

MAITLAND PARK TRANSPORT HUB CONCEPT MASTERPLAN REPORT

UDLA

 **Stantec**

JDSi
CONSULTING ENGINEERS

ETC
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QUANTITY SURVEYORS

TABLE 1 EDITION DETAILS

MAITLAND PARK	
Title	Master Plan Report
Production Date	14th July 2023
Prepared By	UDLA
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Status	DRAFT
UDLA Project Code	GERMAI

TABLE 2 DOCUMENT REGISTER

DOCUMENT REGISTER			
Version	Date	Amendments	Prepared By
A	17/08/23	Draft	JJB
B	22/08/23	Final	JJB

Prepared for: City of Greater Geraldton



Prepared by: UDLA

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INTRODUCTION

UDLA is a leading Western Australian multidisciplinary design studio delivering landscape-led projects that are grounded in real places and people. Our collaborative, ideas-driven processes result in the design of culturally-inclusive places that make positive and lasting contributions to their settings.

Real places, real people.

Our work is always grounded in real places and people. Whatever the project, we respond to each site's contexts with cultural-inclusivity and respect.

Collaborative.

We champion working with clients, knowledge holders, community members and other consultants in reciprocal ways to ensure key design choices make the most of the opportunities at hand.

Positive outcomes.

Our ideas-led processes result in the design of places that make positive and lasting contributions.

Unrivalled experience.

Founded in 2006, UDLA has extensive experience working within and across Western Australia. Ideas-driven. We deliver bold ideas with confidence and creativity.

Problem solvers.

Rather than adding to the noise, our work enables good decisions and clear paths forward.

UDLA has been involved in multiple projects with the City of Greater Geraldton (CoGG), such as:

- 'Geraldton City Center Masterplan' - 2017
- 'The Rocks Building and Laneway' - 2018
- 'Spalding Revitalization Project' - 2023
- 'Geraldton Parks Masterplanning' - 2017



FIGURE 1. DESIGN PROCESS - SOURCE: UDLA



We acknowledge the Yamatji Peoples who are the Traditional Owners and First People of the land on which we stand. The Nhanhagardi, Wilunyu, Naaguja. We pay respect to the Elders past, present and future for they hold the memories, the traditions, the culture and hopes of the Yamatji Peoples.



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EXECUTIVE SUMMARY

This executive summary provides an overview of UDLA's design process for the CoGG's Maitland Park.

The CoGG commissioned the development of Maitland Park Masterplan in February 2023 as an extension of previous work on the Maitland Park precinct conducted by UDLA and Stantec prior.

This high-level initial work identified innovation opportunities within Maitland Park. These included proposed facilities such as solar parking, bus shelters and EV car charging stations as well as innovative landscape drainage solutions such as water sensitive urban design (WSUD) and better park connectivity.

UDLA was engaged by The CoGG to expand upon these innovation opportunities and provide informed landscape solutions in response to a growing population, traffic congestion and a number of other issues within and around Maitland Park.

Identified from input by key stakeholders, consultants and the CoGG these issues and concerns arise predominantly from the Parks proximity to local schools. This along with busy surrounding streets and under-performing public realm foster an unsafe and underutilized precinct.

Literature reviews of previous strategies and reports informed the inception of the Masterplan design development. These documents included broader Geraldton strategies as well as more localised work within Maitland Park.

In collaboration with external civil and electrical consultants the Masterplanning process involved facilitating three community engagement workshops alongside the CoGG.

The initial two sessions allowed the key stakeholders of Maitland Park to agree and provide input on the key principles and design objectives provided. These Principles were as follows:

1. Safe Connected City
2. Inclusive Community
3. Urban Forest Greening

1 - Safe connected City

This was the primary principle within the stakeholder group, the safety of students being first and foremost priority. Broader pedestrian connection, and promoting active and public transport were encouraged. Other objectives such as parking and separating cars, buses and pedestrians were also important to the stakeholders.

2 - Inclusive Community

Inclusive Community highlights the key stakeholders values for creating a higher quality POS that provides more facilities to a broader Geraldton community as well as the local students.

3 - Urban Forest Greening

In addition to expanding on prior community work on botanic garden concepts around Maitland Park there was strong support for the objectives of increased native urban greening and tree planting.

These supported principles functioned as a guide for the development of this Masterplan which endeavors to create a holistically integrated landscape solution that celebrates an entry into the Geraldton CBD.

Key Moves

The Masterplan has a number of key moves that responded to the principles.

Key Move One:

Providing a separate solar linear bus port within Maitland Park that encouraged safer, more separated public transport, formalised pedestrian crossings, smart lighting/CCTV, kiss and drop and solar parking.

Key Move Two:
Proposing Maitland Park primarily as an outdoor learning precinct that caters to not only students, parents and teachers but the broader community.

Key Move Three:
Proposing a 'mid-west arboretum' design to show-case and celebrates the unique tree species of the region.

These key moves and Masterplan were generally supported when shared with the broader community (see appendix C). Further detailed design development is required if these visions are to be realised.



FIGURE 2. IMAGE FROM SITE - SOURCE: UDLA

1.0 SITE CONTEXT



LOCATION

GERALDTON

Situated in Western Australia's Midwest coast, Geraldton lies within a coastal dune system.

The mid-west is located in a biodiversity hotspot, meaning its endemic plants and animals are under threat. It experiences a Mediterranean climate.

Geraldton is a regional city with a diverse population of 32,000 people. It is the third most populous city in Western Australia.

Not only home to locals, the city is also used as a tourist hub for people exploring the Midwest region.



FIGURE 3. GERALDTON WA CONTEXT PLAN

LOCATION

MAITLAND PARK

Maitland Park is the green heart of Geraldton City Centre. It's function and use are primarily influenced by its close proximity to five major schools, the precinct forming a green connection between them. The demand on Maitland Park is expected to increase into the future with the population growth of Geraldton.

Identified as a District Park in the 'City of Greater Geraldton Public Open Space Strategy', Maitland Park is a large public open space (POS) that is highly valued by the community for its:

- Existing established trees
- Unique undulating turf space and amenities
- Parking opportunities for the surrounding schools
- Positioning on Cathedral Avenue as an 'Entry Statement' into town



FIGURE 4. MAITLAND PARK CONTEXT PLAN

EXISTING STRATEGIES

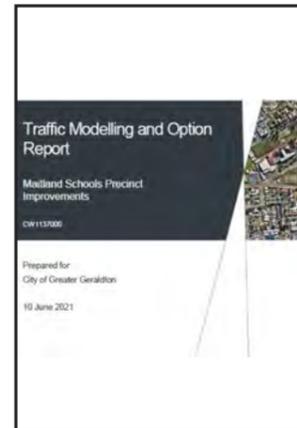
There are a number of existing strategies that guide the design development of Maitland Park, These include:

Public Open Space Strategy - CoGG



- Defined Maitland Park as a District Open Space, these are intended to facilitate organized formal sports and implement both biodiversity principles and reach Geraldton environmental management goals.

Traffic Modeling and Option Report - Stantec



- Identified three solutions to congestion, informal parking and limited car/bus parking and drop off options. These solutions were a proposed transport hub, road re-alignment and new roundabout.

Park Master Planning Project - UDLA



- Produced high-level concept designs that responded to park hierarchy identified in the 'Public Open Space Strategy'. A proposed district park design was proposed for Maitland Park.

Cycle Strategy - CoGG



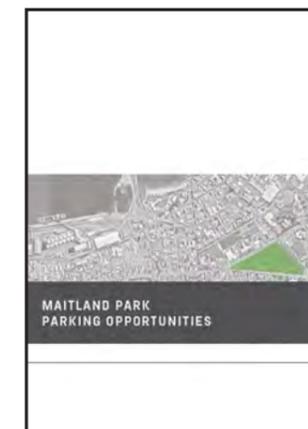
- A safe, direct, comfortable and integrated cycling network strategy for future Geraldton. This strategy identifies a secondary and local route that pass through the site.

Geraldton Botanical Gardens - Realm / Vigilante



- An initiative lead by Friends of Geraldton Gardens Inc (FroGGs). Proposed the creation of botanic gardens in Maitland Park as a means to promote economic, community and environmental values.

Maitland Park Parking Opportunities - UDLA



- A report that expanded on the interventions proposed in the Stantec 'Traffic modeling and Option Report'. Proposing innovative options for Maitland Park. Including solar sheltered bus and car parking, EV charging and WSUD planting design.

Integrated Transport Strategy - CoGG



- Promote non-car transport modes through infrastructure that provide accessible and safe paths for all users.

Geraldton Regional Botanic Garden - FROGGs



- Was a community lead native botanical design that identified Maitland Park as an Entry statement to The City. This move also intended to create a sense of place by preserve the significance of local flora.

2.0 SITE ANALYSIS



PROXIMITY TO SCHOOLS

Maitland Park is uniquely located centrally between five schools. This close proximity means that the precinct is potentially utilised by approximately 2900 students, on a daily basis.

The five schools cater to both secondary and primary school students and include:

- Geraldton Primary School - 395 Students
- Nagle Catholic College - 1150 Students
- St. Francis Xavier Primary School - 379 Students
- Geraldton Senior High School - 925 Students
- Holland Street School - 63 Students

LEGEND

-  Primary Age Students
-  Primary and Secondary Age Students
-  Secondary Age Students

Key observations / recommendations:

- The POS should cater to a wide demographic of students
- It is a highly trafficked precinct by students

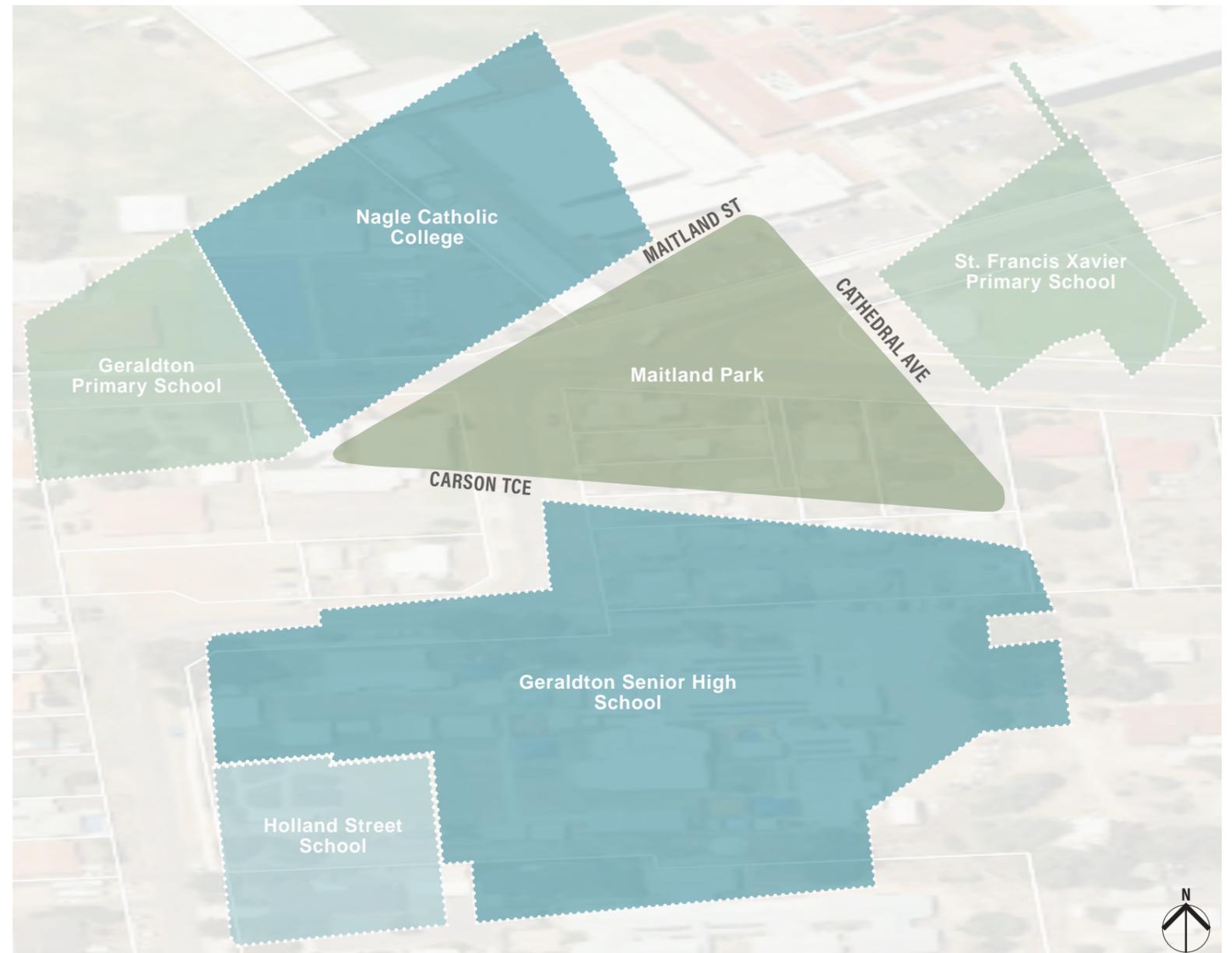


FIGURE 5. SURROUNDING SCHOOLS DIAGRAM

EXISTING VEHICULAR CIRCULATION AND PARKING

To facilitate arrival and departure from the surrounding schools current traffic movement must cater to bus/car pickup-dropoff, active transport and school parking. This busy traffic creates a hazardous environment for students, parents and staff to journey through each day.

Although there are designated on street parking and pickup/dropoff spaces, conflicts between cars and buses still occur during these peak times. There are also limited car park options within the precinct. Based on analysis of satellite imagery from 2020-2022, there are up to 53 cars parked informally in Maitland Park and up to 13 at the Croquet Club. It is understood after talking to the principles of the surrounding schools that students are the biggest users of Maitland Park for parking.

LEGEND

-  Four Lane Street
-  Two Lane Street
-  Informal Croquet Club Parking
-  Informal Maitland Park Parking (By Students)
-  Street Parking (56 Bays)
-  Bus Dropoff / Pickup Bays (Approximately 20 Bays)

Key observations / recommendations:

- There is major traffic congestion and limited parking and pickup-dropoff spaces during peak school times.

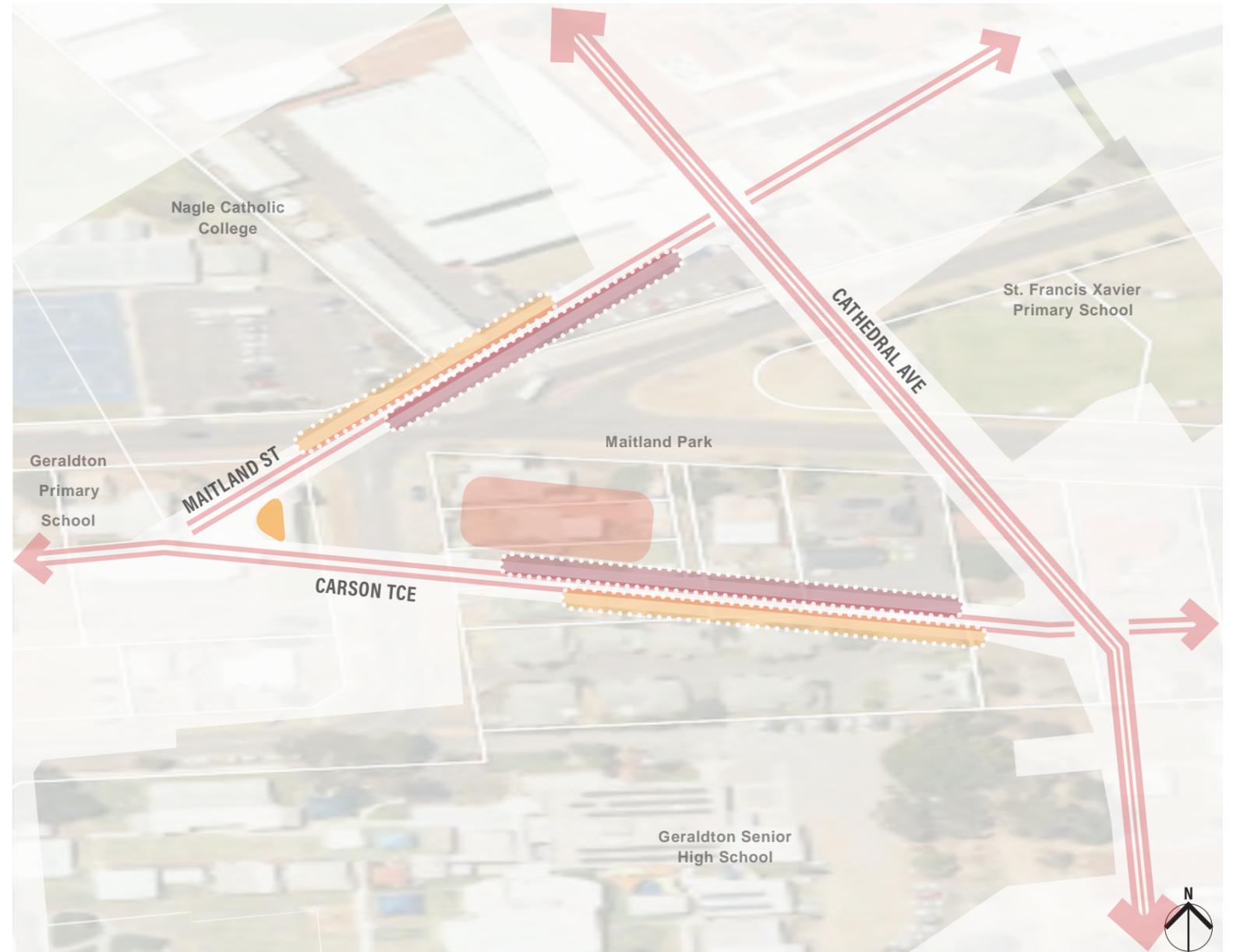


FIGURE 6. VEHICULAR CIRCULATION AND PARKING DIAGRAM

EXISTING PEDESTRIAN CIRCULATION AND CROSSINGS

Existing at the core of this busy school traffic precinct. Maitland Park has poor internal pedestrian circulation and connection to both the surrounding school entries and exits as well as the broader Geraldton path networks.

Poor existing circulation within Maitland Park sees students and pedestrians unsafely crossing car, bus and parking lanes. The current speed limit surrounding the park is 60km/hour. Maitland Street and Carson Terrace are the main areas of pedestrian crossing. There are areas of concern at points of crossing, including terminating internal pathways and informal crossing between parked cars, additionally these existing crossings also don't line-up with school entry/exits.

