Mildura Urban Forest Strategy

Stakeholder Workshop Pre Reading Package

Mildura Rural City Council

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March 2023

Introduction

Project Overview

- Mildura Rural City Council is preparing the Mildura Urban Forest Strategy to expand tree canopy coverage in public spaces such as streets and parks.
- You've been identified as a key stakeholder with an interest in this project.

Why you've received this information pack

- You're invited to attend a workshop during the week of the 6 March to share your ideas on the Mildura Urban Forest Strategy.
- As we will have limited time on the day of the workshop, please familiarise yourself with the background information contained in this document and think about the "questions to consider" in Part 5.

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Project Background

This section outlines the project objectives, stages and background review that has been completed for the project.

Project Objectives

Project Aims

- Enhance net canopy and vegetation gain
- Identify barriers and constraints
- Define targets for vegetation cover and establishment
- Understand community perspective
- Develop best practice approach and methodology to achieve project aims

Project Scope

- The Urban Forest strategy is considering opportunities on public land.
- The following townships are within the scope of analysis and implementation as part of the Urban Forest Strategy:
  - Merbein
  - Mildura
  - Nichols Point
  - Irymple
  - Red Cliffs
  - Ouyen
  - Werrimull
  - Waleup
  - Murrayville

Project Elements

- Synthesis of documents, policies and base data relevant to urban greening in Mildura
- Analysis of site context and current state of urban greening in Mildura
- Community consultation and key stakeholder engagement
- Establish urban forest conditions and a strategy for the management of existing and future trees
- Define an implementation strategy to deliver the Urban Forest Strategy vision

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Project Stages

1

Phase 1 – Background Review - *Complete*

- Background Document Analysis and site visit
- Initial advice from sub-consultants
- Councillor Briefing
- Site analysis
- Community Consultation round 1

2

Phase 2 – Visioning - *Underway*

- Thermal mapping output analysis
- Case study analysis
- Define principles and key directions
- Arborist and WSUD subconsultant input
- Targeted workshops
- Councillor Briefing
- Community consultation Round 2

3

Phase 3 – Draft Strategy

- Prepare draft Urban Forest Strategy
- Presentation of outcomes to Councillors
- Release of draft Urban Forest Strategy on Council's 'have your say' webpage
- Community Consultation Round 3

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Phase 4 – Final Strategy

- Final Urban Forest Strategy
- Completion of Implementation Plan
- Presentation to Councillors

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Background Review

There is a wide range of literature on the benefits and challenges associated with an Urban Forest, which has helped form the emerging principles of the strategy.

Background

What is an Urban Forest?

- The term urban forest refers to all the trees and shrubs present in an urban area which provide long-term community benefit, such as cooler and more attractive streets.
- Urban forests are a nature-based solution to environmental, social and economic challenges.
- An Urban Forest Strategy aims to improve green infrastructure to benefit the local natural environment, resident health and wellbeing and the local economy.

Green Infrastructure

- The natural vegetative systems and green technologies that collectively provide society with environmental, social and economic benefits
- Contributes to the implementation of policy, including climate action, water, health, agriculture, growth and disaster risk management

Benefits of an Urban Forest

- Social benefits include local livelihood, social cohesion, food security, equity, reduce driving speeds, weather safety (heat, shade)
- Environmental benefits are urban heat mitigation, water infrastructure, rainfall surface runoff, agricultural production
- Economic benefits include increased activity in local commercial centres

Background Review

The Background Review draws on academic literature and case studies to inform emerging implementation ideas and measures for how we know we've succeeded.

Key research findings

Identifying Targets

The 3-30-300 Rule

- Everybody should be able to see at least 3 larger-sized trees from their home, workplace, or place of study. Everybody should also live in a neighbourhood with at least 30% canopy cover. It should not take you more than 300 metres to get to the nearest high-quality public green space

Monetary value

- Peter Yau amenity value formula for calculating the monetary value of urban trees

Tree health

- Quantified Tree Risk Assessment (QTRA) is risk assessment methodology for trees
- The i-Tree Eco tool provides an urban and community forestry analysis and benefits assessment tool

Challenges and constraints

- Lack of resources (financial, technical) to maintain and manage green infrastructure
- Policy barriers and collaboration within government
- Encroachment of development
- Community support
- Urban Forests are exposed to pollutants, high temp, drought, inundation, limited space, disease

Background Review

The Cool It Study was undertaken by Council and its partners in 2018 and has informed some of the key aims of the Urban Forest Strategy.

Cool It Study (2018)

Purpose

- Evidence for decision making on landscape-based cooling solutions
- Identified overlap of social vulnerability and heat exposure

General Findings

- Species selection can alter the extent of cooling (large trees with canopies provide a greater cooling effect than small or upright trees)
- Planning can incorporate green infrastructure to mitigate heat load and promote health and wellbeing

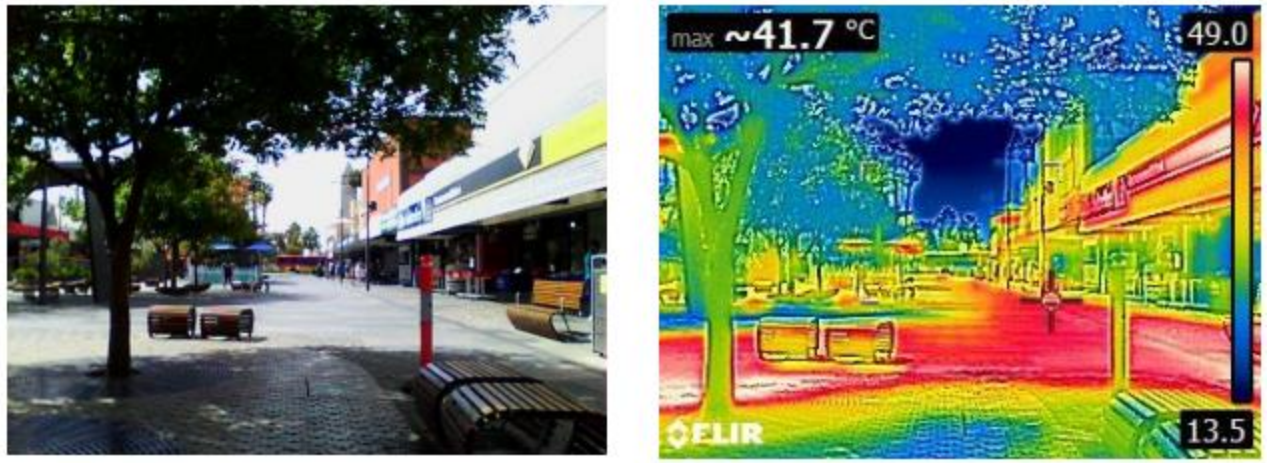
Recommendations

- The top three priority areas for cooling are in Mildura South and Merbein
- Key residential streets, arterial roads, commercial areas, schools and parks

