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FRAMEWORK  
SUSTAINABILITY  
ACTION PLAN

V

CITY OF GREATER GEELONG:  
NORTHERN AND WESTERN GEELONG GROWTH AREAS

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WHO WE ARE

HIP V. HYPE SUSTAINABILITY WORKS WITH CLIENTS WHO ARE SEEKING EXCEPTIONAL SUSTAINABILITY OUTCOMES AND ARE WILLING TO THINK STRATEGICALLY TO ACHIEVE THIS.

WE SEE SUSTAINABILITY AS INHERENT TO GOOD DESIGN. IT'S NOT JUST AN OPTION, A DIFFERENTIATOR OR A MARKETING TOOL. AT A GLOBAL SCALE IT IS ALSO, BY DEFINITION, NON-NEGOTIABLE.



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# INTRODUCTION

The proposed community in the Northern and Western Geelong Growth Area (NWGGA or growth areas) have been conceived with a strong focus on sustainability.

The growth areas have a genuine opportunity to create a national exemplar for greenfield planning. In assessing, prioritising and integrating opportunities at the framework level the growth areas set a level of ambition which can, subject to key steps being taken through planning implementation, be successfully delivered on the ground over the 30 year project life-cycle. Without a strong framework approach, the areas risk the delivery of a standard residential subdivision, with poor live - work integration, a lack of community cohesion and without a genuine regional response to climate change and other environmental challenges.

# PURPOSE

This document sets out a framework level Action Plan for delivering on the ambition. It will act as an over-arching guide to the subsequent stages of the project, ensuring the design retains a focus on the underpinning drivers. It includes:

- \_ An overview of trends to which the initial opportunities assessment and this Action Plan responds
- \_ Key contextual factors
- \_ An outline of the process and identification of headline opportunities
- \_ A summary of objectives, targets and outcomes for each of the One Planet Living principles responsive to the project context
- \_ Actions relevant to framework planning and critical actions to be undertaken at the precinct structure plan stage, with identification of lead and support roles, and indicators of successful completion
- \_ Next steps

# TRENDS

Key trends which have driven the actions contained within this Framework and will affect their delivery over time:

**CLIMATE CHANGE IMPACTS** - Changes to our climate are already being experienced with more intense heat waves and storms, and further changes are essentially 'locked in' due to the greenhouse gases already emitted. New development is responding through 'carbon positive precincts' to reduce impact of development and harness the value of ecosystem services to build climate resilience to impacts.

**NATURAL SYSTEMS ARE PRINCIPAL DRIVERS OF URBAN STRUCTURE** - Good urban development is increasingly acknowledging the role of natural systems in defining the urban structure. This means an increased role for water in the landscape both in the streetscape and other open space connections. It means defining active transport links through green corridors and bringing the 'blue' and 'green' together to deliver multiple benefits for the community.

**THE ELECTRICITY GRID IS CHANGING FROM UNIDIRECTIONAL AND CENTRALISED TO BI-DIRECTIONAL AND DE-CENTRALISED** - Declining costs for renewables and storage, along with need to act on climate change, makes a compelling business case for servicing greenfield areas without gas and targeting zero carbon in the medium term. This builds on the rapid transition from a few large generators in the Latrobe Valley to an energy system which values small and medium scale generation within and adjacent to urban areas.

**EDUCATION AND EMPLOYMENT SHIFTS WILL INFLUENCE WHAT JOBS ARE AVAILABLE AND WHERE** - The Clever and Creative vision for Geelong dictates a future which is richer in knowledge services and high-end manufacturing. Large scale anchor employers such as universities and hospitals are critical catalysts for genuine mixed use in the growth areas.

**FLEXIBLE WORKING, THE 'SHARING ECONOMY' AND TRANSITION TO EV'S AND AUTONOMOUS VEHICLES WILL CREATE A PARADIGM SHIFT IN TRANSPORT** - The rise of 'share economy' services (ride-share, car share, bike share), along with work share (e.g. free-lancer), flexible work arrangements and online shopping are changing the way products and services are delivered and travel is undertaken. In addition, technological changes such as electric cars and autonomous vehicles are changing the infrastructure requirements of road transport. This doesn't replace the need for the early delivery of high quality public and active transport infrastructure, but requires transport systems to be more adaptable.

# CONTEXT

The Northern Geelong Growth Area is located in the Lovely Banks area and is generally bounded by Staceys Road to the north, Evans Road to the west, Bacchus Marsh Road to the east, and Anakie Road/Geelong Ringroad to the south.

The Western Geelong Growth Area is located west of the Geelong Ring Road and extending through parts of Batesford from the Geelong - Ballarat rail line in Bell Post Hill to the north, to the Barwon River in Fyansford, and extending to Dog Rocks/Friend in Hand Roads in the west. Batesford Quarry and flood prone, ecologically sensitive and steep areas are key landscape features.

The growth areas are 2,127 and 3,240ha respectively. The total developable land area is 3,411ha, with a capacity to house up to 112,000 people.