LEGEND

-  Connected External Paths
-  Terminating Internal Paths
-  Pedestrian Crossing
-  School Entries

Key observations / recommendations:

- There are major pedestrian connectivity and crossing safety concerns

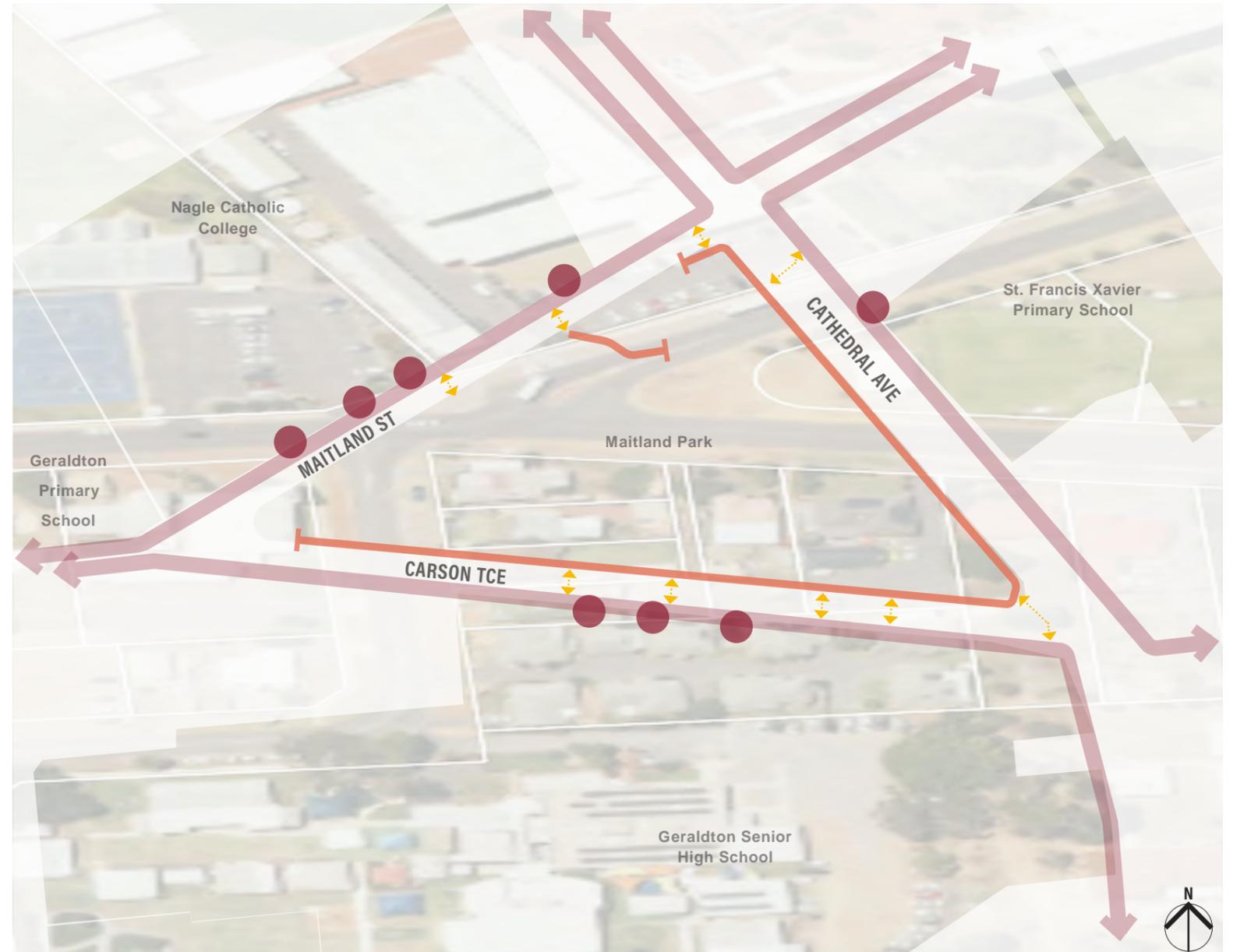


FIGURE 7. PEDESTRIAN CIRCULATION DIAGRAM

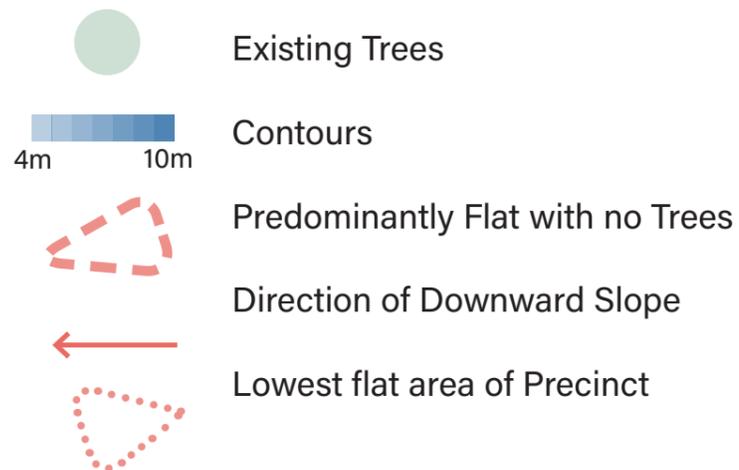
EXISTING TREES AND LEVEL CHANGES

The interesting level changes and mature existing native trees are Maitland Parks defining characteristics. Both of which occur to the eastern aspect of the precinct.

These mature and diverse existing trees provide a variety of amenity and benefits to the precinct such as:

- Promoting Biodiversity
- Providing Shade and Cooling
- Reducing the 'Urban Heat Island Effect'
- Visual Amenity

LEGEND



Key observations / recommendations:

- Heavy earthworks should be minimised and areas of existing trees and greater level change should be avoided.

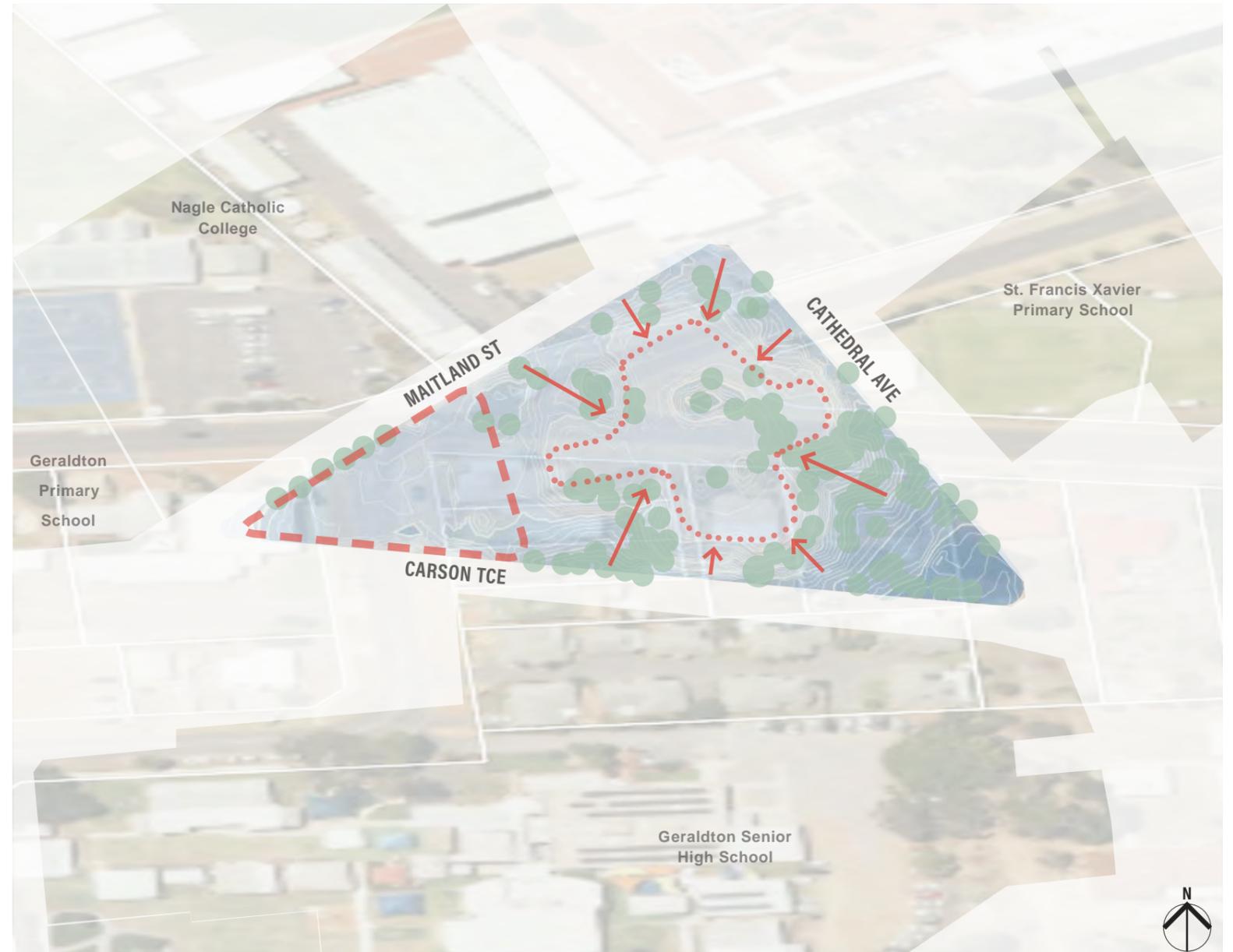


FIGURE 8. EXISTING TREES AND LEVELS DIAGRAM

EXISTING PARK FEATURES

There are limited existing features and amenities at the park, key features include a small skatepark, toilet block, playground and the Croquet Club.

As well as these features there are a number of amenities located around the playground including picnic benches, BBQ facilities.

By expanding and diversifying the range of amenity Maitland Park can better serve a broader cross-section of the community.

LEGEND

-  Croquet Club
-  Picnic Table
-  BBQ
-  Toilet Block
-  Playground Area
-  Skate Area
-  Existing Water Tanks

Key observations / recommendations:

- Existing features and amenities can be diversified and better co-located within the precinct



FIGURE 9. PEDESTRIAN CIRCULATION DIAGRAM

EXISTING PARK CONDITION PHOTOS

There are a number of considerations and additional opportunities for improvement around Maitland Park, some examples of the existing conditions are:



TERMINATING INTERNAL PATHWAY



LEVEL CHANGES CARSON TERRACE



NO UNIVERSAL ACCESS



SUPERFLUOUS FOOTPATHS



INFORMAL PARKING



LACK OF BIODIVERSITY



GARDEN BEDS NOT REACHING POTENTIAL

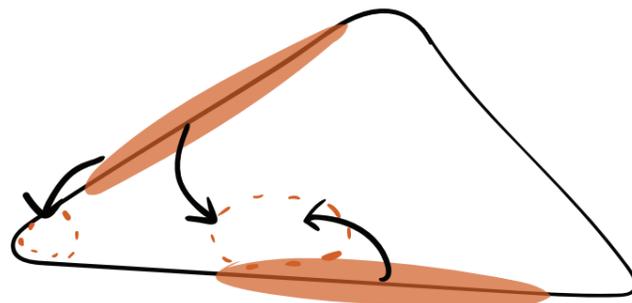


EXISTING MATURE TREES

MAITLAND PARK KEY CONNECTION AND SAFETY CONSIDERATIONS

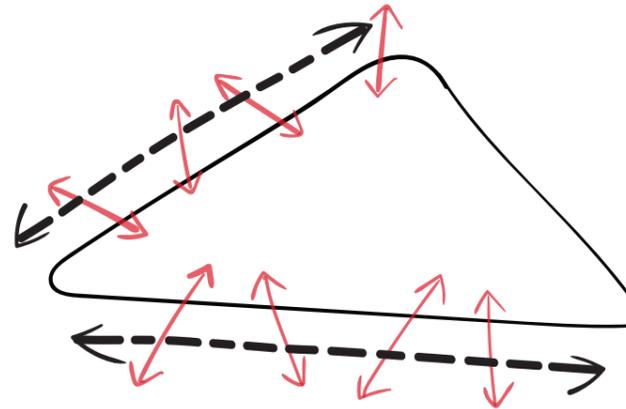
There are three main pedestrian safety and traffic flow issues at play. These include:

Lack of Parking



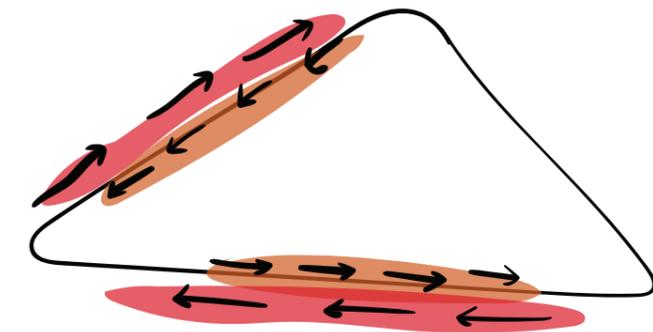
- 27 parking bays on Maitland Street, 29 parking bays on Carson Terrace
- Informal parking within the park as a means of overflow, as seen in dotted areas in diagram

Pedestrian Connectivity and Safety



- Pedestrians cross bus bays, two lanes of traffic and car parking bays in order to go between schools and Maitland Park

Pick Up & Drop Off



- Approximately 600 bus boardings per day around Maitland Park (PTA)
- Approximately 60,000 bus boardings per year around Maitland Park (PTA)
- 16 Public buses at pickup
- 13 Private buses at pickup
- 11 School Service buses at pickup
- Peak periods of traffic flow around school start and finish times

THE CIRCULATION AND SAFETY CHALLENGE

"The challenge" at Maitland Park arises from its unique location, nestled among five schools, which attracts a considerable amount of pedestrian and traffic at critical peak times.

However, the current park design does not prioritize pedestrian safety or efficient traffic flow. The absence of adequate parking, lack of designated pedestrian crossings, school pick-up and drop-off zones, and issues with traffic speed and congestion all contribute to a hazardous environment.

The edges of the park suffer from congestion due to risky pedestrian and vehicular movement, while the central area has greater opportunity to become an attractive activated landscape precinct.

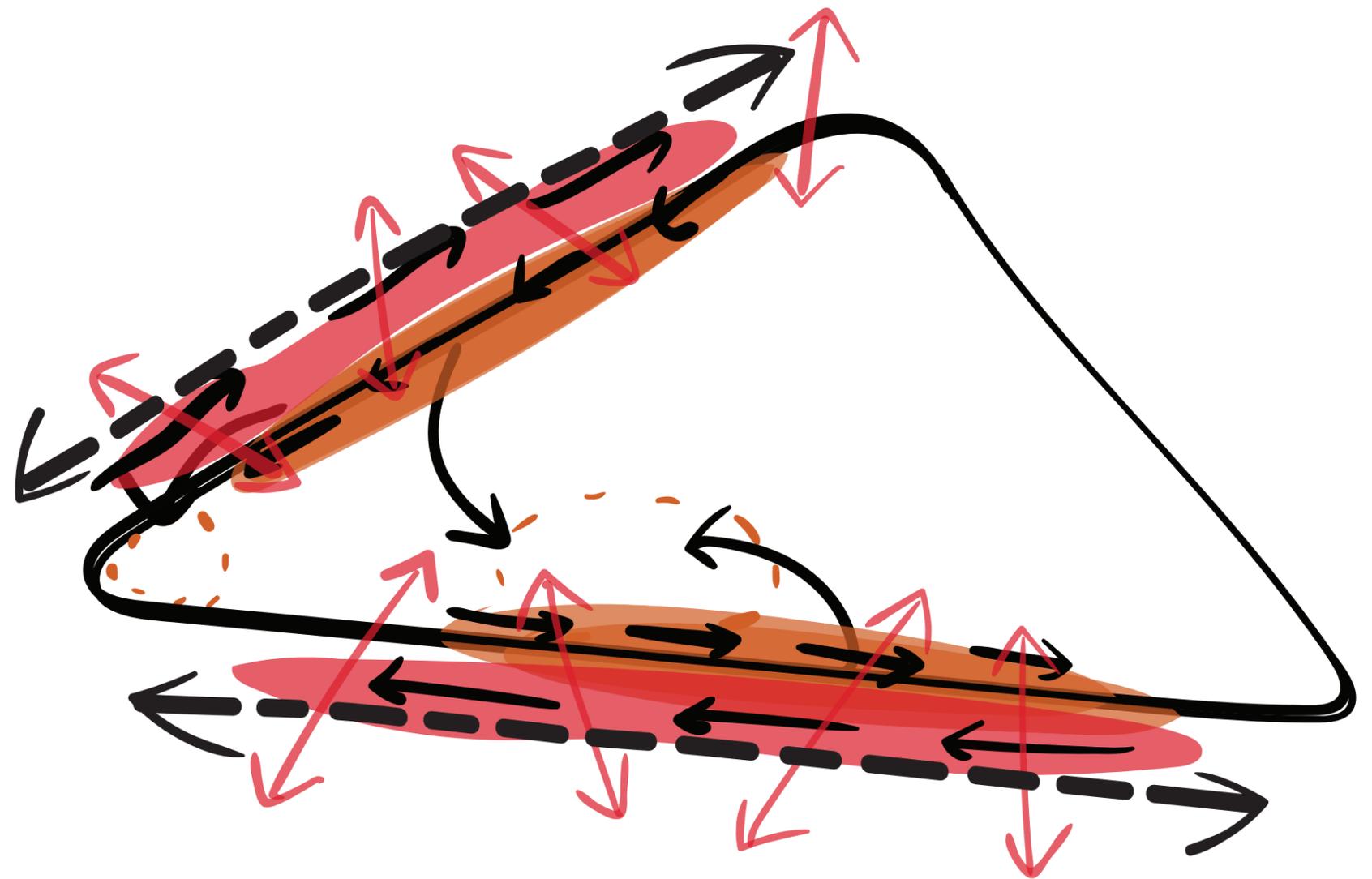
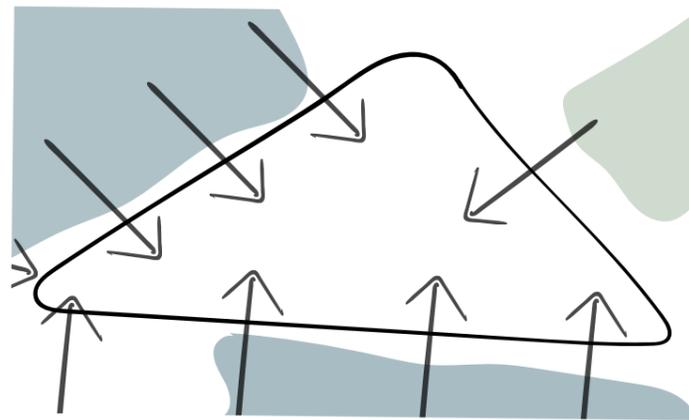


FIGURE 10. MAITLAND PARK CIRCULATION AND SAFETY CHALLENGE

MAITLAND PARK KEY LANDSCAPE CONSIDERATIONS

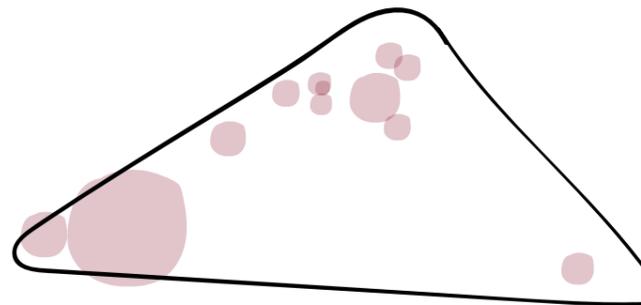
There are three key landscape opportunities and considerations. These include:

School User Types



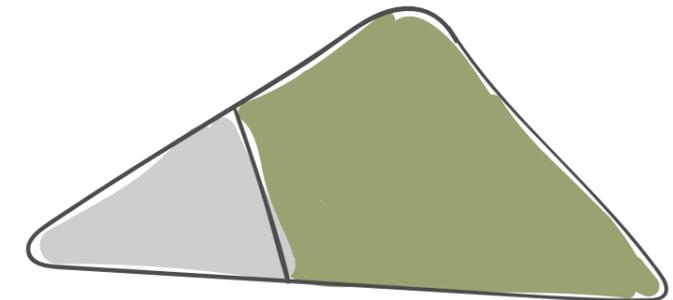
- The POS is a highly trafficked precinct by students from a variety of demographics, the POS should cater to a wider range of students

Limited Facility



- Existing features and amenities can be diversified to appeal to all users of the park and better co-located within the precinct

Heavy vs Light Earthworks



- The western edge of the precinct is identified as the area with the least level change and existing trees
- This limits the extent of earthworks to the eastern side of the site

THE LANDSCAPE OPPORTUNITIES

There are many 'landscape opportunities' that present themselves for Maitland Park. While being a challenge from a traffic perspective, its proximity to the surrounding local schools offers opportunity to create a space that caters to not only this demographic but a broader community.