Looking forward

Strategy and Policy

- Integrate understanding of heat impacts on health and wellbeing and the need for greater cooling measures
- Respond to policy analysis outlined in The Cool It Study
- Develop resourced tree planting program



These two images demonstrate the cooling benefit of shade trees in central Mildura

Background Review

Consideration of existing Council strategies is key to informing the strategy.

Strategic and Policy Alignment

Community Vision 2021-2040

- Community values (river, trees, access to green open spaces, natural bushland, river and parks)
- Protection of the environment and natural ecosystems
- Prioritising river health and amenity, protecting green spaces
- Increased tree planning

Urban Tree Policy 2022

- Consistent, sustainable approach to establishing, protecting and managing vegetation on Council property throughout the municipality
- Reduction of inappropriate plantings and tree removal
- Adopt and promote best practice pruning and vegetation maintenance methods

Council Plan 2021-25

- Protect and enhance native vegetation
- Net increase in trees
- Community satisfaction with environmental protection and sustainability

Mildura CBD Plan 2021-35

Integrating Urban Forestry into six key directions (noting alignment with Direction 3 and 4)

- Greening the public realm – research-based design guideline
- Green landscaping to support place activation
- Climate responsive design (species selection, urban shading)
- Linear parkway concept
- Public open space network

2

Analysis

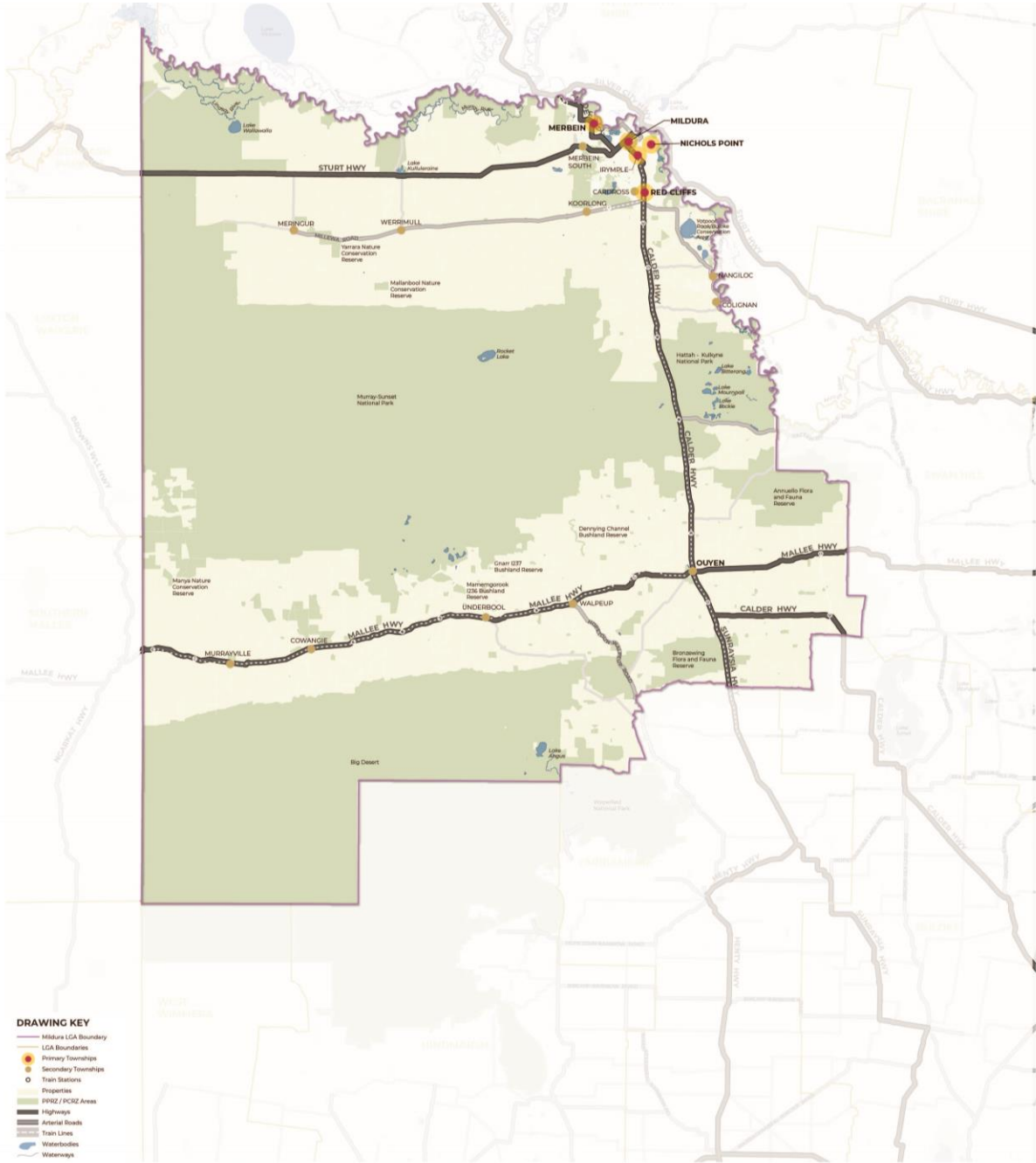
This section provides an overview of the site analysis mapping and thermal mapping that has been undertaken to inform the project to date.

