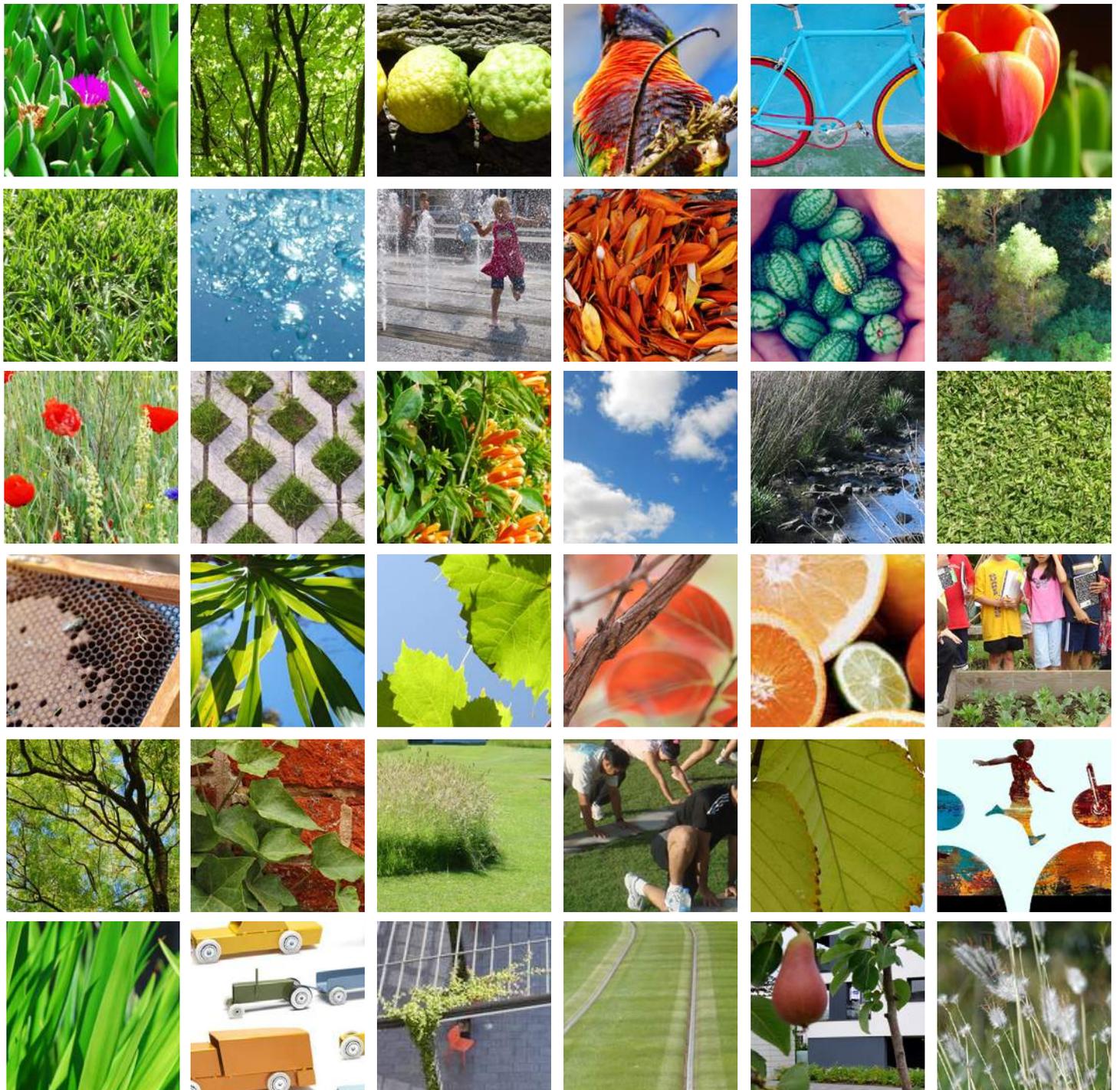


Green Infrastructure Strategic Directions

NOVEMBER 2015



Team

Oxigen

Author, Landscape +
Urban Design

Connor Holmes

Governance, Planning,
Development Advice

City of Unley

Brenton Curtis (Manager Strategic Assets)

John Devine (GM Assets & Infrastructure)

Keith Davis (Manager Urban Design)

David Brown (Principal Policy Planner)

Trevor Stein (Sustainable Landscape Specialist)

Ben Willsmore (Landscape Architect)

John Wilkinson (Sport and Recreation Planner)

Lee Anderson (Technical Officer Arboriculture)

Document Status

ISSUE	APPROVED	DATE
Draft 1	J Hayter	17.03.2015
Draft 2	J Hayter	23.10.2015
Final	J Hayter	02.11.2015

Contents

01 Introduction.....	4
> Purpose	
> What is Green Infrastructure	
> Why is Green Infrastructure important	
02 Understanding Unley.....	10
> Unley's past	
> Unley's existing Green Infrastructure	
> Unley's direction/trends	
03 GI Approach for Unley.....	18
> Unley's approach to delivering Green Infrastructure	
> Planning Integration	
> Policy Development	
04 GI Opportunities for Unley.....	28
> Streets	
> Green Corridors	
> Public Places	
> Private Places	
05 Green Infrastructure Checklist.....	38
> Green Infrastructure Checklist	
06 Recommendations and Priority Areas.....	42
> Green Infrastructure Recommendations	
> Green Infrastructure Priority Areas	
Appendix A Case Studies	



01

01 Introduction

Green Infrastructure is a key requirement in achieving a well-planned and managed city, enhancing quality of life and driving a sustainable approach to urban development. Green Infrastructure embedded within Council policies and programs can help frame the future urban form, function and management of the City of Unley, particularly those aspects relating to infrastructure provision and management.

The responsibility for the implementation of Green Infrastructure lies with both State and Local Government and with the private sector. Local Government is assigned a critically important role in Green Infrastructure planning and delivery, with more powers (and responsibilities) than other Government entities – creating powerful opportunities for sustainable living, community building and healthy lifestyles.

The purpose of the City of Unley’s Green Infrastructure is to:

1. Create a City-wide understanding of Green Infrastructure - its function and value.
2. Identify opportunities for implementing Green Infrastructure.
3. Establish the City of Unley as a leader in Green Infrastructure provision.

Vision

The City of Unley, in partnership with the State Government, developers and the Unley community, is seeking to create a City that is:



greener



more comfortable
(temperature)



healthier



more liveable

Understanding Green Infrastructure

What is Green Infrastructure

Green Infrastructure refers to the interconnected network of physical assets that deliver landscape and environmental values or functions to people and places.

Green infrastructure includes:



streets

Water Sensitive Urban Design (WSUD), street trees, medians/verges



creek & movement corridors

watercourses, rail, tram, pedestrian and cycle routes



public places

parks, sport and recreation facilities, community gardens, plazas



private spaces

back/front yards, roof gardens, green walls, balconies

Green Infrastructure is a **much broader concept than traditional views of “open space”**. It encompasses – but is broader than – natural assets and systems, supplementing these with a focus on those elements of the built environment that make up the landscape character of the city.

*‘While open space is often viewed as something that is nice, Green Infrastructure is something we **must** have.’¹*

Green Infrastructure **encompasses the built environment as well as unbuilt spaces**. It includes assets on public, semi-public and private land and is focused on the values and benefits that are delivered to people, places and the community - rather than focusing on physical form, use or tenure.

Green Infrastructure is **as much about a means as it is about an end**. It encompasses a strategic approach to the planning, design and implementation of our urban environments across all scales.

A Green Infrastructure approach requires that environmental values and benefits are embedded within new and regenerating urban environments. It requires the protection, enhancement and management of key natural networks and assets.

Green Infrastructure works with development through a process that **considers Green Infrastructure from the outset and equally with other forms of essential infrastructure provision**.

Grey to Green

Historically the priority and focus of government has been on the provision of “grey infrastructure” (e.g. pipes, wires, roads) rather than Green Infrastructure.

Through many competing projects and priorities Green Infrastructure often struggles to obtain the status it warrants and is often considered an ‘add on’ or ‘optional’ feature. Yet it is Green Infrastructure that has the most immediate and positive effect on urban character (e.g. street trees) representing and supporting a community’s desire to incorporate environment and landscape values into urban development.

¹ M.E. Benedict and E.T. McMahon (2006), *Green Infrastructure: Linking Landscapes and Communities*

Why is Green Infrastructure important?

Green Infrastructure is essential in maintaining and improving the livability of the City of Unley, particularly in respect to driving sustainability and resilience to climate change.

Green Infrastructure has a wide range of functions offering benefits that contribute towards the economic, environmental, social and cultural sustainability of a place.

In the context of the 30-Year Plan for Greater Adelaide, Green Infrastructure is especially important for facilitating and supporting increasing urban densities - it values the quality of our environment over quantitative provision.

Key functions of Green Infrastructure include:

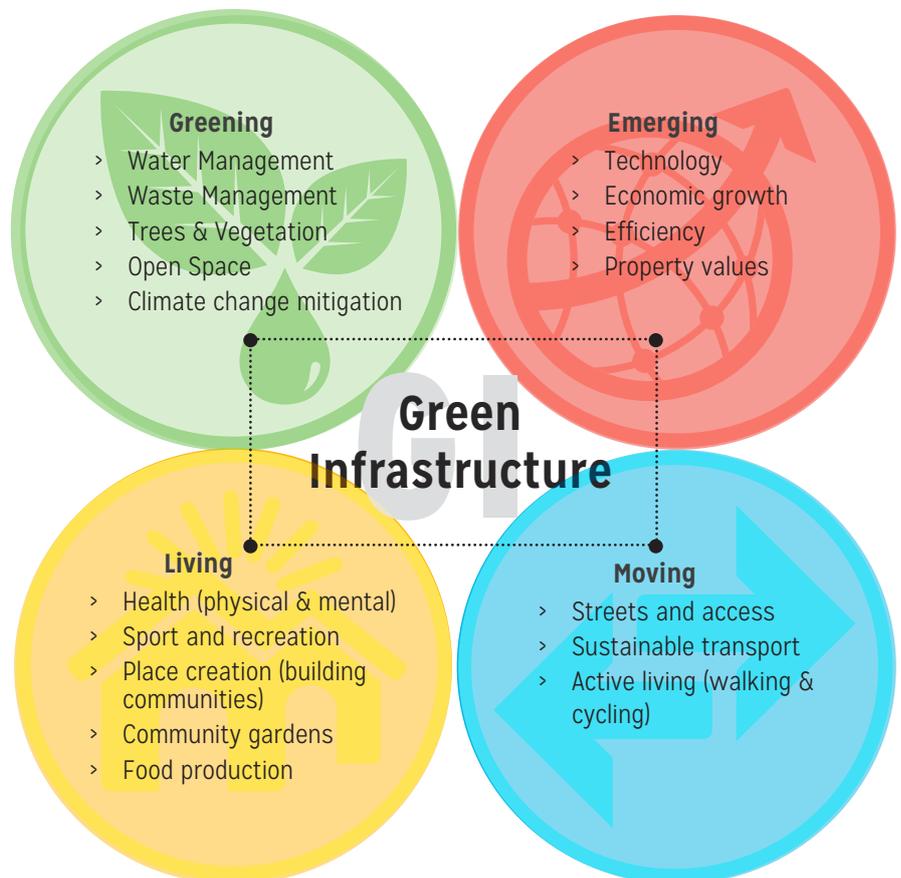
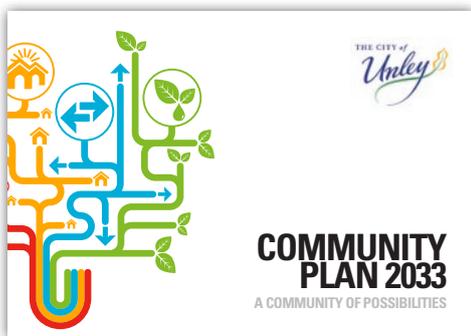
- > conservation and enhancement of biodiversity;
- > providing place quality and amenity;
- > recreational and active-living that support health lifestyles, both physical and mental;
- > stormwater management and flood mitigation;
- > stormwater treatment and water quality;
- > sustainable planning and design;
- > food production; and
- > creation of micro-climates.



Why is Green Infrastructure important?

An integrated, well-designed and managed network of Green Infrastructure provides many benefits relating closely to the City of Unley's Community Plan 2033:

- > Greening - our path to a sustainable city
- > Emerging - our path to a future city
- > Living - our path to a thriving city
- > Moving - our path to an accessible city





Living
Our path to a thriving city

Changing urban form

Green Infrastructure contributes to livability and to the making of places that support the higher density and new urban form outcomes from the 30-Year Plan for Greater Adelaide. This is achieved through actively engaging with adjacent built form (buildings, streets and service infrastructure), focusing on design quality and amenity (aesthetic & comfort), and providing funding and commitment to ongoing maintenance. This is also through a process that considers Green Infrastructure from the outset (equally with “grey infrastructure”), focusing on the values and benefits to people, places and the community.