Diversifying uses whilst retaining the existing trees and promoting a greener multi-use space has innate benefits to the Geraldton community.

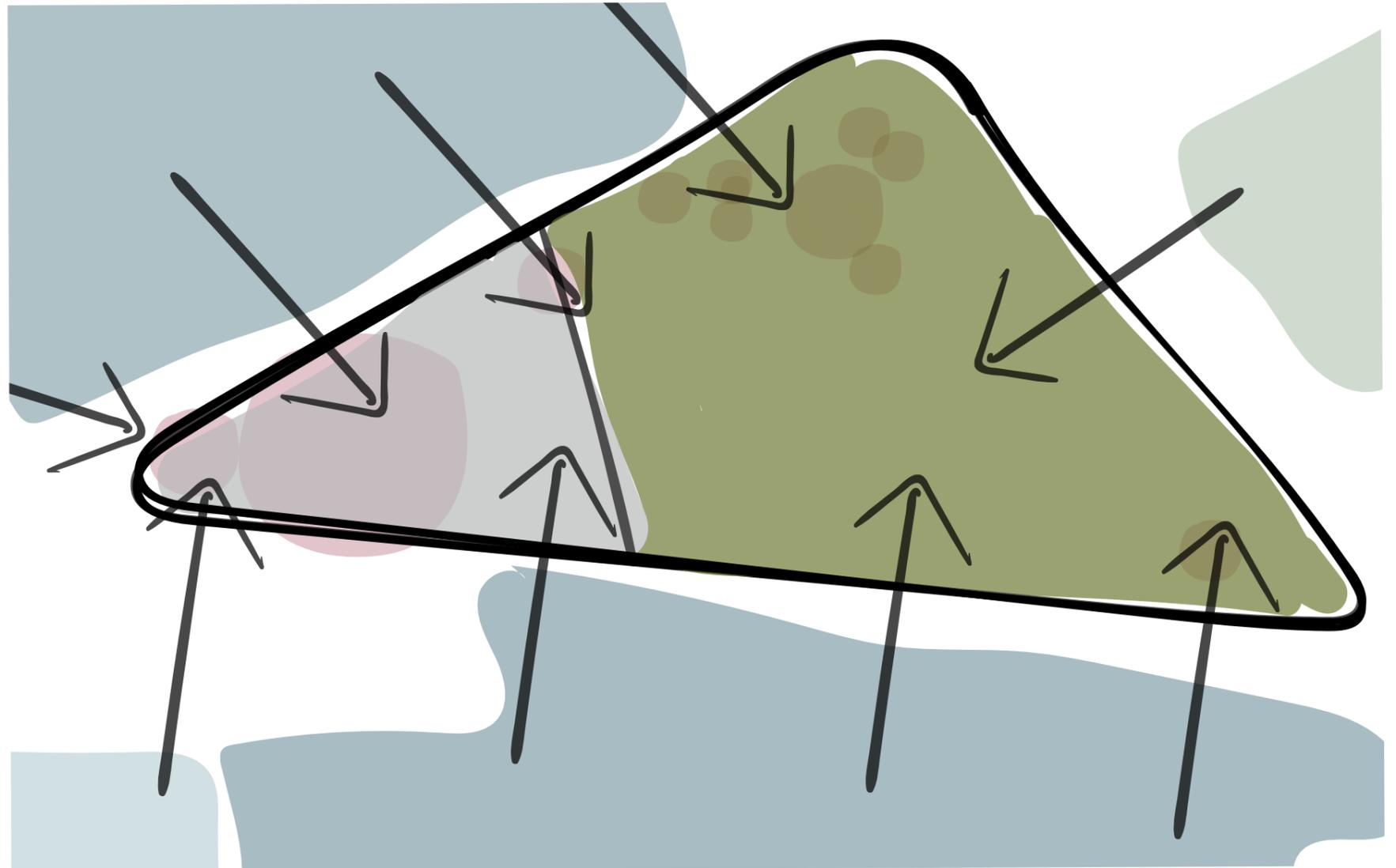


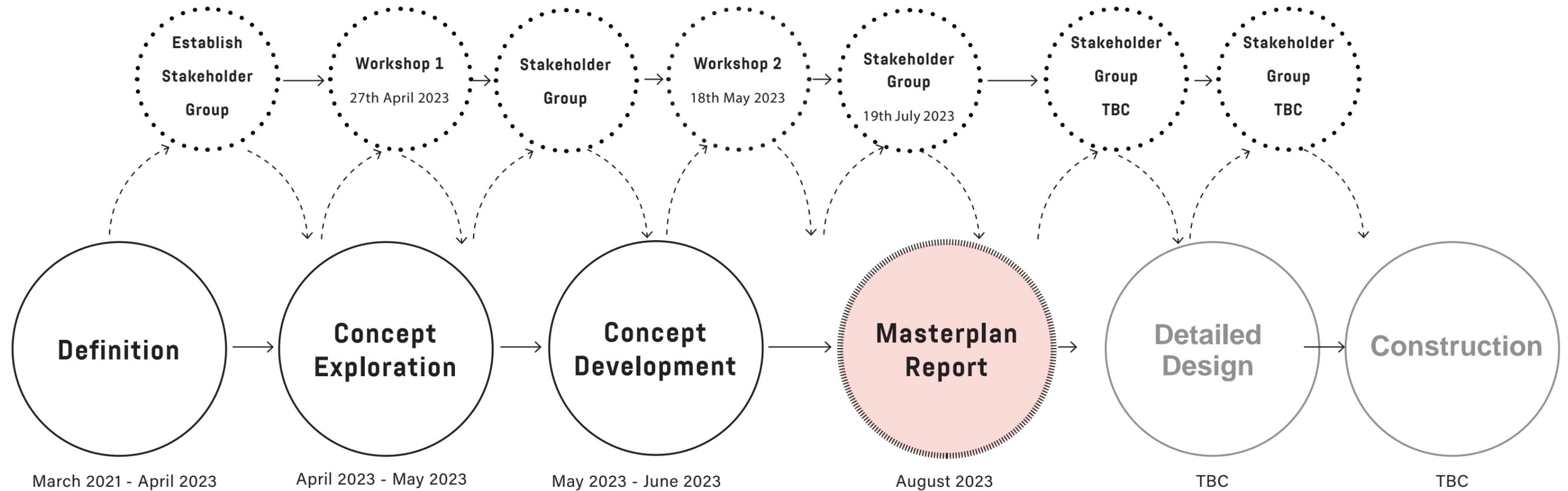
FIGURE 11. MAITLAND PARK LANDSCAPE OPPORTUNITIES DIAGRAM

3.0 PROCESS



THE PROCESS

To ensure that the design intent was reflective of what both the CoGG and the key community stakeholders envisioned, a back and fourth collaborative process was undertaken. This process unfolded as follows:



WORKSHOP ONE AND TWO ATTENDEES

Through a series of community workshops, key stakeholders of Maitland Park were engaged to share their knowledge, understanding and concerns about the precinct.

The group included representatives from:

- Geraldton Primary School
- Nagle Catholic College
- PTA Manager Regional Town Bus Services
- Geraldton Greenough Farmers Market - Chairperson
- Mainroads WA
- FRoGGs Botanic Garden Groups
- Geraldton Croquet Club
- School Bus Logistics Pty Ltd
- Geraldton Anglican Cathedral
- Student Advisory Committee
- Geraldton Cycling Advocacy Group
- Path Transit
- St Francis Xavier Primary School
- Roman Catholic Diocese of Geraldton
- Geraldton Senior High School
- Main Roads Western Australia
- Road Wise
- Department of Education - Coordinator Midwest Road Safety and Drug Education Branch

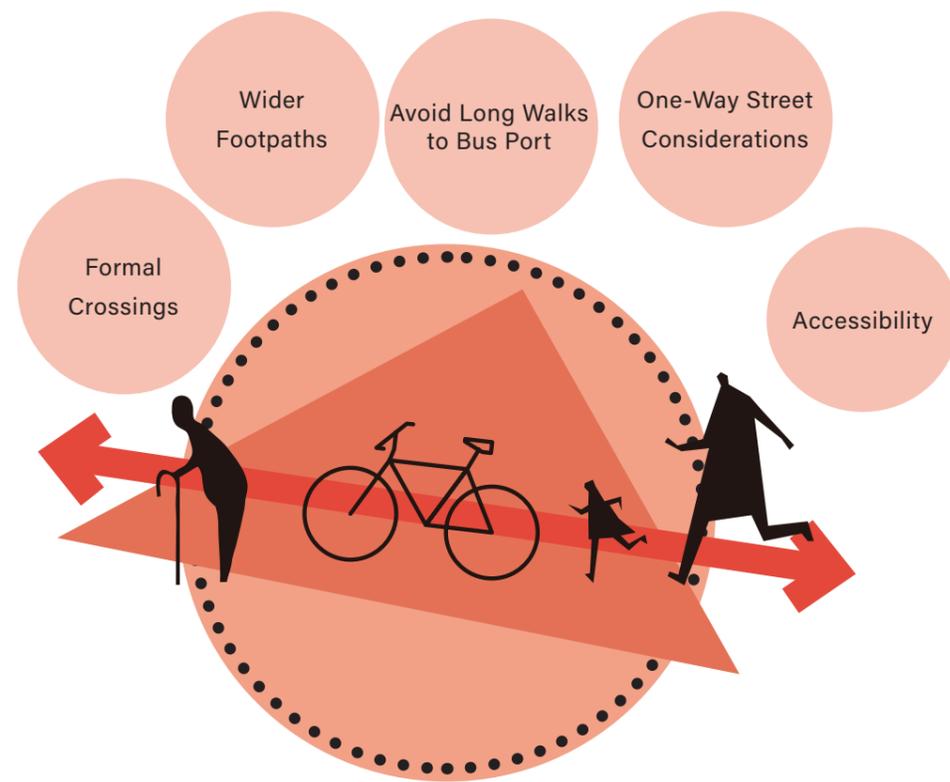


FIGURE 12.

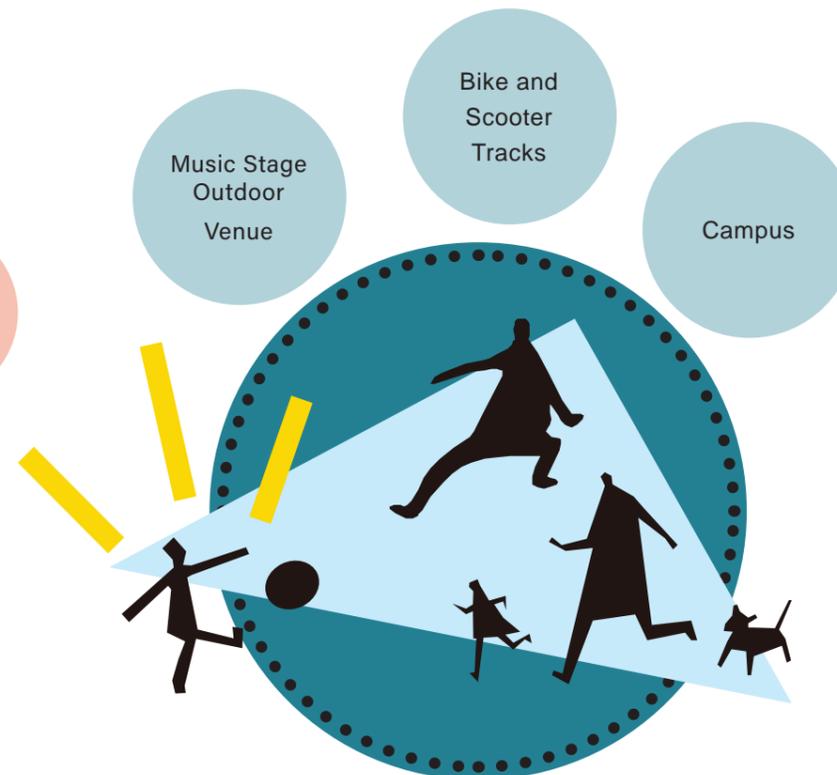
WORKSHOP CONSULTATION IN GERALDTON (UDLA)

DESIGN PRINCIPLES

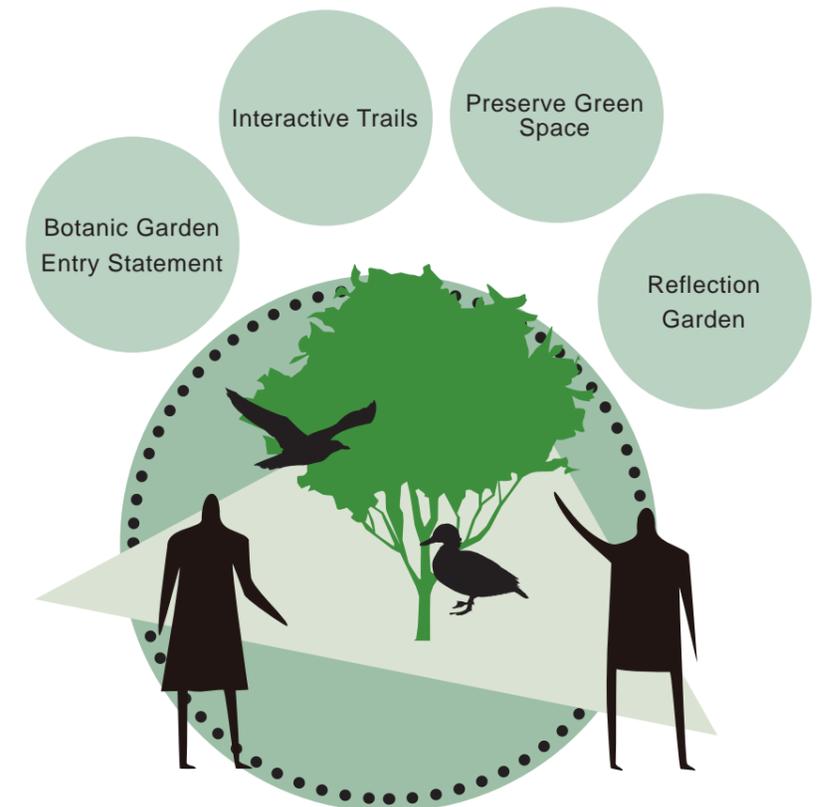
From these workshops, three main design principles and their associated objectives were formulated:



SAFE CONNECTED CITY



INCLUSIVE COMMUNITY



URBAN FOREST GREENING



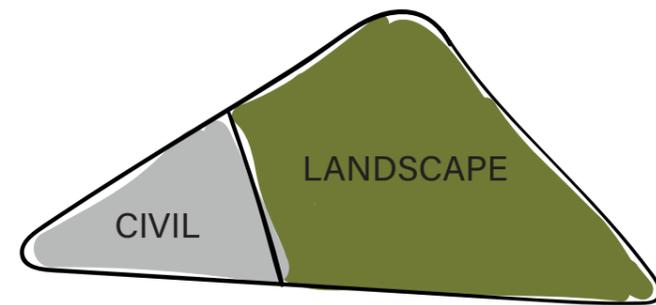
CONSIDERATIONS AND RECOMMENDATIONS SUMMARY

This table aims to simplify the challenges and opportunities identified by key stakeholders and section two of this report (existing considerations). With inputs from both civil and lighting consultants, UDLA recommendations intend to help resolve and implement the diverse community feedback.

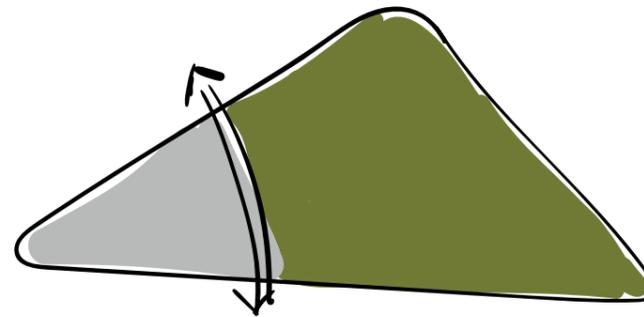
	EXISTING CONSIDERATIONS	RECOMMENDATIONS
SAFE CONNECTED CITY 	<ol style="list-style-type: none"> 1. Pedestrian connectivity and safety. 2. Lack of parking and informal parking. 3. Peak hour congestion and school pickup/drop off conflicts between bus services and cars. 	<ol style="list-style-type: none"> 1. Formalise pedestrian crossings, reduce vehicle speed, widen footpaths improve lighting and retain clear sight lines. 2. Facilitate legal safe parking with a priority for students and prioritise public and active transport 3. Separate school bus and cars pick up/ drop off locations
INCLUSIVE COMMUNITY 	<ol style="list-style-type: none"> 1. Lack of diversity for school user types and demographics. 2. Disjointed and limited existing facility / amenity 	<ol style="list-style-type: none"> 1. New facilities that cater to both students and the broader community 2. Co-locate proposed facilities and amenity
URBAN FOREST GREENING 	<ol style="list-style-type: none"> 1. There are a number of valuable exiting trees and flora within the precinct 2. Large level change across the precinct 	<ol style="list-style-type: none"> 1. Retain the existing trees promote greater diversity and local planting throughout the precinct 2. Maintain heavy earthworks and civil infrastructure to the western side of the precinct where it is relatively flat

STRATEGY

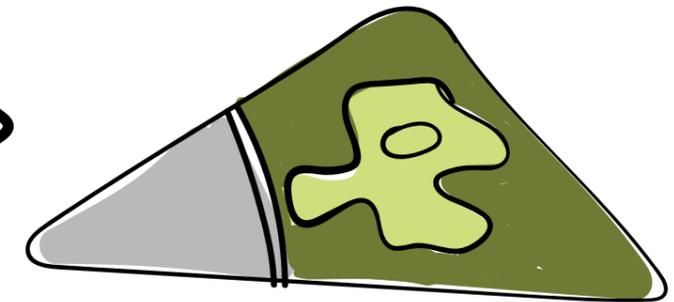
The existing trees and level changes on the site identified in section two determined the strategy behind the design development. Which aims to maintain existing trees and minimize earth works.



