Moe Rail Precinct

Revitalisation Project: Master Plan

Final Report | November 2009

SJB Urban

Moe Rail Precinct Revitalisation Project:

Master Plan

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01 Introduction

1.1 Project Background and Context 1.2 Project Brief

This Report comprises a Master Plan for the future redevelopment of the Moe Rail Precinct, with supporting concept plans for key elements of the Master Plan, and post-design analysis. The Master Plan incorporates a number of urban design initiatives and proposals aimed at revitalising the centre of Moe.

This Project was prepared by SJB Urban, together with SJB Architects, McCormick Rankin Cagney (Transport Planning) and Slattery Australia (Quantity Surveying). SJB Urban's team was engaged in August 2009, and submitted a Final Draft Report in September 2009, for public exhibition. This Final Report was completed in November 2009.

The study forms part of the Latrobe Transit Cities project, which is overseen by a Project Team coordinated by Latrobe City, with representation from the Department of Planning and Community Development (DPCD), Department of Transport (DoT), Department of Innovation Industry and Regional Development (DIIRD), VicRoads, VicTrack and V/Line.

1.1 Project Background and Context

The town of Moe is located in Gippsland, Victoria, approximately 135 km south-east of central Melbourne. *Melbourne 2030* designated Moe as a Transit City, along with Morwell, Traralgon and Warragul as part of the Warragul-Latrobe Transit City group.

The railway corridor which runs through the centre of Moe's CBD forms part of V/Line's Eastern Region line, between Melbourne and Bairnsdale. Moe is located between Trafalgar and Morwell on this line. The train journey takes 1.5-2 hours from Melbourne.

This Master Plan was initiated and administered by Latrobe City Council. It comprises several key urban proposals initially proposed through previous studies and planning projects.

The Moe Activity Centre Plan (MACP) was prepared by Tract Consultants (December 2007) to assist in achieving Transit City principles in Moe, and identifies seven key projects to be delivered as catalysts for broader regeneration. With relevance to this study, these projects include:

1. Moe Station Precinct, Civic Hub building(s)
2. Integrated bus loop and street upgrades
3. Moore Street Shared Zone
6. Roundabout overpass

As part of the MACP project, community and stakeholder consultation exercises were carried out, coordinated by Red Road Consulting, including a targeted stakeholder Search Conference and the community-wide SpeakOut consultation activities, in March and August 2007, involving approximately 250 Moe stakeholders and residents.

This work was expanded to the Moe Rail Precinct Revitalisation Project Master Plan consultation process, which involved a context audit, a capacity building program, an intensive Design In workshop, and a shopfront Ideas Shop. The outcomes of this process are detailed in the Consultation Findings Report by Red Road Consulting (July 2009).

These and other background documents provide a comprehensive information base for the work set out in this report.

1.2 Project Brief

The consultancy brief for this project included three key components, as follows:

- Master Plan for the Railway Precinct
- Concept Plans for the redevelopment of the Moore Street Shared Space
- Concept Plans for a new Civic/Community Hub, comprising a new library facility, Council and community facilities and a pedestrian plaza.

As stated in the project brief, the key objective of the project is to provide a physical plan showing the proposed layout options of the Rail Precinct, Moore Street and the rail overpass and the facilities and related developments and linkages to key activity nodes within the Moe Activity Centre.

Also as specified in the brief, the purpose of this consultancy is to produce a Master Plan for the Moe Rail Precinct and a preliminary design for the Civic Hub area that:

- establishes a **civic hub** project as the **catalyst** for commercial development and urban renewal.
- facilitates a better urban environment for the Moe community through the application of **quality urban design** practices.
- meets or exceeds all DoT **public transport** functional layout and operational requirements.
- is appropriately **integrated** into the surrounding sites and Moe town centre area.
- provides **comfort and amenity** for users through convenient and **effective circulation** and well designed, fit for purpose facilities.
- ensures **public safety** and security by maximising **passive surveillance** of all areas.
- prioritises amenity of **north-south links** across the rail line for train bus interchange and town centre users.
- creates a **new civic gateway** to the town centre from the south by realigning a direct shared path from Fowler Street fronted by new development at both sides of the rail crossing.
- restructures existing station parking to **improve visual and physical connections** across the rail corridor and to the train station.
- provides **active uses** fronting a **pedestrian plaza.**
- establishes the precinct as a **centre for community pride**, information and learning.
- meets or exceeds the relevant *Melbourne 2030* and **Transit City objectives**.
- retains existing significant **vegetation** where possible.

It should be noted that as this project involves preparation of a Master Plan and Concept Designs, it does not cover some detailed design considerations. Significant further design work is required towards implementation of the proposals, but the plans in this Report provide a considered framework to facilitate best-practice outcomes in accessibility, ESD and solar control, acoustics, building services, lighting and other detail design aspects.

02 Background

2.1 Background Document Review 2.2 Vision

2.1 Background Document Review

This section provides concise summaries of key strategic documents, which provide the principle background information and prompts for the Moe Rail Precinct Revitalisation Project: Master Plan. The documents summarised below represent the most relevant background information, but were reviewed together with several other strategic, planning and technical reports relevant to this location and project

This information provides key inputs and prompts for the planning and design work presented later in this Report.

2.1.1 Moe Rail Precinct Revitalisation Project: Master Plan – Community Engagement & Consultation Activities (2009)

Consultation Findings Report
The following consultation activities occurred in early 2009: Context Audit, Capacity Building Program, Design In Workshop and an Ideas Shop. The predominant themes which emerged were as follows:

'Function' themes

- Transport hub services - rail precinct must remain a transport hub
- Car parking facilities - more car parking should be required
- Library - relocation and redevelopment at the station precinct
- Lifestyle/entertainment - space should satisfy lifestyle needs
- Youth and child-friendly facilities
- Community services and facilities

'Form' themes

- Integration/connection - existing and new
- Safety and amenity
- Image - new, fresh, modern, well appointed

Vision
A place where community members can be transported: physically, socially, culturally, and educationally.

Key words: 'gather', 'welcome', 'comfortable', 'safe', 'information', 'trains', 'café', 'library', 'integrate north and south', 'cutting edge', 'cultural', 'lifestyle-oriented'.

Policy statement: "Council will respond to emerging issues in a creative, sophisticated, inclusive and proactive manner".

The consultation process aimed to maximise opportunities to:

- gather information
- disseminate information
- facilitate 'preferred futures' negotiation
- facilitate inclusive community-based consultation
- facilitate specialised processes
- avoid consultation fatigue

Core principles of the consultation process:

- refine and build upon the Vision
- inclusive, broad process
- encourage new and innovative ideas and solutions
- build ownership, accountability and transparency
- provide a useful tool for future work

Function Themes
Functions/uses: must have / could have / must not have: various items

Transport hub

- Enhanced transport hub, beyond a train station.
- Modern and efficient, welcoming and legible.
- Interchange between various modes: train (commuter/tourist), bus (local, V/Line), car, taxi, bicycle, pedestrian
- Should not be development solely for transport purposes
- Design advice: redevelopment of rail crossing as an underpass or overpass, link rail trail to development, provide secure bike storage, taxi rank - George/Lloyd Streets, secure, comfortable, inviting waiting areas

Car parking facilities

- Majority view that more parking is needed
- Need to explore need, so not to waste opportunities on public land
- Keep parking to periphery, pedestrian focus at centre
- Potential for decked parking (but this is very expensive, also visual impacts)

Library services

- Majority view favours the relocation and redevelopment of the library
- Vision - departure from old style libraries:
- Modern, 21st century facilities, connected, creative/programmable, integrated with other activities, sustainable
- Design must address safety and noise amenity issues.