Site Analysis

Site analysis

GIS data

- Mesh received GIS data from Council to inform the site analysis.
- Mesh mapped the following sites based off data received
  - Site 1: Mildura
  - Site 2: Merbein
  - Site 3: Redcliff
  - Site 4: Irymple
  - Site 5: Nichols Point
- This presentation includes a snapshot of some of the site analysis mapping for the Mildura area.
- Thermal mapping has been also been collected for the urban areas within scope of this strategy:
  - Merbein
  - Mildura
  - Nichols Point
  - Irymple
  - Red Cliffs
  - Ouyen
  - Werrimull
  - Waleup
  - Murrayville



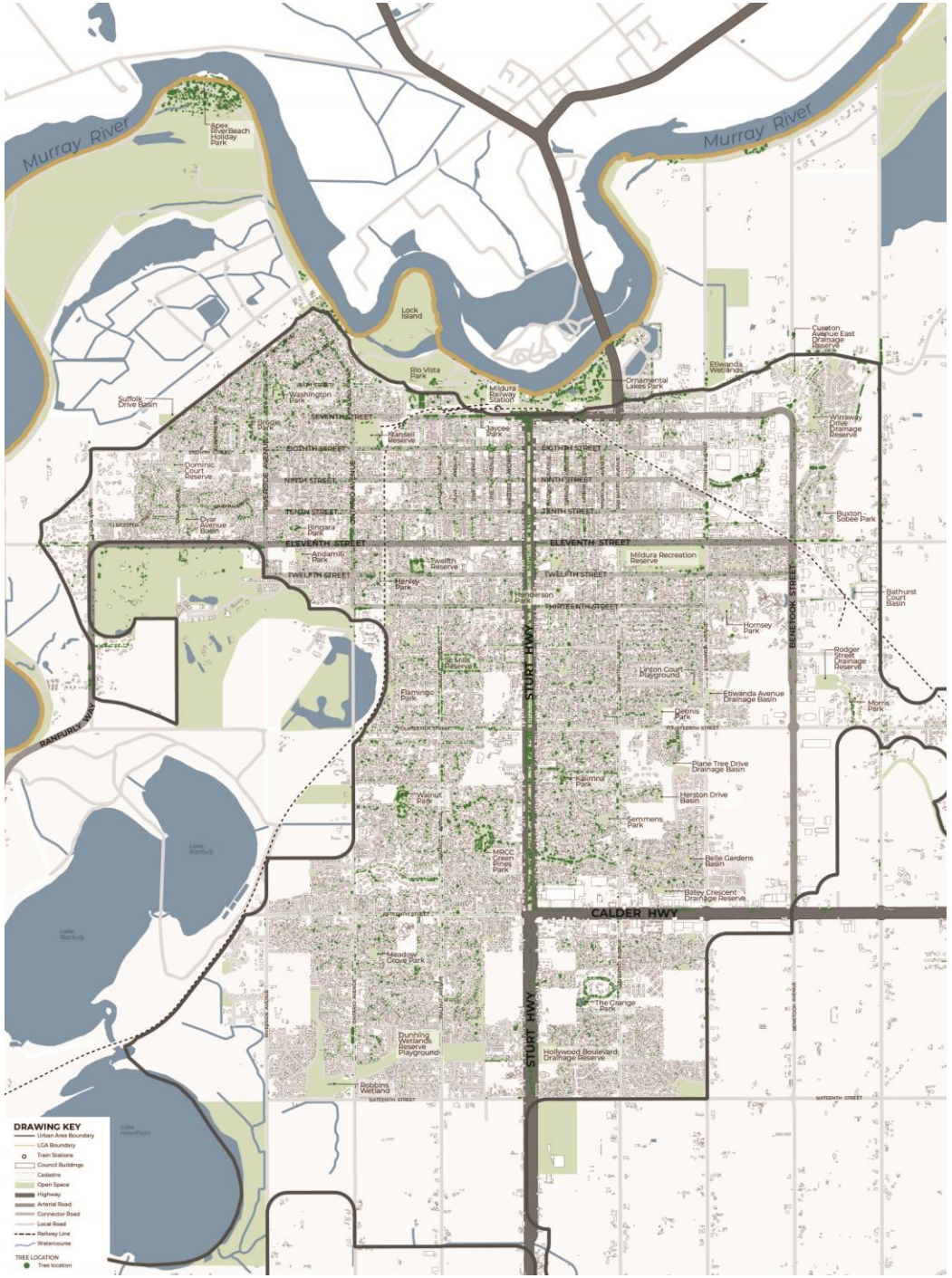
Mapping – Mildura

01: Tree Location & Canopy Cover Plan

- **Green coverage in public space**

  The data provided has mapped 27,876 trees within this area.

  - Good streetscape tree coverage along some streets
  - Low canopy coverage along Sturt Hwy between Eleventh St and Sixteen St
  - Inconsistent street tree planting locations along Calder Hwy and Benetook St
  - Low canopy coverage along Calder Hwy
  - The Grange Park, Kalimna Park, Sc Mills Reserve, Walnut Park, MRCC Green Pines Park and Twelfth Reserve appear to have good tree canopy cover. Most other public open spaces have minimal canopy cover.