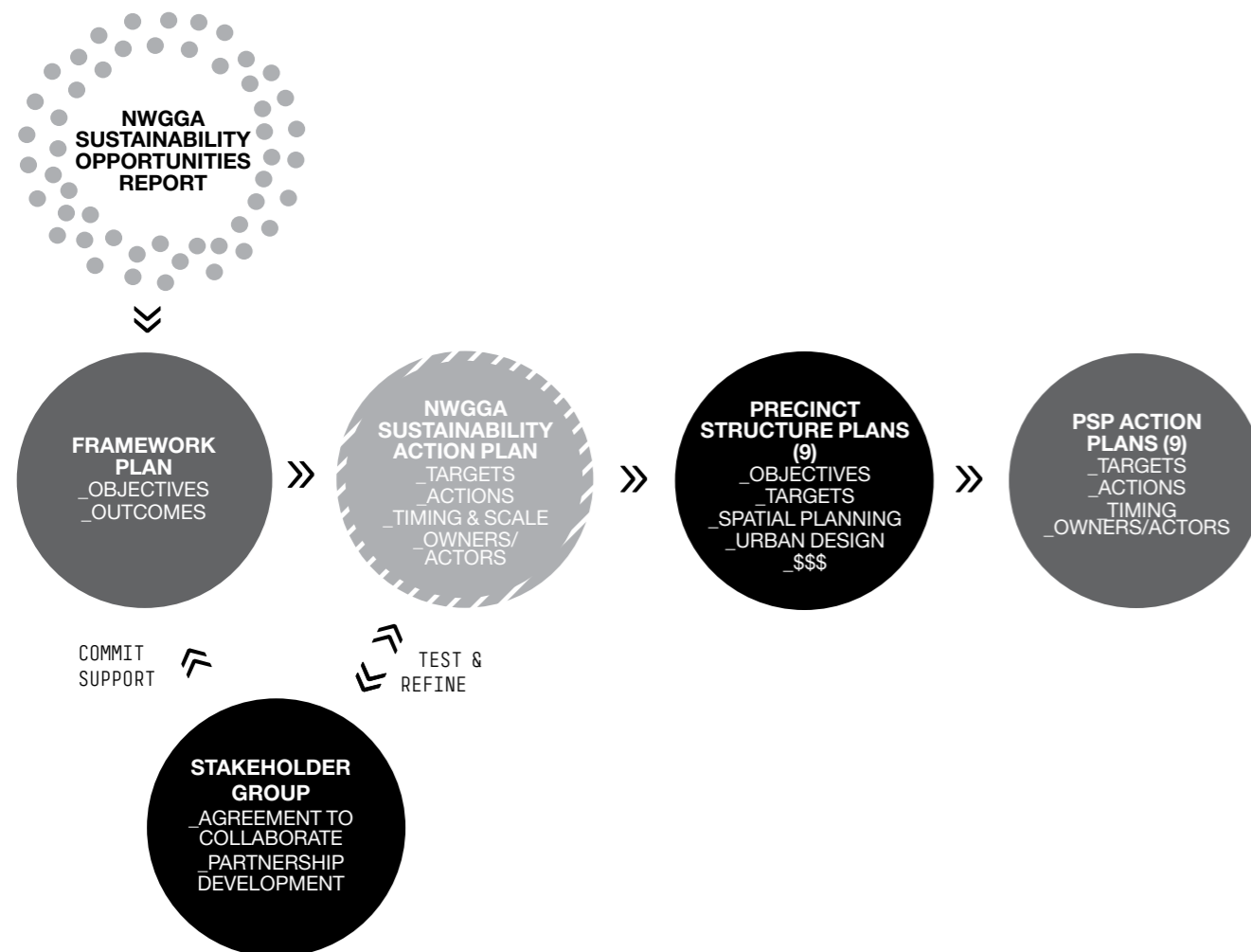
Strategic drivers for collaboration on the growth areas across local, regional and state levels are reflected in the following documents:

- \_ Council Plan 2018–22 outlines immediate priorities that work toward making Greater Geelong a clever and creative city-region.
- \_ A Clever and Creative Future is a community vision document that will guide the development of the region in the coming decades.
- \_ G21 Regional Growth Plan and Implementation Plan provides a framework and implementation plan for land use and growth that can sustainably respond to projected growth rates.
- \_ Plan Melbourne is the Victorian Government's metropolitan planning strategy that defines the future shape of the state out to 2050.

# ACTION PLAN DEVELOPMENT

Actions have been developed in response to opportunities identified and documented during the opportunities assessment phase. Key actions were tested through a consultation in November 2018 and refined in conjunction with the finalisation of the Framework Plan.

A number of actions are required to be coordinated across individual precincts in the growth areas, while other actions will acknowledge the strategic context, but can be delivered in relative isolation as part of each Precinct Structure Plan or beyond.



OVERVIEW OF THE FRAMEWORK DEVELOPMENT PROCESS.

# HEADLINE OPPORTUNITIES

Five headline opportunities were identified through the opportunities assessment phase and the intention confirmed during the development of the Framework Plan:

**‘TWENTY MINUTE NEIGHBOURHOODS’ THROUGH COMPACT URBAN FORM AND MIXED LAND USES** - Put ‘twenty minute neighbourhoods’ at the core of the Framework Plans and subsequent precinct structure plans for the growth areas, through more compact urban form, higher average densities coupled with diversity of housing and diverse land uses that support local living. A twenty minute neighbourhood means needs (employment, goods and services and community infrastructure) is within a 20-minute walk, cycle or local public transport trip. Needs such as public open space and convenience retail (milk and bread) should be accessible in well under 20 minutes.

**ZERO CARBON AND ZERO NET ENERGY** - Commit to developing the growth areas as zero carbon and net zero energy communities, and carry these aspirations through all stages of the planning and development process. Establish key partnerships, including with Powercor, to lock in the benefits of this early commitment through reducing up-front infrastructure costs.

**‘DAY ONE’ PUBLIC AND ACTIVE TRANSPORT, SUPPORTED BY A LONG-TERM INTEGRATED PLAN** - Identify key public and active transport corridors within the two growth areas on the Framework Plans and further detail these within precinct structure plans. Build support from Department of Transport and developers to deliver ‘day one’ public transport services within the growth areas and establish a long-term, integrated plan.