Lifestyle/entertainment oriented activity

- Civic focus: non-transport facilities would meet lifestyle needs and attract people to spend time
- Examples: cafes, meeting spaces, gallery, entertainment (cinema, theatre), open space
- Blurring/merging public/private activity, co-locating passive and active facilities in new and interesting ways
- Facilitating integrated/mixed activities
- Facilitate cafes/restaurants which open into the evening
- Creative thinking about how space can be programmed, accommodate different uses

Youth and child-friendly facilities

- Appropriate, supervise and healthy activity for children and youth
- Skate park - improve, integrate, expand or relocate?
- Creating safe spaces
- Creating opportunity and building capacity - education/training
- Recreation opportunities
- Improve safety and amenity of skate park, supervision opportunities
- Children's play in open areas
- Youth-friendly spaces - welcoming to young people

Community services and facilities:

- Shopfront-type facilities for key community services (CFA, Centrelink, Medicare, post office)
- Toilets, transport information, seating, lighting, open space
- Creating a consistent design 'look' for street furniture etc

Form Themes

Principles include:

- Priorities amenity of North-South links
- New pedestrian-focussed activity at crossing, to establish train station and interchange in a "civic hub" and a focus for community pride and interaction
- New civic gateway to the town centre
- New development at both sides of crossing
- Improve visual and physical connections across station – restructure car parking
- Active uses fronting a pedestrian plaza
- Range of civic facilities
- Retain existing vegetation and community projects
- Catalyst for urban renewal

Integration/Connection: integrative role of project is critical:

- Physical – improvement of N-S connections
- Service – ease transport connections
- Social – opportunities to meet, mix, relax

Safety and amenity: perceived safety seen as a critical issue or success factor:

- Promoting legitimate activity (day and night)
- Lighting, surveillance

Image: improved, well-appointed, modern, positive and welcoming image of Moe:

- Gateway role
- Local/service role
- Precinct presents an aesthetic 'blank slate'

Design principles:

- High quality urban design
- Functional and designed for use
- Environmentally friendly
- Attractive
- Inviting, active outdoor areas
- Safe and vibrant
- Well lit
- Architecturally landscaped

Vision (as above) – based on the function and form themes established.

The Moe Rail Precinct will:

- Provide a range of accessible and integrated services, minimal barriers
- Accommodate creative mixed uses, including redeveloped library
- Support lifestyle aspirations – a place to linger
- Provide a safer, cleaner and higher standard built environment
- Provide updated facilities – vibrant and beautiful
- Create a vibrant and diverse economic environment
- Become a catalyst to other economic activity
- Value and reflect the natural environment

2.1.2 Moe Activity Centre Plan: Urban Renewal Strategy & Implementation Plan (2007)

This project builds upon the earlier Urban Renewal Framework for Moe, prepared as part of the Latrobe Transit Centred precincts Study (LTCP). The key objectives were to address prioritisation and budgeting of capital works, provide a basis for funding applications, and review occupancy arrangements for VicTrack land, with a focus on short-mid term implementation.

The LTCP provides several key outcomes for Moe:

- Better public transport – upgraded station, new node/hub
- Tourism destination – with cycle connections
- New urban lifestyle –
- Stronger economy – office node, business premises
- Better housing options – apartments, medium density

The report includes an Urban Renewal Framework, which identifies Catalyst projects:

- Station upgrade
- Streetscape upgrades
- Attracting urban lifestyle amenities
- Land packaging for development
- Incentives and advice for development
- Demonstration projects

Issues with the LTCP were identified as follows:

- Unclear strategic rationale, little 'ownership'
- Difficult to identify viable demonstration projects
- Lack of clarity of vision of 'lifestyle' hubs
- Lack of clarity of best model for delivering desired catalyst projects

The LTCP essentially proposed the privatisation of the station precinct through key development sites for higher density residential and commercial/ office development. However economic viability issues will preclude this in the short term at least.

Therefore focus is on civic and public facilities and open space, and public domain improvements, and the relocation of the library, with other community facilities, as a potential catalyst for the town centre.

Framework Plan Elements

- Establish railway land as green corridor linking racecourse (west) and botanic gardens (east)
- Community parks on VicTrack land
- East-west links
- Crucial public open space in the centre, focussed on transport hub
- Enhancing N-S connections across railway
- Activating open spaces with commercial/transit activity
- Integration of pedestrian and cycling trails
- Prioritising other modes over cars
- Establishing new bus routes
- Establishing a bus interchange at the station

Development Principles

- Civic Hub – high quality address, central activity location
- Service Station – redevelopment for efficiency and commercial opportunities, commercial interface with civic hub
- Former goods yard – market redevelopment with value add, short term parking potential
- Existing parkland – consider parking expansion, note sensitive issues
- Existing park/skate park/car park – restructure for cycle link, more efficient layout
- Rose garden – embellish park, conceal overpass, adaptive re-use of substation building
- Eastern landscape corridor - gateway role

Implementation Projects

Project 01: Moe Train Station Precinct, principles and actions:

- Pedestrian level crossing – relocate west to align with Moore St
- Civic hub plaza – open public space, partial cover
- Civic hub library – integrate library, community, transport and commercial facilities/activities
- Civic hub pavilion – amenities, bikes, health
- Commercial development site (south, adjoining service station)

Project 02: Integrated Bus Loop and Street Upgrades

- Proposed bus loop along George St, Saviges Rd, Albert St, Anzac St, Langford St

Project 03: Moore Street Shared Zone, principles and actions:

- Reinforce as primary shopping street
- Strengthen pedestrian connection to the station precinct
- Formalise intersection with George Street
- Retain existing mature trees
- Slow traffic through design

2.1.3 Clifton Street Precinct: Urban Design Guidelines (2008)

This document was prepared by Tract in September 2008, and provides comprehensive design guidance for future development within the Clifton Street Precicnt (area bounded by George, Moore and Albert Streets and Saviges Road). Key excerpts with relevance to the Moe Rail Precinct Revitalisation Project: Master Plan are as follows:

Constraints and Opportunities
Movement (cars), Movement (people), Public realm

Master Plan
Consolidated parking areas
Public open green spaces
Development parcels
Built form
Streets, connections through
Moore Lane as a Path/Shared Zone (connecting into Moore St)

Urban Design Guidelines
Urban Context:

- Respond to Moe built form context
- Address/screen service areas
- Encourage redevelopment, for active frontages to internal areas
- Enhance connections with town centre, including Moore St and Station Precinct

Road Network:

- Establish clear links through
- Delineate between roads and car park areas
- Safe and efficient servicing

Parking:

- Hierarchy, delineation,
- Efficiency, clear identification of spaces, rationalisation
- Bicycle parking
- Landscape design – visual break-up
- Clear pedestrian zones and crossings
- Guidance by areas

Pedestrians and cyclists

- Pathways – primary and secondary
- Visibility and natural surveillance
- Seating

Building settings:

- Presentation, avoid blank walls etc
- Service areas
- Frontages and verandahs

Landscape and public open space

- Vegetation
- Visual amenity and integration
- Ecological value
- Materials, furniture

Site Planning
Safety

- Clear definition of space
- Active frontages
- Encouraging activity
- Sheltered public transport stops
- Lighting
- Signage and orientation

Vision Statement for the Moe Rail Precinct Revitalisation Project: Master Plan (excerpt):

A place where community members can be transported: physically, socially, culturally, and educationally.

Source: *Moe Rail Precinct Revitalisation Project: Master Plan – Community Engagement & Consultation Activities (2009): Consultation Findings Report*

Key Words:

- Gather
- Safe
- Welcome
- Information
- Trains
- Café
- Integrate north and south
- Comfortable
- Cutting edge
- Library
- Cultural
- Lifestyle-orientated

03 Analysis

3.1 Site Analysis

The maps and photographs in this section represent a brief visual overview of the Rail Precinct and surrounding context.