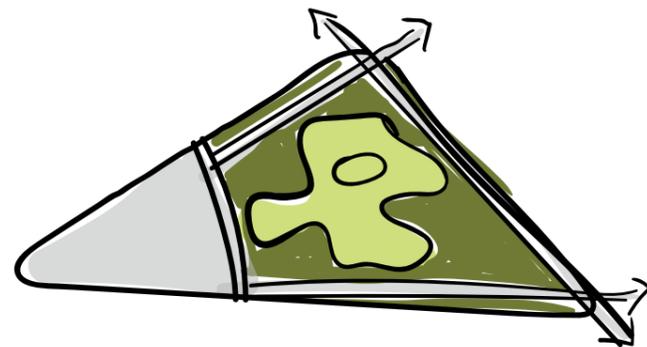
01 - Defining the civil and landscape space. (heavy and light earthworks)



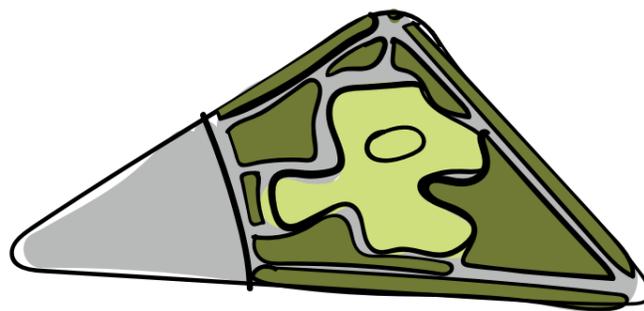
02 - Providing a strong promenade between the two spaces



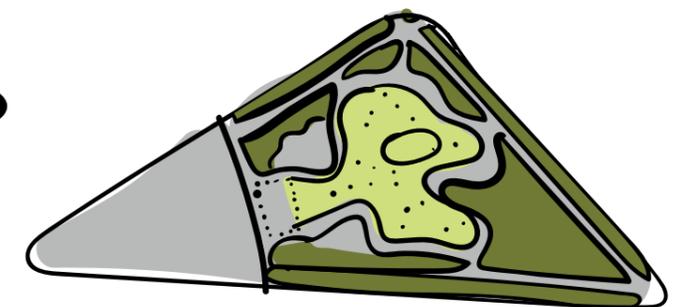
03 - Defining the heart of the POS



04 - Formalising perimeter pedestrian movement



05 - Framing the heart with internal paths



06 - Defining the key Landscape Spaces/ Rooms

4.0 MASTERPLAN



MASTERPLAN

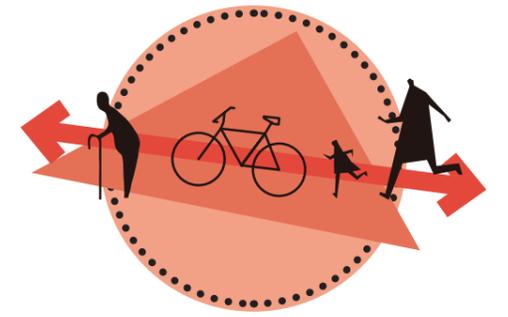
LEGEND

- ① Controlled Pedestrian Crossing
- ② 20km/hour Road with Pick Up/Drop Off
- ③ Busport , Solar Panel Roof
- ④ Student Parking, Solar Panel Roof
- ⑤ Proposed Roundabout
- ⑥ Intersection Re-alignment
- ⑦ Student Hub/Waiting Space
- ⑧ Pedestrian Promenade
- ⑨ Multi-Use Community Pavilion
- ⑩ Youth Plaza
- ⑪ Nature Playground
- ⑫ Outdoor Learning Space
- ⑬ Sculpture and Botanical Trail
- ⑭ Grassed Area & Community Events
-  New Wider Footpaths and Tree Planting
-  Arboretum
-  Existing Tree
-  Education Loop
-  Extent of Works
-  Cycle Connections



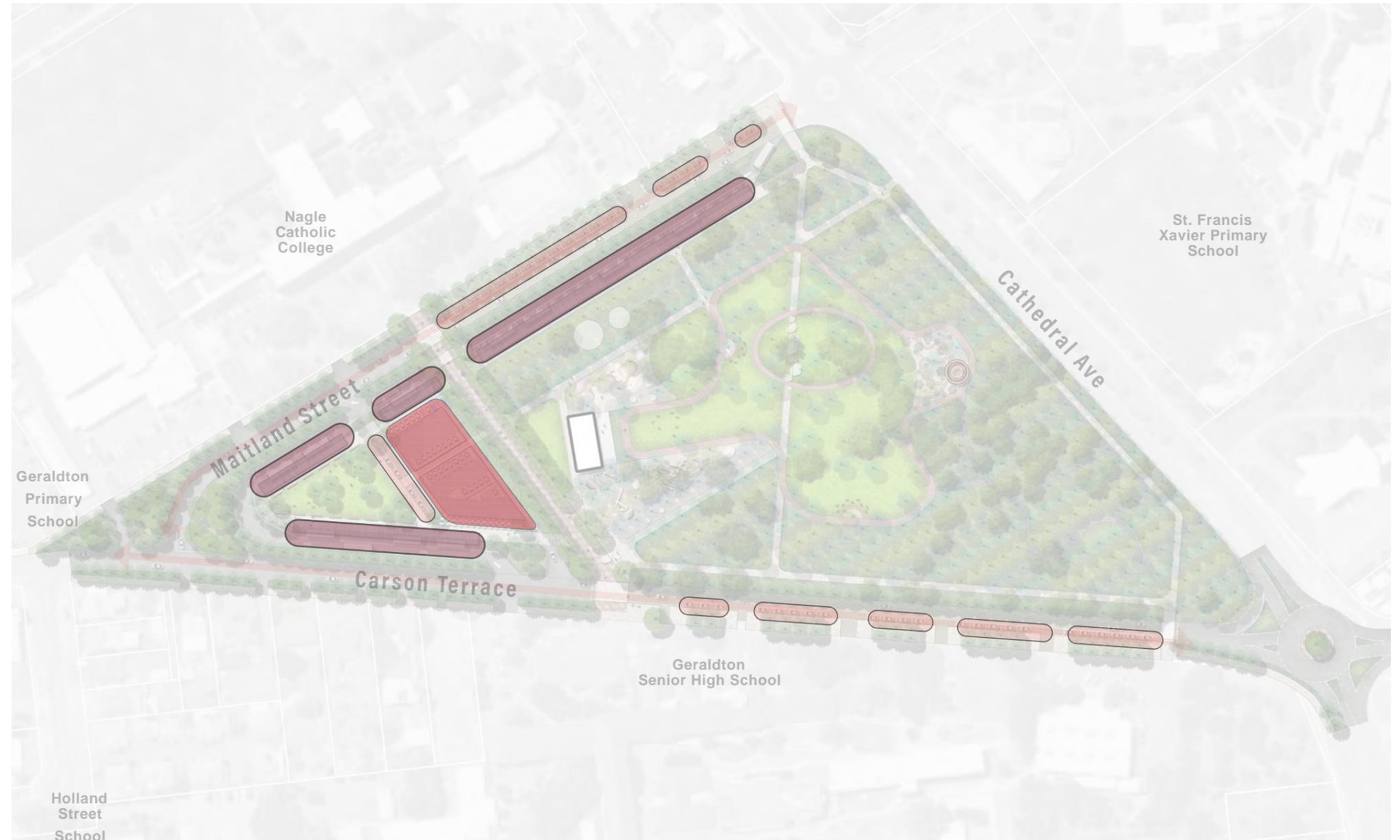
FIGURE 1. MAITLAND PARK MASTERPLAN

SAFE CONNECTED CITY - DROP OFF, CAR PARKING, BUS PORT



By strategically segregating car and bus drop off and pick up areas, the proposed design effectively mitigates pedestrian-vehicular conflicts within the Park.

This measure ensures a safer and more seamless movement for pedestrians, enhancing the overall user experience and fostering a harmonious coexistence between human traffic and vehicular flow.

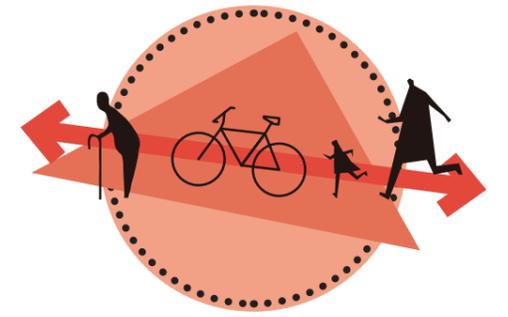


LEGEND

-  Kiss and Drop (School Hours)
-  Student Parking, Solar Panel Roof
-  Bus Port, Solar Panel Roof

FIGURE 14. DROP OFF, PARKING AND BUS PORT DIAGRAM

SAFE CONNECTED CITY - TRAFFIC SPEED AND DIRECTION



The layout of Maitland Park incorporates distinct measures to ensure the safety and user experience are enhanced.

It includes a reduced 40km/h speed limit and two-way traffic flow. To prioritise pedestrians, flush pavement areas are implemented. Additionally, pedestrian-vehicle separation is further improved by having separate one-way bus port and car park movements. These combined efforts create an efficient and positively impactful circulation system within Maitland Park.

LEGEND

↔ 2 Way Streets (40km/h in school hours)

||||| Flush Pavement Zone

➔ Bus Port Route

➔ Car Park Route

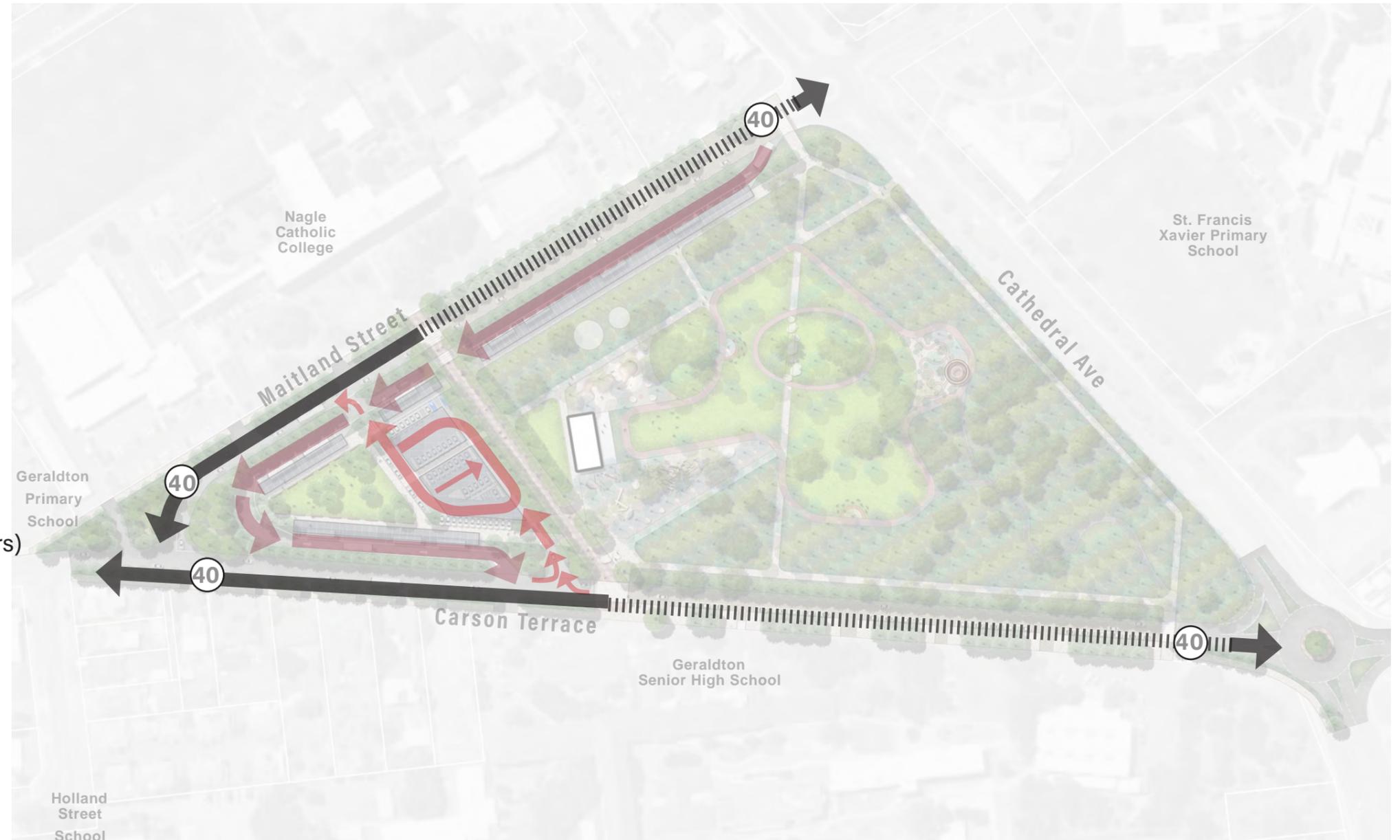
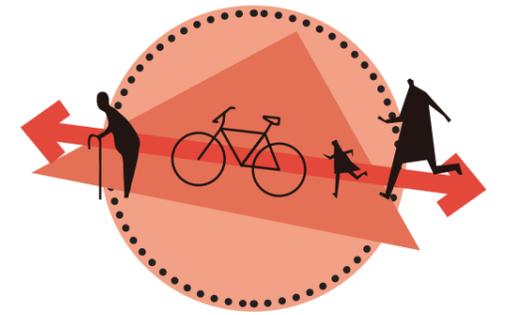


FIGURE 15. TRAFFIC DIAGRAM

SAFE CONNECTED CITY - BUS MOVEMENTS



By integrating bus bays within Maitland Park, the design effectively separates pedestrian traffic from bus drop-off and pick-up activities that occur on Maitland and Carson Terrace.

This arrangement provides a safer environment for bus users, as they can embark and disembark within Maitland Parks perimeter rather than on the main street. This enhancement ensures a more harmonious and secure movement within the park, ultimately contributing to a positive overall user experience.

LEGEND

-  Bus Primary Route
-  Bus Crossing Point
-  Bus Secondary Route
-  Bus Bays



FIGURE 16. BUS MOVEMENT DIAGRAM

SAFE CONNECTED CITY - CAR MOVEMENTS



Pedestrian safety is achieved through a thoughtful redesign of car movement around the park.

A convenient 'kiss and drop' section is proposed along the school side lanes, streamlining pick-up and drop-off activities. Furthermore, by reducing the speed limit to 40km/hour during school hours, we encourage drivers to exercise heightened caution within the Maitland Park vicinity.

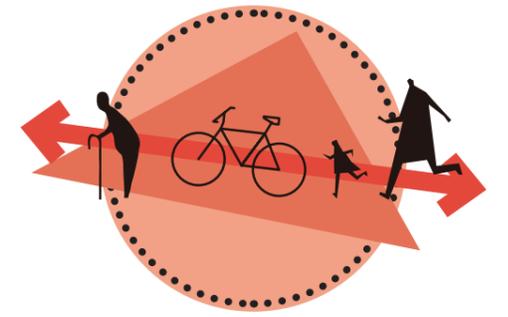
LEGEND

-  Student Parking Car Flow
-  Kiss and Drop/Parallel Parking
-  Kiss and Drop Direction



FIGURE 17. CAR MOVEMENT DIAGRAM

SAFE CONNECTED CITY - PEDESTRIAN MOVEMENTS



The Main Promenade segregates civil and landscape elements, ensuring safe and efficient movement for pedestrians between Maitland Street and Carson Terrace.

Pedestrian crossing points prioritise safety, while primary and secondary pathways promote exploration of the open space, enticing visitors to engage with Maitland Parks interior.

LEGEND

-  Main Promenade
-  Main Promenade Crossing Point
-  Primary Pedestrian Connection
-  Primary Pedestrian Crossing
-  Secondary Pedestrian Connection
-  Alternate Transport Route



FIGURE 18. PEDESTRIAN MOVEMENT DIAGRAM

INCLUSIVE COMMUNITY - KEY INTERVENTIONS



In response to community feedback the proposed outdoor/ indoor community facilities create immersive experiences for all demographics. With a key opportunity to utilize Maitland Park as an education precinct.

Education nodes and wayfinding aids facilitate seamless navigation through the 'Education Loop'.

LEGEND

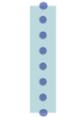
-  Community Pavilion
-  The Education Loop
-  Outdoor Classroom
-  Outdoor Learning Circel
-  Student Hub
-  Nature Playground
-  Youth Plaza



FIGURE 19. INCLUSIVE COMMUNITY DIAGRAM

URBAN FOREST GREENING - KEY INTERVENTIONS



The proposed precinct intends to both retain and increase planting and diversity.