**ESTABLISH A NETWORK OF MULTI-FUNCTIONAL BLUE AND GREEN INFRASTRUCTURE THROUGHOUT THE GROWTH AREAS TO CREATE A CLIMATE RESILIENT, HEALTHY COMMUNITY** - Identify location and scale of key blue and green infrastructure assets across the growth areas and further detail these within the precinct structure plans. Establish how integration of blue and green infrastructure will occur, with stormwater management, landscape, open space and transport plans aligned and complementary. Establish best practice benchmarks for green corridors and minimum canopy tree cover requirements across both growth areas.

**LEADERSHIP, ADVOCACY AND COLLABORATIVE GOVERNANCE** - Council to take a lead role in driving the development of a collaborative governance model that allows for shared decision-making based on transparent information sharing. Establish partnerships between key stakeholders such as developers, landowners, councils, Powercor, Barwon Water and a university partner with research capacity in the built environment. Council to pursue a strong, consistent case, in partnership with other stakeholders to gain strategic investment in key initiatives with long-term benefits.

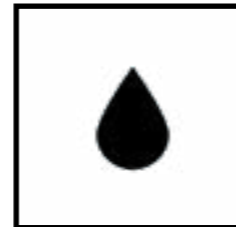


NATURE BASED ACTIVE TRANSPORT CORRIDORS WILL BE AN IMPORTANT DESIGN ELEMENT OF THE GROWTH AREAS - CREDIT - CITY OF GREATER GEELONG.

# ONE PLANET LIVING

One Planet Living is an initiative of Bioregional and its partners to make truly sustainable living a reality. One Planet Living is based on ten guiding principles which provide a framework for the comprehensive integration of sustainability across projects of any scale. The One Planet Living framework has been adopted to guide the sustainability opportunities assessment and prioritisation phase of the Framework Plan. It will also be applied to subsequent stages of precinct structure planning and beyond.

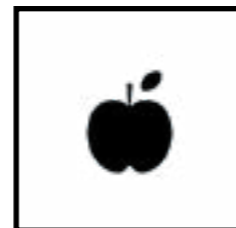
Bioregional Australia is a not-for-profit, independent organisation responsible for administering the One Planet Living framework.



SUSTAINABLE WATER



ZERO CARBON ENERGY



LOCAL AND SUSTAINABLE FOOD



ZERO WASTE



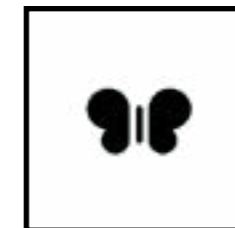
HEALTH AND HAPPINESS



SUSTAINABLE TRANSPORT



MATERIAL AND PRODUCTS



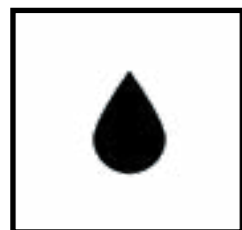
LAND AND NATURE



CULTURE AND COMMUNITY



EQUITY AND LOCAL ECONOMY



## SUSTAINABLE WATER

Water is an incredibly important natural resource for both humans and ecological environments. While traditional urbanisation and systems design has taken this for granted, the growth areas are positioned with the opportunity to sustainability manage and enhance its surrounding water resources. In considering potable water targets, stormwater management, and integrating biodiversity and water sensitive urban design into streetscape typologies, the growth areas can build the resilience required to deal with issues such as the urban heat island effect and drought in a climate that is becoming increasingly warm and dry.

The strong leadership of Barwon Water, and the current processes which will lead to the preparation of an Integrated Water Management strategy, presents a positive commencement to this long-term process.

### PRINCIPLE

Using water efficiently, protecting local water resources and reducing flooding and drought.

### OBJECTIVES

- + Manage stormwater in a way that maintains or enhances the pre-development hydrology of the area, minimises downstream impacts and enhances the sustainability of the urban landscape.
- + Ensure the ecological condition and functionality of waterways, wetlands and floodplains is protected, maintained and restored and these assets offer multi-functional environmental, social and economic values in this unique urban landscape.
- + Maximise the use of alternative water to meet fit-for-purpose needs.

### TARGETS & OUTCOMES

- + Combination of significant alternative water supply and building based water efficiency measures that can support a best practice potable water target of 100 litres per day per person.
- + 'Complete' street typologies / design for all arterial, collector / distributor and local roads with tree canopy, water sensitive urban design, active transport and underground infrastructure.
- + Stormwater management (blue infrastructure) coordinated with green infrastructure to enhance the sustainability of the urban landscape.
- + Private development which meets best practice environmental management guidelines for stormwater in all development.

Action	Suggested lead agencies	Timing & scale	Indicator of success
Develop a coordinated, blue - green infrastructure approach for the growth areas which integrates regional open space including habitat corridors and pollinator pathways, regional active transport links, cultural heritage connections, protection of existing ecological value waterways (including the Moorabool and Barwon Rivers) with the proposed Integrated Water Management strategy.	Council lead with support from Barwon Water, DELWP (Environment)	High level approach to be developed, then coordinated with more detailed blue-green plans through the precinct structure plan process.	Adopted agreed approach
Establish best practice potable water target (for example, 100 litres per person per day) through establishing minimum efficiency requirements and alternative water supply	Barwon Water lead with support from Council	Coordinated across the growth areas, but delivered through precinct structure plans	Adopted target
Undertake a water supply opportunities assessment for servicing (including building scale, irrigation, stormwater harvesting, third pipe (including sewer mining and lake water opportunities) ensuring attention for the role of irrigation in reducing urban heat island effect	Barwon Water lead with support from Council and DELWP	Framework Plan level (in conjunction with first PSP's or IWM strategy)	Completed opportunities assessment with regional level recommendations adopted
Identify clear vision for and location and scale of key blue and green infrastructure assets	Council lead with support from Barwon Water	Coordinated across the growth areas, but delivered through precinct structure plans	PSP's have nominated blue-green assets on open space and IWM plans
Develop streetscape typologies / design guidelines that support and align WSUD asset delivery, maintenance and green infrastructure	Council with support from VicRoads, PTV, landowners / Developers and Barwon Water	Precinct structure plans	Streetscape typologies developed and adopted for each PSP
Develop a water servicing plan consistent with the target and recommendations from opportunities assessment	Council lead with support from Barwon Water	Precinct structure plans	Water servicing plan finalised, adopted.
Develop planning requirements for buildings and precincts to support water supply and stormwater outcomes	Barwon Water lead with support from Council	Benchmarked through precinct structure plans but delivered through agreement at subdivision stage	Design Guidelines adopted which set new benchmarks for sustainable buildings
Undertake a standalone assessment of the opportunities provided by the quarry for blue and green infrastructure and potentially even energy supply	Barwon Water lead with support from Council and DELWP	Framework Plan level (in conjunction with IWM strategy) detailed elements resolved in PSP's and masterplans	Finalised investigation