The plans on pages 22-23 represent an outline analysis of the existing physical conditions within and around the Moe Rail Precinct, identifying various factors which may influence the design outcome, including:

- Existing buildings and green spaces
- Edge conditions (built form)
- Views and vistas
- Pedestrian movement – links, connections and barriers

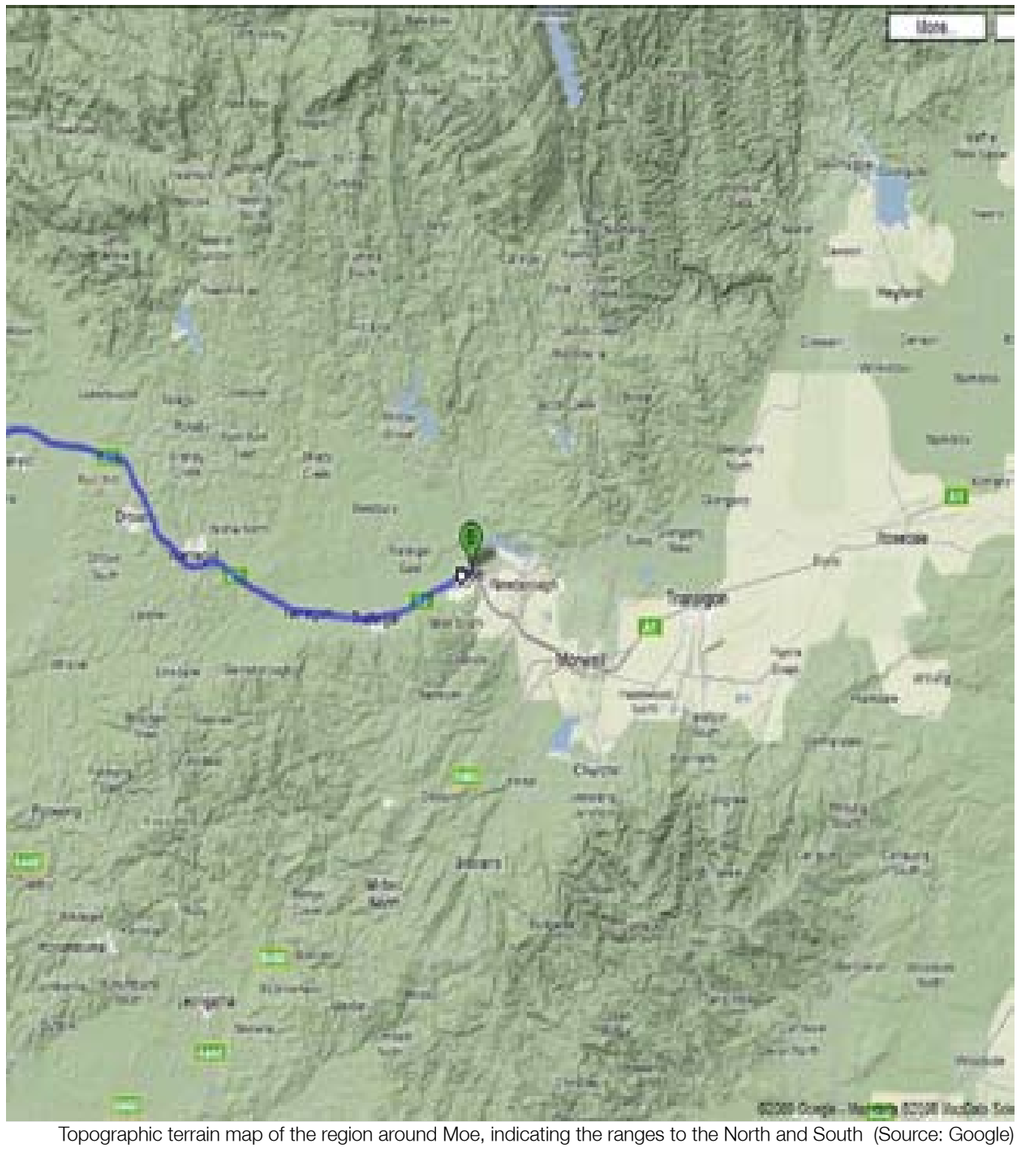
This basic analysis raises various issues and prompts for the later design and planning work, at a range of scales. These outcomes are explained later in this Report.

Aerial image of Moe CBD

Aerial image of Moe Rail Precinct

Existing Moe Train Station building and platform

Moore Street, looking south towards the Rail Precinct and existing shops



Topographic terrain map of the region around Moe, indicating the ranges to the North and South (Source: Google)


Intersection of Moore and George Streets, with Rail Precinct behind shops at right


View from existing Station platform

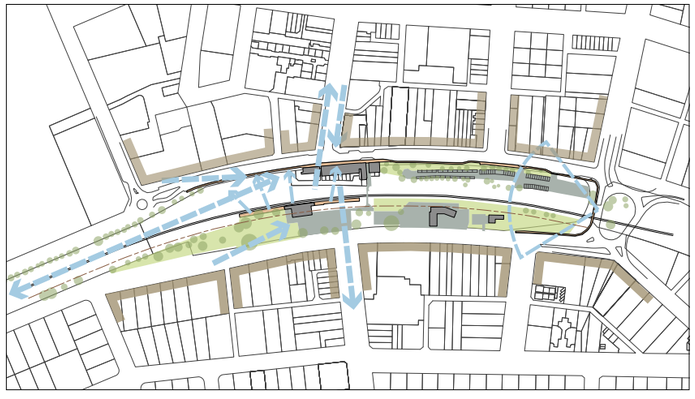
Existing pedestrian level crossing, looking south towards Lloyd Street

Existing landscape area and public car parking at north side of Precinct

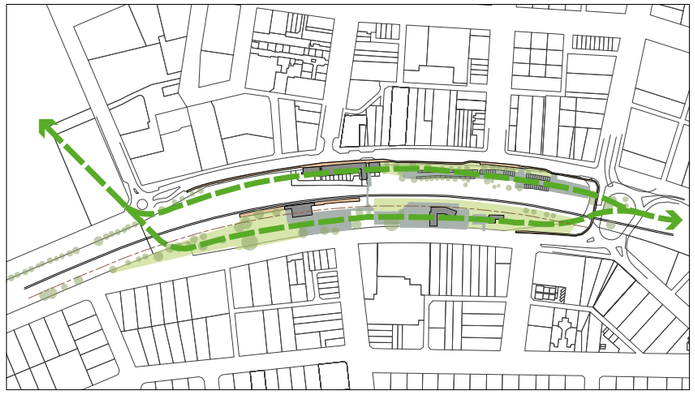
Existing Service Station within the Rail Precinct, on Lloyd Street

Existing shops on Lloyd Street, facing the Rail Precinct

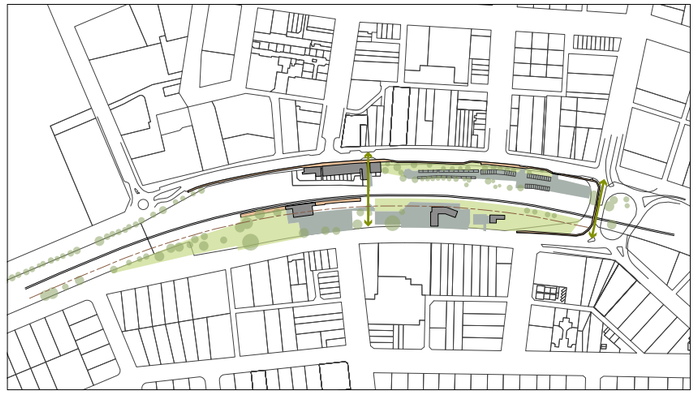
3.1 Site Analysis (continued)