Based on community feedback gained during the stakeholder workshops indicating a desire for more trees and shade within the park, a 'mid-west arboretum' design is proposed that showcases and celebrates the unique tree species of the region. This is proposed to consist of rows of newly planted trees that will provide a healthy coverage of shade canopy, accentuate species diversity and accentuate sight-lines

LEGEND

-  Trees to Street and Parking
-  Retain Healthy Existing Trees
-  Mid-West Arboretum
-  Drainage Function



FIGURE 20. URBAN FOREST GREENING DIAGRAM

URBAN FOREST GREENING - KEY INTERVENTIONS

RECOMMENDATIONS

<p>SAFE CONNECTED CITY</p> 	<ol style="list-style-type: none"> 1. Formalise pedestrian crossings, reduce vehicle speed, widen footpaths improve lighting and retain clear sight lines. 2. Facilitate legal safe parking with a priority for students and prioritise public and active transport 3. Separate school bus and cars pick up/ drop off locations 	
<p>INCLUSIVE COMMUNITY</p> 	<ol style="list-style-type: none"> 1. New facilities that cater to both students and the broader community 2. Co-locate proposed facilities and amenity 	
<p>URBAN FOREST GREENING</p> 	<ol style="list-style-type: none"> 1. Retain the existing trees promote greater diversity and local planting throughout the precinct 2. Maintain heavy earthworks and civil infrastructure to the western side of the precinct where it is relatively flat 	

RATIONALISATION



PRECINCT LIGHTING AND ELECTRICAL

PROPOSED AUSTRALIAN STANDARDS

- Pathways: PP2**
7 lux AV Horizontal / 1 lux Point Horizontal / 0.3 lux Point Vertical
- Public Activity Areas: PA3**
7 lux AV Horizontal / 2 lux Point Horizontal / 2 lux Point Vertical
- Outdoor Carparks: PC2**
7 lux AV Horizontal / 1.5 lux Point Horizontal / 1 lux Point Vertical

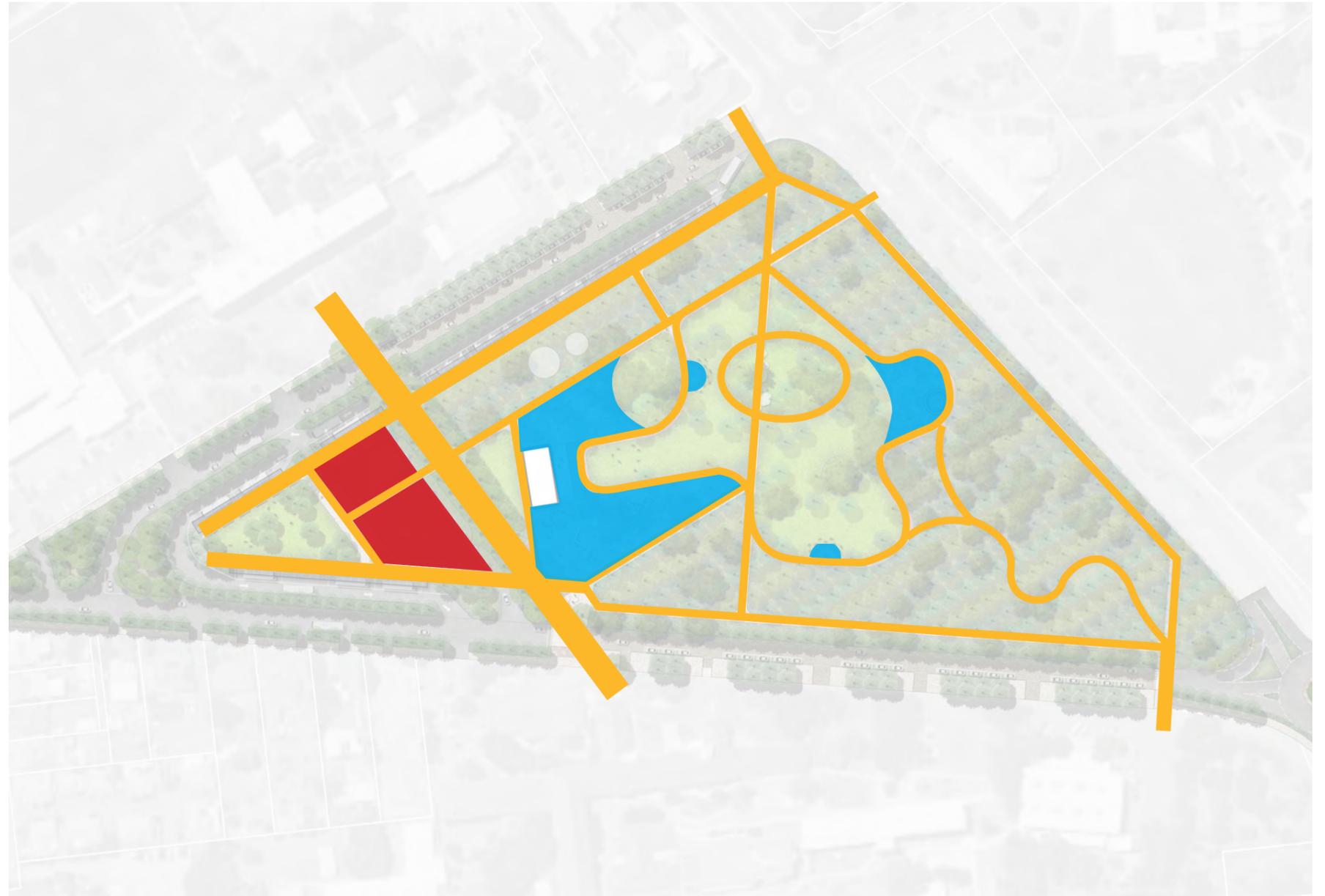


FIGURE 21.

PROPOSED LIGHTING STANDARDS DIAGRAM

LIGHTING STANDARDS

PTA STANDARDS

- Pathways:**
7 lux AV Horizontal / 2 lux Point Horizontal / 2 lux Point Vertical
- Bus Concourse Boarding and Set Down:**
21 lux AV Horizontal / 7 lux Point Horizontal / 7 lux Point Vertical
- Bus waiting areas, shelters and seating:**
25 lux AV Horizontal / 8 lux Point Horizontal / 7 lux Point Vertical
- Outdoor Carparks:**
14 lux AV Horizontal / 3 lux Point Horizontal / 3 lux Point Vertical

For TransWA operated services, areas shall typically comply with PTA standards for Functional Light Levels.

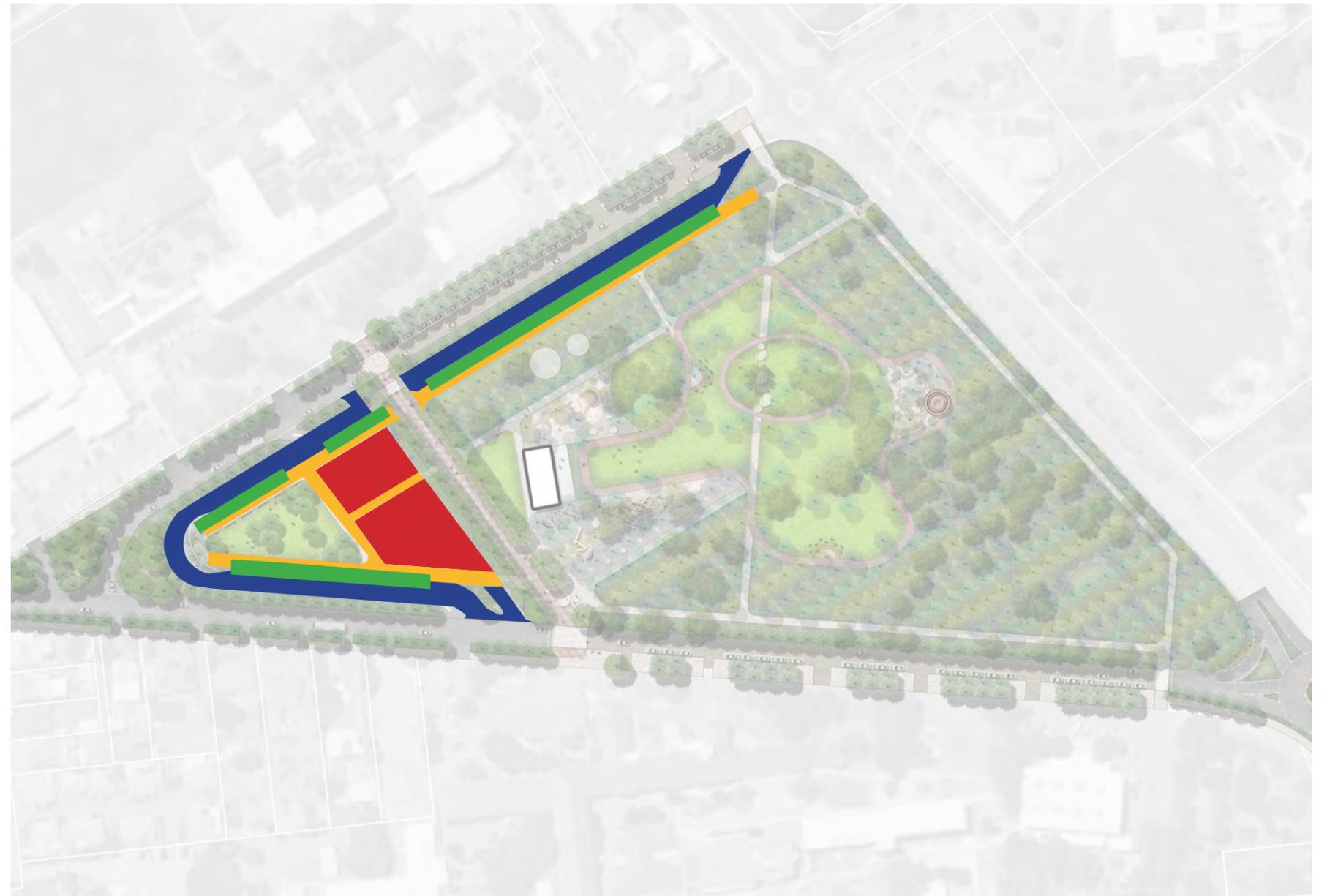


FIGURE 22. PTA LIGHTING STANDARDS DIAGRAM

PEDESTRIAN PATHWAY LIGHTING

Pole mounted path lighting

- Multifunction poles for smart cities connectivity and mounting (ie: CCTV, Signage, Sensors etc)
- Height of pole determined by proximity and density of tree canopy
- LED lighting to include 7 Pin NEMA socket or DALI interface for smart cities control and management.

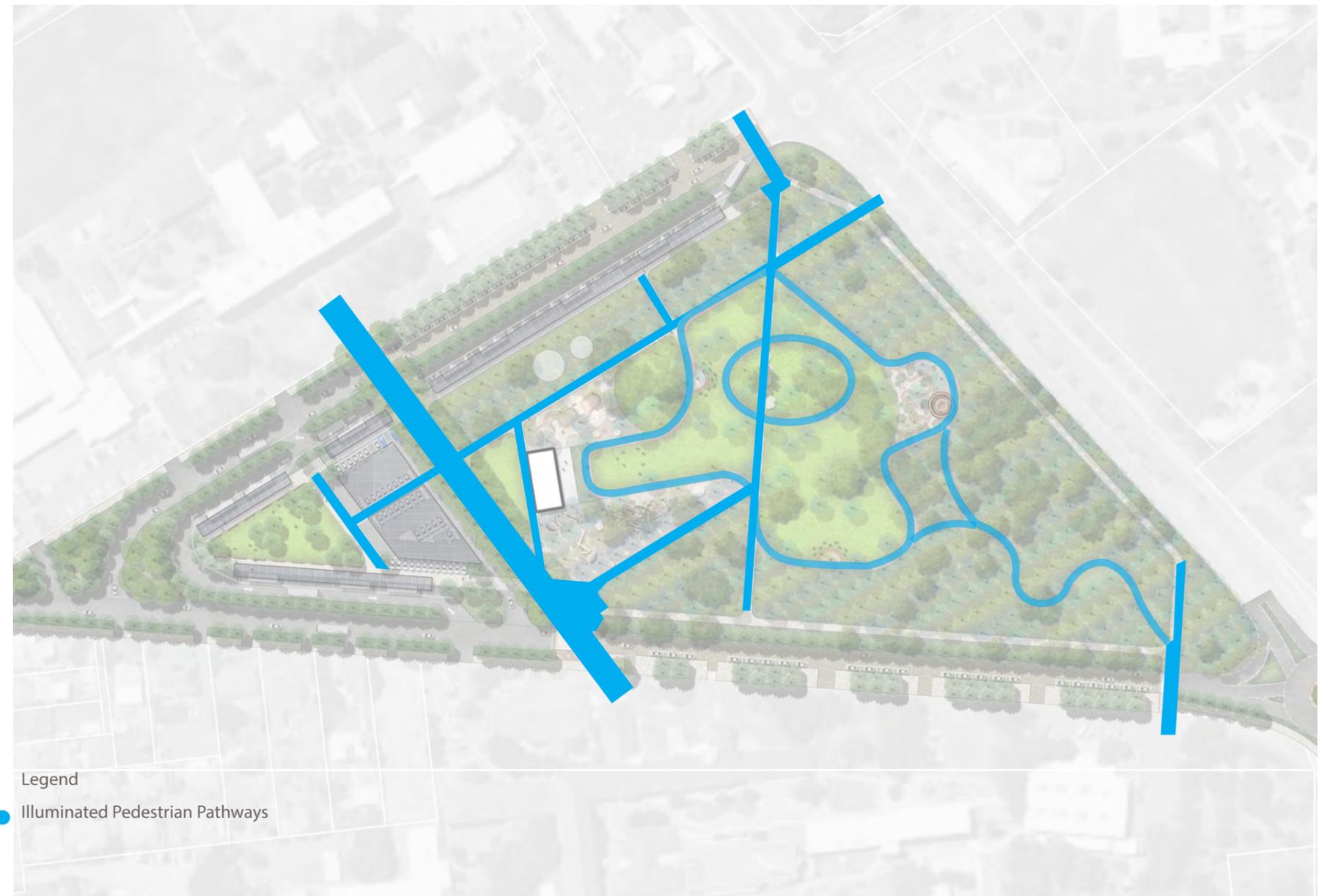
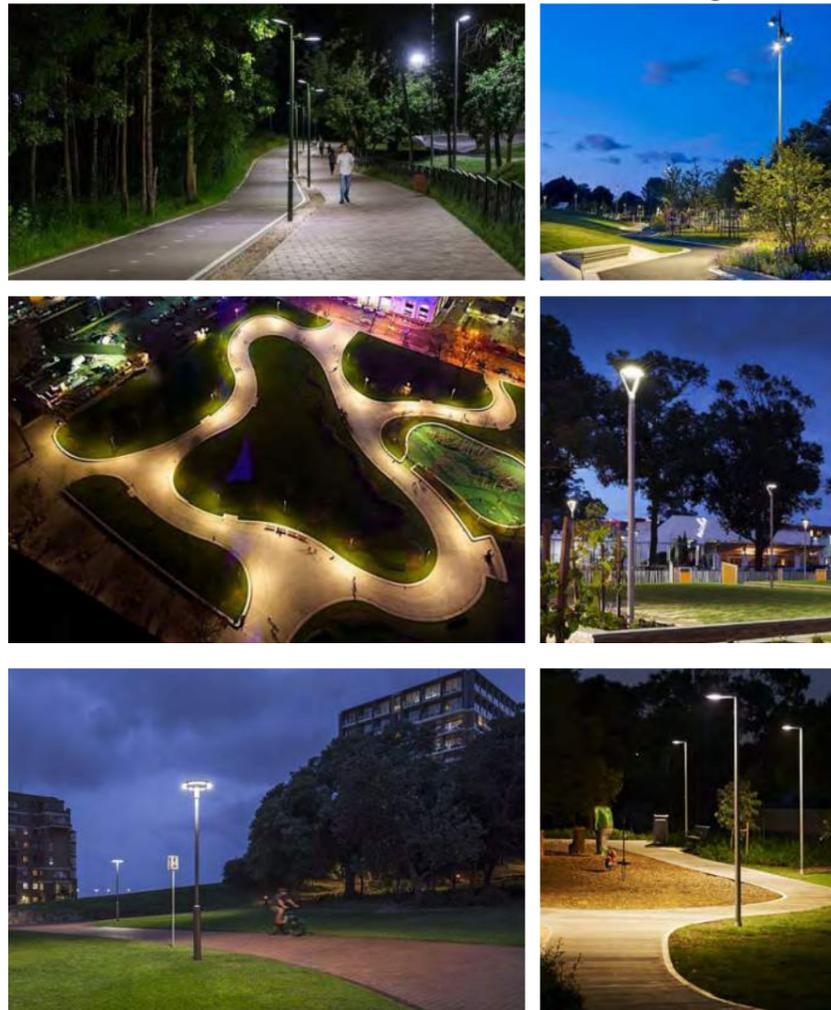


FIGURE 23. PEDESTRIAN PATHWAYS

BUS SHELTER LIGHTING

- Linear lighting with glare control cut off for bus drivers and to facilitate optimum CCTV surveillance
- High level of vertical illuminance for standards compliance
- Provision for Smart Services (electronic signage/ digital display etc)

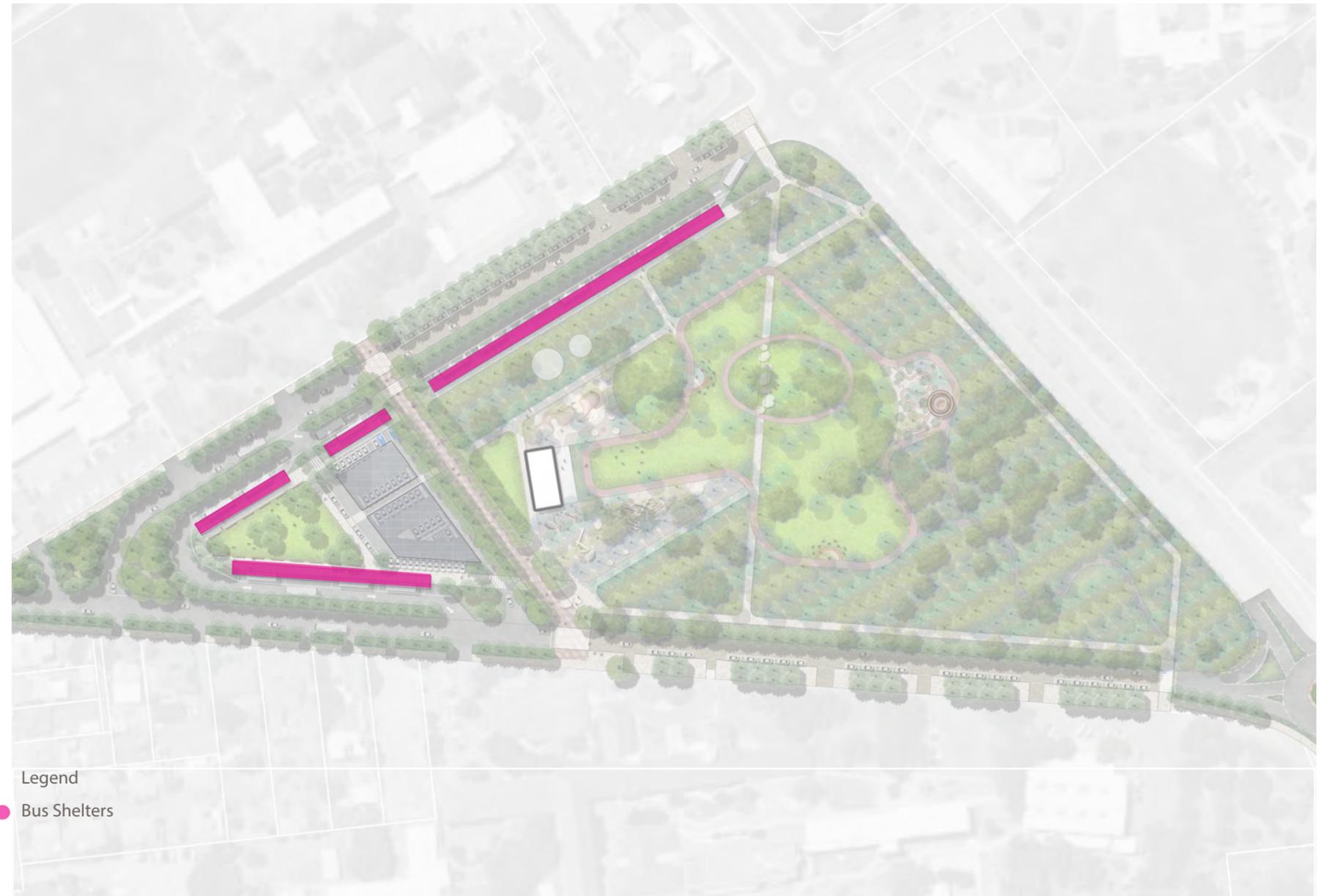
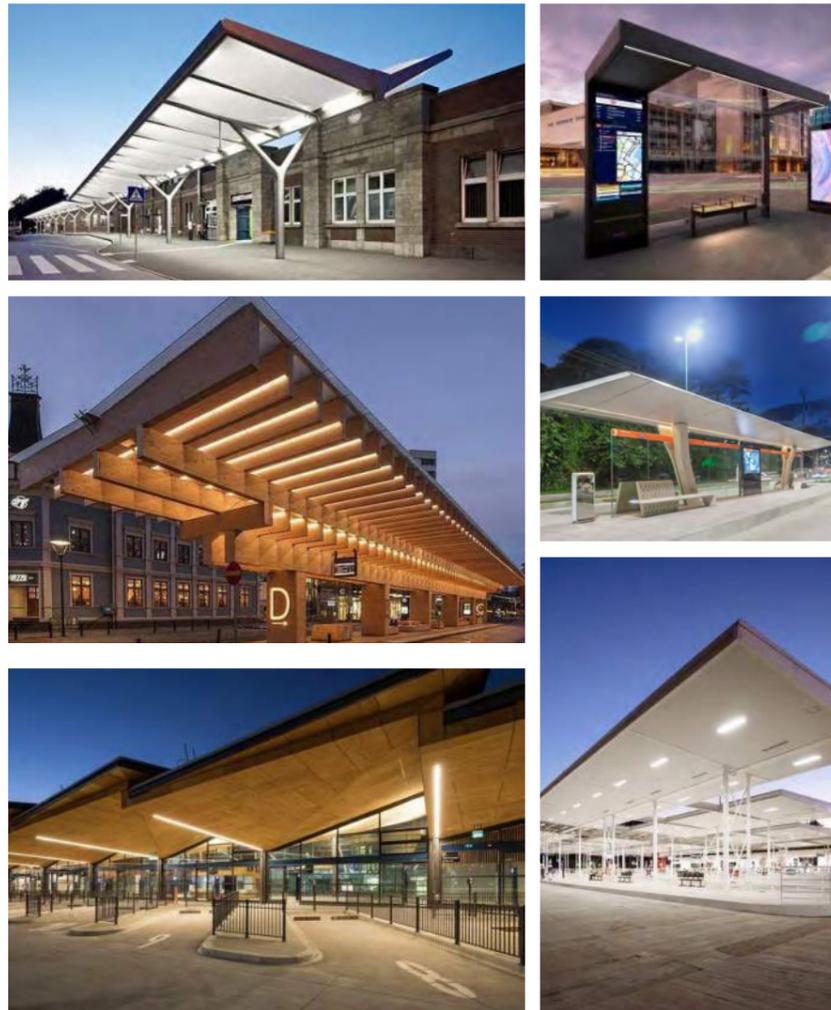