## ZERO CARBON ENERGY

For global average temperature increases to be kept below 2 degrees Celsius, climate scientists have calculated that a global ‘carbon budget’ of approximately 800 GtCO<sub>2</sub> must not be exceeded in the next 25 years.

While existing urban environments are undertaking transformations to reduce greenhouse gas emissions, the growth areas enjoy the benefit of developing around evidence-based and equitable solutions to achieve a zero carbon precinct. Local renewable energy resources, precinct wide energy efficiency benchmarks and progressive building targets will help create a zero carbon community with all the social benefits in place.

### PRINCIPLE

Making buildings and manufacturing energy efficient and supplying all energy with renewables.

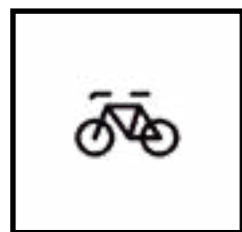
### OBJECTIVES

- + Create a community that generates most of its electricity locally from renewable resources, supports low living costs and achieves net zero carbon emissions, supporting the establishment of a safe climate for future generations.

### TARGETS & OUTCOMES

- + The growth areas as a zero net energy district, generating as much energy as it consumes on an annual basis on-site or near-site from renewable sources.
- + Fossil fuel free residential and commercial precincts.
- + Best practice energy efficiency as standard through tighter performance standards across all building types based on ‘affordable living’ concept (construction cost and operational costs to form the business case)

Action	Suggested lead agencies	Timing & scale	Indicator of success
<b>Develop a zero carbon energy pathway for the growth areas</b>	<b>Council with support from Powercor, Ausnet Services and developers / landowners</b>	<b>Coordinated across the growth areas, in conjunction with first precinct structure plans</b>	<b>Zero carbon energy pathway and commitment agreement in place</b>
Undertake an energy opportunities analysis to understand costs and benefits of integrating alternative supply of electricity, increasing local renewables and storage, energy efficiency standards for buildings and servicing at least part if not all of the growth areas with electricity only	Powercor, Ausnet Services and developers / landowners lead with support from Council	Coordinated across the growth areas, in conjunction with first precinct structure plans	Analysis complete
Develop a pilot project demonstrating how a high efficiency, all-electric home can be high amenity and low cost	Council and Sustainability Victoria lead with support from developers / landowners	Location specified through precinct structure plans	Pilot projects as part of first subdivision in each PSP
Develop design guidelines to create healthy buildings and meet building level energy efficiency and renewable energy objectives	Developers / landowners and Sustainability Victoria lead with support from Council	Benchmarked through precinct structure plans but delivered through agreement at subdivision stage	Design guidelines adopted which set new benchmarks for healthy buildings
Undertake an analysis of suitable compliance and rating mechanisms to support energy objectives (and other objectives, e.g zone schedules, design guidelines, ratings tools)	Council lead with support from DELWP	Coordinated across the growth areas, in conjunction with first precinct structure plans	Analysis complete
Development of precinct and building energy targets / benchmarks	Council lead with support from DELWP	Benchmarked through precinct structure plans	Design guidelines adopted which set new benchmarks for sustainable buildings and infrastructure
Develop energy efficiency standards for residential and commercial development	DELWP lead with support from Council	Benchmarked through precinct structure plans	Design guidelines adopted which set new benchmarks for sustainable buildings and infrastructure



## SUSTAINABLE TRANSPORT

A sustainable transport system—supported by a combination of land use and urban form, infrastructure and behaviour change—can lead to reduced greenhouse gas emissions, less air pollution, lower living costs and improved health and wellbeing.

Sustainable transport outcomes rely on the spatial relationship between varied land uses, diverse densities and infrastructure. Considering this relationship from the first development stages will enable the growth areas to build public and active transport modes throughout the precinct that support the concept of ‘twenty minute neighbourhoods’.

### PRINCIPLE

Reducing the need to travel, and encouraging walking, cycling and low carbon transport.

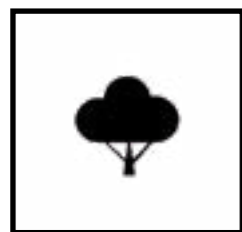
### OBJECTIVES

- + Establish a community where places for living, socialising, playing and working can all be accessed without using a car. Create environments where active transport modes and public transport are prioritised and achieve highest amenity.