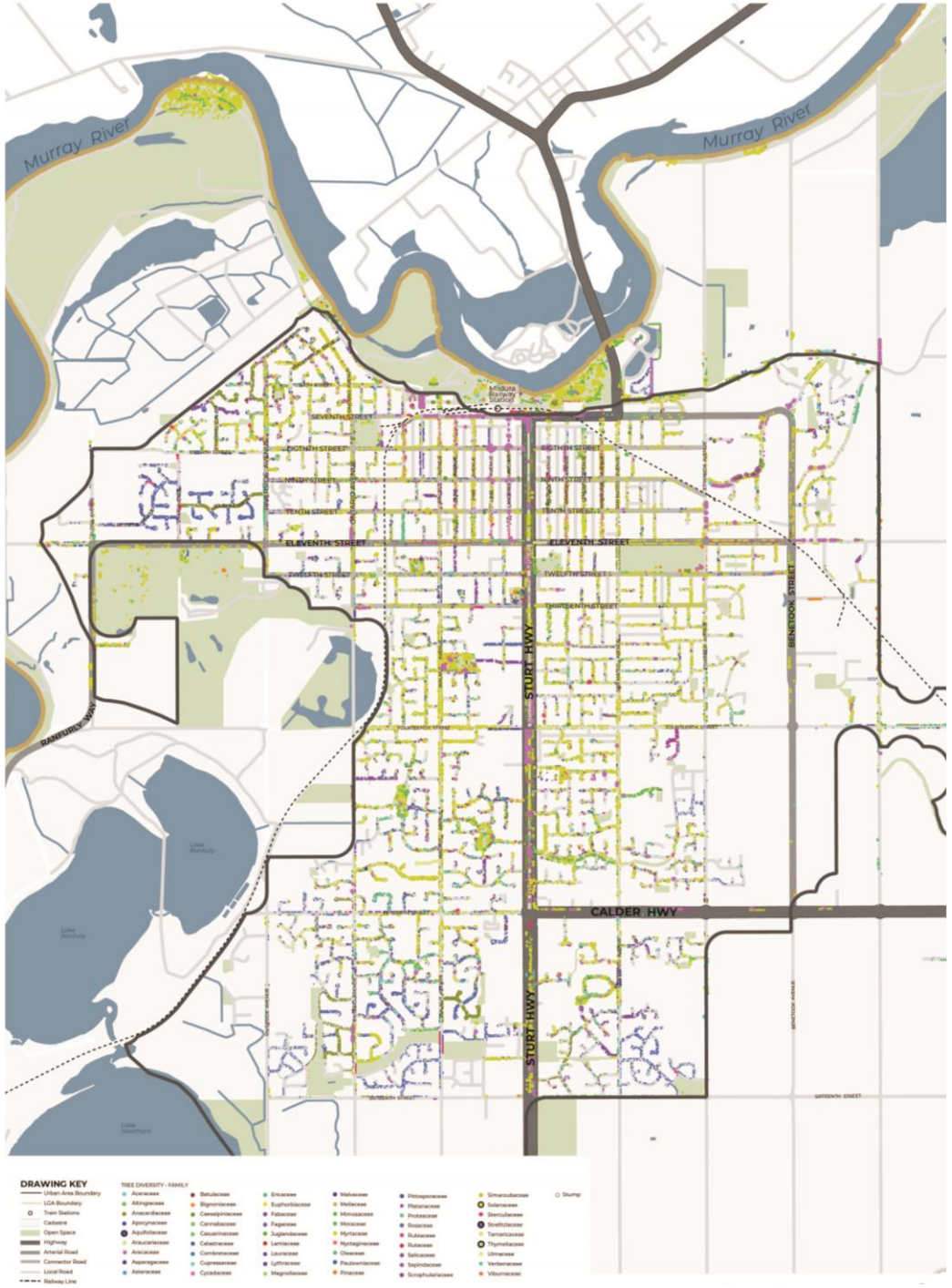
Mapping – Mildura

02: Tree Diversity Plan

- **Tree Families**

  Observations:

  - Large mix of tree families throughout the project site.
  - The general rule of thumb for a healthy tree population is to aim for the 10/20/30 rule in species diversity. I.e. a tree population should not be comprised by more than 10% of any one species, 20% of any one genus and 30% of any one family.
  - Dominance of '*Myrtaceae*' species; trees of the Eucalyptus and Callistemon genus constitute a large majority of the tree species. Generally, these trees appear to provide a mixed amount of canopy cover across the site. The Eucalyptus genera marginally exceeding the 20% threshold and the '*Myrtaceae*' family greatly exceeding the 30% threshold.
  - Many streets have a high density of trees within the 'Rosaceae' family that appears to provide a high level of canopy cover.
  - Streets that comprise of trees from the '*Anacardiaceae*' family appear to have a high level of canopy cover.



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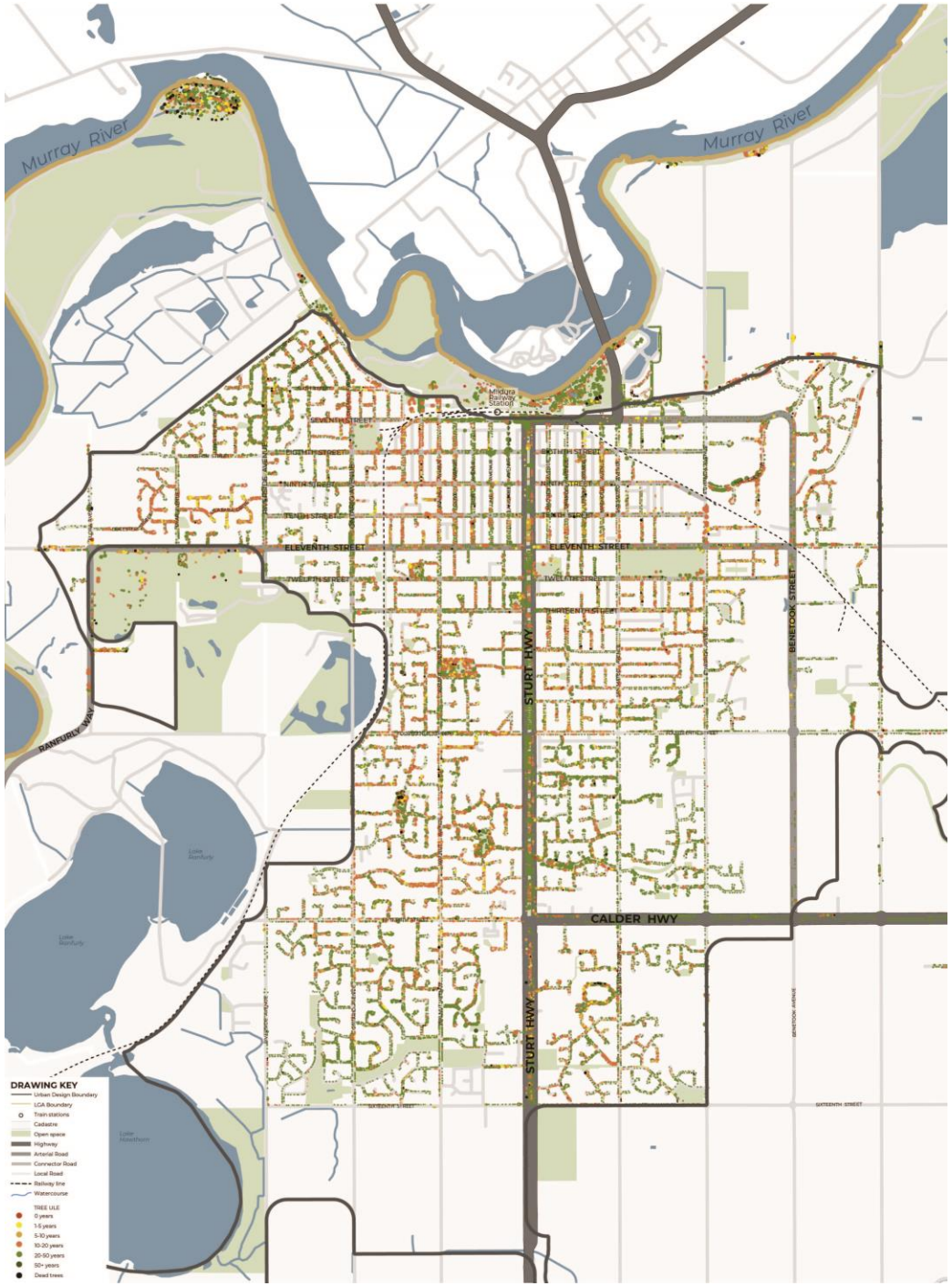
Mapping – Mildura