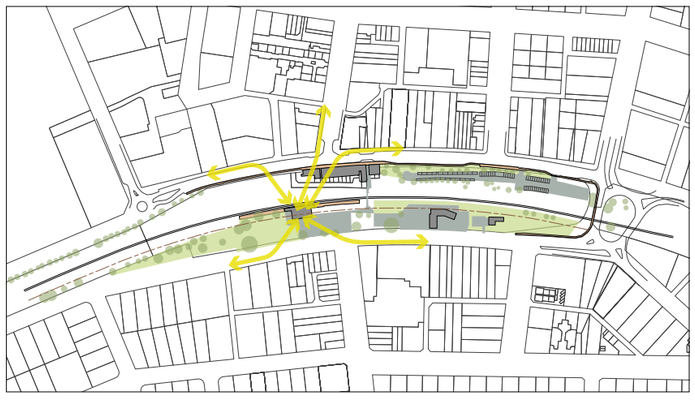
View Corridors and View Lines



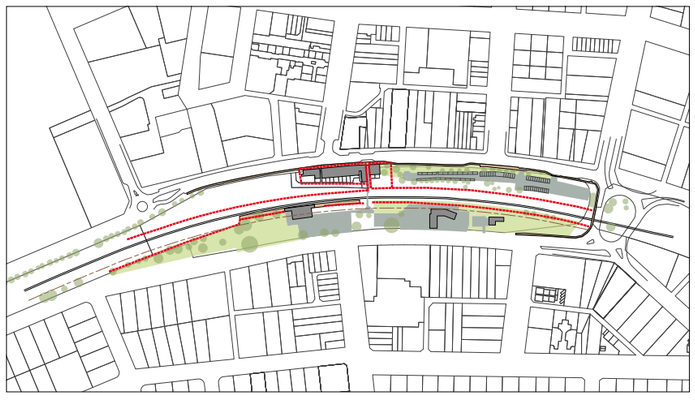
Open Space Corridor



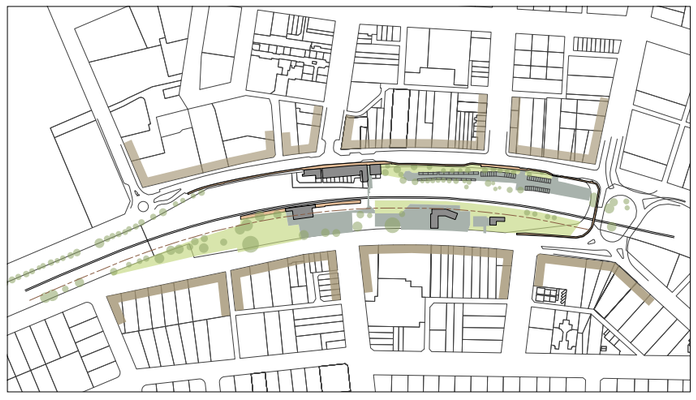
Existing Pedestrian Links



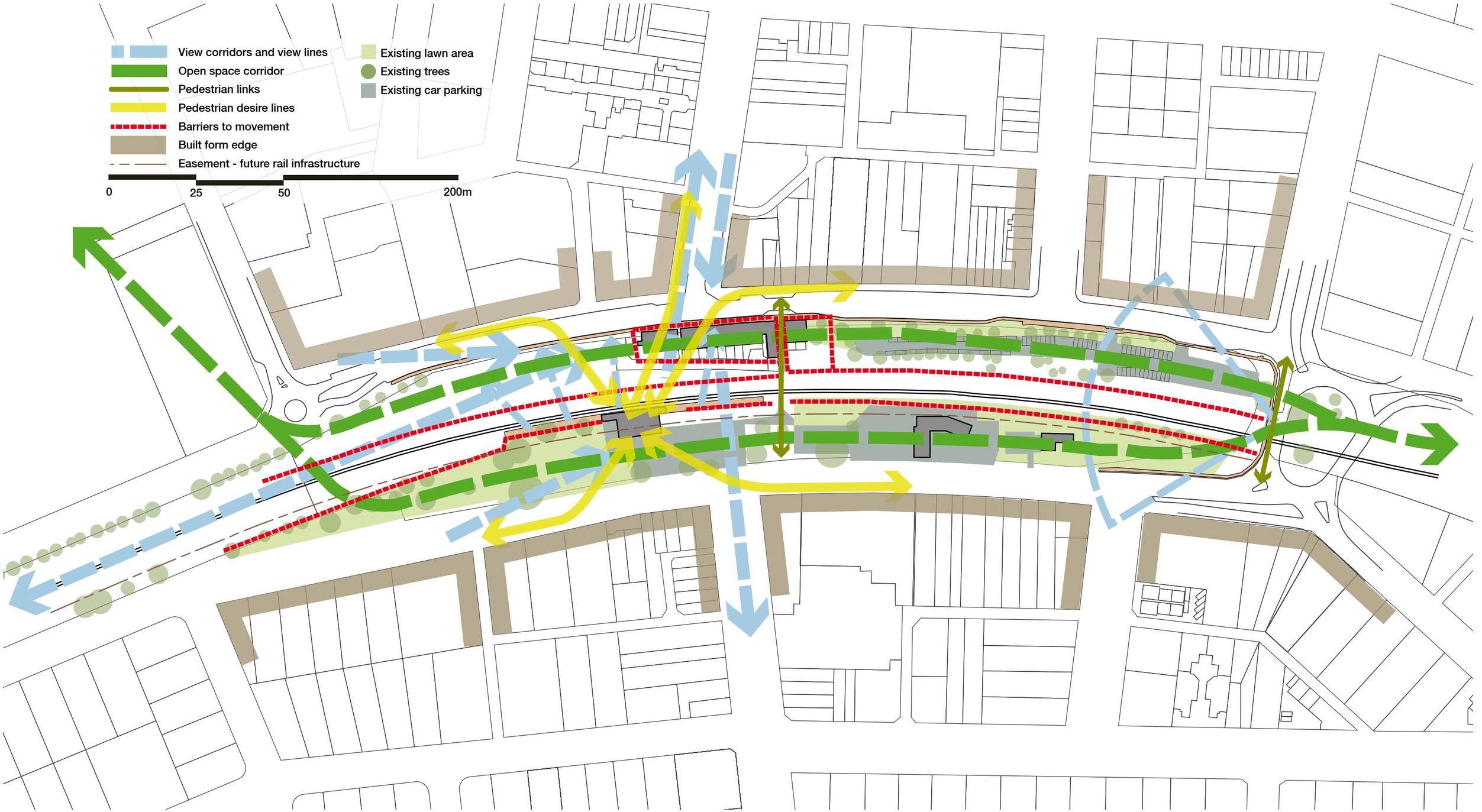
Pedestrian Desire Lines



Barriers to Movement



Built Form Edges


View corridors and view lines
Open space corridor
Pedestrian links
Pedestrian desire lines
Barriers to movement
Built form edge
Easement - future rail infrastructure
Existing lawn area
Existing trees
Existing car parking
0
25
50
200m

3.2 Site Assessment – Station Precinct

The following analytical assessment of the Moe Rail Precinct is based on a detailed review of background documents, consultation outcomes and physical conditions in and around the Precinct. The assessment is categorised as follows:

- **Issues** or problems to be addressed through the master plan and implementation
- **Priorities** for action or short-term delivery
- **Constraints** or limitations to achieving the objectives
- **Opportunities** for added value or extra benefit

This format provides a clear, legible rationale for the subsequent design proposals, reflecting a thorough understanding of the place, and couching the proposals in the context of the current circumstances. In this way, the master plan is guided to directly address the existing conditions and context.

3.2.1 Issues

Barrier to north-south movement
The railway corridor and station precinct through central Moe forms a significant barrier to north-south movement within the town centre. The existing pedestrian level crossing is the only connection between the Lloyd Street/Anzac Street overpass and a connection at the western end of the Racecourse, and is concealed, narrow and quite unwelcoming. Further, this crossing is not aligned with pedestrian routes to the north or south. This situation significantly constrains north-south movement and accessibility, effectively 'cutting the town in half'.

The railway is lined with steel paling fencing at the Station Precinct, but further to the east and west, the railway is open to the adjoining open space and streets. Therefore, the safety or security requirements for the fencing at the Station may be questioned.

Lifestyle/entertainment
The Moe town centre currently lacks lifestyle and entertainment facilities, and this need has been identified through consultation processes. These facilities may include cafes, meeting spaces, gallery spaces, cinemas, theatre and open spaces.

Visibility of Station from north
The existing single-storey shops in the Rail Precinct on the south side of George Street serve to obstruct views and visibility to the Station from Moore Street, which is Moe's primary pedestrian-focussed shopping street. This makes the Station virtually invisible from large areas of the town centre.

Station entrance from north
The pedestrian entrance to the station from the north consists of a narrow walkway between two blank side walls of shops, leading to the pedestrian crossing. This entrance lacks prominence, visibility and any sense of amenity, welcome or safety, and is completely unsuitable.

Skate Park
The existing retrofitted skate park consists of several steel ramps arranged on an asphalt surface. Its location is isolated from other uses, the equipment is quite basic, and opportunities for passive surveillance are very limited, with no built form or activity nearby.

Youth and child-friendly facilities
Consultation processes have confirmed a current lack of youth- and child-friendly facilities in Moe generally. The Rail Precinct is particularly relevant to this issue, as significant numbers of adolescents use the trains and buses to travel to school, and so spend time in the precinct waiting or on arrival.