### TARGETS & OUTCOMES

- + A commitment to emissions-free transport by 2040
- + ‘20 minute neighbourhood’ growth areas including: mixed land uses, higher density centres, local diverse employment opportunities, all levels of education and health and other essential community services to provide for significantly reduced car-based travel.
- + Strong rail infrastructure connections and allocation of land within road reserves for future light rail / trackless trams
- + High-frequency bus connections to new or nearest train station and Central Geelong.
- + A high-quality network of on and off-road separated cycle paths that integrate and enhance open space and ecological corridors while connecting key destinations within and beyond the growth areas.
- + Planning for autonomous and electric vehicles including:
  - \_ Ability for car lanes and parking to be re-purposed in the future (e.g. for green space or community infrastructure)
  - \_ Generous ‘drop and go’ facilities for commercial and community facilities
  - \_ Pre-wiring of commercial and multi-residential buildings for electric vehicle charging
  - \_ Intelligently applied electricity network infrastructure to support the future demand for electric vehicle charging.

Action	Suggested lead agencies	Timing & scale	Indicator of success
<b>Deliver strong alignment between land use and transport, consistent with the ‘20 minute neighbourhood’ concept, a long term plan for emissions-free transport and integrated with Geelong Growth Area Transport Infrastructure Strategy</b>	<b>Council, Department of Transport (DOT) lead with support from developers / landowners and DJPR</b>	<b>Coordinated across the growth areas, but delivered through relevant precinct structure plans</b>	<b>Adopted approach</b>
Undertake an opportunities and risks analysis for autonomous vehicles and the sharing economy, including future proofing streets and the overall urban structure of the growth areas to allow for the transition to electric and autonomous vehicles, including planning for future adaptation of streets to support transitional arrangements	Council, VicRoads and DJPR lead with support from DOT	Standalone assessment to inform all precinct structure plans	Opportunities and risk analysis complete
Explore partnerships with charging network providers including further analysis of the likely costs and any potential complexity of non-standard charging connectors across different electric vehicles	Council, VicRoads, DOT and DJPR lead with support from developers / landowners	Precinct structure plans	Relevant agreements in place
Establish planning controls to mandate electric vehicle charging infrastructure in all developments	DOT leads with support from Council	Benchmarked through precinct structure plans	Design Guidelines for town centres adopted which set new benchmarks for electric vehicle charging infrastructure
Deliver dedicated public transport links that includes the growth areas as part of a multi-modal transport system and recognises the strengths and weaknesses of the two growth areas with regard to proximity to existing transport infrastructure, and identifies short, medium and long-term priorities for public transport	Developers / landowners and DJPR lead with support from Council	Precinct structure plans	Dedicated fixed public transport infrastructure designed and delivered
Explore potential for developer funded ‘day one’ high frequency bus service to ensure excellent early public transport services while reducing reliance on long-term government funded service provision	Council and developers / landowners lead with support from DOT	Precinct structure plans	Feasibility investigations delivered as part of integrated transport assessment for each Precinct Structure Plan
Develop complete street typologies to support high-quality on and off-road bicycle and walking paths	DOT and Council lead with technical support from VPA and Barwon Water	Coordinated across the growth areas, but delivered through relevant precinct structure plans	Streetscape typologies developed and adopted for each PSP
Refine the active transport links with the regional plan for integrating surface water flows, active transport links and re-vegetation	Council and DOT with support from DELWP and Barwon Water	Precinct structure plans	Active transport links designed and delivered



## MATERIALS AND PRODUCTS

All materials used in construction have an environmental and social impact. This varies dramatically depending on the raw materials used, manufacturing process, the application and ongoing maintenance requirements.

Careful consideration in selecting materials can significantly reduce the overall environmental and social impact of the project. Materials that have lower embodied energy, use recycled content and renewable resources, exclude harmful substances such as Volatile Organic Compounds (VOCs) and are more durable will result in more sustainable, longer lasting and safer buildings. Development within the growth areas has the opportunity to establish and support new, sustainable healthy construction trades and industries within the broader region.

### PRINCIPLE

Using materials from sustainable sources and promoting products which help people reduce consumption.

### OBJECTIVES

- + Build using materials that have lower embodied energy, use recycled content, use local manufacturers and renewable resources, and exclude harmful substances.
- + Create a community where living happy, healthy life while consuming less is easy and affordable.

### TARGETS & OUTCOMES

- + Built form and infrastructure which incorporates local, sustainable and healthy materials and building products.
- + A 'Sustainable House' education facility/ies, showcasing how a future household can embrace sustainability in design, construction and operation.
- + A precinct capable of supporting sustainable industries such as sustainable construction, modular housing, green appliance tech development.
- + Use of local materials, such as reuse of quarry overburden material where appropriate.

Action	Suggested lead agencies	Timing & scale	Indicator of success
Develop a sustainable materials protocol / process for growth area infrastructure and develop design guidelines which support sustainable materials sourcing with an emphasis on pre-approved solutions	Developers / landowners lead with support from Council	Benchmarked through precinct structure plan	Design guidelines adopted which set new benchmarks for sustainable buildings and infrastructure
Develop partnerships and allocate land to support the establishment of a sustainable education / environmental park precinct	Developers / landowners lead with support from Council	Coordinated across the growth areas, but delivered through relevant precinct structure plans (regional resource not one required for each PSP area)	Land set aside and funded to support sustainability education
Develop partnerships and allocate land to support the establishment of sustainable construction industries	Council, developers / landowners lead with support from DJPR	Coordinated across the growth areas, but delivered through relevant precinct structure plans (regional resource not one required for each PSP area)	Land set aside and funded to support sustainable construction industries



## LOCAL AND SUSTAINABLE FOOD

The way food is grown, transported, sold, stored and consumed has a dramatic impact on the natural environment as well as human health. Sourcing more food locally, eating food that is in season, and growing food at home are all ways to reconnect people to more sustainable food practices.

