details about the policy, plan or proposal
1	environmental sustainability	Does the relevant council or proponent have an environmental sustainability plan or policy? Has this been applied to the policy, plan or proposal?
2	resource efficiency	Does it include strategies to minimise the consumption of resources (such as water, energy, materials)?
3	integrated objectives	Does it integrate economic, social, environmental and institutional objectives?
4	natural environment	Does it include strategies to enhance or maintain the natural environment (such as biodiversity, landscape, remediation)?
5	damage limitation	If environmental damage is unavoidable, does it include strategies to minimise the damage, manage or offset remaining damage?
6	waste reduction	Does it include strategies to reduce the production of waste?
7	waste reduction	Does it include strategies to divert waste from landfill (for example, by recycling or composting)?
8	sustainable development	Has it been assessed with a sustainable development rating tool (for instance, BASIX or the Green Building Council of Australia)?

b) Consider climate change mitigation

General questions

Question	Topic	Details about the policy, plan or proposal
1	emissions	Does it include strategies to minimise emissions of greenhouse gases?
2	energy efficiency	Does it explicitly incorporate energy efficient design?
3	renewable energy	Does it explicitly incorporate renewable energy design features or technologies?
4	green technology	Does it include strategies to incorporate green products or technologies?

c) Adopt measures to adapt to climate change

General questions

Question	Topic	Details about the policy, plan or proposal
1	natural hazards	Does it ensure building structures meet standards to withstand hazards, such as floods, bushfires or cyclones?
2	natural disasters	Does it include strategies for managing the impacts of disasters associated with natural hazards (including flooding, heatwaves, bushfires, disease, and drought)?
3	heat islands	In built up areas, does it consider the heat island effect and include actions to minimise it (for example, with trees and landscaping, adequate shade and minimising hard surfaces)?

d) Promote community resilience

General questions

Question	Topic	Details about the policy, plan or proposal
1	social networks	Does it provide opportunities to build social networks?
2	information networks	Does it promote local knowledge sharing and information networks?
3	vulnerable groups	Does it sufficiently consider the potential impacts of climate change on vulnerable groups, whether as users of the development or as members of the wider community?
4	community participation	Does it build the capacity for people to participate meaningfully in decision making and planning, particularly about the future of their community?



Appendices

Checklist summary form

Understanding the community

Key Issues

1

2

3

4

5

Context

Is the plan, policy or proposal infill brownfield greenfield?



01 | Healthy eating

Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

<p>Promotes access to fresh, nutritious and affordable food and drink</p>		
<p>Discourages over-consumption of unhealthy food and drink including alcohol</p>		
<p>Preserves food-growing (agricultural) areas</p>		
<p>Supports local food production</p>		

02 | Physical activity



Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

<p>Encourages physical activity</p>		
<p>Promotes opportunities for walking, cycling and other forms of active transport</p>		
<p>Promotes access to quality public open spaces, including green space and recreational facilities</p>		



03 | Housing

Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

<p>Encourages housing that supports human and environmental health</p>		
<p>Encourages dwelling diversity</p>		
<p>Promotes affordable housing</p>		
<p>Encourages adaptability and accessibility of housing</p>		

04 | Transport and connectivity



Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

<p>Reduces car dependency and encourages active transport</p>		
<p>Improves public transport services</p>		
<p>Encourages infill development and/or integration of new development with existing development</p>		



05 | Quality employment

Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

<p>Improves the location of jobs to housing and commuting options</p>		
<p>Increases access to a range of quality employment opportunities</p>		
<p>Increases access to appropriate job training</p>		

06 | Community safety and security



Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

Considers crime prevention and sense of security

Addresses risks associated with alcohol use

07 | Open space and natural features



Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

	Provides access to green and blue open spaces and natural areas		
	Ensures public spaces are safe, accessible, attractive and easy to maintain		
	Promotes quality streetscapes that encourage activity		
	Engenders a sense of cultural identity, sense of place and incorporates public art		

08 | Social infrastructure



Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

	<p>Provides access to a range of facilities to attract and support a diverse population</p>		
	<p>Responds to existing and projected community needs and current gaps in facilities and/or services</p>		
	<p>Provides for early delivery of social infrastructure</p>		
	<p>Promotes an integrated approach to social infrastructure planning</p>		
	<p>Maximises efficiencies in social infrastructure planning and provision</p>		



09 | Social cohesion and connectivity

Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

	<p>Provides environments that encourage social interaction and connection among people</p>		
	<p>Promotes a sense of community and attachment to place</p>		
	<p>Encourages local involvement in planning and community life</p>		
	<p>Minimises social disadvantage and promotes equitable access to resources</p>		
	<p>Avoids community severance, division or dislocation</p>		

10 | Environment and health



Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

	Improves air quality		
	Improves water quality, safety and supply		
	Minimises the disturbance and health impacts associated with noise, odour and light pollution		
	Considers and mitigates the potential for hazards (both natural and man-made)		
	Considers pest management strategies when determining the location of new development		



11 | Environmental sustainability and climate change

Key Characteristic

Significant issues/Comments

Recommendations/Suggestions

<p>Meets environmental sustainability objectives</p>		
<p>Considers climate change mitigation</p>		
<p>Adopts measures to adapt to climate change</p>		
<p>Promotes community resilience</p>		

Healthy built environment advice form

Use the information you have recorded on the checklist summary form to assist you to complete this healthy built environment advice form. This form is intended to help with both organising your thoughts and providing some structure to written comments.

1. Based on your analysis, will the community be better or worse off if this policy, plan or proposal were to proceed?

2. What do you see as the key health effects, both positive and negative, of the policy plan or proposal?

Positive

Negative*

* Can these be mitigated and if so, how?

3. Are there groups that are more disadvantaged or advantaged than others by this policy, plan or proposal?

4. What are the priority health issues, key recommendations and supporting evidence?

Key health issue

Recommendations

Supporting evidence

Level of evidence

Key health issue	Recommendations	Supporting evidence	Level of evidence

5. Are there broader issues or cumulative impacts that this policy, plan or proposal raises that should be brought to the attention of planning authorities so they can be considered in future policy making?

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