Image, appearance, aesthetics
The existing conditions in the Rail Precinct reflect a poor-quality visual and aesthetic environment. Unpaved surfaces, disused rail infrastructure, backs of shops, utilitarian fences and other barriers contribute to a harsh, unpleasant environment. The outlook to the north from the station platform is similarly unpleasant.

Library
The existing Moe library facilities are deemed inadequate for current usage levels and Moe's current population, and potential growth in population and patronage. There is potential to give this service and key community facility a 'lift' in spatial quality and amenity.

Rail Trail
The existing Moe-Yallourn rail trail, a cycling trail utilising the former railway line, currently commences just east of the Anzac Street roundabout/rail bridge, so is disconnected from the Station and city centre.

Legibility
Urban legibility describes the clarity or readability of urban areas, to guide movement and easy accessibility, especially for pedestrians. At the Moe Rail Precinct, existing entrances, buildings, fences and other barriers contribute to quite low levels of legibility. That is, the entrance from the north is concealed and difficult to find, and the existing shops obstruct views into the Station. There is potential to create a more legible system which responds to pedestrian desire lines.

3.2.2 Priorities

Safety
Improving safety and perceived safety in and around the Station is a key priority for the proposed redevelopment works. This matter concerns the application of CPTED principles (Crime Prevention through Environmental Design), which affects site layout, building design and frontages, landscape and fixtures.

Amenity
Creating a great place where people like to linger and spend time is a key priority for the Rail Precinct and Civic Hub. The new community hub must be attractive, comfortable, easily accessible and functional for a wide range of groups, individuals and activities.

Implementation
Moving the redevelopment progress rapidly towards implementation (construction) is a key priority. It is vital that the lengthy planning and consultation work is seen to yield tangible results and value for the Moe community.

Access
Ensuring optimal accessibility for all is a primary objective for the new civic/ community hub. This includes visual accessibility, allowing people to see their destination, and physical accessibility, through clear movement and entrance points.

New facilities
Alongside the community hub (library and associated facilities), the civic hub must also accommodate key public facilities, including toilets/change rooms, transport information, seating, lighting, signage and open space.

Youth-friendly spaces
It is important that the redeveloped precinct provides spaces which are attractive and welcoming to young people, without excluding other age groups.

Skate Park
Improving the safety, quality and amenity of the skate park, with improved supervision opportunities, is also a priority. It is important that supervision opportunities remain passive, and do not affect the youth-friendliness of the facility. The space should not be seen to be overly ‘controlled’ by adult supervision.

Streetscape upgrades
Achieving physical upgrades to streetscapes around the Station Precinct, particularly Moore Street and George Street at the station entrance area, will significantly enhance the appearance and perceived quality of the precinct. These upgrades may include new paving, landscape/planting, lighting, signage and street furniture.

Public Open Space
The provision of public open space in the town centre, focussed on the transport hub, is seen as crucial to the project. The CBD currently lacks high quality open space, and the proposed Civic Hub presents an ideal opportunity for a great space in a key, central location, surrounded by new, active uses.

Integrating transport modes
Currently, the different transport modes in Moe lack effective systematic or physical integration. The designs for the redevelopment of the precinct should provide for enhanced connectivity between trains, local and regional buses, cycling, walking, taxis and private vehicles. This should involve development of a new interchange which allows:

- Integration of pedestrian and cycling trails
- Prioritising other transport modes over cars
- Establishing new bus routes
- Establishing a bus interchange at the station

3.2.3 Constraints

Site contamination
The *Phase II Environmental Site Assessment – Moe Rail Station* report (SKM 2006) indicates the presence of contaminants in the soil and groundwater within the Station Precinct. This may present a constraint to some building construction and activities, for safety reasons, or through additional cost for remediation, if required, but requires further investigation.

Car parking requirements
The Department of Transport has indicated a required increase in commuter car parking at Moe Station, and some community inputs have expressed a current shortfall. The future requirement is specified by DoT as 100 commuter parking spaces. Parking for other future uses in the precinct, and other parking provision, would be in addition to this.

Budget/funding
The need for a publicly-funded catalyst project in Moe has been identified as a key to wider urban renewal activities, and the proposed civic hub is seen as the primary catalyst. The extent of capital works, and therefore the design of the building(s) and public realm spaces, will need to be considered in the context of a detailed funding model.

This issue should be explored through the design options and preliminary costings, and may potentially be addressed through a staged development which can evolve over time, as funding becomes available.

Existing assets
The Station Precinct currently contains a number of existing community assets, including green open space, community projects / furniture and mature trees. While these elements may constrain future redevelopment initiatives, their presence may also provide opportunities to maintain connections to the precinct’s history, through retention or relocation, as appropriate, and these potentials should be explored through the design process.

3.2.4 Opportunities

Future rail infrastructure
The project needs to incorporate an easement for potential future rail expansion (additional track) on the south side of the existing railway line. This comprises an offset distance of 11 metres from the centreline of the existing tracks within which new buildings should not be planned. However, this proposal has not been included in the recent Victoria Transport Plan, so its implementation in the short-medium term is unlikely.

Other transport infrastructure requirements
The redevelopment must also incorporate infrastructure and spatial provision for other transport modes including:

- local bus interchange (on street spaces for bus stopping and layover)
- bicycle facilities - secure storage, change facilities
- taxi rank
- drop-off / kiss-and-ride
- commuter parking

Creating a new Civic Hub and focus for the town
This project is focussed on a strategic opportunity and direction to create a new civic precinct and 'heart' for the town of Moe, establishing the train station and transport interchange in a 'Civic Hub", which becomes a focus for community pride and interaction.

Catalyst for urban renewal
The development of a new Civic Hub at the Rail Precinct is seen as a potential catalyst to further urban renewal in central Moe, establishing new benchmarks and creating the conditions to encourage private redevelopment of retail, commercial and residential properties in the centre.

Library
The relocation and redevelopment of the Moe Library at the station precinct has been identified as a key driver for the Civic Hub project. The rejuvenation of the Library will reflect a departure from 'old style' libraries, with contemporary facilities, services and design approach.

Integrated service: Library / Council Services
The new Library facility will provide integrated services, performing library functions as well as Council services for Moe, such as rates collection, animal registration and other key services. The design and layout must allow for this combination of services to be provided by multi-skilled staff.

Image enhancement
It has been acknowledged that Moe suffers from an 'image problem', in how it is perceived from outside. The building(s), spaces and facilities of the new Civic Hub should uplift the visual image or perception of the Rail Precinct and Moe generally, through new, fresh, modern and well appointed facilities and spaces. The power of new, dynamic, exciting facilities in a prominent, central location in shifting the image of a place, should not be underestimated, and is a key aspect of this study.

Integration/connection
Redevelopment at the Rail Precinct presents the opportunity to create a new or enhanced connection across the railway lines. The crossing at the Station performs a key function for transport access, but also plays a key role in the wider CBD, forming the only demarcated connection for pedestrians between the Anzac Street overpass and the level crossing south of the Moe Racecourse.

Staging
The recommendations of the Master Plan are likely to be implemented over an extended time period, beginning with priority actions and short-term initiatives, then continuing as funding and other opportunities arise. The Master Plan should therefore provide an effective staging sequence and implementation strategy, to prioritise actions and allow incremental development towards a final goal.

New gateway/entrance to Moe
The Rail Precinct is located centrally in the town, but also forms its primary gateway or entrance point. Therefore the Civic Hub development can provide a new, enhanced entrance to the activity centre, with contemporary, sophisticated built form, spaces and facilities.

Integration of transport and civic facilities
By developing a Civic Hub and community facility at the Rail Precinct, the opportunity arises to integrate civic and transport services and facilities. The new hub may incorporate waiting areas, 'real time' transport information, cafe and retail uses, which provide secure, comfortable, inviting spaces for community members and travellers alike.

New experience of Moe
A new community hub building may be designed to offer new and unique experiences of the town centre and beyond, through exciting spaces, view opportunities, social interaction, events and services.

Integration of Moe-Yallourn Rail Trail
The Master Plan and Civic Hub provide an opportunity to integrate the established Rail Trail bicycle path to Yallourn, through a new connection to its existing start point just east of the Precinct.