The growth areas have the potential to deliver holistic urban environments that cater for home or community gardens, food swaps and farmers markets. With the right infrastructure in place, the proximity of the growth areas to some of Victoria's best food production regions means residents could support the local economy through outlets such as farmers markets or SME food businesses focused on local produce.

### PRINCIPLE

Promoting sustainable humane farming and healthy diets in local, seasonal organic food and vegetable protein.

### OBJECTIVES

- + Promote new opportunities in sustainable farming to support community access to local, fresh healthy food. Harness existing natural resources to promote a productive, robust and self-sustaining region in a changing climate, while protecting and enhancing our farming and natural assets.

### TARGETS & OUTCOMES

- + Multi-purpose urban spaces and appropriate planning mechanisms to support farmers and permanent fresh food markets within the urban centres of the growth areas.
- + Deliver land and infrastructure connections for an environmental / sustainability park/hubs to be developed, capable of supporting community education on food growing and sustainable consumption.

Action	Suggested lead agencies	Timing & scale	Indicator of success
Develop an inventory of local and sustainable food suppliers from the Barwon region and make available to new businesses and residents	Regional Development Australia lead with support from Council	Town Centre development plans and Subdivision stage	Inventory established
Support new communities to develop farmers markets in new urban centres	Developers / landowners lead with support from Council	Precinct structure plans and Town Centre development plans	Land set aside and funded to support farmers markets
Identify locations for sustainability hubs (capable of supporting community education on food growing and sustainable consumption) and urban agriculture	BSWRRRG lead with support from Council	Precinct structure plans	Land set aside and funded to support food growing and education



## ZERO WASTE

New buildings and infrastructure generate substantial levels of waste, 75% of which is concrete and timber materials that are largely recyclable. Similarly, 40% of household waste sent to landfill is compostable organic waste. The growth areas have the potential to mitigate both of these waste streams by planning and managing construction processes to incentivise waste minimisation, and by developing holistic urban environments that cater to the municipalities organic waste needs. New generation smart-bins and local organic waste facilities can help cultivate behaviour change and foster a closed-loop community.

### PRINCIPLE

Reducing consumption, reusing and recycling to achieve zero waste and zero pollution.

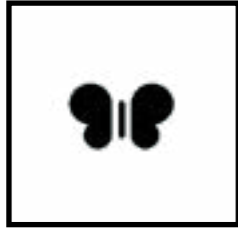
### OBJECTIVES

- + Minimise the amount of waste generated during construction and operation and reduce total waste to landfill.
- + Establish a long-term plan for the growth areas to achieve a 'zero waste' aspiration.

### TARGETS & OUTCOMES

- + Precinct-wide waste management systems for urban centres that incentivise waste minimisation in operation, including the reuse of organic waste and the use of smart bin technology.
- + Development of a local, precinct scale organic waste management facility.
- + Construction materials are recycled or reused as standard practice.

Action	Suggested lead agencies	Timing & scale	Indicator of success
As part of town centre design, develop precinct-wide waste management plans with clear targets that incentivise waste minimisation in operation, including the reuse of organic waste and the use of smart bin technology	Council and BSWWRRG lead with support from developers / landowners	Town centre development planning	Precinct waste management plans in place for each activity centre
Develop key partnerships (e.g. with Barwon South West Waste and Resource Recovery Group (BSWWRRG)) and allocate land for a local precinct scale organic waste management facility	BSWWRRG lead with support from Council	Coordinated across the growth areas, but delivered through relevant precinct structure plans.	Relevant agreements in place
Trial a three bin separated collection for recycling, organic waste and residual waste (landfill)	BSWWRRG lead with support from Council	Coordinated across the growth areas, but delivered through relevant Precinct Structure Plan(s)	Three Bin Trial delivered through one of first two PSP's
Develop construction waste benchmarks / standards for residential and commercial development	DELWP lead with support from Council	Benchmarked through precinct structure plans.	Design guidelines / planning controls adopted which set new benchmarks for sustainable buildings and infrastructure



## LAND AND NATURE

The provision of ecologically sensitive urban design strengthens not only the health and wellbeing of biodiversity within the urban environment, but also that of human inhabitants who enjoy spaces for physical activity, improved air quality and the benefits associated with biophilia. The growth areas represent an opportunity to reinvigorate and restore native biodiversity networks within the urban context through the planning and design of multi-functional green infrastructure.

### PRINCIPLE

Protecting and restoring land for the benefit of people and wildlife.

### OBJECTIVES

- + Bring biodiversity into the urban environment, within both private and public areas. Support the establishment of strong ecological values and the reestablishment of flora and fauna native to the area, supporting biodiversity, community amenity and reduced urban heat.

### TARGETS & OUTCOMES

- + Canopy cover of 25%, consistent with the CoGG Urban Forest Strategy, with early delivery of parks and other green space to reach maturity quickly. 'Complete' streets which support significant green infrastructure within the road reserve.
- + Coordinated blue-green infrastructure which integrates:
  - \_ Habitat corridors and pollinator pathways
  - \_ Waterways including as the Moorabool and Barwon Rivers
  - \_ Regional active transport links
  - \_ Cultural heritage connections
  - \_ Protection of existing ecological value
- + Dedicated open space for rewilding (re-establishment of functional ecosystems).