Greening
Our path to a sustainable city

Resilience to climate change

Green Infrastructure increases resilience to climate change. Street trees, green corridors, and well-designed parks contribute towards a reduction in the urban heat island by providing shaded places that are also safe, sustainable and attractive. Water Sensitive Urban Design (WSUD) techniques can be incorporated into the City’s urban structure providing water for re-use and reducing the likelihood of flooding.



Moving
Our path to an accessible city

Increased connectivity

Green Infrastructure is understood as the interconnected network of physical assets that deliver landscape and environmental values or functions to people and places. Unley’s green corridors connect communities and facilities and encourage walking and cycling, providing immense benefit to the community’s health and well-being. The proximity and connectivity with Adelaide CBD and Parklands is significant to the livability of the City of Unley. It also benefits wildlife and connects important sites.



Emerging
Our path to a future city

Strengthened economy

The local economy benefits from a planning and management structure that values Green Infrastructure as an integral part of the way the City of Unley functions. Green Infrastructure is valued not only for its environmental and social values, but also its contribution towards the economy of the City. A well planned, designed and managed urban environment modulates land values providing multiple opportunities for growth and affordability. The development industry embraces Green Infrastructure because it makes good business sense and gives a “market edge”.



02

02 Understanding Unley

Unley's Past

The City of Unley's European settlement dates from 1840 when the first subdivisions were made. Land was used mainly for farming, orcharding, grazing and dairying.

Expansion took place from the 1870s into the early 1900s, spurred by improved access to the City of Adelaide and the establishment of several villages. The population grew from about 11,000 in 1891 to about 22,000 in 1906. Significant development occurred during the early 1900s, with the area almost completely subdivided by the end of the 1920s.

The City of Unley's population peaked at 47,000 in 1947, and then declined from the 1950s to the 1970s. Since the 1980s the population has been relatively stable, with a slight increase in recent years, rising from under 35,000 in 2001 to over 36,000 in 2011.²

Recent population growth has been mostly a result of planning policies that have encouraged further sub-division of land and resultant medium density housing. Future development is likely to occur around transport corridors in line with the 30-Year Plan for Greater Adelaide.



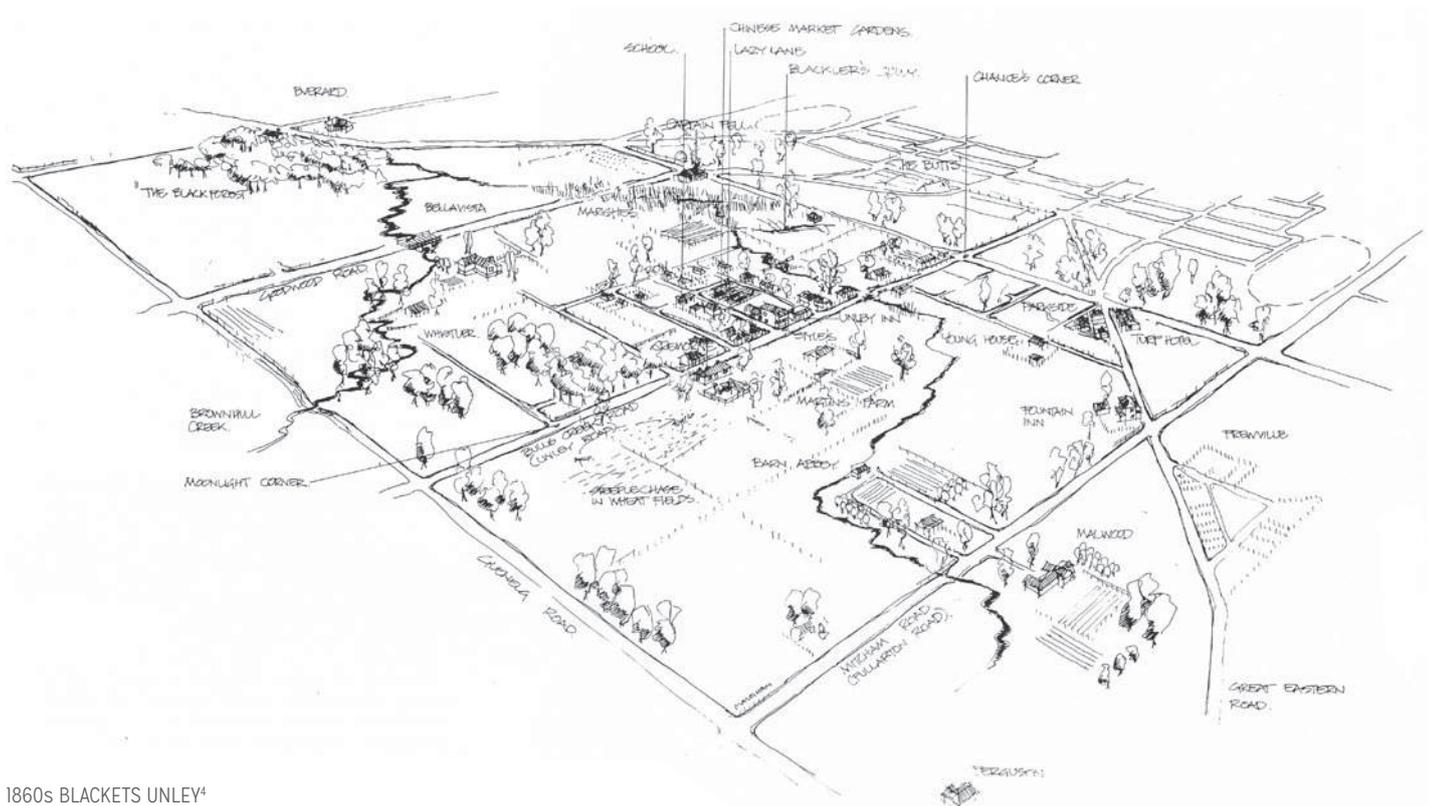
ca.1860 UNLEY ROAD LOOKING NORTH³



1907 NORTHGATE ST, UNLEY PARK³



ca.1936 WAVILLE³



1860s BLACKETS UNLEY⁴

² Profile.I.D. <http://profile.id.com.au/unley/about> using ABS data.
³ Images from National Library of Australia.
⁴ Whistler's Unley: Then and Now.

Unley's Green Infrastructure

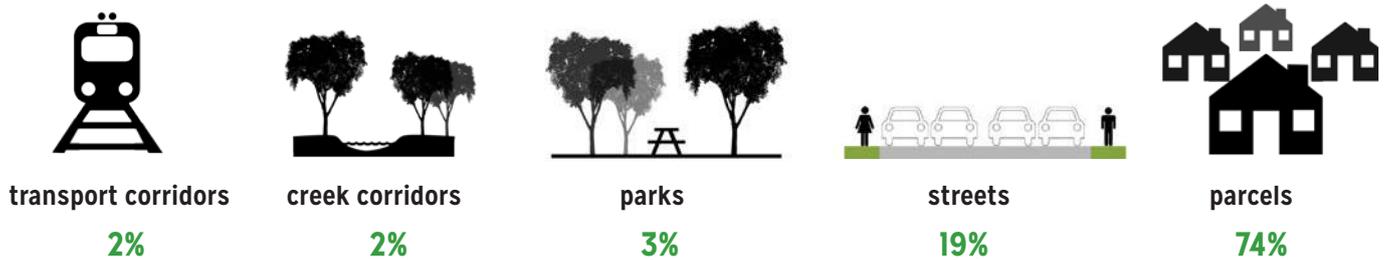
Green Infrastructure is one of the building blocks that comprise the structure of our cities. Just as buildings, roads and utilities make our cities function, so does Green Infrastructure - it is an essential part of urban infrastructure that supports a city's environmental, social, cultural and economic health.

One way to consider the City of Unley's Green Infrastructure assets and future requirements is to group Green Infrastructure under the following categories:

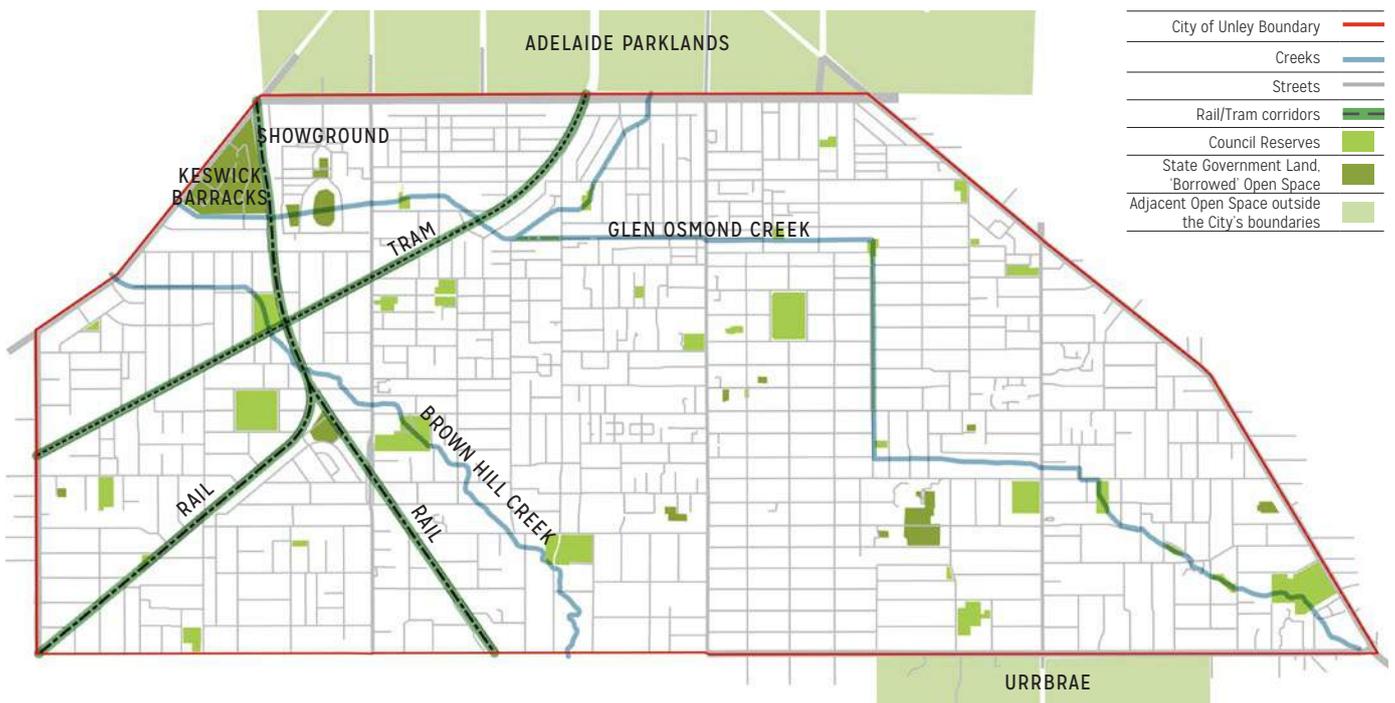
- > **Streets** - Street trees, medians/verges, WSUD
- > **Creeks** - Brown Hill Creek, Glen Osmond / Keswick Creek, Parklands Creek
- > **Corridors** - Rail and tram corridors, major pedestrian and cycle routes
- > **Places** - Parks/reserves, sports fields, schools, institutions, community gardens
- > **Private** - Back/front yards, roof gardens, green walls, balconies

City of Unley Composition

APPROXIMATE PERCENTAGE OF AREA⁵



City of Unley Plan & Structure



⁵ Calculated using City of Unley GIS data.