Removal of existing shops on George Street
The opportunity to acquire and demolish the existing shops on George Street, will allow a new entry to the Station and a dramatic 'opening up' of the Station to Moore Street and George Street. This initiative has been established prior to the Master Plan, and will allow the creation of a new street and public realm environment and interface between the Station and town centre.

Integration of community/commercial facilities and services
The Community Hub building may incorporate facilities for use by key community services such as the CFA, Medicare, Centrelink and Australia Post. These services may not have a permanent or full-time presence, but may utilise flexible spaces or shopfront facilities on a regular basis. A number of other service providers may also utilise space in the new facility, which should provide flexible, adaptable spaces for various activities over time.

Active uses fronting a pedestrian plaza
A new civic, public open space, of appropriate size and design for a range of activities, can be edged by active uses, for a defined, enclosed, vibrant public space, which feels safe, welcoming and active, and is an integral part of Moe's CBD.

Tourism destination
The new Civic Hub can also become the focal point for Moe as a tourism destination, building on linkages to surrounding mountain ranges and alpine areas, cycling connections, and other local assets, providing information, guidance and facilities and convenience services to visitors.

Stronger economy
Part of the intended catalyst effect of the proposed Civic Hub is to instigate a boost to local economic activity. This may take a range of forms, for example:

- Small business incubator services, training and affordable facilities for start-up enterprises
- Cafe/restaurant which showcases Gippsland's regional produce
- Flexible office spaces for temporary/part-time usage by a range of occupants throughout the week
- New accommodation and/or residential development
- Tertiary/TAFE education and training facilities, new student population

Increased economic activity tends to be self-perpetuating - the required kick-start will continue to evolve and grow local business and opportunities.

Better housing options – apartments, medium density
Redevelopment within the Rail Precinct may also provide opportunities to incorporate improved residential options, including apartments and medium density development, in the heart of town, This will bring other spin-off benefits, increasing local activity, patronage for businesses and services, safety and vibrancy in and around the precinct.

Youth focus
Part of the proposed redevelopment should reflect a specific youth focus, in its location, design, spatial arrangement and facilities. This may reflect a more hard-edged, gritty design approach, but should allow young people to appropriate the space independently.

Passive surveillance
Opportunities for new buildings to allow for visual interaction and passive surveillance of surrounding public realm spaces, including the Station platform and environs, civic plaza, streetscapes and youth facilities, should be maximised thought the design of facades and internal spatial arrangements.

This may extend to allow informal supervision of the youth-focussed spaces, but this aspect should not be overtly controlling, as to affect the 'independence' of youth facilities.

Green/open space corridor
The Rail Precinct already contains significant areas of green open space and garden areas. This aspect may be enhanced and even expanded, to form an open space corridor linking the Racecourse (west) and Botanic Gardens (east), comprising a cycle link and other active and passive recreational spaces.

Service Station
The Rail Precinct Master Plan provides the opportunity to guide future development of the existing Service Station on the south side fronting Lloyd Street, to ensure space efficiency and support commercial opportunities and an enhanced interface with the Station, open spaces and Civic Hub.

3.3 Site Assessment – Moore Street Shared Zone

3.3.1 Issues

Functional failure
The existing Moore Street Shared Zone is currently functioning as a 'hybrid' low-speed street, rather than as a true Shared Space. It largely still looks like a street, with defined space for cars and people, and does not provide sufficient restrictions or 'signals' to control or slow down vehicular movement. Community inputs have reinforced its functional failure.

Communication failure
The primary philosophy of Shared Zones or Shared Spaces is not defining spaces, but keeping spaces ill-defined, to encourage caution and sharing.

A key aspect of successful Shared Spaces is the messages the design communicates or signifies to users of the space. Currently the Moore Street Shared Zone gives a number of wrong messages, preventing its successful functioning as a Shared Space:

- The asphalt surface on the road makes it look like a normal street
- This surface is distinct from the brick paved footpaths, creating two separate spaces for people and cars
- The large '10' speed limit figures painted on the road also signify that this is space for cars, not people
- The Shared Zone signage is too small and discreet
- The scale of the street surface is large and expansive (asphalt surface), whereas a Shared Space needs more variation in surfaces and more of a human scale in the detail articulation.
- There is insufficient warning to vehicles approaching the Shared Zone, that they are entering a different type of street.

Image, aesthetics
The existing brick paving, seating, shopfronts and arched canopies create an 'old, tired' impression or image. Moore Street does not look fresh or inviting. As a result, the existing public realm spaces along Moore Street do not appear to experience significant usage.

3.3.2 Constraints

Community acceptance and support
Shared Spaces are a new form of street design, and may be seen as radical in the context of Australian towns and cities. As a result, this initiative is likely to be subject to community concern and reaction, particularly during the early phase of adaptation to changed conditions. Retail traders may also resist this initiative.

3.3.3 Opportunities

Creating a great street
Shared Spaces can be great streets, where all users enjoy complete freedom to use the space and move through it, and where an attractive, safe and well-designed environment encourages people to linger and spend time.

Learning lessons from others
In creating a Shared Space, it is essential that the design is right, including the details. Therefore it will be vital that skilled and experienced designers are involved, and that other examples are carefully studied and analysed for their successes and failures. The City of Bendigo is currently undergoing a program of Shared Space treatments in the city centre, with one section already constructed and open, and the next section to commence in early 2010.

Connecting to the Rail Precinct/Transport Interchange
The re-design of the Moore Street Shared Zone, coupled with the removal of existing shops in the Station Precinct at the southern end of Moore Street, presents opportunities to create a stronger, clearer connection between the CBD and the Station.

3.4 Sub-Precincts

To provide place-specific design proposals and guidance across a large area, and to facilitate positive linkages and relationships with adjacent areas of the Moe CBD, it is beneficial to identify various Sub-Precincts within the Master Plan area. These Sub-Precincts are defined by approximate boundaries and locations, and are loosely based on the preferred strategic directions, proposed activities and future redevelopment opportunities.

The Sub-Precincts within the overall Moe Rail Precinct are as follows:

Sub-Precinct 01: Civic/Community Hub
Central area, incorporating the future Civic/Community facilities and pedestrian plaza and existing Train Station, and extending into Moore Street.

Sub-Precinct 02: Moore Street Shared Space
New landscape/streetscape treatment to Moore Street, with new, pedestrian-focussed connection into the Rail Precinct.

Sub-Precinct 03: Commercial / mixed-use
Potential development area for private sector development, opposite the Clifton Street Precinct, potentially comprising commercial offices, community/ institutional uses, small-scale/convenience retail or even residential development.

Sub-Precinct 04: Active space
Area immediately east of the Civic Hub, comprising a new Skate Park, and potential new facility for active uses – entertainment, hospitality, recreation, functions and events.