Action	Suggested lead agencies	Timing & scale	Indicator of success
Develop a coordinated, blue - green infrastructure approach for the growth areas which integrates regional open space including habitat corridors and pollinator pathways, regional active transport links, cultural heritage connections, protection of existing ecological value waterways (including the Moorabool and Barwon Rivers) with the proposed Integrated Water Management strategy.	Council lead with support from Barwon Water, DELWP (Environment)	High level approach to be developed, then coordinated with more detailed blue-green plans through the precinct structure plan process.	Adopted agreed approach
Develop objectives and requirements for built form in each PSP area including lot level performance requirements through design guidelines or similar mechanism (PSP stage)	Council or DELWP lead with support from developers / landowners	Benchmarked through precinct structure plans, but delivered through agreement at subdivision stage	Design guidelines adopted which set new benchmarks for sustainable buildings
Develop a housing diversity plan which provides for smaller lot sizes, diversity of lot sizes, smaller building footprints and explores appropriate incentives for a housing mix that support greater open space and biodiversity on private land.	DELWP and developers / landowners lead with support from Council	Precinct structure planning	Adopted plan
Identify existing mature trees and formalise appropriate protection during (subject to detailed flora and fauna assessment)	Council lead with support from DELWP (Environment) Corangamite Catchment Management Authority	Precinct structure planning	Significant mature trees protected
Develop detailed green infrastructure master plans which integrate strongly with active transport, urban heat and open space strategies	Council lead with DELWP and Barwon Water support	Precinct structure planning	Adopted plan
Develop precinct structure plans which delivers a 25% canopy cover across the growth areas (aligned with CoGG Urban Forest Strategy target for the municipality) and ongoing protection for new canopy trees delivered in the public realm and on private lots across all land uses	Council lead with DELWP (Planning), DELWP (Environment) and developers / landowners	Precinct structure planning	Target embedded in PSP's
Identify opportunities for significant areas of 'rewilding', including key open space and biodiversity corridors, to be integrated with green infrastructure and integrated water management planning	DELWP, Barwon Water and Council lead with support from DELWP (Environment)	Precinct structure planning	Areas for rewilding identified and set aside through green infrastructure master plans.



## CULTURE AND COMMUNITY

A sense of community and place is central to wellbeing and happiness. A sustainable community recognises and celebrates cultural diversity and heritage, while fostering a sense of community that supports sustainable living.

The public spaces in the growth areas have potential to reflect and celebrate the indigenous history, the more recent agricultural history and the emergent culture of a sustainable, connected community. A network of activity centres will incorporate community spaces that encourage local connection and support occupants to develop unique local identities for their neighbourhoods.

### PRINCIPLE

Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living.

### OBJECTIVES

- + Ensure people feel part of the community and have opportunities connect, celebrate their sense of place and identity through arts and cultural activities

### TARGETS & OUTCOMES

- + Use participatory planning methods and deep community engagement to ensure the traditional owners, existing and potential future residents and businesses have a voice in the development process and connection to the community.
- + In partnership with local artists, cultural and community groups, establish public events and art throughout all development stages of the growth areas.
- + Deliver accessible cultural spaces that can support a range of cultural and community outcomes, including large format outdoor events spaces suitable for a wide range of community uses.

### Action

Develop a community and social infrastructure plan to deliver accessible cultural spaces that can support a range of cultural and community outcomes, including large format outdoor events spaces suitable for a wide range of community uses

Develop an arts and community development programs to activate early stages of the growth areas

### Suggested lead agencies

Council lead with support from DHHS, DELWP and developers / landowners

Creative Victoria lead with support from developers

### Timing & scale

Precinct structure plans and town centre development plans

Town centre development plans

### Indicator of success

Community and social infrastructure plan for each PSP

Arts / cultural development program developed in association with development of new precincts



## HEALTH AND HAPPINESS

Our buildings and cities have an enormous impact on health and happiness. The degree to which our urban environments support incidental exercise, healthy eating, access to green space, fresh air and sunlight, and opportunities for spontaneous social interactions can dramatically increase health and quality of life.

The growth areas have an opportunity for considered and integrated open space. Active transport and social infrastructure planning will support health and wellbeing outcomes for the regions occupants.

### PRINCIPLE

Encouraging active, sociable, meaningful lives to promote good health and wellbeing.

### OBJECTIVES

- + Design space and infrastructure to enhance the health, wellbeing, resilience and quality of life, giving consideration to the higher likelihood and intensity of extreme weather events associated with a changing climate.
- + Build strong and safe communities where spaces and infrastructure are designed to encourage healthy, active, socially connected lifestyles, services are easy to access and safety is increased (crime prevention through environmental design (CPTED))

### TARGETS & OUTCOMES

- + The growth areas will deliver active open space within 400m of each resident and dedicated active transport links within easy reach of each resident. This will be achieved through dispersed multi-use open spaces and facilities that provide access to nature and encourage exercise, diverse sporting and social activities.
- + The growth areas will deliver community infrastructure and housing to support vulnerable communities.
- + The growth areas will be climate resilient and manage urban heat island and heat wave impacts through:
  - \_ A canopy cover target of 25%
  - \_ A network of irrigated open space in particular near dense urban areas and heat refuges
  - \_ A celebration of water in the landscape
  - \_ Best practice communication infrastructure to support access to heat wave information
  - \_ Housing standards which minimise heat stress impacts.

### Action

Develop housing standards which support safe and healthy buildings

### Suggested lead agencies

Developers / landowners, Sustainability Victoria and DHHS lead with support of Council

### Timing & scale

Benchmarked through precinct structure planning but delivered through agreement at subdivision stage

### Indicator of success

Design guidelines adopted which set new benchmarks for healthy buildings.

Develop strategies to reduce and manage urban heat, linking public and private realm landscaping, stormwater and watercourse management, and heatwave refuges, integrated with the regional blue-green infrastructure approach and IWM strategies

Barwon Water, DHHS, DELWP and developers / landowners lead with support from Council

Coordinated across the growth areas, but delivered through precinct structure plans

Urban heat management approach developed for each PSP



## EQUITY AND LOCAL ECONOMY

The economic impacts of urban development projects extend from site acquisition and design through to construction and ongoing operation. Projects can have a significant impact through each of these stages. The use of local trades and material suppliers in construction can support the local economy, while the connection of the new population to existing businesses can create long-term economic benefits for the community as a whole.