The City of Unley already includes a number of small-scale, community-focused Green Infrastructure sites & initiatives, such as:

Community gardens & sites

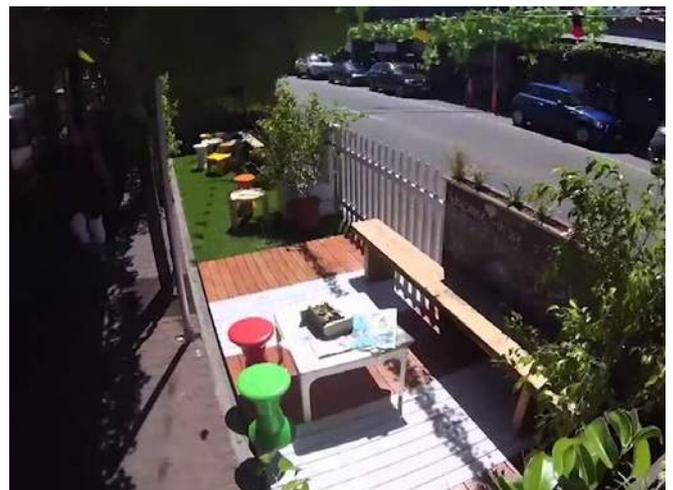
- > Clarence Park Biodiversity Garden
- > Fern Avenue Community Garden
- > The Goody Patch Community Garden
- > Windsor Street Linear Reserve, Ron Praise Walk, Wilberforce Walk
- > Morrie Harrell Playground Reserve – Fruit and Nut Tree Planting
- > Unley Community Centre - Kitchen Garden
- > Clarence Park Community Centre – vertical garden

Council & Community Initiatives / Programs

- > Parklets
- > Your Nature Strip (Residential Guide to a sustainable nature strip)
- > Community Wildlife Project
- > Pocket Parks
- > Native plants list/info on website
- > Grow Your Own Food Kits
- > Conservation Grants for Significant Trees



CLARENCE PARK COMMUNITY CENTRE – VERTICAL GARDEN



PARKLET ON KING WILLIAM ROAD



THE GOODY PATCH COMMUNITY GARDEN

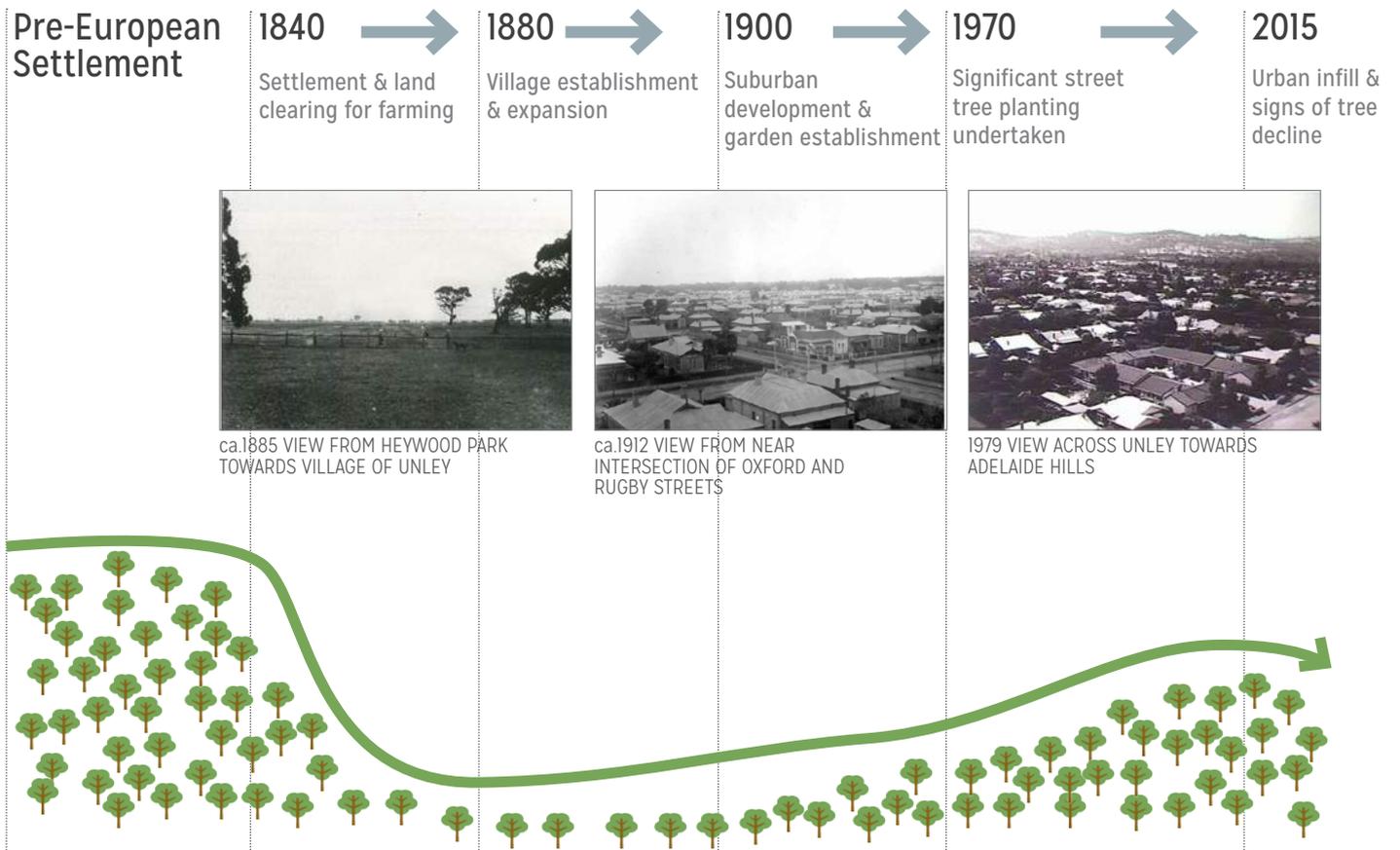


WINDSOR STREET LINEAR RESERVE

Changes in tree cover

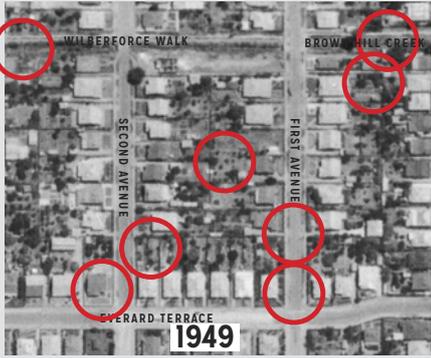
As the City of Unley has developed, so has the type (species) and quality of tree cover changed.

Following land clearance for farming, the City area has experienced an overall increase in tree cover mainly through the establishment of suburban gardens and street tree planting programs. Evidence now suggests that the overall tree coverage in the City is starting to decline due to urban consolidation (infill), and ageing and declining condition of street and park trees.



The examples below illustrate how tree cover has changed from 1949, 2001 and 2014 for areas within the City of Unley:

Example 1 - Forestville



1949

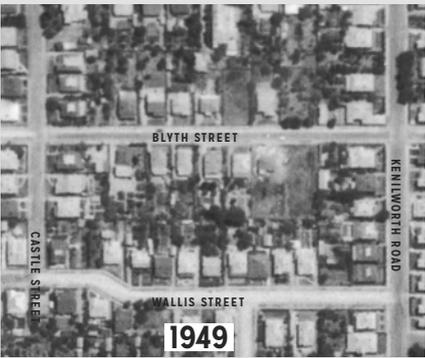


2001



2014

Example 2 - Parkside



1949



2001



2014

1949

- > Few or no street trees
- > Vegetation predominately in backyards
- > Few larger trees

2001

- > Street trees established
- > Larger trees in backyards
- > Decreasing size of backyards
- > Increasing dwelling size and outdoor shelters and sheds, etc

2014

- > Further decreasing size of backyards
- > Increasing dwelling size and infill/through subdivision
- > Fewer larger trees in backyards

Street Trees

'Hot-spots'

- > Existing tree canopy cover within the City of Unley is estimated at approximately 26%.⁷
- > 'Hotspots' are typically un-vegetated areas. For example large roofed areas and car parks.
- > Key 'hotspots' within the City of Unley include the Wayville Showgrounds and Unley Road.
- > The provision of improved Green Infrastructure could focus on these areas; for example tree planting, ground cover planting, green roofs/facades.

The following Strategies and Targets are from the City of Melbourne Urban Forest Strategy⁷. The City of Unley should consider introducing similar Strategies and Targets as part of its Tree Strategy.

City of Melbourne - Urban Forest Strategy⁸

Strategy 1: Increase canopy cover

- > Target: Increase public realm canopy cover from 22% at present to 40% by 2040.

Strategy 2: Increase urban forest diversity

- > Target: The urban forest will be composed of no more than 5% of any one tree species, no more than 10% of any genus and no more than 20% of any one family.

Strategy 3: Improve vegetation health

- > Target: 90% of the City of Melbourne's tree population will be healthy by 2040.

Strategy 4: Improve soil moisture and water quality

- > Target: Soil moisture levels will be maintained at levels to provide healthy growth of vegetation.

Strategy 5: Improve urban ecology

- > Target: Protect and enhance a level of biodiversity that contributes to a healthy ecosystem.

Strategy 6: Inform and consult the community

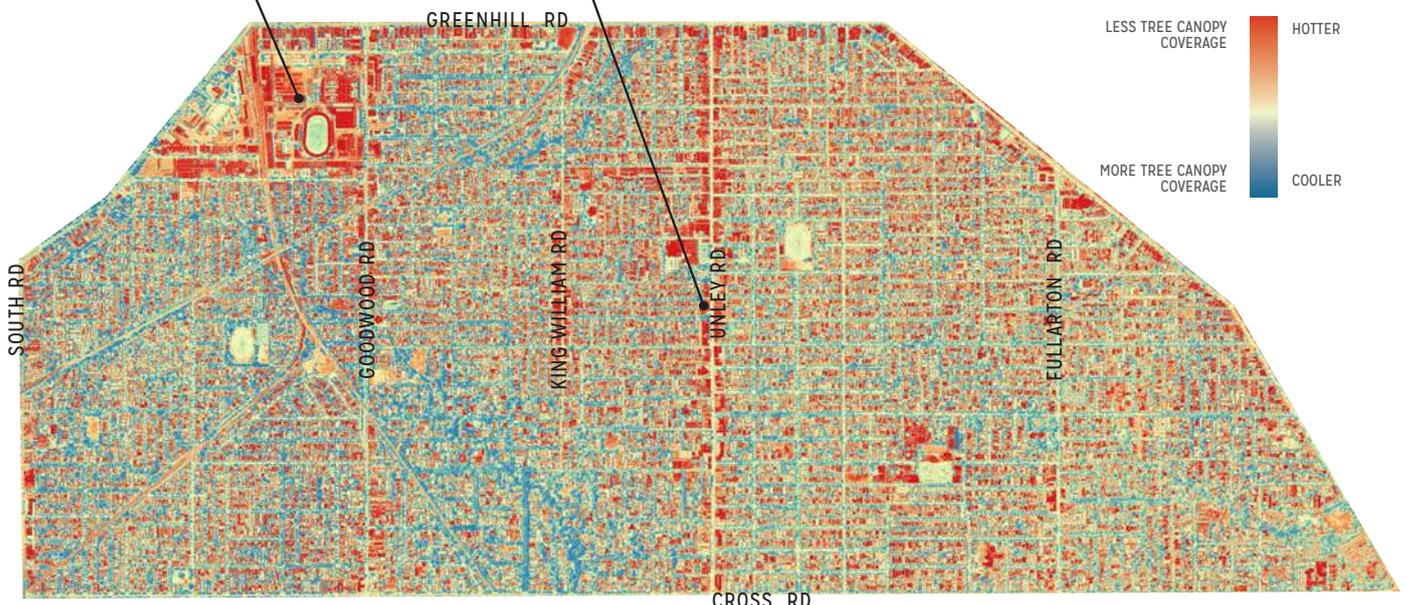
- > Target: The community will have a broader understanding of the importance of our urban forest, increase their connection to it and engage with its process of evolution.



WAYVILLE SHOWGROUND



UNLEY ROAD



'HOTSPOTS' (NOTE ADAPTED AERIAL IMAGERY, NOT SURFACE TEMPERATURE)

⁷ Institute for Sustainable Futures (2014) Benchmarking Australia's Urban Tree Canopy: An i-Tree Assessment

⁸ City of Melbourne (2012) Urban Forest Strategy melbourne.vic.gov.au/urbanforest



A close-up photograph of a field of white, fluffy seed heads on tall green stalks. The seed heads are illuminated from the side, creating a soft glow and highlighting their delicate, feathery texture. The background is a deep, dark green, which makes the white seed heads stand out prominently. In the bottom left corner, the number '03' is overlaid in a large, white, sans-serif font. The '0' is a simple circle, and the '3' has a classic, slightly rounded shape. The overall composition is vertical, with the stalks extending from the bottom towards the top of the frame.

03

03 Green Infrastructure approach for Unley

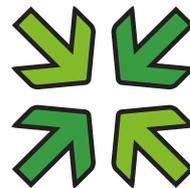
The responsibility for the implementation of Green Infrastructure lies with both State and Local Government as well as with the private sector. Local Government is assigned a critically important role in Green Infrastructure planning and delivery, with more powers (and responsibilities) than other Government entities.

The Green Infrastructure Working Paper for the Government of South Australia, together with the 30-Year Plan for Greater Adelaide and other strategic policies, provide the framework whereby the South Australian Government can drive a high-level agenda that establishes policies, specific programs and actions for Green Infrastructure.

The City of Unley Green Infrastructure Strategic Directions flows on from this established framework, integrating Council's Strategic Management Plans, Infrastructure Plans, Asset Management Plans, Development Plans, Open Space Strategies and Environmental Policies. It is the intention of these documents to embed Green Infrastructure requirements within new development and for Green Infrastructure to become an integral part of the day-to-day considerations on how the City is managed.

The successful realisation of a Green Infrastructure vision for the City of Unley depends on a robust and integrated framework to ensure that future planning and design is coherent, structured and focused. Green Infrastructure Strategic Directions looks to advancing the case for Green Infrastructure and its importance to the future planning and design of the City of Unley.