03: Tree Loss Plan

- **Useful Life Expectancy (ULE)**

  Observations:

  - ULE is the estimate of how long a tree can remain safely and usefully in the landscape, provided environmental conditions remain the same. It takes into consideration tree health, structure and risk.
  - Across the LGA, the majority of trees are in good condition with 55% (20,072) of all trees having a Useful Life Expectancy (ULE) of greater than 20 years and 30% (11,252) having a ULE of between 10 and 20 years. Of the remaining trees, 4,624 have a ULE of less than 10 years and 705 have a ULE of 0 years.
  - Within Mildura CBD there is a dominance of trees with a ULE of 10-20 years.
  - Low-moderate quantities of trees with a ULE less than 10 years.
  - Along Sturt Hwy and Calder Hwy most trees appear to have a high life expectancy (20-50 years)
  - Eleventh St consists of trees with varying ULE ratings.
  - Local roads consist of trees with varying ULE ratings.
  - No streets appear to have a dominance of trees with low a ULE rating (less than 5 years).



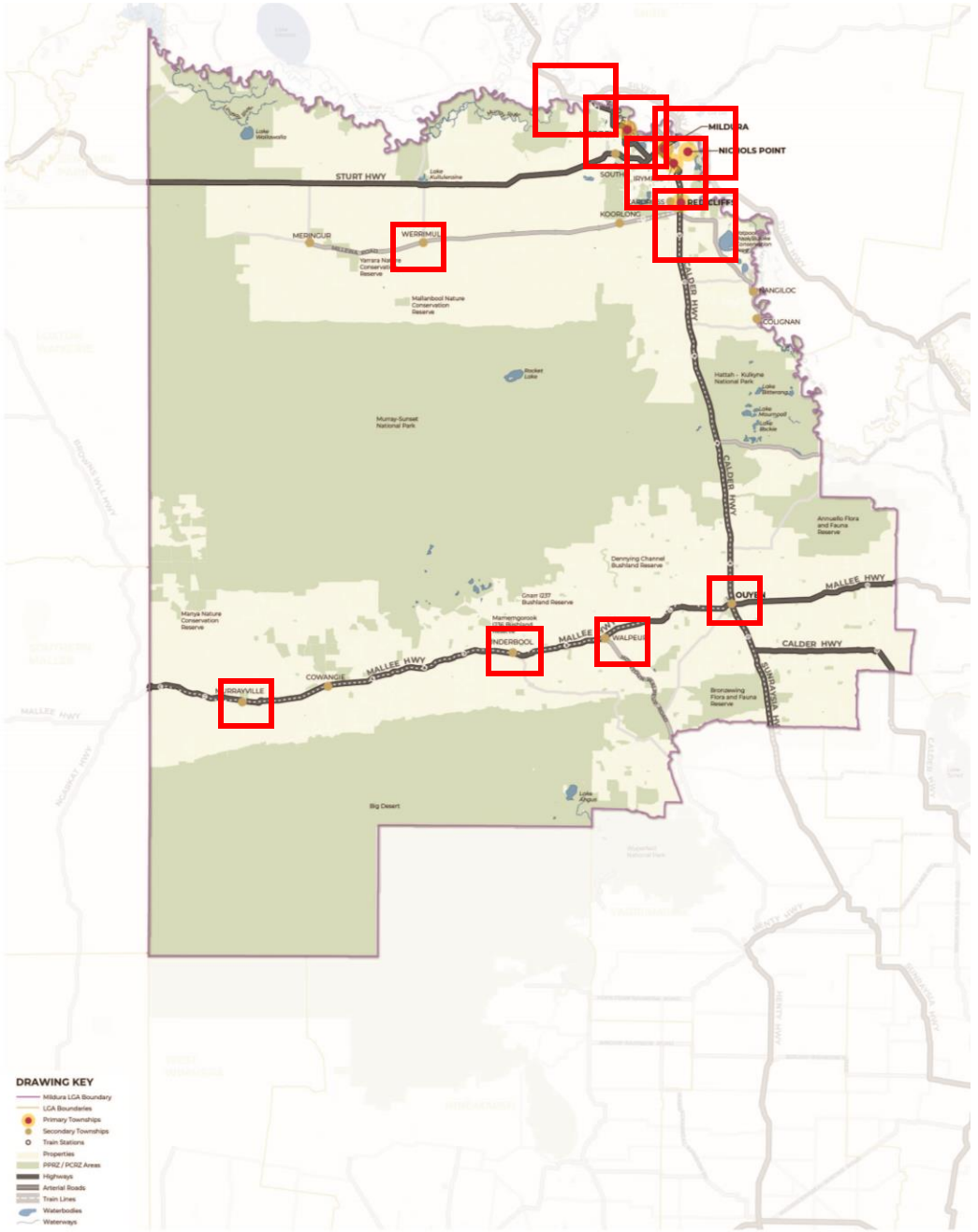
2 Thermal Data

Details of capture

- The areas captures are identified via a red square on the plan on this screen.
- Friday 2nd December (Temp approx. **30°C**)
- Saturday 3rd (Temp approx. **33 ° C**)
- Sunday 4th of December 2022 (Temp approx. **36 ° C**)
- Captured Merbein, Mildura, Nichols Point, Irymple & Red Cliffs on the Friday under clear skies.
- Captured Ouyen, Walpeup, Murrayville and Werrimull on the Saturday but there was some slow-moving mid-level cloud coverage.
- Re-captured most areas again on Sunday under warmer conditions.