A network of activity centres throughout the growth areas can house adaptable employment hubs that help drive local economy and deliver self-sufficient communities that enjoy services, facilities and places to meet and work in their neighbourhood.

### PRINCIPLE

Creating safe, equitable places to live and work which support local prosperity and international fair trade.

### OBJECTIVES

- + Diversify the local economy and create jobs through building on competitive strengths, including tourism and agricultural land resources and economic, social and natural assets in the clever and creative corridor.
- + Promote learning of new skills to support increasing employment diversity and equity, encouraging communities to invest and be involved in the region.

### TARGETS & OUTCOMES

- + Consistent with the growth areas delivering a clever and creative corridor, the growth areas will:
  - \_ Deliver best practice telecommunications infrastructure and a competitive advantage in other utilities such as energy and alternative water supply
  - \_ Have planning mechanisms (e.g. zoning) which support a range of business types, including home office, a range of retail, commercial and industrial sizes, flexible and transitional working hubs, sustainable industries
  - \_ Integrate one or more tertiary campuses, major health campuses and establish other major employment attractors.

Action	Suggested lead agencies	Timing & scale	Indicator of success
Undertake regional economic analysis for fixed transport infrastructure to be provided to the growth areas, with a broad range of benefits evaluated, including value capture analysis as a method for additional funding	Council, VicRoads, developers / landowners and DJPR lead with support from DOT	Framework Plan level (in conjunction with first PSP's)	Business case on fixed transport infrastructure completed
Undertake development scenario testing to define and determine how to best achieve '20 minute neighbourhoods', including staging to meet objectives over time and appropriate incentives for a commercial mix	Council, VicRoads, DOT and DJPR lead with support to developers / landowners	Framework Plan level (in conjunction with first PSP's)	Scenario testing complete and preferred scenario embedded in activity centre structure
Develop strategies to partner with potential tenants such as universities, tafes and hospitals to anchor and catalyse the scale and intensity of development required to achieve '20 minute neighbourhoods'	DJPR and developers / landowners lead with support from Council	Coordinated across the growth areas, but delivered through precinct structure plans	Partnership agreements with
To fund transport infrastructure, prepare a Development Contribution Plan (DCP) and identify other ways of capturing value from the development process	Developers / landowners and DJPR lead with support from Council	Precinct structure planning	Plan embedded in PSP's
Develop an Employment and Activity Centres Plan which can support '20 minute neighbourhoods'	Council lead with support from VicRoads, developers / landowners and DJPR	Precinct structure planning	Plan embedded in PSP's



CITY OF GREATER GEELONG HAS DEMONSTRATED WHAT GOOD DESIGN LOOKS LIKE. GEELONG'S LIBRARY AND HERITAGE CENTRE IS A SUSTAINABLE 5-STAR GREEN STAR BUILDING WITH A DESIGN THAT BALANCES THE NEW WITH THE OLD.

# NEXT STEPS

This section outlines the path forward for planning and non-planning related implementation of the Action Plan.

## PLANNING IMPLEMENTATION

Subsequent strategic and statutory planning processes will drive implementation of the identified One Planet Living opportunities.

Key mechanisms are:

- \_ Growth Area Framework Plan: a long-term strategic land use plan that provides a basis for more detailed land use planning through the precinct structure planning process.
- \_ A Precinct Structure Plan (PSP): prescribes land use and development to a more detailed level for specific areas of land, which will generally support between 10,000 and 30,000 people. This Action Plan should inform briefs and outcomes sought through this process.
- \_ A plan of subdivision: allows an applicant to divide land into two or more new parcels of land that can be disposed of separately.
- \_ Design guidelines: help establish a common understanding of design principles and standards that apply to a specific area.
- \_ The SDAPP (Sustainable Design Assessment in the Planning Process) framework: refers to the inclusion of key environmental performance considerations into the planning permit approvals process in order to achieve more sustainable building outcomes for the long-term benefit of the wider community.

The One Planet Living framework is recommended to guide (not necessarily accredit) the development of sustainability action plans at the precinct structure plan stage.

## OTHER IMPLEMENTATION CONSIDERATIONS

A variety of early and ongoing initiatives will be essential to guide the long-term implementation and management, and funding of the growth areas, including:

- \_ Governance: Collaborative governance will be critical to the success of the growth areas in meeting its objectives for sustainability. Functionally, a platform to allow all parties responsible for delivering against a shared vision is required. This is critical given the long-time frames associated with both growth areas. The ownership and commitment of CoGG to the progress of this Action Plan is critical.
- \_ Partnerships: National and international research have borne out the value in developing early, deep partnerships to deliver on the ground results over time. In addition to a collaborative governance model, deeper technical partnerships will be required to ensure alignment and delivery of highly complex, high cost or multi-benefit initiatives that require the commitment of multiple agencies or stakeholders.
- \_ Advocacy: Many of these strategic initiatives will be 'long-term plays' so a strong, consistent case, potentially in partnership with other stakeholders will be required to gain strategic investment in key initiatives with long-term benefits.
- \_ Leadership and demonstration: Visionary leadership and practical demonstration of what's possible will be important in breaking down barriers which are implicitly linked to 'first movers'.
- \_ Education: An up-front investment in education and engagement will create an aware purchaser, critical for commercial drivers for sustainability to succeed.
- \_ Value capture: Aggregating the value delivered by investment in key infrastructure, such as large transport nodes, offers a mechanism to delivering infrastructure earlier and seeing the feedback loop between density and transport provision.



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