Principles for Unley's GI approach



Integrated & Strategic

- > focuses on an holistic approach to planning, design and management
- > involves a range of professionals, governments and communities working together
- > integrates with built form and supports higher density and new urban form outcomes
- > forms an integral element of the urban system and not just treated as an "add on"
- > defines maintenance and operations provisions



Partnerships

- > fosters partnerships and identifies multiple "champions" (rather than relying solely on Council)
- > shares Green Infrastructure assets (e.g. open space with schools and institutions) and improved connections to Adelaide's Parklands, Urrbrae, etc



Policy/Governance Context

- > makes better use of existing systems (rather than necessarily inventing new ones)
- > utilises sticks and carrots (rules & incentives) to encourage Green Infrastructure
- > promote, encourage and enable delivery (rather than relying solely upon regulatory requirements)



Funding

- > results in more efficient and effective expenditure (rather than necessarily spending more)

Integrating GI into Planning Frameworks

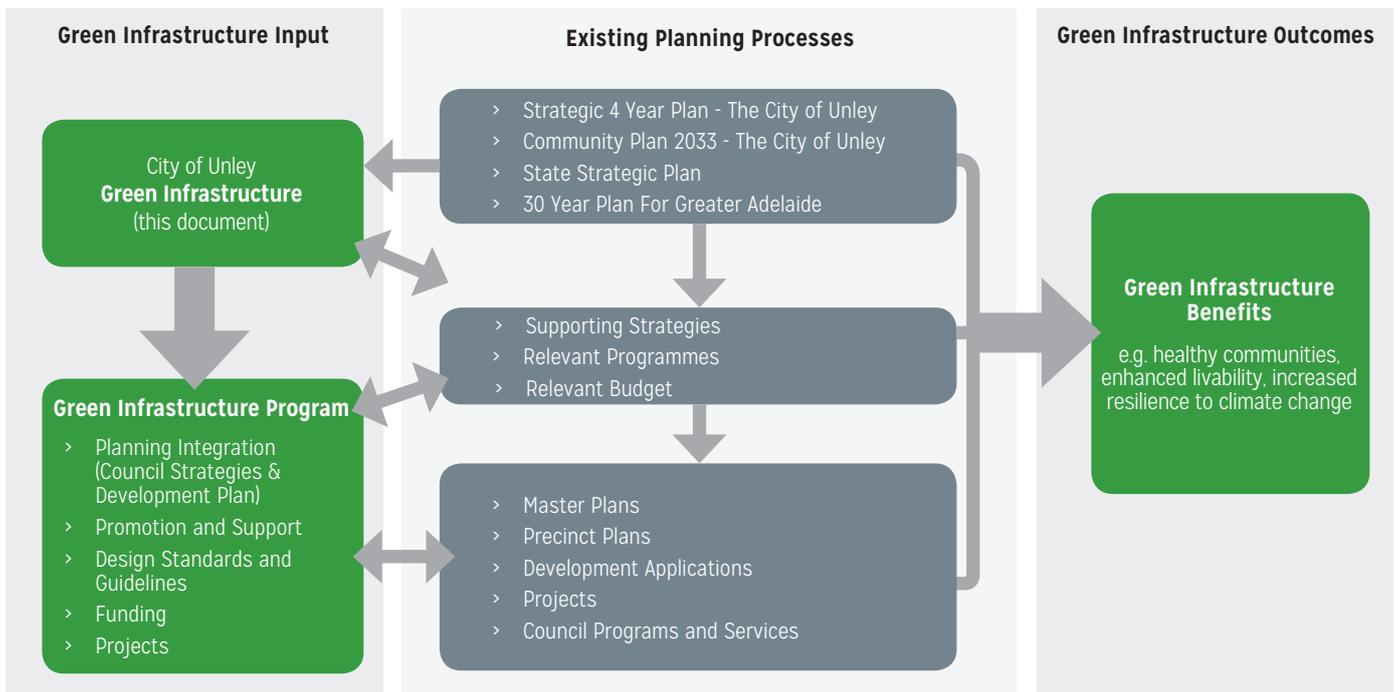
Planning Integration

A key priority for Green Infrastructure delivery is to embed Green Infrastructure considerations into the planning frameworks that are being used to deliver the growth priorities of the 30-Year Plan for Greater Adelaide. This is best achieved by integration with existing processes rather than by creating new ones.

The diagram below illustrates the conceptual relationship of current planning arrangements and opportunities for integrating Green Infrastructure within the City of Unley.

Scale

There is an important issue of scale to be considered when embedding Green Infrastructure into current planning frameworks. Put simply, different Green Infrastructure elements lend themselves to delivery at different scales in the planning hierarchy – from the City of Unley (as a whole) and its surrounding region down to individual sites.

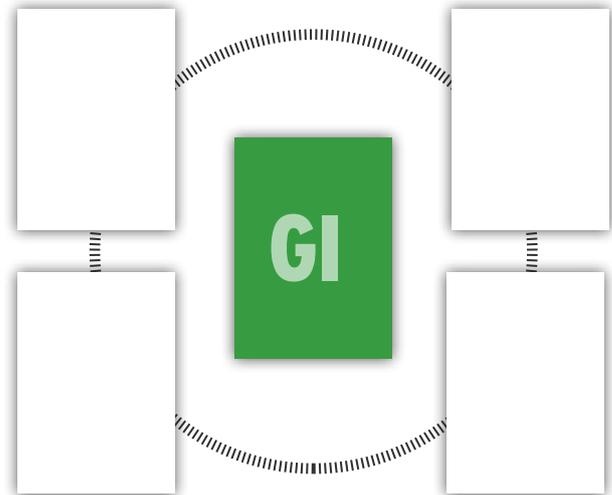


INTEGRATING GREEN INFRASTRUCTURE INTO EXISTING PLANNING FRAMEWORKS

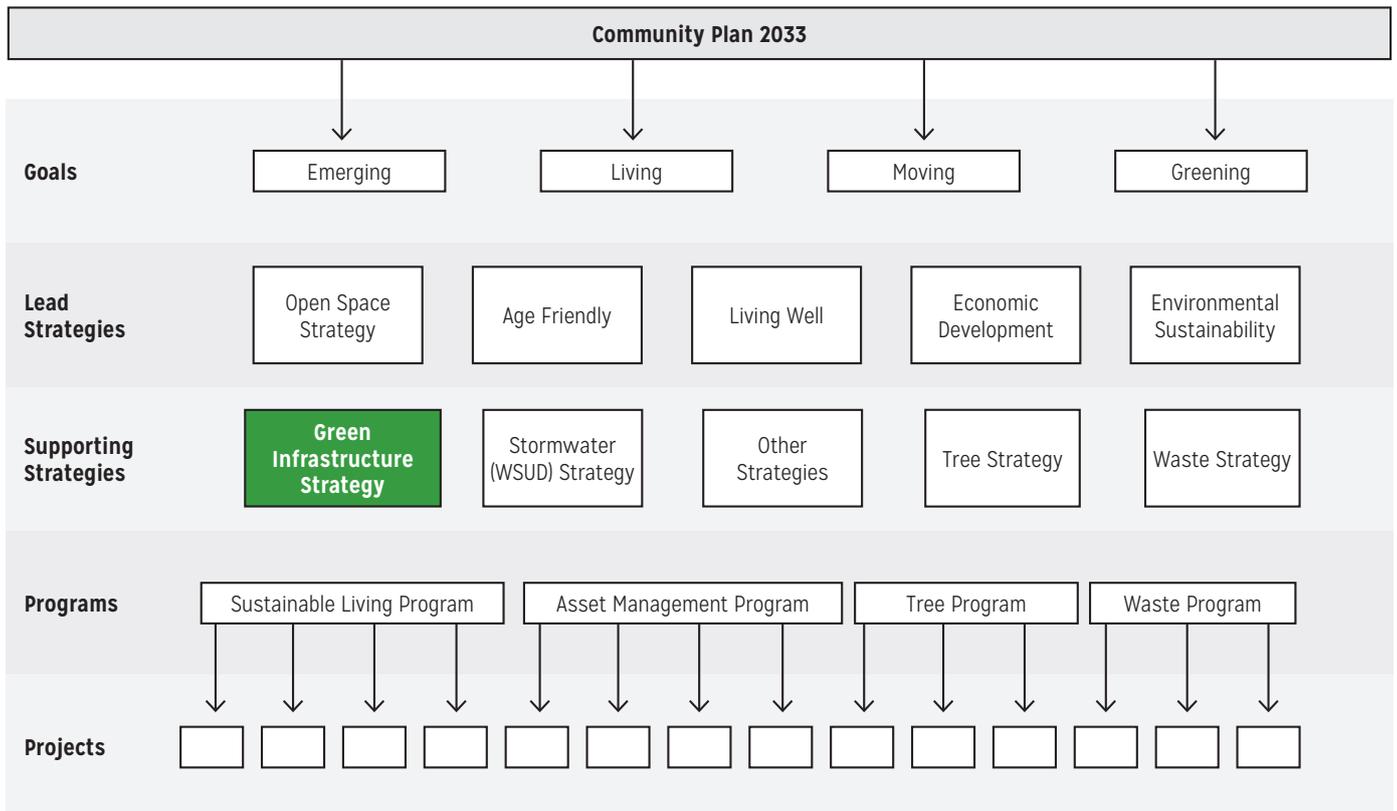
Council Plans

The City of Unley is involved in preparing a range of strategic, statutory and operational plans. Some of these are mandated by Local Government, or other Acts, but others are undertaken to provide local planning and management frameworks relating to issues such as biodiversity, recreation and sport or cultural heritage.

Green Infrastructure is relevant to, and influenced by, many of these plans. It is intended that the City of Unley adopt a consistent policy position on Green Infrastructure (based on this strategy) to enable Green Infrastructure directions to be embedded into, and made consistent across, the various plans and strategies that establish Council's priorities for strategic directions.



A CONSISTENT GREEN INFRASTRUCTURE POLICY POSITION FOR EMBEDDING ACROSS COUNCIL PLANS AND STRATEGIES



MAP OF THE CITY OF UNLEY PLANS & STRATEGIES⁹

⁹ City of Unley (2014) Draft Environment Sustainability Strategy

Relationship to key issues

The following are considered key issues affecting the City of Unley:

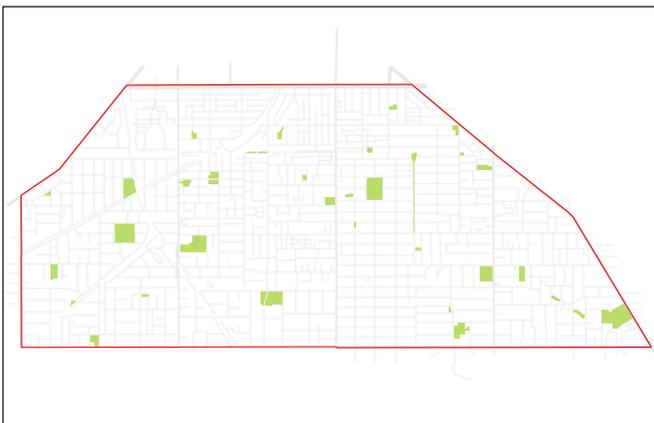


1. Increasing densities, corridor development

Green Infrastructure approach:

Quality Green Infrastructure is key to amenity and the market success of medium-density housing through:

- > increased reliance on public Green Infrastructure assets (parks, gardens, greenways, streets, plazas); and
- > increased reliance on private Green Infrastructure above ground level (balconies, roof gardens, green walls).

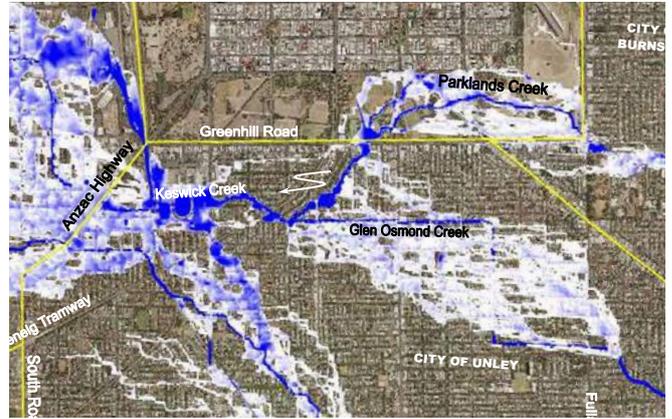


2. Lack of open space

Green Infrastructure approach:

Open space is considered in an holistic and integrated way with schools and institutions as part of this network through:

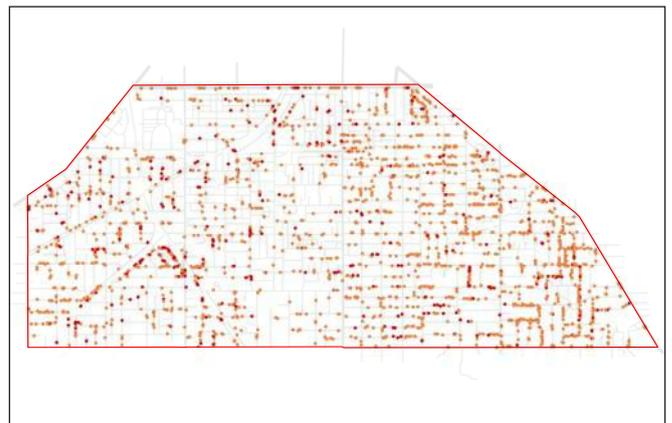
- > increased quality and multiple-uses and functions of open spaces;
- > improved links to large open spaces outside, and adjacent to the City of Unley's formal boundaries (eg. Adelaide Parklands and Urrbrae); and
- > increased amenity of non-traditional 'open space' (eg. streets).