Overall general findings

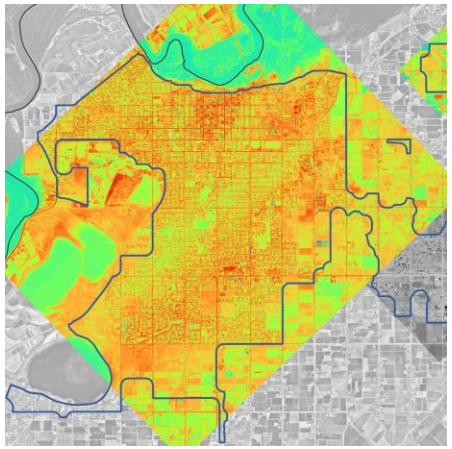
- Mildura CBD is surrounded by heat sinks to the north and south-west with considerably lower temperatures.
- Parks and open spaces appear to have a medium temperature average.
- The majority of streets have been captured with elevated temperatures.
- There are a clusters of streets and precincts that have shown extreme temperatures. Specifically, more built-up development along Eighth St, Ninth St, Tenth St and Eleventh St, industrial areas along Benetook St and Mildura Central.



Thermal Data

Coolest — Hottest

Mildura CBD

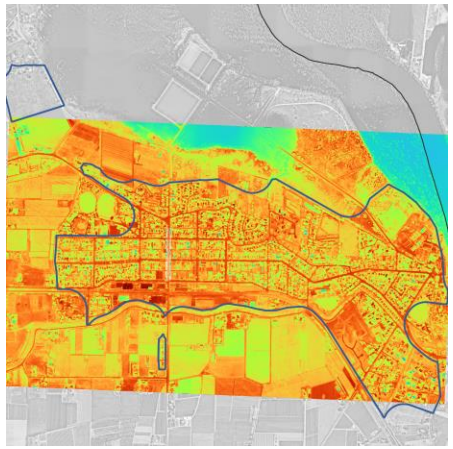


Min = 7°C, Max = 66°C, Average = 42°C

Observations:

Clusters of extreme temperatures along the east wing of the urban boundary. Heat sinks to the north and south-west with considerably lower temperatures. Parks and open spaces have shown medium temperatures.

Merbein

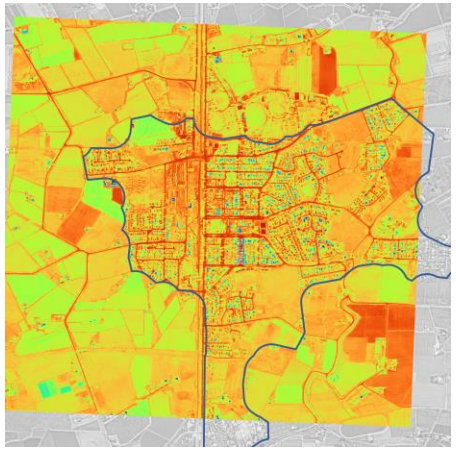


Min = 9.7°C, Max = 65°C, Average = 46°C

Observations:

Heat sink to the north of Merbein with a majority of land within the urban boundary shown as extreme temperatures.
Parks and open spaces have shown medium temperatures.

Red Cliffs

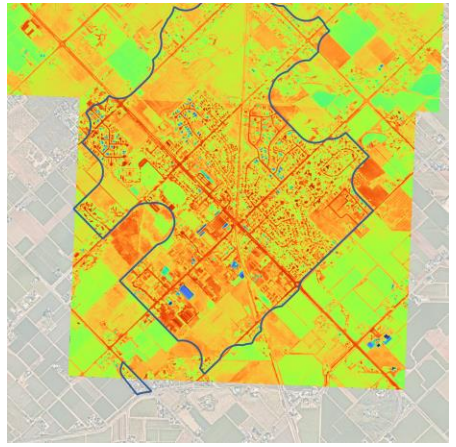


Min = 8°C, Max = 60°C, Average = 41°C

Observations:

Extreme temperatures along streets, especially in the centre of Red cliffs. Directly south to these streets there appears to be cooler streets near Kiewa Avenue and Jamieson Avenue. A range of medium – extreme heat temperatures for areas of farmland.

Irymple

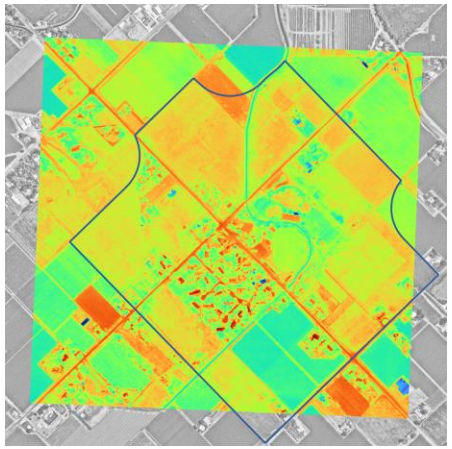


Min = 10°C, Max = 60°C, Average = 41°C

Observations:

Calder Hwy shown extreme temperatures, as well as surrounded streets. Most area within the urban boundary are shown as medium-extreme temperatures. Cluster of parks have shown medium temperature.

Nichols Point



Min = 17°C, Max = 63°C, Average = 42°C

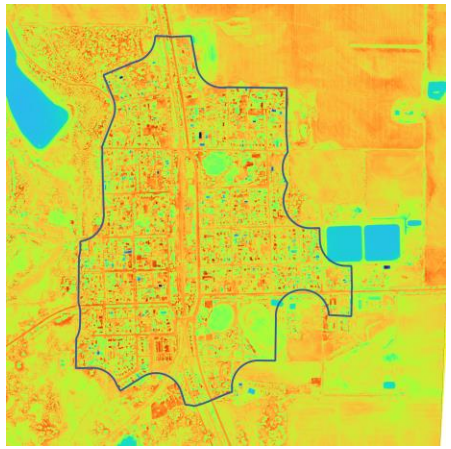
Observations:

Minimal areas of extreme temperatures, only observed along Fifth St near Koorlong Avenue.
Large sportsfield along Fifth St and farmland near Irymple Ave have shown cooler temperatures. Large areas of grazing/ undeveloped land have shown low-medium temperature.