FIGURE 24. BUS SHELTER LOCATIONS

LIGHTING PLAN

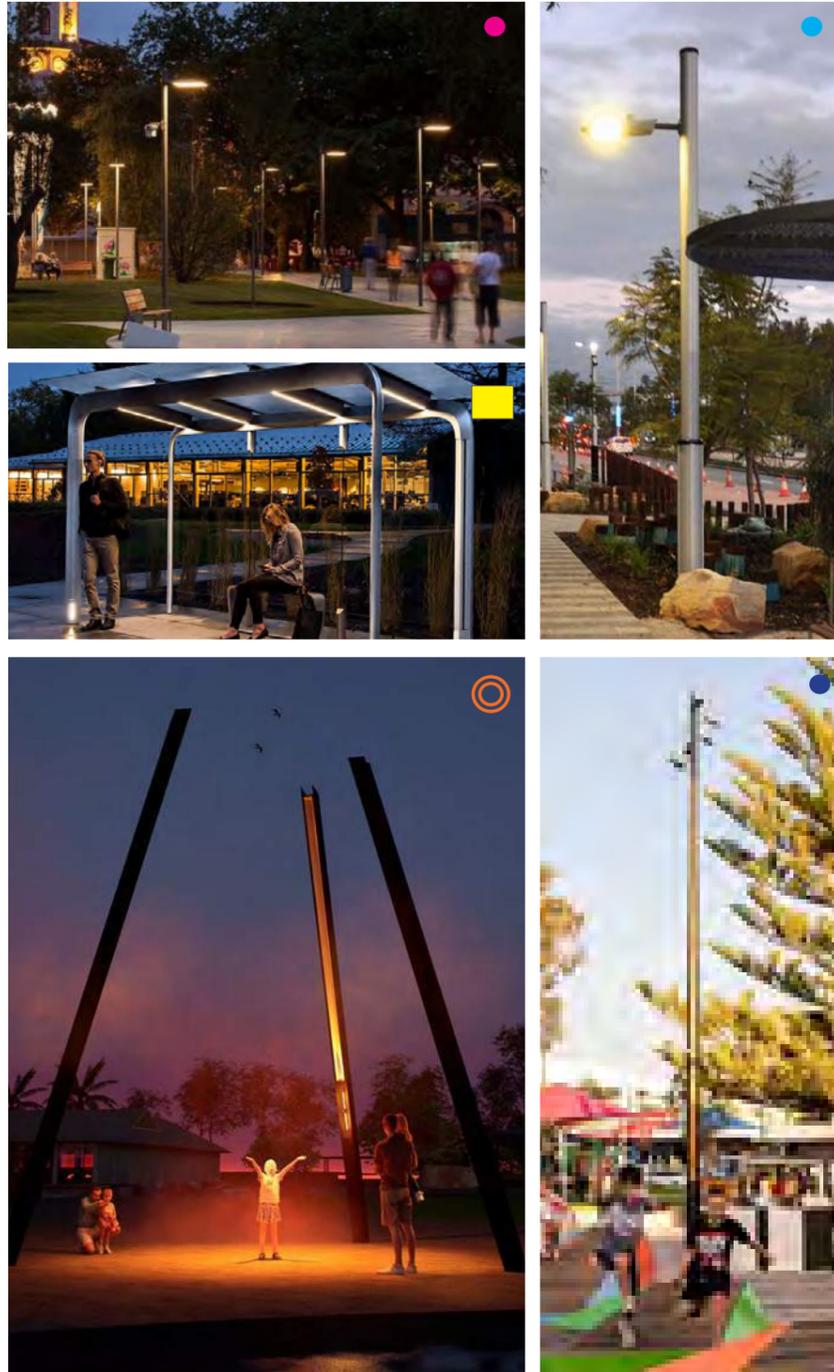


FIGURE 25. LIGHTING PLAN

EXISTING ELECTRICAL SERVICES

There are currently multiple points of supply servicing the park.

The Northern park is serviced by a switchboard supplied by a Western Power mini pillar (max 100A) located on the corner of Maitland St and Cathedral Avenue. This existing switchboard supplies the public toilet block, BBQs and irrigation.

The Croquet club is serviced by a Western Power overhead supply. This supply is redundant and will be removed as part of the proposed carpark and bus civil works.

An overhead supply to a pole mounted distribution board is located on Carson Terrace.

Existing Western Power aerial supply's line the park side of Maitland Street and the property side of Carson Terrace. These aerial conductors supply properties along these streets and provide the poles for street lighting.



- Existing Western Power Street Lighting with Aerial feed
- Existing Western Power distribution pole
- Existing Western Power underground street lighting
- Existing Western Power mini pillar

FIGURE 26. EXISTING ELECTRICAL SERVICES

PROPOSED ELECTRICAL SERVICES

ETC propose removing the multiple supplies and replacing with a single point of supply located within the new bus port / carpark.

A separate smaller distribution board is proposed at the pavilion to provide additional power for stage audio visual systems and events.

The supply requirements for the carpark and bus port is anticipated to be around 100A three-phase consisting of lighting, digital signage, communications and EV charging.

Electrical services within the park consist of general power, events power, lighting, BBQs and communications.

Total loading on the Site Main Switchboard is estimated between 200-250A and could be supplied via a Western Power Universal Pillar. A larger power supply will require a Western Power substation (transformer) located on the site.

Western Power has strict clearance zones around overhead conductors, given the bus canopies and trees proximity to these overhead lines we recommend undergrounding the Western Power network along Maitland St.



FIGURE 27.

PROPOSED ELECTRICAL SERVICES LOCATIONS

SMART CITIES

- Considerations:
- Smart seating with built in wireless phone chargers and LED lighting
- WIFI for public access and education services
- Events Power
- Smart Parking, sensors relay available bays
- Transport services information displays
- Digital Signage for Events, Announcements, sensor data
- Communications Cubicle (CEC) for communications network end equipment, CCTV, digital signage etc.

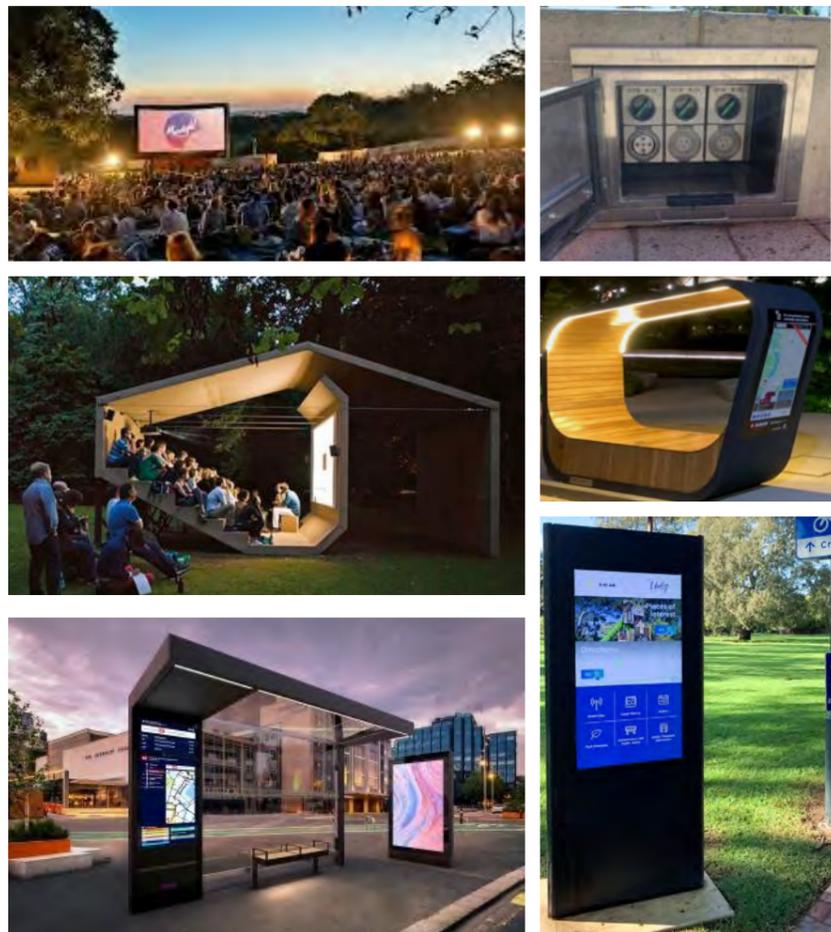


FIGURE 28. SMART CITIES MASTER PLAN

PROPOSED SOLAR LOCATIONS

- **Option 1 - The Pavilion**
Roof space can accommodate approximately 48, 450W solar panels with a total rating of 21.6kW DC or 17kW AC.
- **Option 2 - Carpark Canopies**
Canopies can accommodate approximately 318, 450W solar panels with a total rating of 143.1kW DC or 110kW AC.
- **Option 3 - Bus Shelters**
Shelters can accommodate approximately 394, 450W solar panels with a total rating of 177.3kW DC or 140kW AC.
Incorporating battery storage removes power grid reliance, 1 x 20kWh battery could maintain the lighting overnight. A larger battery maybe installed to support EV chargers. 1 x 100kWh battery could provide up to 2 EV charges.

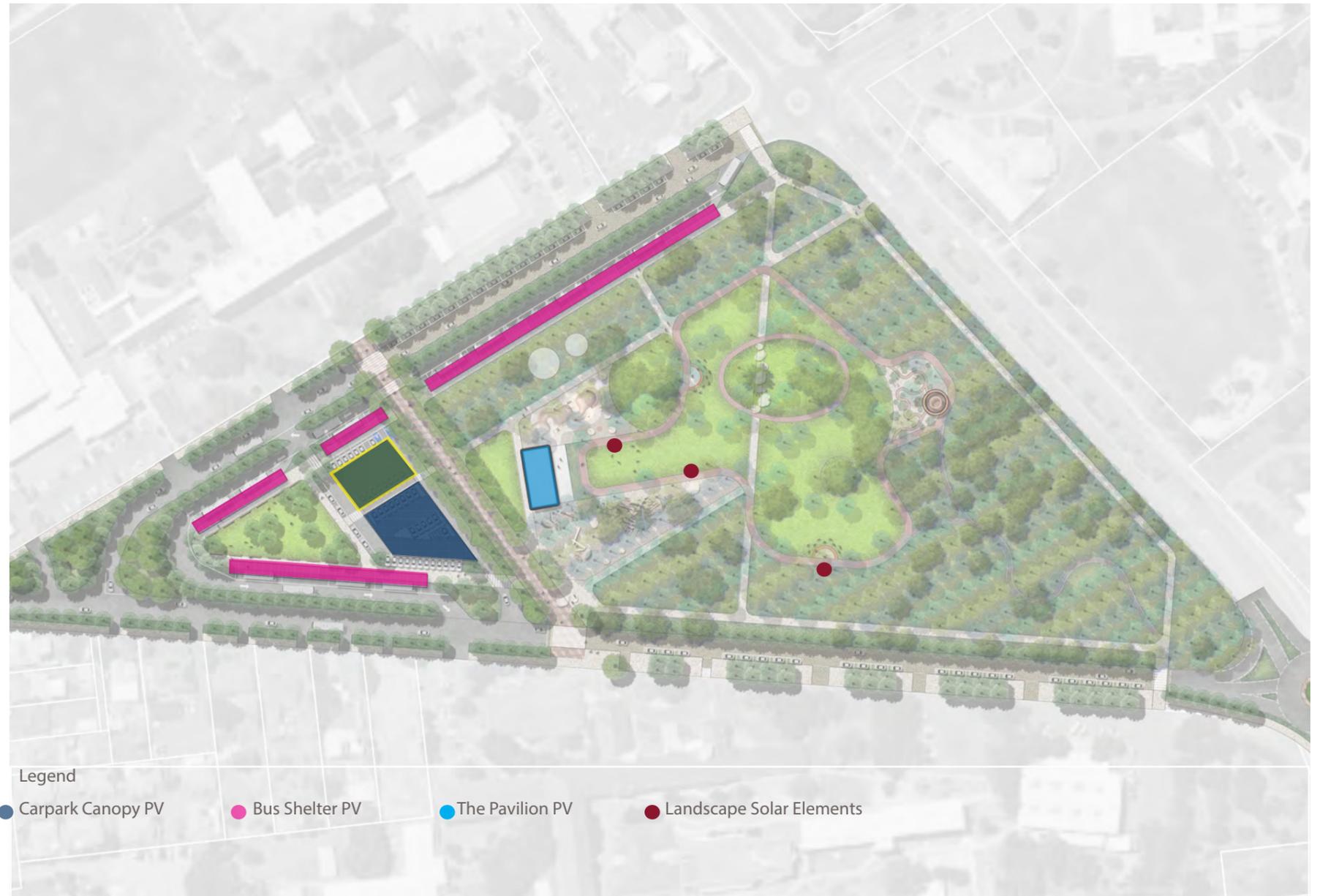


FIGURE 29. SOLAR MASTER PLAN

ELECTRIC VEHICLE CHARGING

Increasing Geraldton's EV capacity:

- Existing: 2 x 150kW public EV chargers in Geraldton (capable of charging 4 cars simultaneously)
- 3% of new car sales are EV's in WA
- EV's have a median battery size of 60kWh
- 22kW charger takes 2.7 hours to charge to full
- 150kW charger takes 24 minutes to charge to full
- PV can be used to supplement power to chargers which reduces the reliance on the grid and increases return on investment.



FIGURE 30. PROPOSED EV CHARGER LOCATIONS

5.0 DESIGN DEVELOPMENT



MAITLAND STREET LINEAR BUS PORT SECTION

Nagle Catholic College

Maitland Street

Maitland Park



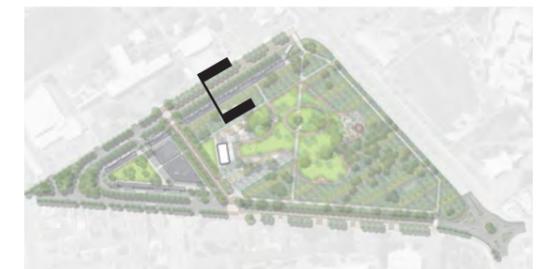
SCALE
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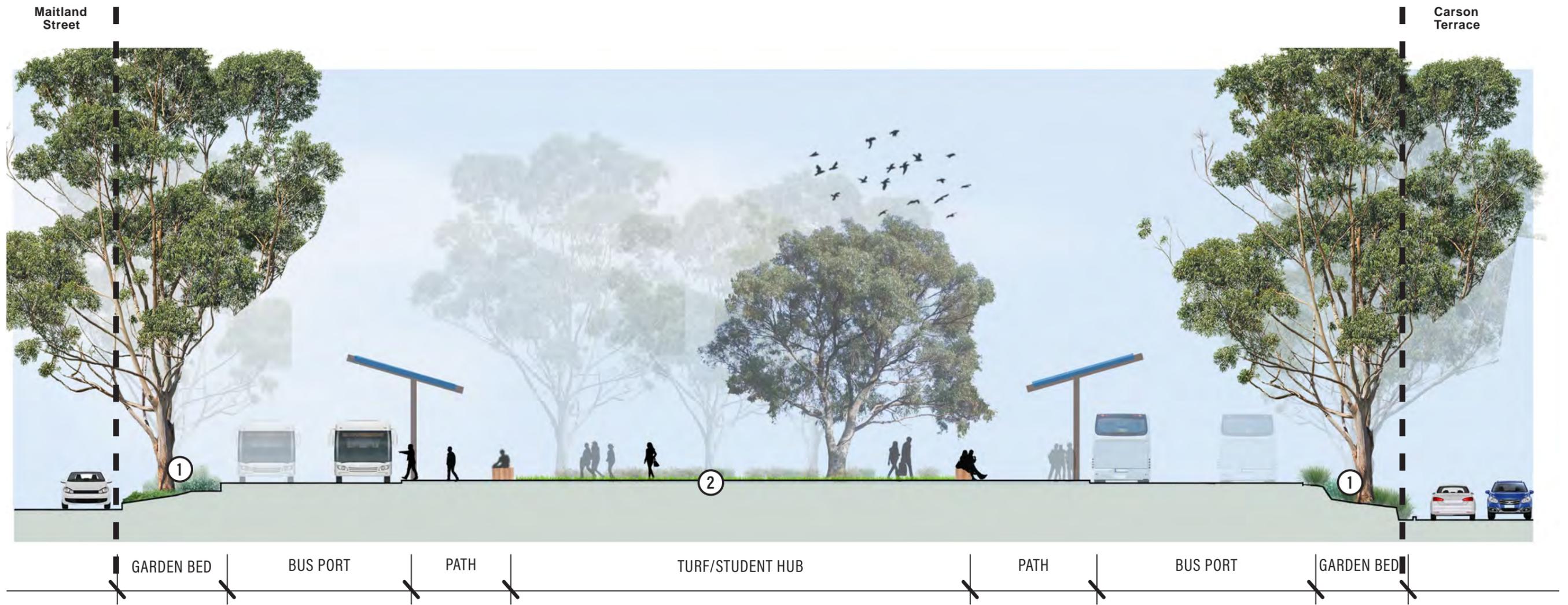
FIGURE 31. PERMEABLE STREET PAVING, SPAIN