3. Flooding

Green Infrastructure approach:

Flood control and mitigation is considered within a multi-layered and integrated system that starts in backyards and includes Water Sensitive Urban Design (WSUD), local detention, treatment, storage and re-use. The emphasis is on revegetating creek lines (or undergrounding) to increase the permeability and biodiversity value of watercourses and open spaces.



4. Declining tree numbers / health

Green Infrastructure approach:

A pro-active approach to managing the City's existing tree asset is required through:

- > active planting programs;
- > targeted canopy cover; and
- > targeted tree diversity and good tree health programs.



5. Decreasing private gardens/backyards

Green Infrastructure approach:

Off-set measures are required to compensate for the loss of green space and mature tree canopy cover caused by urban consolidation. For example:

- > increased quality and provision of public Green Infrastructure assets (parks, gardens, greenways, streets, plazas); and
- > increased focus and quality of semi-public (or communal) Green Infrastructure assets.



7. Narrow streets limiting paths and planting

Green Infrastructure approach:

Full street widths are to be considered (property boundary to property boundary) in providing Green Infrastructure and amenity improvements. This includes consideration of:

- > offset verges;
- > trees planted between parallel parking;
- > rationalised parking and narrowed vehicle lanes; and
- > underground overhead wires and common service trenching.

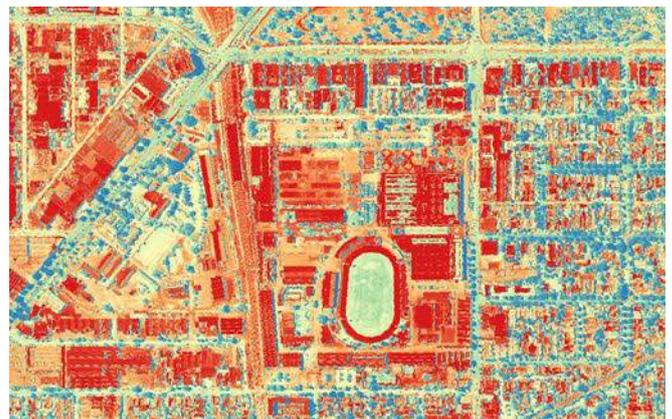


6. Increasing roof coverage and darker roofs

Green Infrastructure approach:

New policies should be considered to address the trend of increased roof coverage and dark roofs. For example:

- > a 'cool roofs' policy supporting lighter roof colours, while being cognisant of heritage and glare requirements;
- > a 'green roofs' policy for developments over a certain size or value; and
- > a review of site coverage requirements and consideration of a maximum site percentage for impervious hard surfaces (e.g. roofs and impervious paving).



8. 'Hot-spots'

Green Infrastructure approach:

'Hot-spots' (e.g. Wayville Showgrounds, Unley Road) could be considered as a priority for the provision of improved Green Infrastructure. For example:

- > increased tree planting, ground cover planting, green roofs/ facades; and
- > partnering with Wayville Showgrounds for Green Infrastructure demonstration sites and promotion.

Policy development

There are examples of Green Infrastructure policies and specific policies for particular Green Infrastructure elements (eg. WSUD, green roofs, etc) in a number of Councils in Australia and overseas.

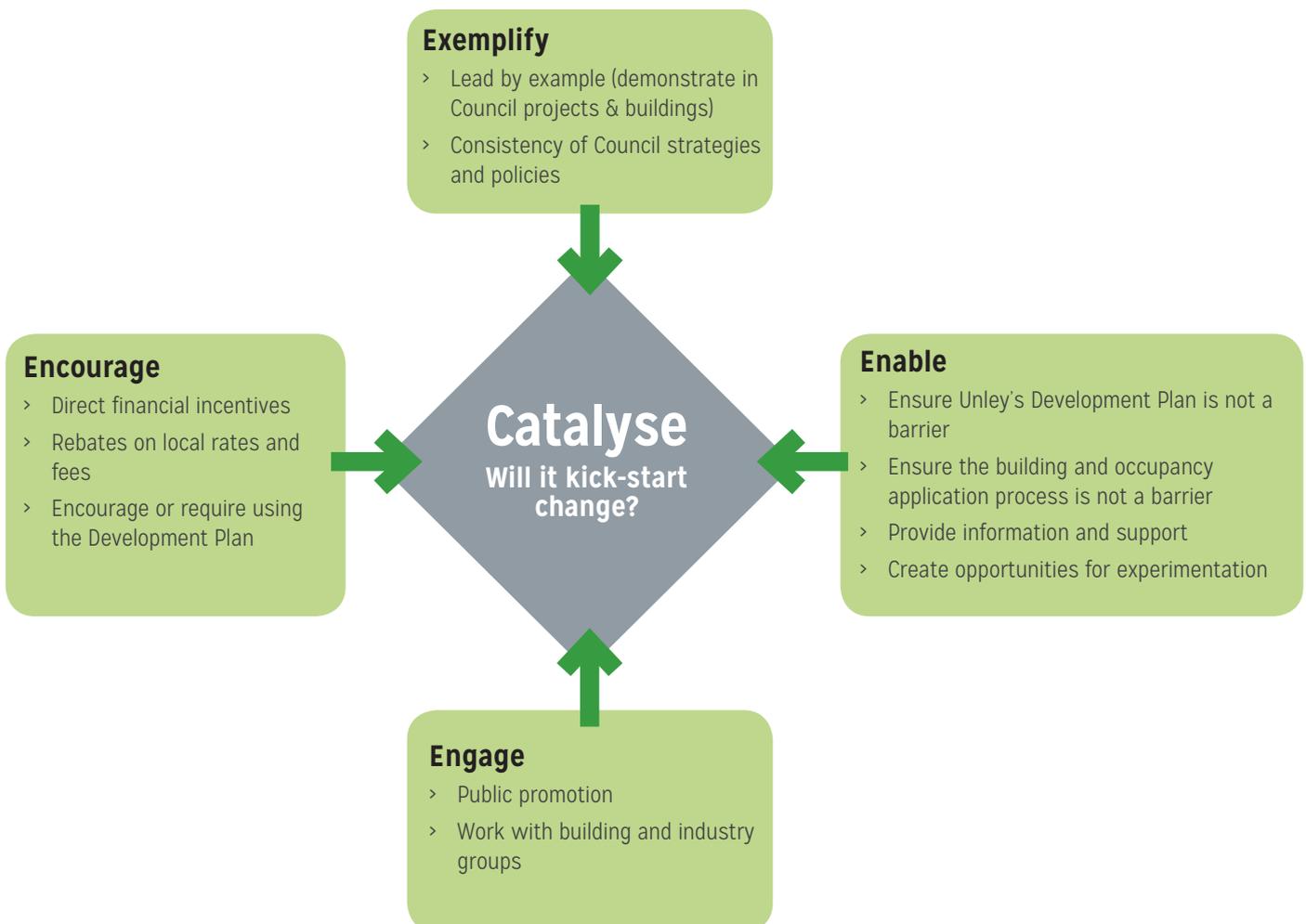
Policy examples include:

- > allowing developers to build to a higher density for Green Infrastructure initiatives (e.g. green roof policies);
- > subsidies for innovative Green Infrastructure initiatives;
- > by-laws that require provision of Green Infrastructure for projects of a certain size or value; and
- > tax incentives and reduction in rates/fees.

The policy options fall under the following four categories:

- > **Exemplify** - demonstrating and leading by example
- > **Enable** - removing barriers
- > **Engage** - promoting and raising awareness
- > **Encourage** - providing incentives or regulation

To most effectively 'make Green Infrastructure happen' a mix of measures from each of these categories is needed. Each policy type influences people in a different way, depending on their willingness to act or need for financial incentives.



POLICY DEVELOPMENT DIAGRAM¹⁰

¹⁰ Based on UK's Department for Environment, Food & Rural Affairs (2008) *4Es tool*, Centre of Expertise on Influencing Behaviours.

Unley Development Plan

The Development Plan is a key policy tool to achieve Green Infrastructure outcomes arising from the development of private land.

The Council-Wide section of the Development Plan contain a number of policies that touch on Green Infrastructure; however, are generic in nature and are not framed in a manner which directly relates back to Council's strategic directions.

The Development Plan currently touches on Green Infrastructure mainly to encourage the following generalised uses/outcomes:

- > provision of private and public open space;
- > landscape planting as a buffer for visual and acoustic privacy, screening of parking and service areas, attenuation of other nuisance;
- > landscape planting for the general enhancement of amenity and character;
- > visual activation of public realm and ground floor levels;
- > soft transportation/road infrastructure;
- > energy generation; and
- > protection of natural features.

Other outcomes and benefits of Green Infrastructure are not covered or are touched on briefly, including consideration of Health and Well-Being, Place Character, Sport and Recreation, Economic Growth and Investment, Climate Change and Mitigation.

New policies could be introduced to encourage and achieve more Green Infrastructure-related outcomes, such as a greater focus on quality.

Many Development Plan provisions are quantitative in nature. Simply mandating a specified quantum of Green Infrastructure provision will not guarantee the necessary range or quality of Green Infrastructure services. While "desired character" is included within the Development Plan it has largely failed to redress a focus on quality ahead of quantity.

An understanding of the quality of services required from Green Infrastructure (and not just the quantity) is a key driver of Green Infrastructure delivery priorities and results in higher levels of services being delivered from existing Green Infrastructure assets thereby reducing or deferring the need to provide additional assets.

To effectively embed Green Infrastructure thinking into the Development Plan, direct references to Green Infrastructure provision should be made focusing primarily on quality, but also including measurable quantitative targets. More direct reference to Green Infrastructure, as a specific objective(s) is needed.

Policy development (cont.)

Green Infrastructure Policy Development

A draft Green Infrastructure policy has been prepared for consideration and possible inclusion in the Development Plan.

In addition to these core policies, incentives can be considered consistent with the SA Planning Policy Library.

The following Objectives and Principles of Development Control could be considered for inclusion within the City of Unley Development Plan.

Objectives

1. Achieving a greener and more sustainable economy.
2. Establishing an interconnected network of multifunctional green space and linkages that conserves eco-system values and function.
3. Establishing an integrated urban green network comprising private gardens, green roofs, street trees, watercourses and public open space.
4. Mitigating adverse impacts of transport and energy infrastructure.
5. Strengthening the function and resilience of eco-systems.
6. Optimising the function and amenity of watercourses including revitalisation of those locations where public access is possible.
7. Developing and upgrading streets in areas of major activity to ensure that the public realm is legible and meets the functional and amenity needs of pedestrians, cyclists and motorists.

Principles of Development Control

1. Where possible, development should facilitate evaporative cooling and shading in order to increase amenity and reduce heat load.
2. The establishment of Green Infrastructure for water storage, retention and reuse and to reduce the rate and volume of water runoff.
3. The establishment of amenities with a recreation and visitor resource function, which helps achieve an attractive and functional interface between the private and public realm.
4. The establishment of green travel routes (walking and cycling) which minimises the need for motor vehicle movements.
5. The rehabilitation and re-use of contaminated sites.
6. Development which facilitates safe access to watercourse, whilst improving water quality and opportunities for leisure and biodiversity.
7. Development which facilitates the establishment of a well designed and maintainable public realm.
8. Safe and accessible public open space designed to respond to changing population needs.