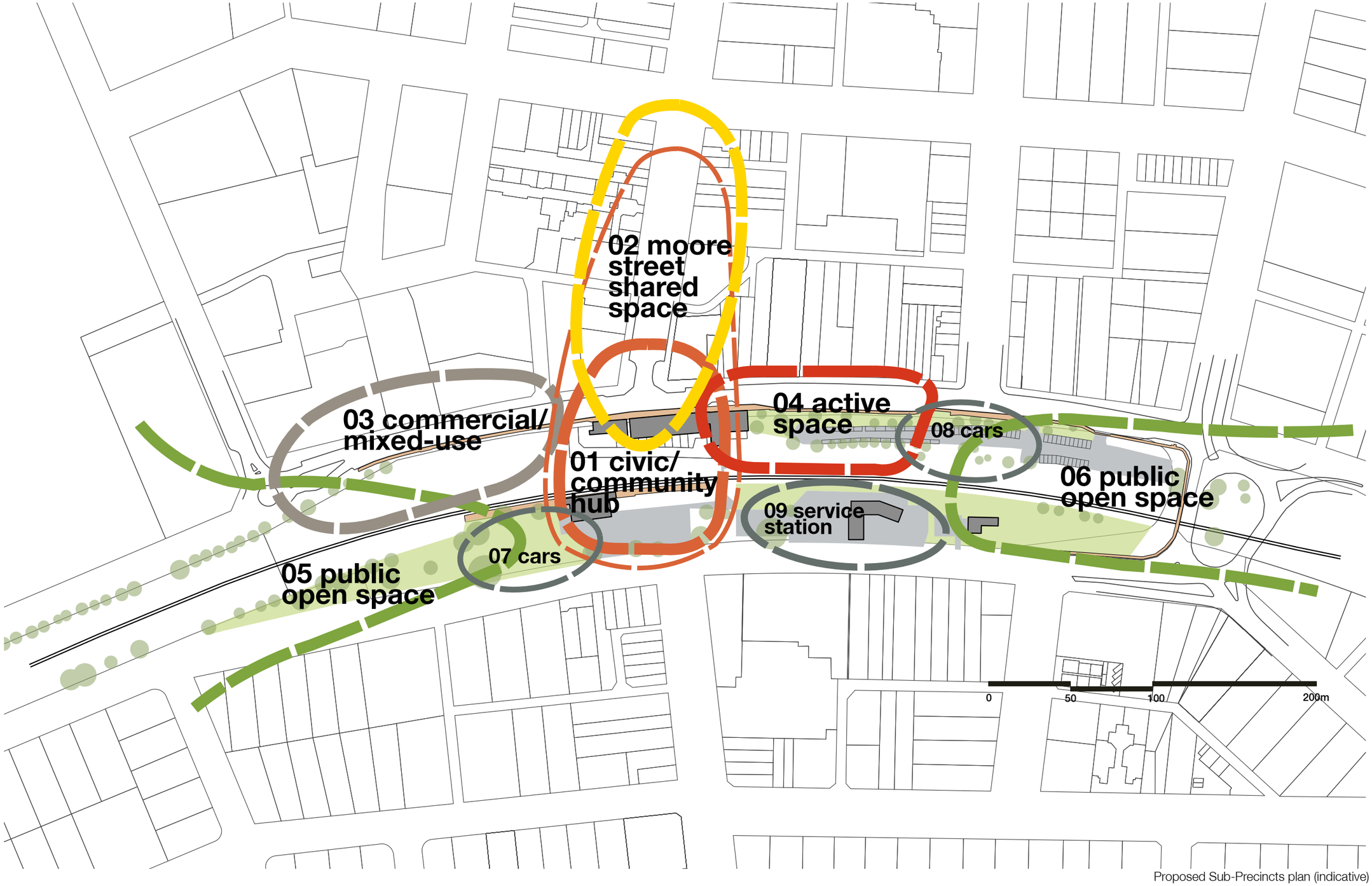
Sub-Precinct 05: Public open space (west)
Passive green space at the west end of the Precinct, building on existing landscape area, potentially incorporating significant public art and enhanced landscaping.

Sub-Precinct 06: Public open space (east)
Passive green space at the east end of the Precinct, building on existing landscape area and replacing the existing Skate Park, potentially incorporating significant public art and enhanced landscaping, including visual screening of the road overpass.

Sub-Precinct 07: Commuter car parking
Reconfigured and expanded commuter car parking and V/Line coach area, with new pedestrian path and tree plantings.

Sub-Precinct 08: Public car parking
Reconfigured and expanded public car parking, with new landscape areas.

Sub-Precinct 09: Service Station
Existing Service Station is expected to expand. Enhanced interfaces to the Rail Precinct public realm areas, through landscape treatments and small-scale built form.



Proposed Sub-Precincts plan (indicative)

04 Master Plan

4.1 Urban Design Principles

Through careful analysis of the Project Brief, the various background documents and consultation activities, and the Rail Precinct existing site conditions, a series of ten (10) key Principles were identified, to guide the design and planning work. These Urban Design Principles are as follows:

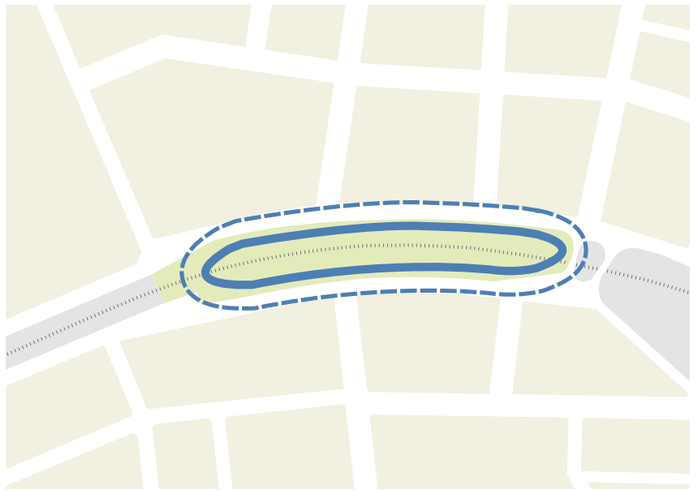
Principle 1: Integration and 'Repair'

Repair the urban spaces of the Rail Precinct through integration and a comprehensive strategic planning approach.

The existing Rail Precinct is currently loosely organised, disparate and fragmented, without any clear order or rationale for the location of spaces and activities, or the interfaces between them. The unpleasant visual environment of leftover spaces, disused rail infrastructure and back-of-house areas are reinforced by the expansive 'openness' and lack of definition in the area.

The master plan should provide a clear approach to integrating the various current and potential future uses within a legible order, and should seek to 'repair' the environment, towards a more pleasant, attractive, safe and accessible precinct.

The redevelopment of the Moe Rail Precinct will be highly integrated with surrounding development, streets and spaces, and will enhance connections across the Precinct, and between the Precinct and surrounding areas.

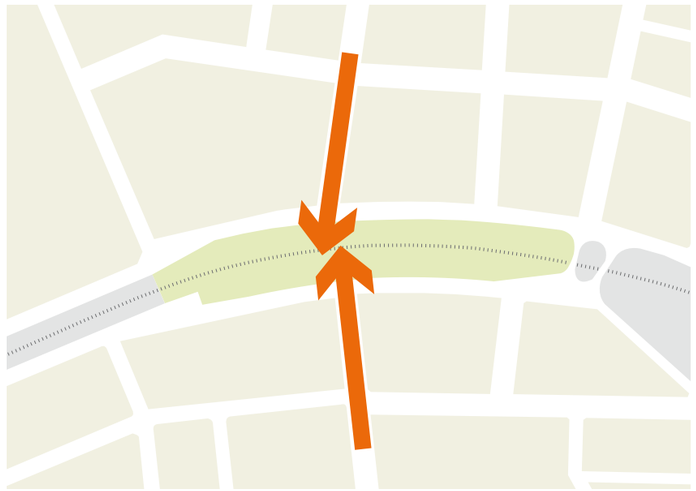


Principle 2: Connections

Enhance existing connections and create new links to facilitate ease of movement, comfort, amenity and visibility, particularly for pedestrians and cyclists.

The railway corridor runs east-west through the centre of Moe's town centre, and forms a significant barrier to north-south cross-movement in Moe, effectively 'cutting the town in half'. The existing pedestrian level-crossing is difficult to see and to access, especially from the north, and is not well integrated with surrounding street systems. The existing shops facing George Street form a further visual and movement blockage, and existing car park areas further limit easy pedestrian access to and through the Rail Precinct.

Future development in the Rail Precinct should seek to develop and enhance existing connections, and create new ones, across the rail corridor, and between the town centre and the Station, particularly for pedestrians and cyclists. Connections and access routes should respond to established movement routes in the town centre, and to natural pedestrian 'desire lines'.



Principle 3: Green corridor

Develop and reinforce the Rail Precinct as a green, open-space based corridor.

The existing Rail Precinct displays evidence of an earlier condition as a more comprehensive green corridor, linking the green open spaces of the Moe Racecourse to the west, and the Botanic Gardens/River environs to the east.

This project presents the opportunity, as identified in previous consultation inputs, to develop and reinforce the railway corridor as a green connection through the town centre, while still accommodating new development and infrastructure over time, providing valuable public open space, a landscaped backdrop to the urban area, an attractive movement corridor, and potential for productive gardens and other activities.

Principle 4: Active/passive

Establish distinctive character areas within the Rail Precinct north and south of the railway line.