Thermal Data

Coolest — Hottest

Ouyen

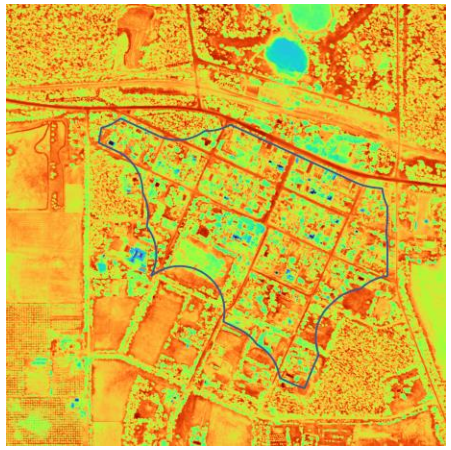


Min = 16°C, Max = 61°C, Average = 43°C

Observations:

Minimal areas of extreme temperature. Large areas of open space and water bodies displaying lower temperatures.

Murrayville

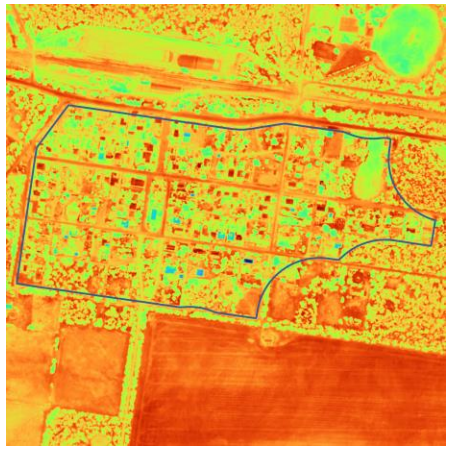


Min = 22°C, Max = 59°C, Average = 47°C

Observations:

Minimal areas of extreme temperature. Conservation Reserve to the north of the town includes pockets of cooler temperatures.

Underbool

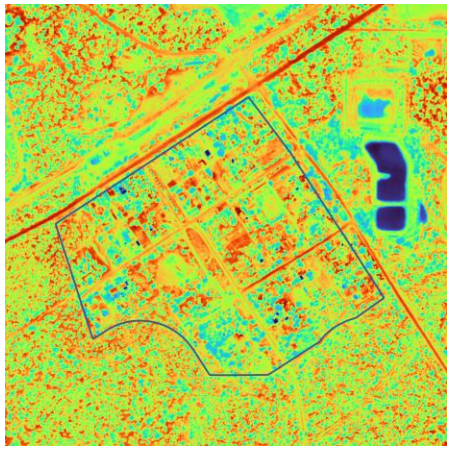


Min = 18°C, Max = 63°C, Average = 48°C

Observations:

Large cleared agricultural parcel to the south of the town with hotter temperatures. Locations within the town generally cooler, particularly around open space and the recreation reserve.

Walpeup

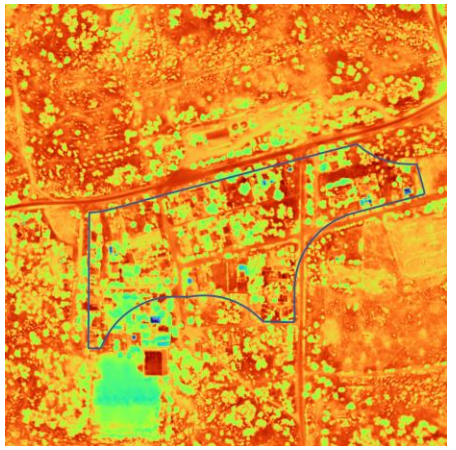


Min = 29°C, Max = 59°C, Average = 46°C

Observations:

Minimal areas of extreme temperature. Walpeup includes large areas of irrigated land which is likely reason for cooler temperatures. Some pockets of medium temperature through residential streets.

Werrimull



Min = 21°C, Max = 61°C, Average = 50°C

Observations:

Generally warmer temperatures across this township. Limited tree canopy cover within the town with surrounding parcels generally cleared for agricultural purposes.

3

Community Engagement

Community engagement is an important part of developing the Urban Forest Strategy, the information gathered from engagement has informed the emerging principles. This section outlines what activities have taken place so far, as well as key findings.

Community Consultation Approach

There are three rounds of Community Consultation, which will inform different stages of project development.

Engagement Process

Three phases of online community consultation are proposed:

Stage 1 – Information gathering - *Complete*

- Introduce the project to the community, encourage participation and understand initial issues and opportunities for Mildura's urban forest

Stage 2 – Visioning – *March 2023*

- Gathering community feedback on the draft principles, vision and directions that form the basis of the Urban Forest Strategy

Stage 2 – Draft Strategy Review – *August 2023*

- The community will review the draft Urban Forest Strategy and provide feedback that will shape the final document

Round 1 Community Consultation

Engagement Process and Activities

Advertising

Social media posts via the Mildura City Council Facebook Page

Poster

Direct email notification to key stakeholders

Notification in Council's official newsletter

Online Survey

14 November – 15 December 2022

76 responses received

86% completion rate
(some people skipped Q8 re: other tree concerns)

Greening Mildura Workshop

1 December 2022

Greening Mildura workshop held in lieu of community engagement workshop

Round 1 Community Consultation

Key Findings

Key themes emerged from the first round of community consultation, which have informed the guiding principles of the Urban Forest Strategy.