04

04 Green Infrastructure Opportunities for Unley

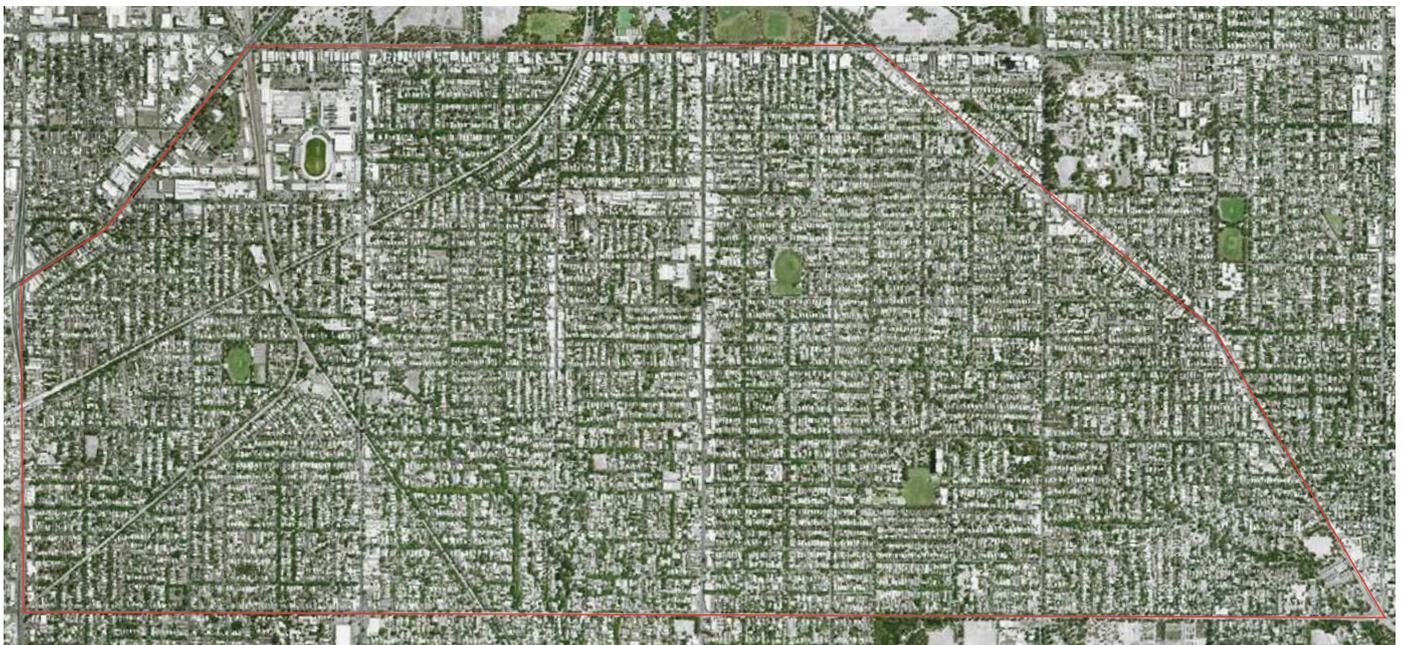
Green Infrastructure provides the basic physical structure and facilities needed to deliver livability through landscape and environmental values and benefits that underpin the sustainable operation of our cities. The challenge for the City of Unley is twofold: firstly, to ensure that Green Infrastructure is planned, designed, implemented and managed in the same coherent, integrated and strategic way as transport, telecommunications, energy and social infrastructure; and, secondly, to bring the multifunctional benefits of Green Infrastructure to our communities and workplaces.

The shift to higher density urban form as a result of the 30 Year Plan for Greater Adelaide will put an increased focus better utilising existing assets and providing new and innovative forms of Green Infrastructure, such as streets, green corridors, public parks and sports fields, and private places such as back yards, balconies, green walls and roof gardens.

The aim is to ensure that the unique landscape of the City of Unley, its creeks, streets, green corridors and parks that surrounds and permeates through the City is enhanced by the active and innovative design and management of its physical assets that deliver landscape and environmental values and functions to people and places.

This section identifies Green Infrastructure opportunities for the City of Unley under the following categories:

- > **Streets** – Street trees, medians/verges, WSUD
- > **Green corridors** – Creeks, rail and tram corridors, major pedestrian and cycle routes
- > **'Public' places** – Parks/reserves, sports fields, schools, institutions, community gardens
- > **Private places** – Back/front yards, roof gardens, green walls, balconies



Streets

Streets help define the character of neighbourhoods and reinforce identity.

Streets balance a number of roles acting as:

- > movement corridors - **'link'** function for motorists, cyclists and pedestrians;
- > **places** of social interaction and neighbourhood identity;
- > stormwater corridors;
- > service corridors (electricity, telecommunications, gas, water, sewer); and
- > habitat corridors.



OFF-SET VERGE (WINDSOR STREET)

Green Infrastructure Opportunities

1. **Organise service infrastructure** through powerline undergrounding and common service trenching to minimise streetscape impact and maximise space for Green Infrastructure provision.
2. **Establish a tree strategy and active planting program** and policy for replacement of declining street trees. Preference is for medium-large trees.
3. **Utilise WSUD techniques** including rain gardens and bio-retention street tree pits to improve water quality, reduce flood risk and enhanced streetscape
4. **Shift focus towards walking and cycling** providing wide paths and enhanced streetscape amenity. Consider off-set verges (e.g Windsor St), rationalisation of parking, narrower travel lanes and 'green' interface with built form.
5. **Support streets as destinations and places themselves** providing shade, visual appeal and opportunities for socialising and community building.
6. **Integrate built form and streets** by achieving active edges, avoiding fencing, minimising driveways and prioritising pedestrian and cyclists.
7. **Value all spaces.** Verges and medians should not be thought of as left-over spaces. These can provide opportunities for food production, WSUD, community space and habitat creation.
8. **Continue 'pocket park' development** and consider multiple-uses (e.g recreation, food production) in addition to native planting. Explore opportunities to extend along streets (rather than just at ends) through wider-verges and shared-streets.



PRODUCTIVE VERGE



PRODUCTIVE VERGE

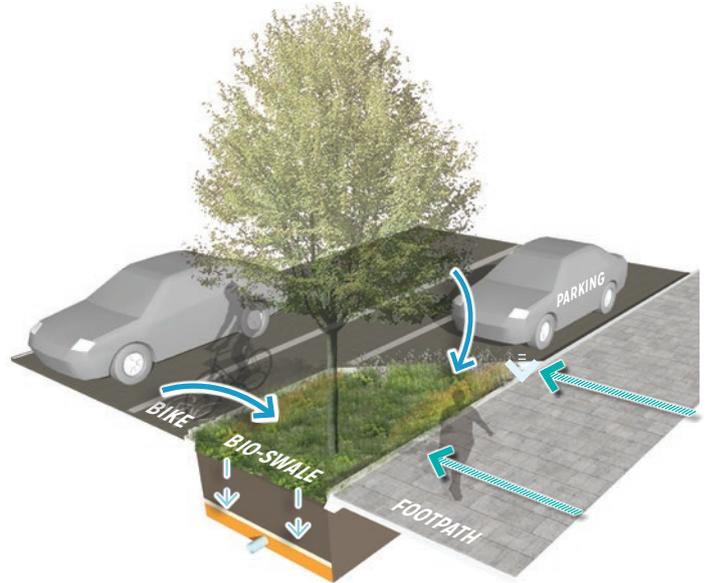
Water Sensitive Urban Design (WSUD)

Water is a precious resource, particularly in Adelaide’s dry climate. Water Sensitive Urban Design (WSUD) is an integrated and environmentally sensitive approach to water management and a key contributor to Green Infrastructure.

Roads account for a significant percentage of the overall impervious hard surfaces. Consequently, it is important to mitigate the impact of stormwater runoff and pollutants generated from road surfaces. This has a range of benefits including improved water quality, reduced flood risk through slowing and retaining rainwater flows, enhanced streetscape amenity and reduced reliance on potable water.

Opportunities for incorporating WSUD into streets include:

- > rain gardens or bio-swales between parking bays;
- > bio-retention street tree pits;
- > retro-fitting verges, traffic islands to accept stormwater for treatment; and
- > in some locations replacing kerb and channel with grass swales or utilising adjacent pocket parks for stormwater management.



Street Trees

All streets within the City of Unley have street trees. However, the quantity and quality (their amenity value) varies greatly.

Streets with medium-large street trees provide greater benefits and should be provided through a tree planting strategy for ‘under-treed’ streets and those with declining stock.

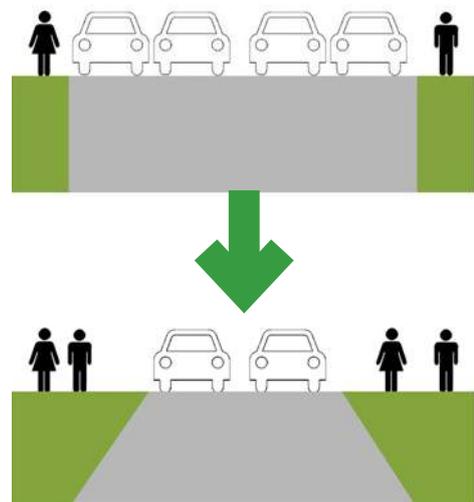


Arrangement

60% of road reserves in the City of Unley are greater than 15m-wide. The 15m, 18m and 20m road corridors equate to over **2 million square metres** or approximately 14% of the entire City area.⁶

Existing streets within the City of Unley often focus on cars before pedestrians or cyclists - with the vast majority of street space allocated to car movement and parking.

There is significant opportunity to improve the ‘place’ value of streets through the reallocation of space from ‘cars and road’ to ‘people and greenery’. This can be achieved through a number of methods including off-set verges (e.g Windsor St), rationalisation of parking or indented parking, narrower travel lanes and shared streets (refer Streets For People: Compendium for South Australian Practice).



⁶ Calculated from City of Unley GIS data.

Green Corridors

Corridors are valuable assets in achieving Green Infrastructure as they are most often continuous and linked.

Green corridors may include major transport routes for road, train and tram, key pedestrian and cycle routes (e.g. greenways) and creek corridors. These corridors are woven through the City of Unley's urban fabric and while not substantial in area, are significant. Managing corridors for services only is no longer appropriate where priorities now focus on the most efficient and effective use of space.

Green corridors offer significant Green Infrastructure benefits including:

- > providing valuable habitats and linkages - corridors often comprise undisturbed areas of remnant vegetation (e.g. creek corridors);
- > retaining rain water, reducing runoff and flooding; and
- > reducing car dependency and encouraging walking and cycling, bringing associated health and well-being benefits.

A key component of the 30-Year Plan for Greater Adelaide is a system of 'greenways' across Greater Adelaide. Greenways link open spaces, enhance urban biodiversity and encourage walking and cycling. Within the City of Unley a greenway is provided along the tram corridor (Mike Turtur Bikeway) and another is being developed along the Seaford rail corridor.



GREEN LAND BRIDGE



USING FORGOTTEN SPACES



PLANTING ADDS AMENITY



SHADED PEDESTRIAN & CYCLE ROUTES



GREEN TRAM CORRIDOR



OPPORTUNITIES FOR PEDESTRIAN AND CYCLE PATHS ADJACENT RAIL CORRIDORS



GREENING BUILT STRUCTURES

Green Infrastructure Opportunities

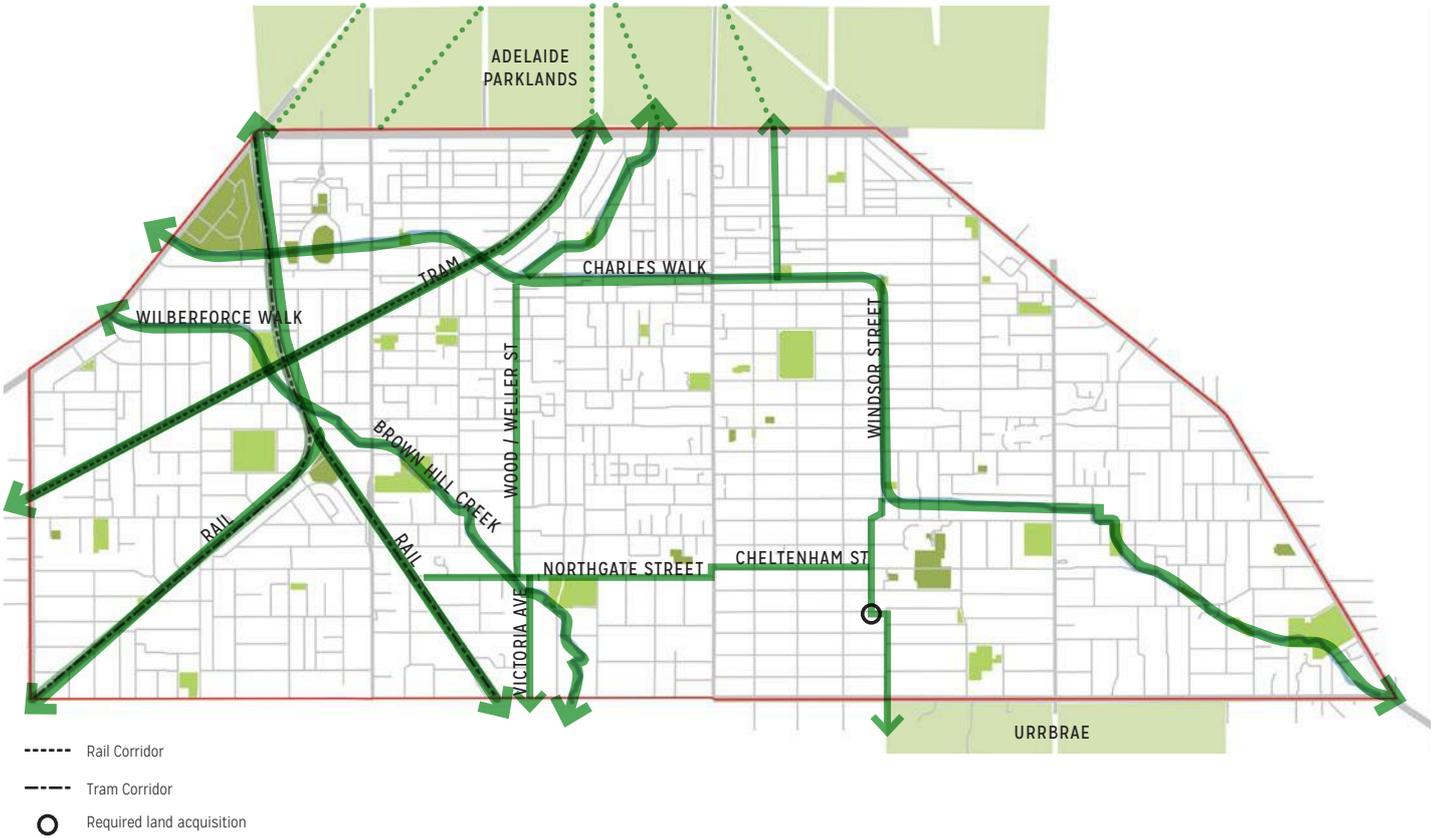
Creek corridors

1. **Mitigate flooding** through WSUD techniques integrated into the design and management of urban spaces.
2. **'Open' views** to reveal and celebrate creeks and increase opportunities for interacting with nature.
3. **Explore opportunities for pedestrian links** along corridors and as part of the Brown Hill Keswick Creek Stormwater Project
4. **Plant species** that provide valuable habitats and wildlife corridors.
5. **Continue to revegetate and de-culvert creeks** (or underground) to increase the permeability and biodiversity value of watercourses and open space opportunities.