FIGURE 32. TRANSIT HUB



STUDENT HUB AND BUS PORT SECTION



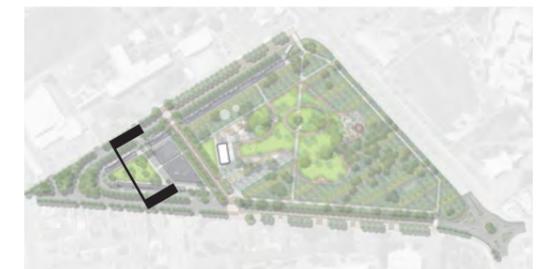
SCALE
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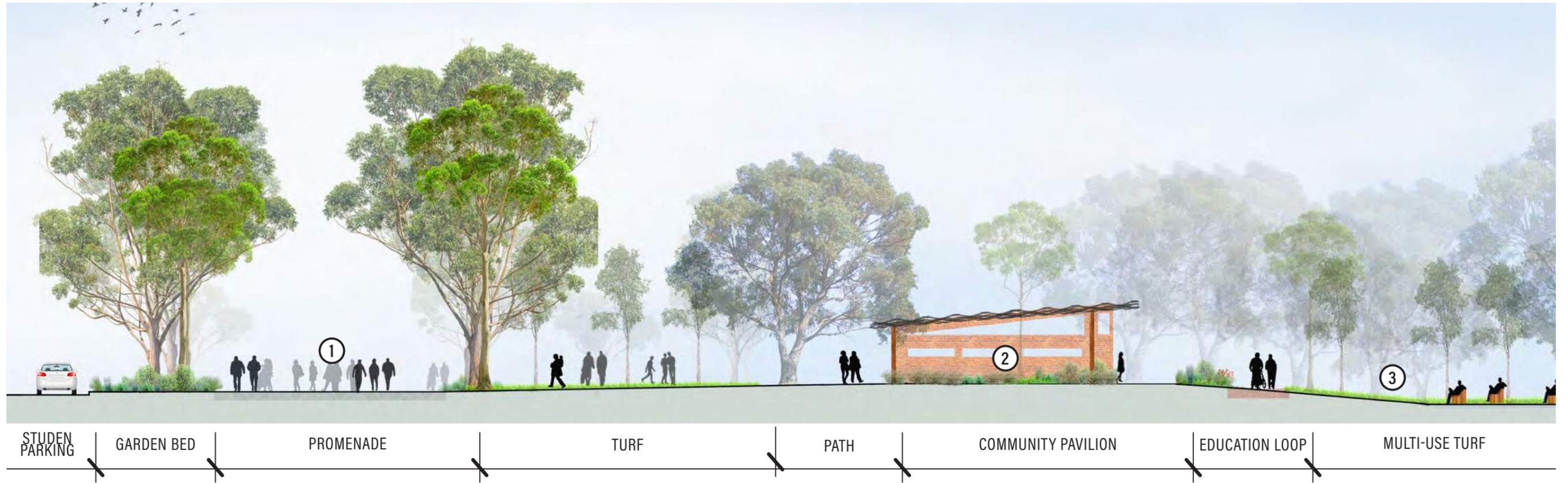
FIGURE 33. EMBANKMENT PLANTING, WARRANYJARRI PARKS



FIGURE 34. NEWMAN TOWN CENTRE



PAVILION AND PROMENADE SECTION



SCALE
1:200 @ A3



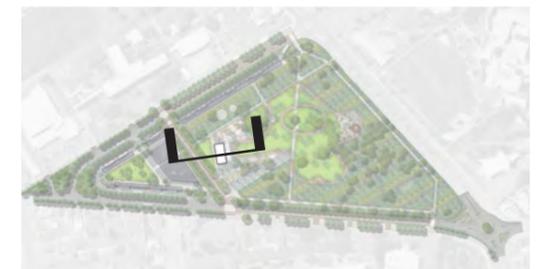
FIGURE 35. PEDESTRIAN PROMENADE, UWA



FIGURE 36. COMMUNITY PAVILION



FIGURE 37. MULTI-USE TURF



EDUCATION LOOP AND LEARNING CIRCLE SECTION

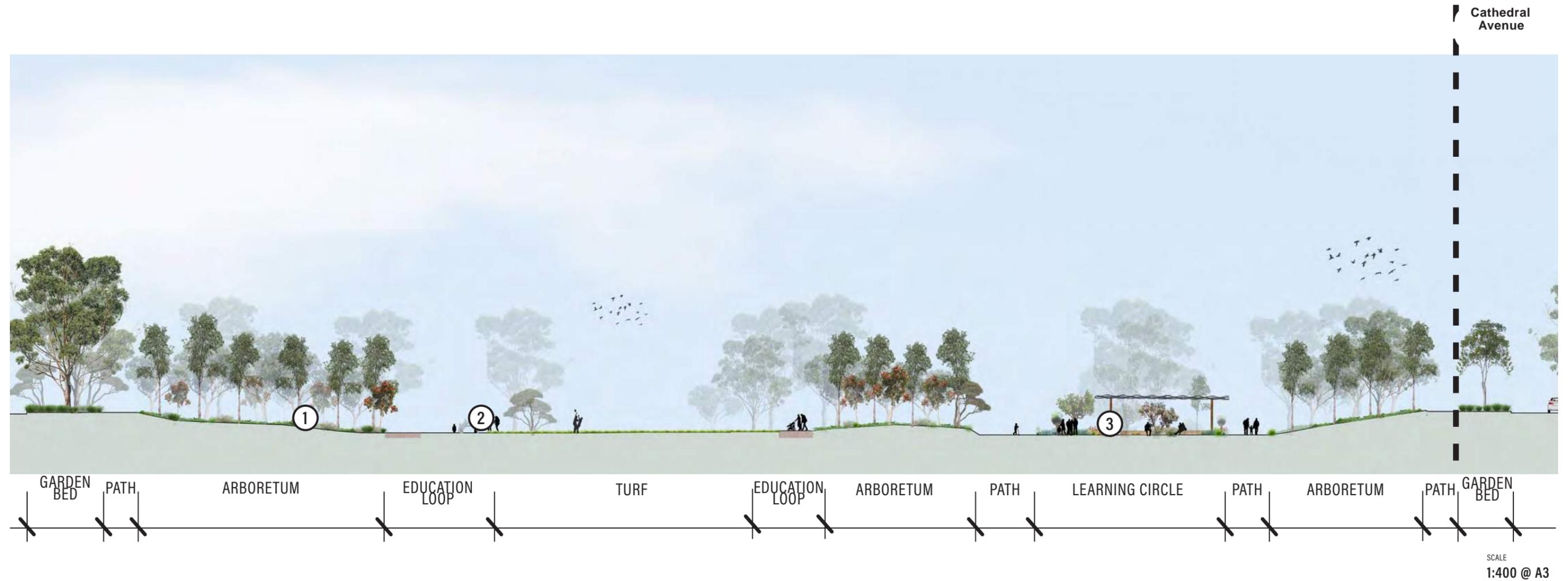


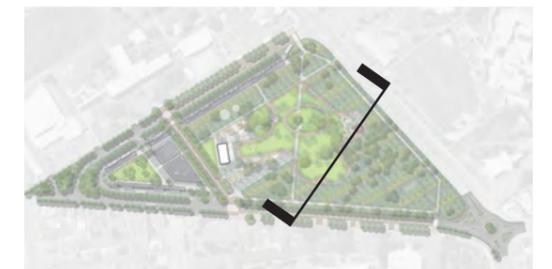
FIGURE 38. DENSE TREE PLANTINGS, BROOME NORTH



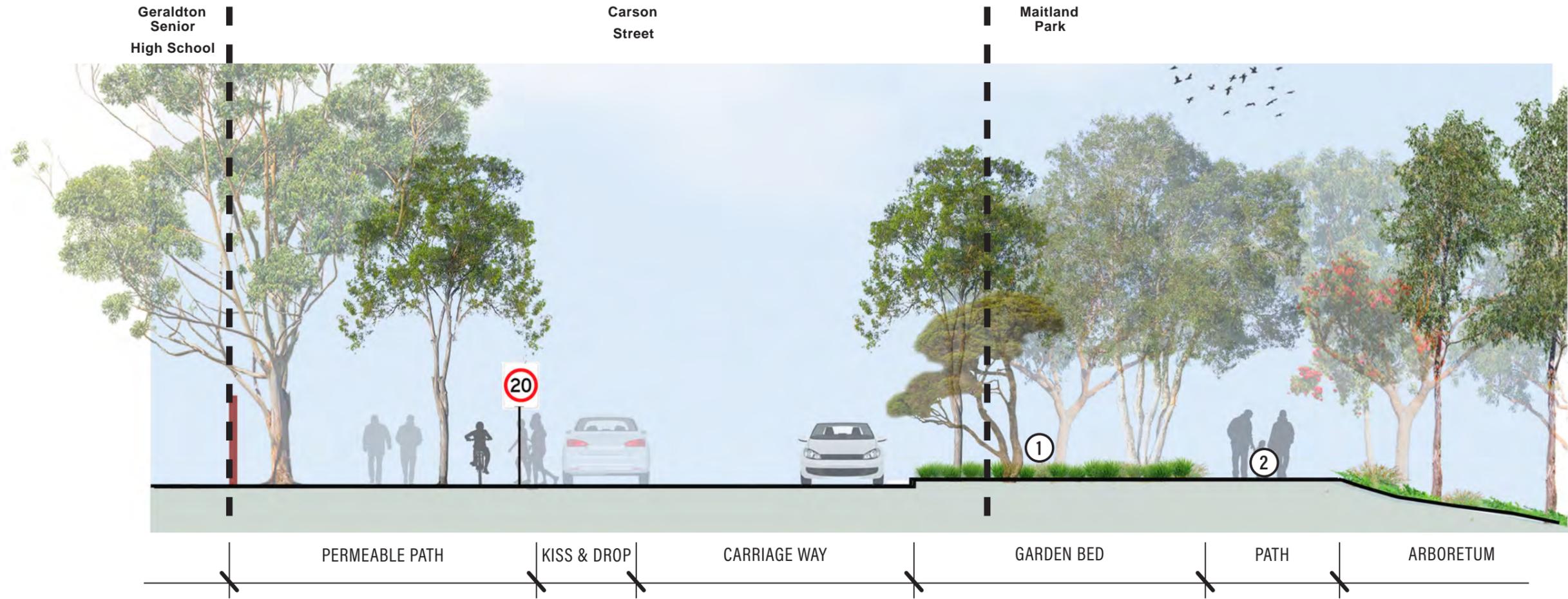
FIGURE 39. OUTDOOR CLASSROOM



FIGURE 40. CURTIN UNIVERSITY LEARNING CIRCLE, PERTH



CARSON TERRACE TYPICAL SECTION



SCALE
1:100 @ A3



FIGURE 41. FLUSH PATH TO CARRIAGE WAY, BROOME



FIGURE 42. PATH PROTECTED FROM TRAFFIC



PROMENADE PEDESTRIAN CROSSING SECTION

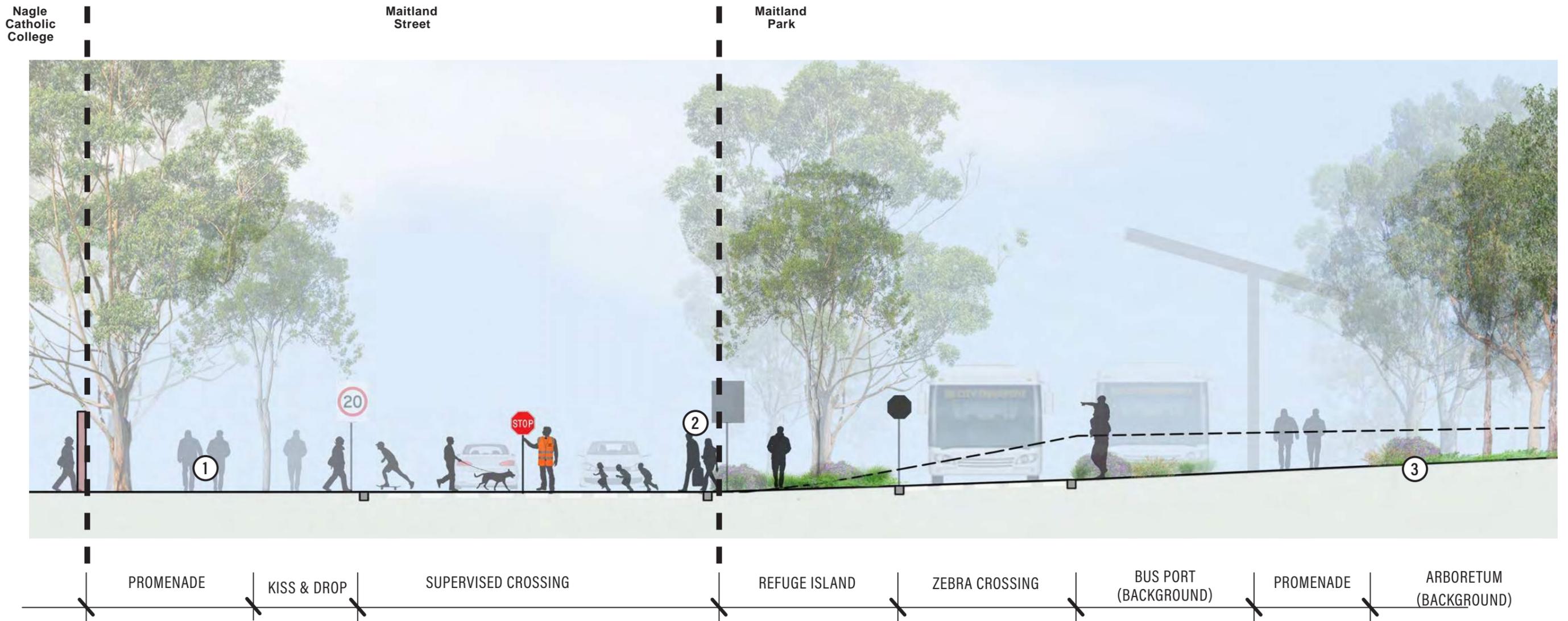


FIGURE 43. PROMENADE, NINGALOO

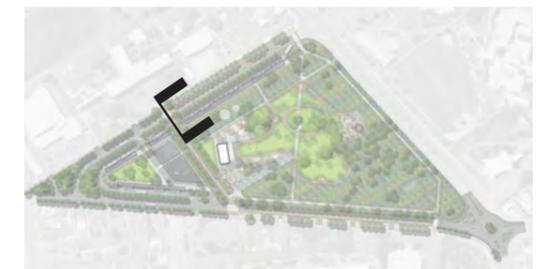


FIGURE 44. PEDESTRIAN CROSSING

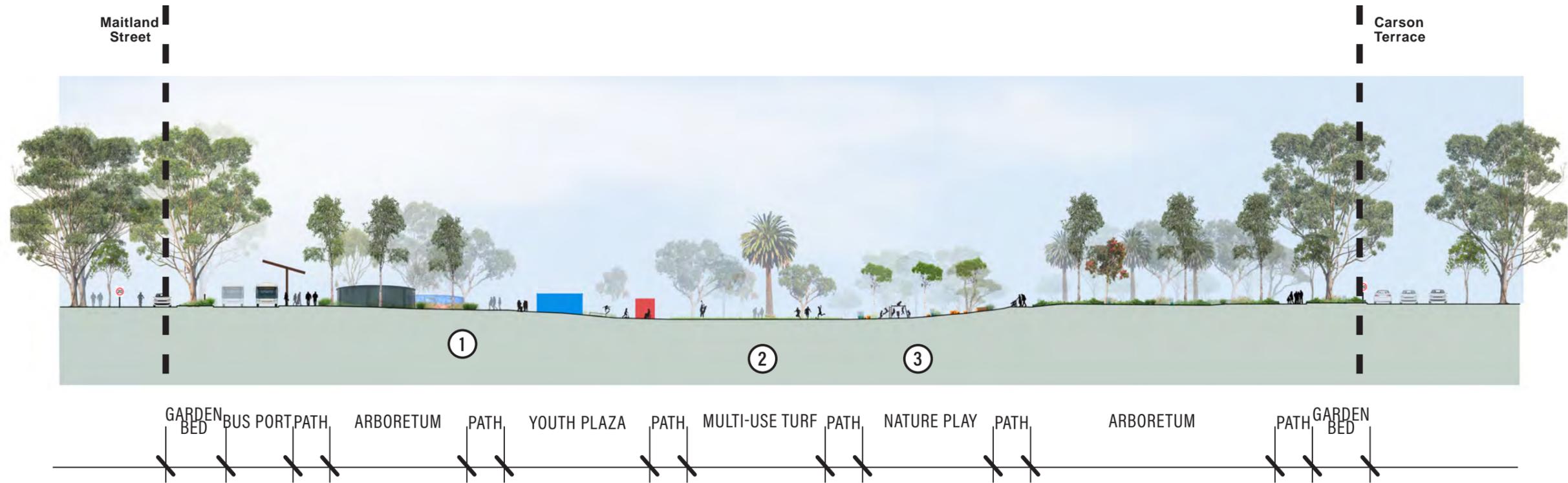


FIGURE 45. PROMENADE

SCALE
1:100 @ A3



LOWER PARK SECTION



SCALE
1:600 @ A3



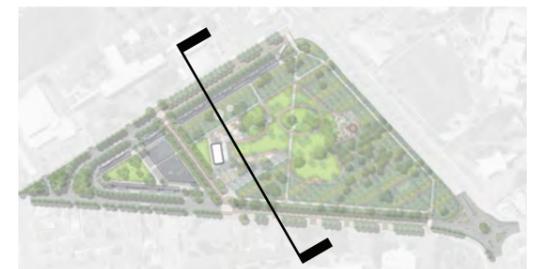
FIGURE 46. YOUTH PLAZA, FREMANTLE



FIGURE 47. POS USED FOR COMMUNITY FESTIVAL

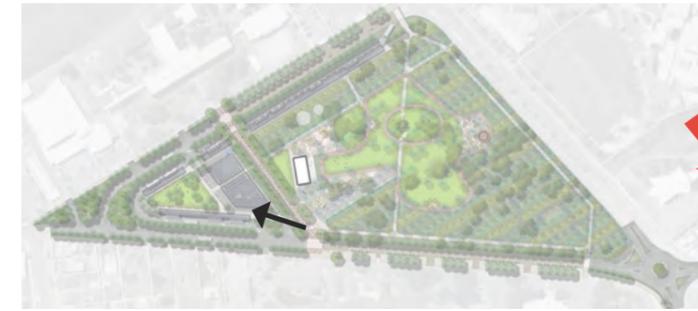


FIGURE 48. NATURE PLAY, BREMER BAY



SAFE AND CONNECTED CITY

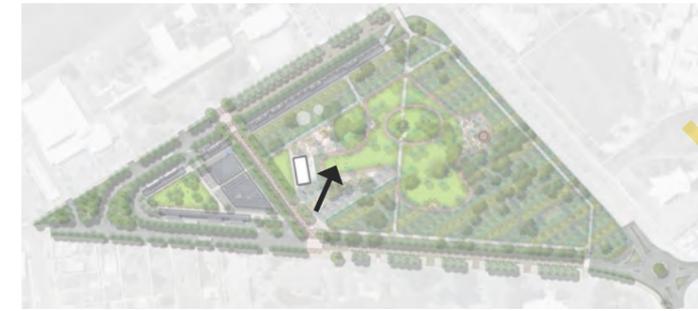
- ① SOLAR BUS PORT
- ② SAFE PEDESTRIAN CROSSING
- ③ SOLAR CAR PARK
- ④ PEDESTRIAN PROMENADE



A pedestrian-centric transport hub is proposed to enhance user safety, comfort and convenience. Centralising dedicated bus bays within the park ensures passengers exit on and off from the precinct side. The hub is intended as a safe and supervised student hangout before and after school. With wide footpaths, reduced traffic speed, improved lighting, and designated parking.