Preferred locations on hot days

- Parks and riverfront
- Shaded areas walking, cycling, and driving routes
- Multi-purpose spaces for picnics, play areas, and walking routes

Key community concerns

- Trees cause property damage
- Non-native species require additional maintenance
- Watering and pruning practice needs improvement
- Community raised concerns in regards to timeliness of Council maintenance. Some community members do not want to be responsive for maintenance
- New developments areas do not have enough trees

Community involvement

- Many residents would like to participate in decision making
- Community planting days were suggested as a good way to get people involved
- Knowledge sharing can raise awareness of tree benefits and care strategies
- Many residents think that commercial and development industries should be required to support tree coverage targets

Public realm improvements

- The community expressed that more urban greenery in the CBD is needed
- Interest in more outdoor social gathering spaces with heat protection and urban cooling

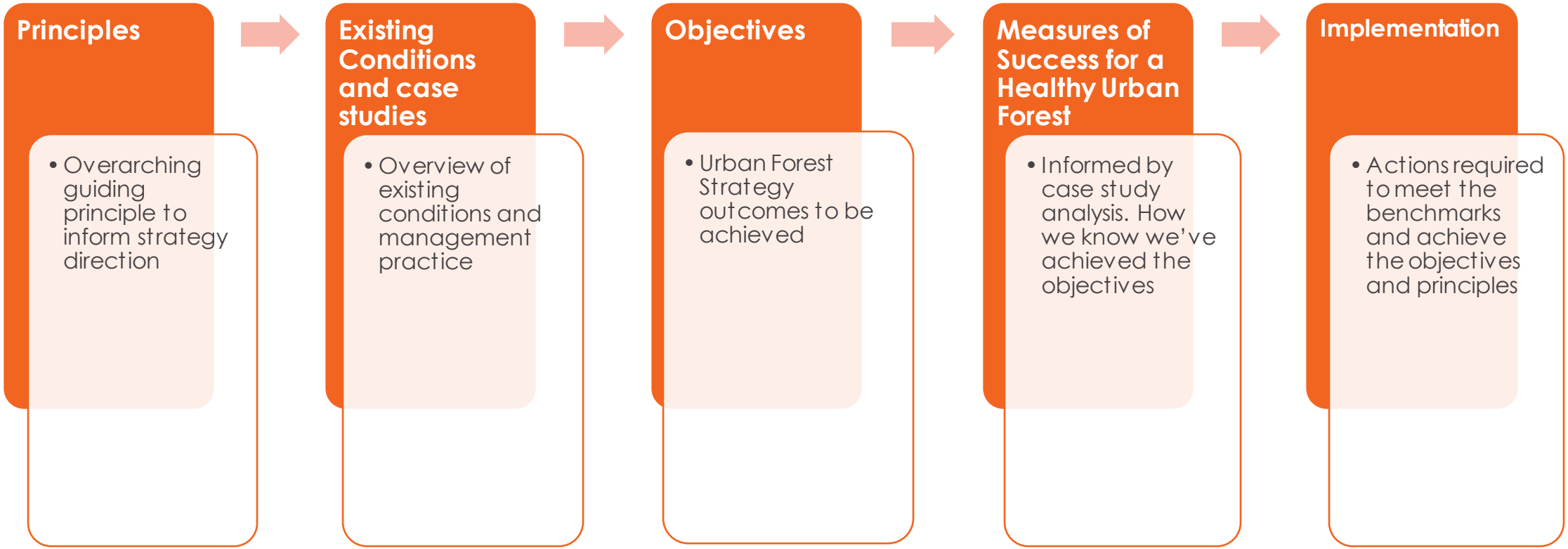
4

Draft Strategy Structure

This section outlines the emerging principles and objectives that will inform the Urban Forest Strategy. While these are not yet finalised, they will provide a basis for discussion in your Stakeholder Workshop.

Urban Forest Strategy Structure

These components will provide the structural basis for the Urban Forest Strategy.



Draft Principles and Objectives

Emerging principles and objectives: for discussion purposes in your workshop

The Strategy will have a range of overarching principles, which each contain the objectives and key actions required to enhance Mildura's urban forest.

GREENING AT THE FOREFRONT OF DECISIONS

Objective 1.1 – Use integrated and policy methods to support urban greening initiatives

Objective 1.2– Use of planning controls to support gains in net canopy coverage

ADAPTIVE PLANTING STRATEGY

Objective 2.1 – Incorporate innovative infrastructure solutions to reduce maintenance requirements

Objective 2.2 – Improve tree species selection

Objective 2.2 – Implement place based sustainable water management practice

LIVEABILITY AND COMMUNITY WELLBEING

Objective 3.1 – Strive for equitable greening outcomes across all townships and communities

COMMUNITY PARTNERSHIPS

Objective 4.1 – Increase community participation in decision making

Objective 4.2 – Ensure equitable distribution of urban forest services

A THRIVING LOCAL ECONOMY

Objective 5.1 – Increase green amenity in commercial areas for an enhanced pedestrian environment

A HEALTHY ECOSYSTEM

Objective 6.1 – Improve and support local environmental services

Objective 6.2 – Increase prevalence of local biodiversity by planting tree species that support wildlife

Measures of Success

**The contributors to a healthy urban forest:
for discussion purposes in your workshop**

Based on our background review and data analysis, we have determined potential measures for a thriving urban forest.

TREES

Number of trees:
- Increased ULE
- Amount of native or exotic
- Appropriate species diversity

Increased tree canopy coverage

Reduction of vacant tree sites

LOCATION

Equitable and appropriate distribution across municipality

Tree survival conditions - light, soil, water etc.

COMMUNITY

Active community participation

Increased public private partnerships

Transparent maintenance practice

Decrease in tree vandalism

RESOURCING

Innovative maintenance practice and process

Appropriate funding

Staff knowledge and expertise (incl. training opportunities)

WSUD an passive irrigation

DESIGN

Verge size

Median size

Footpath coverage

Green street typologies

Increased revenue at local business outlets

BIODIVERSITY

Increased habitat connectivity

Balanced wildlife population

Some measures are qualitative and some are quantitative.

5

Workshop Preparation

To prepare for your workshop, please consider the questions on the next slide, which will form the basis of our discussion.

Preparing for Stakeholder Workshop

Questions to consider

Question 1 – Challenges and Opportunities

- What do you think are the key challenges and opportunities associated with an urban forest in Mildura?

Question 2 – Draft Principles and Objectives

- Do you agree or disagree with the draft principles and objectives proposed?
- Is there anything we have missed?

Question 3 – Measuring Success

- What does a successful urban forest look like to you? Do you agree with the emerging measures proposed on Slide 26?

Question 4 – Key Actions

- In your opinion, what are some necessary actions required to achieve our measures?
- What is feasible? Why?

Thank you.

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Level 2, 299 Clarendon Street, South Melbourne, VIC 3205
phone. +61 3 9070 1166 meshplanning.com.au