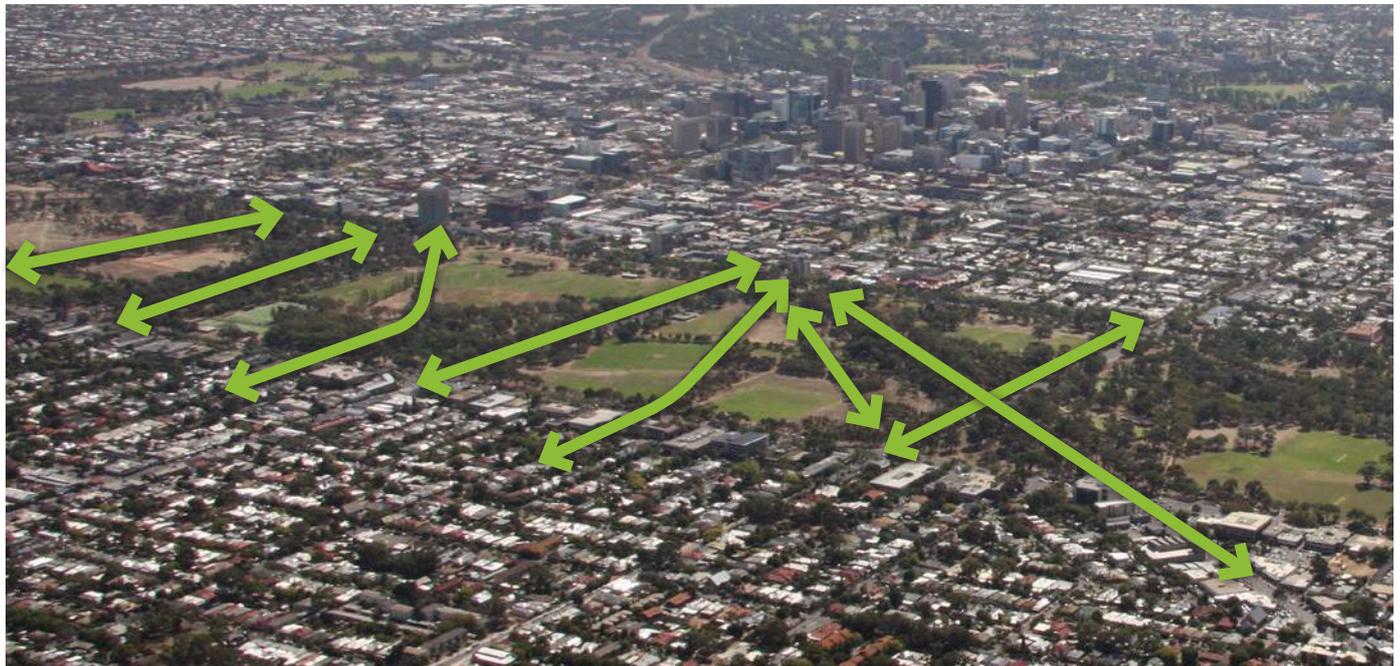
Movement corridors (tram, train, greenways)

6. **Use corridors as valuable spaces** that add to the environmental and aesthetic character of the City of Unley. Rethink opportunities for under-utilised and forgotten places that can contribute to the Green Infrastructure network (e.g. underpasses, tram tracks).
7. **Provide management & maintenance budgets** which ensure long-term success.
8. **Integrate Water Sensitive Urban Design** techniques for water efficiency and to assist in flood mitigation.

Green Corridors to strengthen, create and enhance



Enhance connectivity to Adelaide Parklands & CBD



Public Places (parks, sports, schools)

Public parks, sports facilities, and school and institutional sports fields and gardens provide valuable greenspaces to play, interact, exercise and rest.

They serve a range of environmental, economic, social and cultural functions including:

- > providing opportunities for exercise, fitness and associated health benefits;
- > providing habitats;
- > offering places to sit and relax;
- > enhancing urban character, sense of place and local identity;
- > providing community space for meeting and social interaction;
- > reducing the Urban Heat Island effect;
- > retaining rain water, reducing runoff and flooding; and
- > encouraging community contact with nature.

The 30-Year Plan for Greater Adelaide recognises the importance of providing high quality accessible greenspace against the backdrop of higher density development, notably along transit corridors where population density is likely to be highest.

In order to achieve vibrant, sustainable and attractive communities, it is crucial to provide accessible, well-designed parks and sport fields. Well-designed parks and sport fields contribute significantly towards enhancing the livability and improving the health and wellbeing of communities.

Green Infrastructure Opportunities

1. **Integrate existing parks with the surrounding built form and streets** to increase use, promote activity and improve passive surveillance.
2. **Enhance design quality** rather than necessarily increasing quantity. This includes providing more facilities, activities, management and maintenance for parks that are well-used and well-loved.
3. **Share open space** with schools and institutions to address perceived lack of open space within the City.
4. **Develop and promote multiple-functions** for existing spaces including opportunities for recreation, food production, water retention, interacting with people, exercising and relaxing. Be inclusive of the increasing diversity of sporting and recreational activities.
5. **Improve links to open spaces** including large open spaces outside, but adjacent to, the City of Unley (eg. Adelaide Parklands and Urrbrae). Consider green 'land-bridges'.
6. **Address 'Hot-spots'** for example, increase tree planting within the Wayville Showgrounds and along Unley Road.
7. **Promote green roofs and walls** on new and existing buildings, particularly schools and institutions. This may include planning concessions for higher densities, etc.
8. **Identify and develop 'flagship' projects** that can act as exemplars for best practice.



OUTDOOR LEARNING



INTEGRATED EVENT SPACE AND STORMWATER MANAGEMENT



HORIZONTAL AND VERTICAL GREENING



OPPORTUNITIES FOR PLAY



GREEN FACADE AT UNLEY SHOPS



PLACES FOR EVENTS



STORMWATER MANAGEMENT



PLACES FOR EXERCISE AND FITNESS



PLACES OF SOCIAL INTERACTION



INTEGRATING SURROUNDING BUILT FORM



PLACES TO SIT AND RELAX



MULTIPLE-USE OF PARKS



INTEGRATING PLAY AND NATURE

Private Places (back / front yards)

Private places such as back and front yards and balconies are an important and often forgotten component contributing towards increased Green Infrastructure.

Past planning has left a legacy of large backyards within many parts of the City of Unley; however the average block size is now decreasing. The 30-Year Plan for Greater Adelaide aims to increase Adelaide's urban density by limiting urban sprawl. To help maintain 'livability' and places where people want to live and work, high quality and accessible greenspace is needed.

Back and front yards offer numerous Green Infrastructure functions and values. Back and front yards:

- > provide opportunities to play and relax outdoors;
- > offer locally grown fruit and vegetables;
- > provide diverse habitats;
- > reduce the Urban Heat Island effect; and
- > encourage contact with nature.

Green Infrastructure Opportunities

1. **Respond to decreasing yard sizes** and the consequent increased reliance on public Green Infrastructure assets (parks, gardens, greenways, streets, plazas).
2. **Respond to increasing dwelling sizes** including consideration of a 'cool roofs' policy for lighter roof colours (but considering heritage and glare requirements).
3. **Understand recent tree removal trends** (subdivision and unit development, building extensions, unwanted trees).
4. **Incorporate food production** into gardens of all scales. Plant herbs, vegetables and fruit trees to suit the space available.
5. **Plant species that are tolerant to dry conditions and encourage birds and bees.** Birds and bees are important pollinators and underpin our food systems. Refer Botanic Gardens of South Australia 'Sustainable Landscapes Project' <http://www.environment.sa.gov.au/botanicgardens>
6. **Plant big!** Larger species will provide more shade, more fruit, and add more to property values. Large specimen trees can add 10-20% or more to property values.
7. **Set up initiatives for green roofs and walls** on new and existing buildings. This may include planning concessions for higher densities.
8. **Continue to support community gardens and produce exchanges,** as well as initiatives such as management of shared backyards (e.g. strata ownership) and encouraging communal use for food production.

Trend of recent tree removals





PRODUCTIVE BALCONY



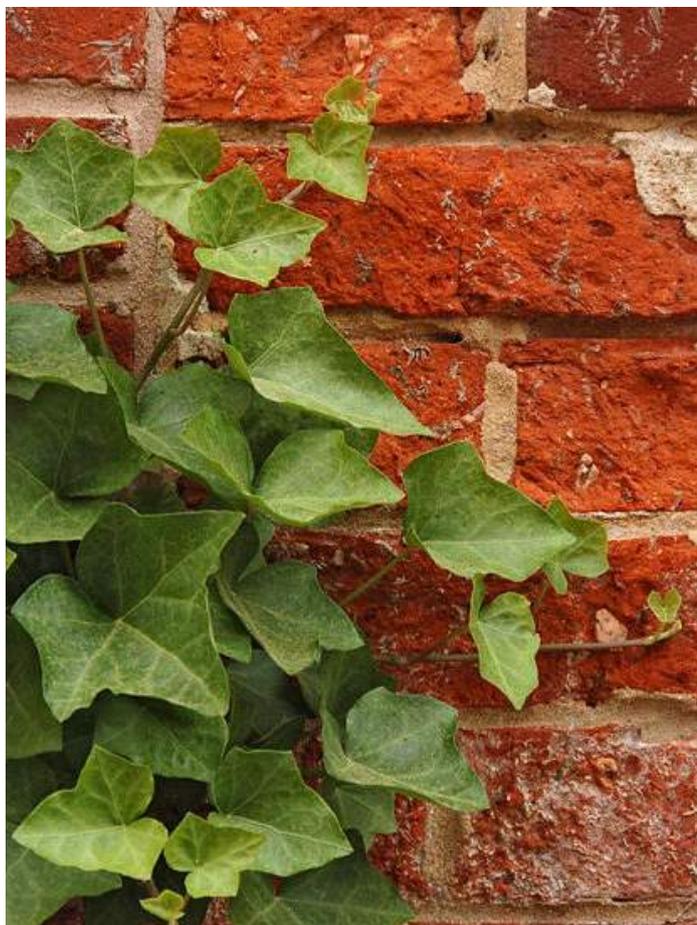
LAWN AREAS FOR RECREATION



BALCONIES ADD TO HABITAT



PRODUCTIVE COURTYARD



CLIMBERS CAN EFFICIENTLY PROVIDE A GREEN FACADE



A PLACE TO RELAX AND INTERACT WITH NATURE



TREES ADD TO PROPERTY VALUE



BEES ARE IMPORTANT POLLINATORS AND UNDERPIN OUR FOOD SYSTEMS



05

05 Green Infrastructure Checklist

Introduction

Selected Council projects should be consciously positioned as exemplars in the design and delivery of Green Infrastructure. This involves a commitment to Green Infrastructure design principles in all projects above a certain value, including infrastructure projects such as roads, recreation facilities or public realm upgrades.

Procurement and tendering processes are opportunities to mandate Green Infrastructure outcomes, while allowing proponents flexibility in how the outcomes are achieved. For example, procurement requirements in some cases currently mandate social and/or environmental deliverables such as training places, indigenous employment and sustainability outcomes (Green Star ratings). Green Infrastructure outcomes can be added to these requirements.

Green Infrastructure can be incorporated into every project through:

- > strategically planning and designing for Green Infrastructure up-front;
- > connecting and enhancing the wider Green Infrastructure network;
- > integrating and actively engaging with the adjacent built form (buildings, streets and service infrastructure);
- > focusing on design quality;
- > providing funding and commitment to ongoing maintenance;
- > recognising and employing the multi-functional values of Green Infrastructure (e.g. recreation, food, habitat, resilience to climate change, WSUD);
- > exploring and using new ideas and innovations; and
- > recognising and capitalising on the economic benefits of Green Infrastructure and long-term value of initial investments.