INCLUSIVE COMMUNITY

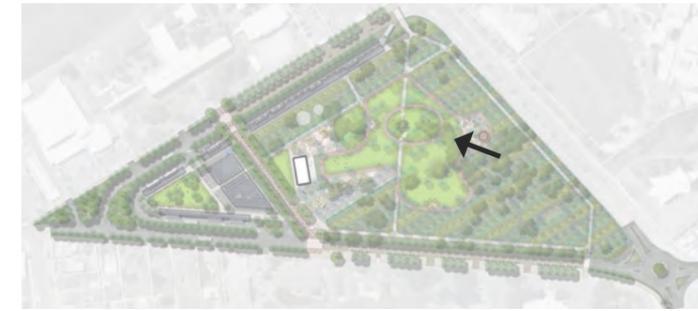
- ① COMMUNITY PAVILION
- ② YOUTH PLAZA
- ③ MULTI-USE TURF
- ④ NATURE PLAYGROUND



The proposed design prioritises an inclusive community approach, creating spaces that are safe and welcoming for all individuals. The Education Loop and play zones, including bike and scooter tracks, a community pavilion, native playground, nature play, youth plaza area, learning circle shelter, seating, sensory walks, and a sculpture path, offer an immersive experience that connects visitors to the park's public open space.

URBAN FOREST GREENING

- ① MIDWEST ARBORETUM
- ② EDUCATION LOOP
- ③ NATIVE PLANTING
- ④ LEARNING CIRCLE



Introducing an innovative urban forest greening concept centered around an unprecedented city arboretum. Emphasizing endemic and native species enhances biodiversity and fauna habitat while inspiring visitors to replicate such spaces in private gardens. Interactive trails, a reflection garden, street trees, and inviting shade further enhance the park's amenity. This green public open space welcomes both locals and tourists to relish its beauty and utility.

6.0 CONCLUSION



RECOMMENDATIONS MOVING FORWARD

Acknowledging that whilst the Masterplan is founded on available information, further design development, technical study and stakeholder engagement is required to develop the proposals to a level that would be sufficient for statutory approvals and implementation.

Although civil consultants were involved throughout the development of the Masterplan from a localised high level traffic and vehicular swept paths standpoint, it is recommended that further analysis and consultation take place as part of the Maitland Park redesign process.

Not limited to but including a:

- Broader Traffic Modelling Survey
- Broader Parking Survey

It is also highly recommended that cultural engagement with Yamatji traditional owners occurs prior to any further design development from a landscape point of view.



FIGURE 49.

VISUALISATION OF MAITLAND PARK

7.0 APPENDICES



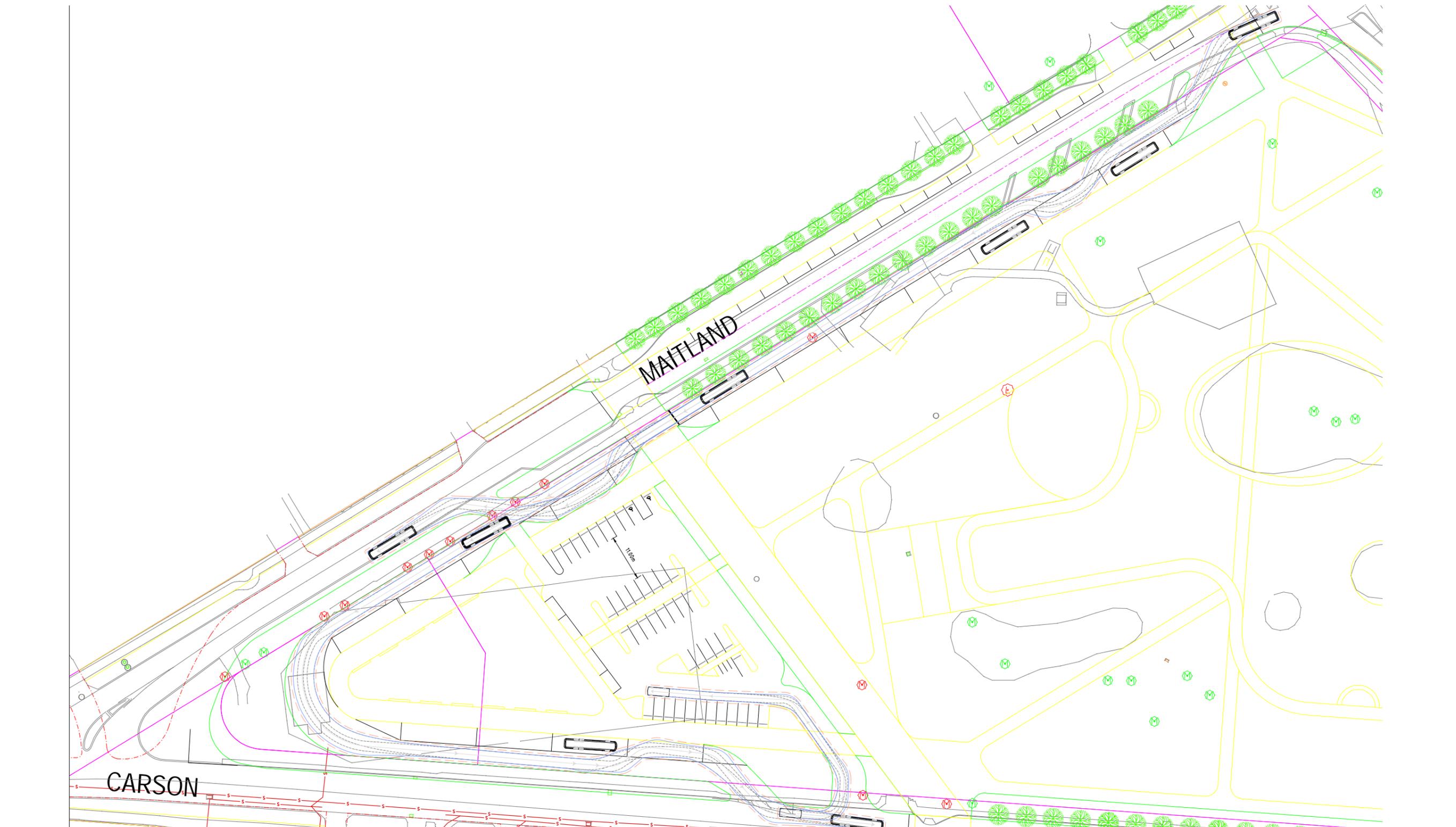
APPENDIX A - REFERENCE DOCUMENTS

The project inception and development of the Masterplan has been informed by a number of documents.

These documents include:

- *Geraldton City Centre Master Plan*, May 2018 (UDLA, TLC, Chaney Architects)
- *Public Open Space Strategy*, April 2015 (The City of Greater Geraldton)
- *Geraldton 2050 Cycle Strategy*, 2018 (The City of Greater Geraldton)
- *Integrated Transport Strategy*, 2021 (The City of Greater Geraldton)
- *Maitland Park Parking Opportunities*, (UDLA)
- *Geraldton Botanical Gardens Landscape Master Plan Report*, January 2016 (REALM & Vigilante)
- *City of Greater Geraldton Park Master Planning Project*, 2018 (UDLA)
- *Traffic Modelling and Option Report Maitland School Precinct Improvements*, June 2021 (Stantec)

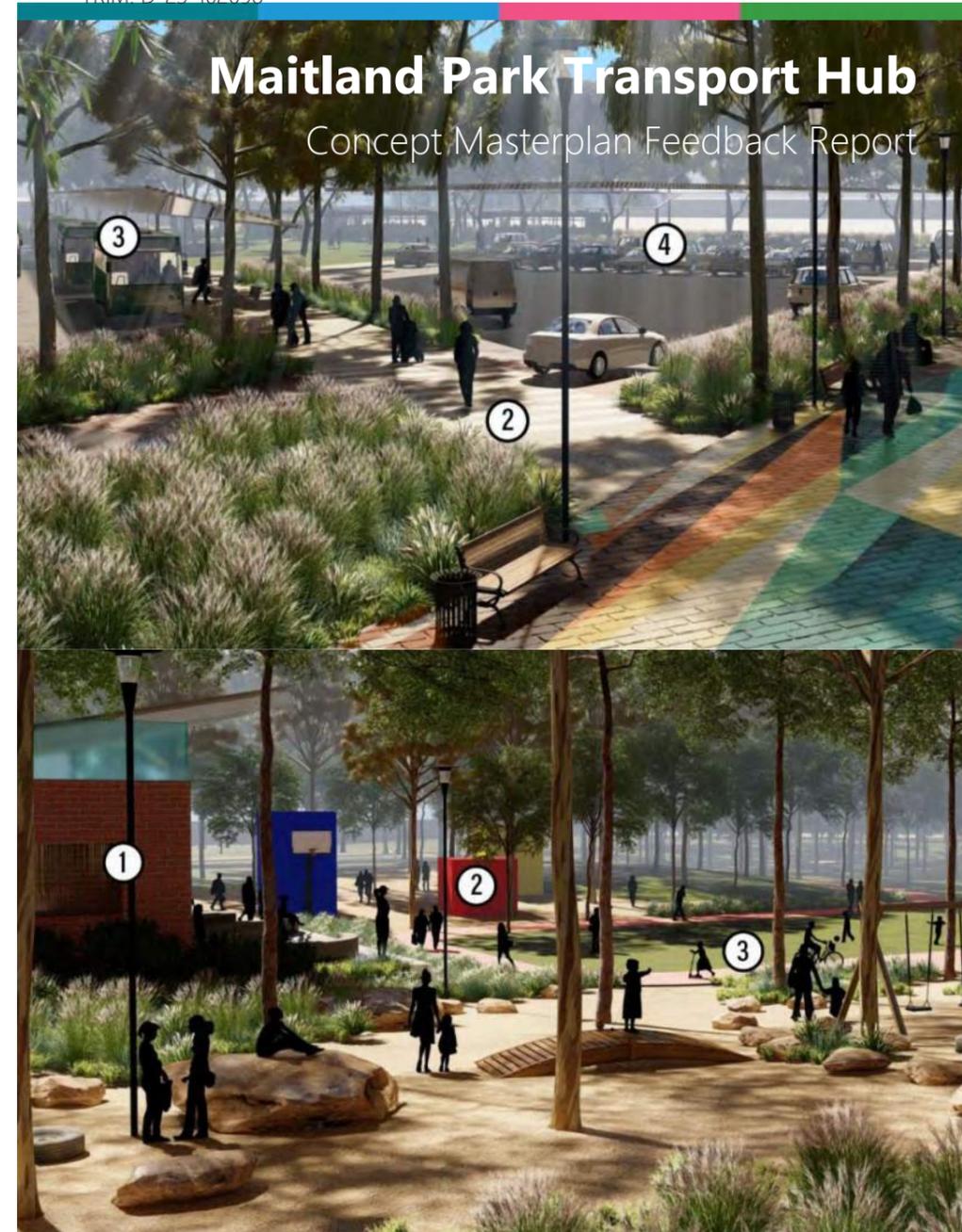
APPENDIX B - SWEEPED PATH ANALYSIS - STANTEC



APPENDIX C - CONCEPT MASTERPLAN FEEDBACK REPORT - COGG

August 2023

TRIM: D-23-102098



APPENDIX C - CONCEPT MASTERPLAN FEEDBACK REPORT - COGG

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Inclusive Spaces	4
Environmental/Sustainability Features	4
Covered Carpark/Busport Uses	5

APPENDIX C- CONCEPT MASTERPLAN FEEDBACK REPORT - COGG

Background

Over the years, student enrolments at the five schools located around Maitland Park: Geraldton Primary School; Holland Street School; St Francis Xavier Primary School; Geraldton Senior High School; and Nagle Catholic College have risen. Currently, nearly 3000 students attend these schools which have similar start and finish times and insufficient parking facilities. This has resulted in increased traffic and congestion during peak hour drop-off/pick-up times which impacts the safety of staff, students and their carers. This will only become more problematic over time as enrolments are increasing.

To address these concerns, the City worked collaboratively with Landscape architects and urban designers, UDLA together with JDSi (civil engineers), Stantec (traffic engineers) and ETC (lighting and electrical engineers), worked closely with the Maitland Park Transport Hub Working Group, comprised of representatives from the following organisations and groups to develop the concept masterplan:

- Local school principals/students and the Department of Education
- Bus transport companies
- Catholic and Anglican churches
- WA police and Crime Prevention Committee
- Main Roads WA and Road Wise
- Cycling Advocacy Group
- Croquet Club
- Friends of Geraldton Gardens and Geraldton Greenough Farmers Market

To ensure the Concept Masterplan would improve the overall safety and reduce congestion the community was invited to provide their feedback on the concept design. Feedback was collected via online and hard copy surveys over a 19-day period from 20 July to 7 August 2023.

The opportunity to provide feedback was promoted with an initial media release and social media posts. These were followed by a social media campaign and newspaper advertisements for the duration of the public comment period. The five local schools also promoted the opportunity to their students, parents and carers. Members of the stakeholder group also shared the opportunity with their members, work colleagues, friends and families.

Survey Results

Summary: The majority of respondents, 82%, support the Concept Masterplan and its features.

Achieving Better Balance

The majority of respondents, 82%, said the plan would achieve a better balance between buses, light vehicles, bicycles and pedestrians who move in and around Maitland Park school precinct.



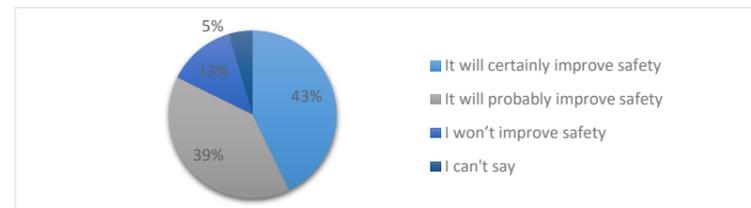
92 comments were submitted regarding achieving a better balance. The most reoccurring comments have been summarised in the following table.

APPENDIX C - CONCEPT MASTERPLAN FEEDBACK REPORT - COGG

Suggestions	Why it will work	Why it won't work
Include more parking bays in the carpark	Removing/separating buses from the main road and traffic is great	Not enough parking in carpark
Build a roundabout at the Maitland Street and Carson Terrace intersection	Roundabout at Carson Terrace and Cathedral Avenue is long overdue	Won't reduce the number of people diving cars into the area
Consider one way traffic on Maitland Street and Carson Terrace	Designated parking will reduce illegal parking	Maitland Street Carson Terrace intersection will still cause congestion
Consider having some buses park on Nagel side of Maitland Street and High school side of Carson Terrace	Good pedestrian separation	Central busport means more students than before will need to cross Maitland Street and Carson Terrace to catch their buses.

Improving Overall Safety

The majority of respondents, 82% said the plan would improve the overall safety of pedestrians and drivers within the precinct.



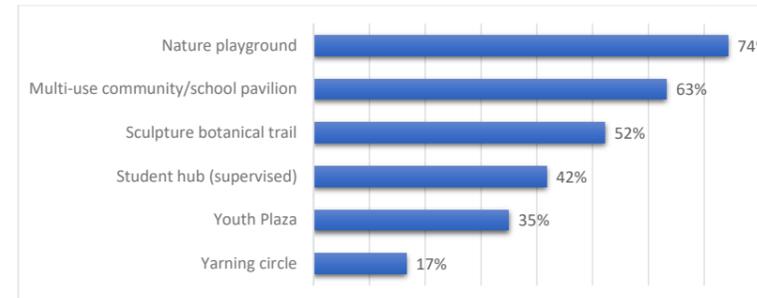
82 comments were submitted regarding how it will improve safety. The most reoccurring comments have been summarised in the following table.

Suggestions	Why it will work	Why it won't work
Build a roundabout at the Maitland Street and Carson Terrace intersection	Centralised location for students to catch buses or private rides	Won't reduce the number of people diving cars into the area which are the cause the safety issues
Consider one way traffic on Maitland Street and Carson Terrace students only have to cross one lane of traffic	Two large street crossings reduce interactions of students with vehicles on the streets	Nagel students will then need to cross Maitland Street which they don't have to currently
	Will slow traffic speeds	Activated park will encourage antisocial behaviour, school truancy
	Safe student waiting area	It requires schools to monitor the area Won't prevent kids from crossing the street wherever they want to

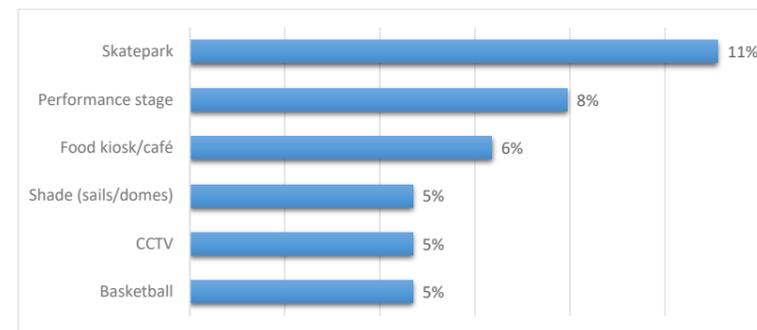
APPENDIX C - CONCEPT MASTERPLAN FEEDBACK REPORT - COGG

Inclusive Spaces

The most preferred inclusive space is a nature playground.

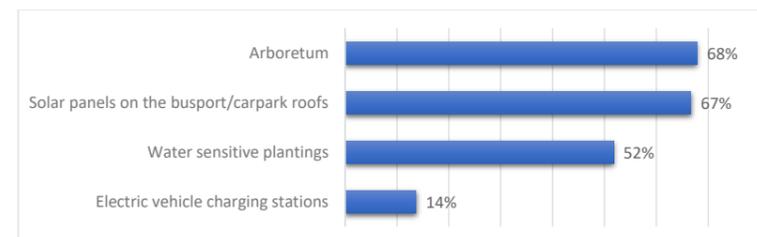


64 comments were submitted regarding inclusive spaces. The six most reoccurring ideas for additional spaces are below.



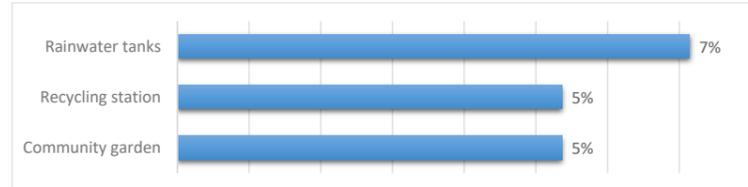
Environmental/Sustainability Features

The most preferred feature is an arboretum.



APPENDIX C-MASTERPLAN FEEDBACK REPORT - COGG

57 comments were submitted regarding environmental and sustainability features. The three most reoccurring ideas for additional features are below.



Covered Carpark/Busport Uses

116 comments were submitted regarding how these covered spaces could be used on weekends or in school holidays. Markets was the most mentioned.