Green Infrastructure Checklist

GI FUNCTION AND VALUES	CHECKLIST
<p>1. Integrated and Holistic</p> <p>Green Infrastructure requires a holistic approach to planning, design and management that calls upon the involvement of a range of professionals, government bodies and communities to work together. Green Infrastructure integrates with built form and supports higher density and new urban form outcomes. It forms an inextricably integral element of the urban system and cannot be treated as an “add on” to be dealt with after key urban management directions have been settled.</p>	<ul style="list-style-type: none"> › Is the City of Unley Green Infrastructure Strategic Directions considered? Is the Green Infrastructure Vision for ‘greener’, more comfortable, healthier and more livable environments achieved? <input type="checkbox"/> › Is Unley’s landscape character, sense of place and unique attributes maintained and enhanced? <input type="checkbox"/> › Is land used effectively and efficiently? Does the site arrangement maximise Green Infrastructure benefits? <input type="checkbox"/> › Are there opportunities to underground overhead wires or consolidate service locations? <input type="checkbox"/> › Are existing Green Infrastructure assets on and adjacent to the site considered? Are there any specific or unique Green Infrastructure opportunities in the vicinity of the development? <input type="checkbox"/> › Are outdoor spaces and built form successfully integrated? Consider active edges, avoiding fencing, minimal driveways and priority for pedestrians and cyclists. <input type="checkbox"/>
<p>2. Connected</p> <p>Green Infrastructure is a strategic network that spans administrative and political boundaries, applies at multiple scales and includes assets on both public and private land. It incorporates a range of assets that are both “open” and built and incorporates squares, plazas and streets. It is connected both “internally” and “externally”.</p>	<ul style="list-style-type: none"> › Is it connected both “internally” and “externally”? <input type="checkbox"/> › Is it connected to broad walking and cycling networks (e.g greenways, <i>Bikedirect</i> network, footpath network)? <input type="checkbox"/> › Is it connected to key habitats and wildlife corridors? <input type="checkbox"/>
<p>3. Socially Inclusive</p> <p>Green Infrastructure is socially inclusive benefiting all members of society. Green Infrastructure assets are valued for their contribution towards our community’s social health and sense of well-being. Green Infrastructure supports socially cohesive communities that benefit from recreation and common interest activities that occur in attractive and accessible places.</p>	<ul style="list-style-type: none"> › Is there opportunity to share Green Infrastructure resources and facilities (e.g. schools)? <input type="checkbox"/> › Is the space open and freely accessible? <input type="checkbox"/> › Are there facilities for people of all ages and abilities? <input type="checkbox"/> › Is the space people-focused? Does it prioritise walking and cycling over vehicles? <input type="checkbox"/>
<p>4. Water Management</p> <p>Green Infrastructure provides the opportunity for stormwater management that values this resource and its retention and re-use locally, rather than collection and discharge downstream. Flood control and mitigation is considered as a multi-layered system that starts in backyards and includes local detention, treatment, storage and re-use.</p>	<ul style="list-style-type: none"> › Are Water Sensitive Urban Design (WSUD) techniques used? <input type="checkbox"/> › Is there opportunity to revegetate and de-culvert (or underground) creeks to increase open space, permeability and value of watercourses? <input type="checkbox"/> › Is there opportunity to open views, provide movement corridors or interaction with creeks and watercourses? <input type="checkbox"/>

GI FUNCTION AND VALUES	CHECKLIST
<p>5. Multi-functional</p> <p>The idea of Green Infrastructure is as diverse as the functions it performs. Green Infrastructure is robust, diverse and supports a mixture of uses that deliver social, economic, environmental and cultural benefits to local communities. It supports activities and attractions that maximise the reach and frequency with which environmental values are delivered.</p>	<ul style="list-style-type: none"> > Are a mixture of compatible uses supported? <input type="checkbox"/> > Consider opportunities for: <input type="checkbox"/> <ul style="list-style-type: none"> - sport and recreation; - food production; - stormwater management; - biodiversity; - movement; and - community space for interacting and relaxing.
<p>6. Quality-focused</p> <p>Green Infrastructure is centred on quality, not on quantitative indicators or simplistic assumptions about the values of a particular type of land use or built form. It is the values and functions of Green Infrastructure that are integral to wellbeing, health and quality of life – whether a particular Green Infrastructure asset is built or open, public or private, is of secondary importance to the values it delivers.</p>	<ul style="list-style-type: none"> > Is the space attractive, comfortable and engaging? Is a high standard and quality of design achieved? <input type="checkbox"/> > Are materials durable and robust? Is whole-of-life costing considered? <input type="checkbox"/> > Are suitable budgets and arrangements in place for management and maintenance for long-term success? <input type="checkbox"/> > Are alternative management and maintenance practices considered? For example reduced mowing regimes and encouraging natural grasses in areas that are rarely used (e.g. along banks and fence lines)? <input type="checkbox"/>
<p>7. Sustainable</p> <p>Green Infrastructure underpins sustainability and is equally important in existing communities as well as areas undergoing change and growth. Green Infrastructure supports natural and ecological processes for a healthy functioning environment. As urban growth continues, investment in Green Infrastructure will help address key issues such as climate change, public health, biodiversity and community cohesion, bringing many social, economic and environmental benefits to local people and communities.</p>	<ul style="list-style-type: none"> > Are 'hot-spots' addressed by providing shading and planting for cooler microclimates? <input type="checkbox"/> > Are hard-stand areas limited? Is permeable paving used where appropriate? <input type="checkbox"/> > Are dark roofs avoided in favour of light-colour roofs? <input type="checkbox"/> > Is there a strategic management approach to existing trees, considering their age and long-term suitability? <input type="checkbox"/> > Is a good tree canopy cover going to be achieved through use of medium-large trees? <input type="checkbox"/> > Is planting, including taller plants successfully integrated and CPTED compliant? <input type="checkbox"/> > Are there opportunities for innovative greening? For example vertical greening (climbers, green walls), green roofs etc. <input type="checkbox"/>



06

06 Recommendations and Priority Areas

Introduction

The Unley Green Infrastructure Strategic Directions is the important first step in realising a greener, more comfortable, healthier and more liveable Unley. The next step in realising the vision for Green Infrastructure in Unley is proposing recommendations for implementation and highlighting priority areas for delivery.

Delivering Green Infrastructure provisions in Unley will require an integrated approach that spans both physical implementation and policy reform strategies that are supported by Council, State Government Agencies, the private sector and the community. This will require the commitment of Council and the support of the community to prioritise capital works funding for Green Infrastructure projects.

The following tables summarise recommendations for the incorporation of the strategies outlined in this report and key priority areas for delivery of Green Infrastructure provisions, including

Recommendations

1. Policy integration
2. Stewardship
3. Management and maintenance

Priority Areas

1. Streets
2. Green corridors
3. Public places
4. Private places
5. Trees
6. Water Sensitive Urban Design (WSUD)

Green Infrastructure Recommendations

The following tables summarise recommendations for the incorporation of the strategies outlined in this report

1. POLICY	
Recommendation	Description
Development Plan Amendments	<ul style="list-style-type: none"> > Include Green Infrastructure related policies in new and existing zone modules to accelerate the adoption of Green Infrastructure into local statutory planning policies. > Green Infrastructure policies are to be advisory only, they form one of a range of requirements that an assessing authority must consider equally with other planning policies in the decision making process.
Council Plans	<ul style="list-style-type: none"> > Council's strategic, statutory, and operational plans provide an opportunity for Council to adopt a consistent policy position on Green Infrastructure. This enables Council's position to be embedded within relevant Council plans and strategies. > A consistent vision demonstrated throughout Council will enable a clear dialogue between Council, elected members, the private sector and the community. This will enhance the understanding of Green Infrastructure amongst the broader community and increase the capacity for Green Infrastructure projects to be implemented.
Master Plans	<ul style="list-style-type: none"> > Masterplans prepared by Government Agencies, Council, and the private sector have a direct impact on delivering Green Infrastructure projects within Unley. > Masterplans should reflect Green Infrastructure principles at the project and Council wide scale.
2. STEWARDSHIP	
Recommendation	Description
Public sector	<ul style="list-style-type: none"> > Responsible management and oversight is critical for implementing the Green Infrastructure Strategic Directions and the creation of a greener, more comfortable, healthier and more liveable Unley. > Strong stewardship able to oversee the implementation processes and direct the planning, funding and redevelopment programs is essential for realisation of the vision. > Fostered partnerships with State Government agencies, professional groups and the tertiary education sector prioritise delivery and procurement of Green Infrastructure projects. > Council should drive dialogue within the community to promote awareness of, and support for Green Infrastructure amongst the local residents, business owners and other stakeholders.
Private sector	<ul style="list-style-type: none"> > In partnership with State and Federal agencies, a funding programme should be made available to the private sector to encourage Green Infrastructure project delivery. This includes 'hard' infrastructure projects such as green roofs/walls, community gardens and Green Infrastructure driven master planning as well as 'soft' projects such as produce exchanges.
Private residences/ community	<ul style="list-style-type: none"> > Incentivised pilot projects, for example by facilitating schemes for backyard produce exchange, verge treatments, vertical gardens, and adopt-a-tree programmes. > Education provided for schools and community groups enables project delivery opportunities such as community gardens, native revegetation, and tree planting programmes.

3. MANAGEMENT + MAINTENANCE

Recommendation	Description
General	<ul style="list-style-type: none"> > Operations and maintenance are critical to the success of the establishing Green Infrastructure projects that people support and want to use, and developers want to associate with. > Appropriately designed and managed Green Infrastructure projects require equivalent maintenance to traditional projects that will need to a factor in the long term management of the project. > Considerations for maintenance objectives, performance requirements, training requirements, and available resources should be considered during the project inception to ensure robust and long lasting outcomes are achieved.
Council	<ul style="list-style-type: none"> > The Council will ultimately take responsibility for the long term organisation and management of Green Infrastructure projects. In order to sustain long term success, it is important to, <ul style="list-style-type: none"> • Coordinate with State Government and their agencies. • Manage and maintain projects. • Engage in community consultation.
Project procurement	<ul style="list-style-type: none"> > Maintenance budgets need to be established at the start to preserve and protect the capital investment, sustain high and consistent standards of maintenance and serve the needs of users. > The preparation of a maintenance plan concurrent with the evolving design ensures that the most appropriate materials, plants and construction methods are used, and that sufficient equipment and facilities for maintenance are allowed for.

Green Infrastructure Priority Areas

The following table outlines strategies for the delivery of Green Infrastructure in Unley

Priority area/area of focus	Short (0-5)	Medium (5-10)	Long (10-15)
1.0 Streets			
1.1 Develop and implement long term streetscape plans for main roads and local streets. Priority is for streets that align with <ul style="list-style-type: none"> > Council Tree Strategy; > WSUD incorporation; > significant developments; and > Council asset management and movement plans. 			
1.2 Underground overhead wires (with the Power Line Environment Committee [PLEC]) to improve streetscape appearance and allow planting of larger tree species. Priority undergrounding is for <ul style="list-style-type: none"> > Unley Road; and > Goodwood Road. 			
1.3 Develop short term hierarchy classifications for the roads and streets within Unley, including main roads and local streets to guide future movement strategies and establish clear pedestrian and cycling movement corridors.			
2.0 Green Corridors			
2.1 Establish an integrated long term green corridor, and pedestrian and cycling movement strategy. Priority is for <ul style="list-style-type: none"> > Brown Hill Creek and Keswick Creek; > rail and tram corridors; and > continuation of Charles Walk and Windsor Street. 			
2.2 In coordination with the Brown Hill Keswick Creek Stormwater Project continue to revegetate and remove culverts within the creek corridors to increase the permeability and biodiversity value of watercourses.			
2.3 Strategise opportunities to incorporate vegetation, including WSUD and tree planting along tram and rail corridors.			

Priority area/area of focus	Short (0-5)	Medium (5-10)	Long (10-15)
3.0 Public Places			
3.1 Prioritise the upgrade of open spaces emanating from main roads, creek corridors and high traffic pedestrian areas in accordance with Council’s Strategies and Plans, and reinforce their priorities in Asset Management Plans.	■	■	■
3.2 In coordination with the private sector, develop pilot green wall and green roof projects along main roads to demonstrate the positive environmental, aesthetic and ecological benefits of Green Infrastructure.	■	■	
4.0 Private Places			
4.1 Facilitate educational programs to incentivise community ownership and stewardship of Green Infrastructure provisions, including <ul style="list-style-type: none"> > adopt-a-tree; > backyard produce exchange; > verge treatments; and > vertical gardens. 	■		
5.0 Trees			
5.1 Implement Council Tree Strategy including management and maintenance, succession planning and priority areas for <ul style="list-style-type: none"> > main roads (prioritising Unley Road and Goodwood Road); > local streets; > green corridors and parks; and > private residences. 	■	■	■
5.2 Reinforce existing trees of value including large remnant trees along creek corridors.	■	■	
6.0 Water Sensitive Urban Design (WSUD)			
5.1 Integrate WSUD techniques in the design and management of urban spaces including main road, local streets, green corridors and parks.	■	■	

oxigen

98 - 100 Halifax Street
Adelaide SA 5000 Australia

+618 7324 9600

design@oxigen.net.au
www.oxigen.net.au