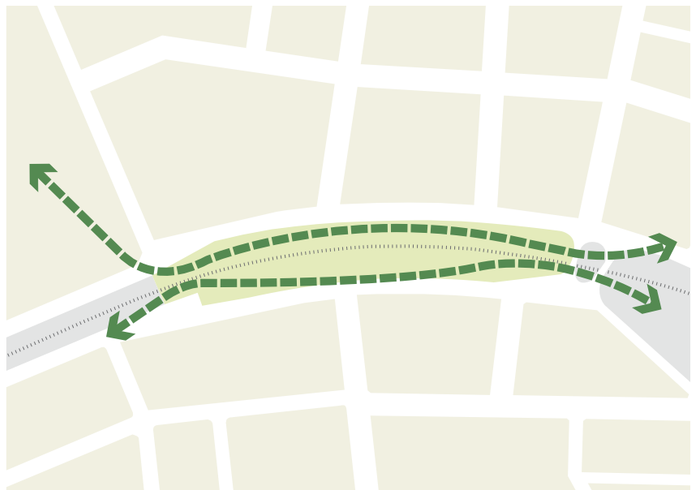
In response to the site conditions and surrounding urban activities, the opportunity exists to reinforce the duality of the precinct by developing the northern side of the railway line as an ‘active’ area (urban environment, dynamic design, active recreational activities), and the southern side as a ‘passive’ area (landscape focus, passive recreation, community spaces).

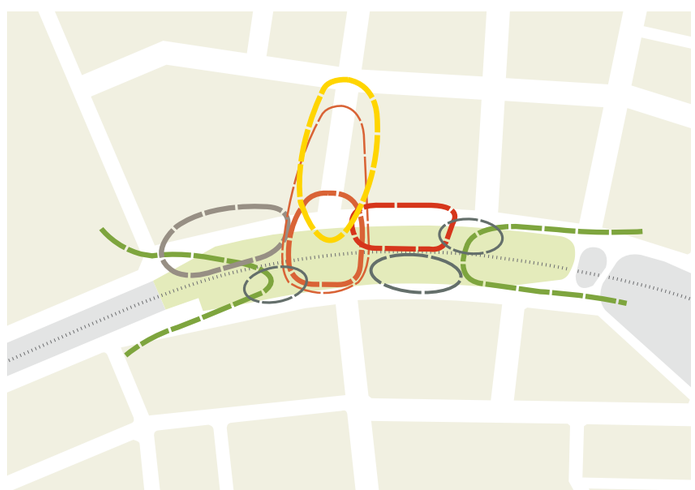
This approach will allow a distinct identity to be developed for each side, while also developing enhanced connections and accessibility between the north and south sides.

Principle 5: Sub-Precincts

Distribute activities within the Rail Precinct according to defined, but loose, sub-precincts.

New development in different parts of the Station Precinct should respond to the character, land-use and built form of adjoining/adjacent locations in the CBD, while maintaining optimal development opportunities.





4.1 Urban Design Principles (cont.)

The analysis has identified a series of potential sub-precincts within the Rail Precinct, to guide future activities in different parts of the site. The indicative Sub-Precincts are identified as follows:

01 **Civic/Community Hub:** located centrally in the Precinct, at the south end of Moore Street

02 **Moore Street Shared Space:** new streetscape treatment, extending Moore Street into the Civic Hub

03 **Commercial/Mixed Use:** located west of the Civic area, facing the Clifton Street Precinct to the north

04 **Active Space:** located east of the Civic area, comprising a redeveloped skate park and other recreational facilities

05 **Public open space (west):** landscaped open space north and south of the railway, forming the west end of the Precinct

06 **Public open space (east):** landscaped open space north and south of the railway, forming the east end of the Precinct

07 **Commuter car parking:** reconfigured parking, located immediately south-west of the Station building (west of existing parking) to allow a pedestrian forecourt and landscaped area located centrally at the north end of Fowler Street

08 **Public car parking:** reconfigured parking located in the north-east area of the Precinct

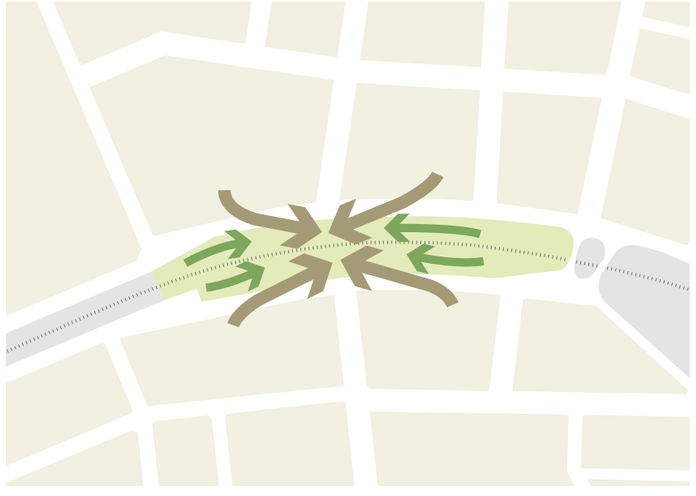
09 **Service Station:** existing facility, with allowance for expansion, and reconfigured interfaces with other parts of the Precinct.

Principle 6: Compression, consolidation

Move towards a more intimate, urban, active character, through consolidation and compression of activities.

The Rail Precinct's existing character is defined by loose organisation and distribution of elements, lack of order, and expansive, underutilised spaces, creating an 'empty' feel. The Moe CBD displays similar characteristics in its spacious built form distribution.

To create an active, vibrant, dynamic, exciting and safe Civic Hub, new development in the Rail Precinct should focus on compression and consolidation, or bringing things closer together, while still providing adequate space for the various functions and activities.



Principle 7: Creating a 'centre'

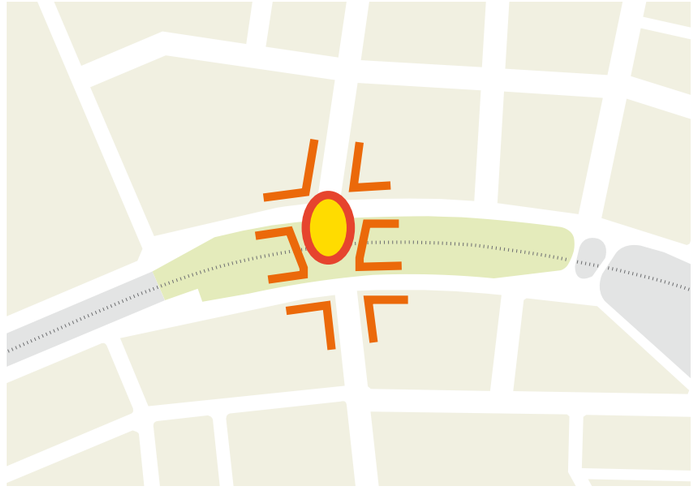
Establish a new city 'heart' and focal point at the Rail Precinct.

Moe's CBD currently lacks a clear focal point or 'heart'. While Moore Street is the main retail area in the town centre, it lacks the valued urban qualities of a well-conceived civic space and surrounding built form.

This project presents the requirement and opportunity to establish such a 'centre' for Moe, based around a new pedestrian plaza and surrounding community-based facilities.

This new focal point should achieve the following:

- Legibility and accessibility, including entrances and sense of arrival
- Safety and security
- Frontages – interaction between buildings and the public realm
- Celebrating the railway, and intersection point



Principle 8: Image and presentation

Boost the visual image and perception of the Rail Precinct and Moe CBD.

As the key arrival point and central location in Moe, visible both from trains and private vehicles approaching the CBD, the Rail Precinct plays an important role in ‘setting the scene’ and projecting the image of Moe.

Opportunities exist to significantly enhance this image and therefore perceptions of the town, by upgrading the built form, open spaces and landscape of the Rail Precinct, and ensuring that future development opportunities attract high-quality design outcomes.

The design approach in the master plan presents a distinctive urban system/structure, through principles of dynamism and flow, and overlap and ‘slippage’ between buildings and spaces.

Principle 9: Views, viewing opportunities

Build on existing view corridors and establish new viewing opportunities, to enhance the sense of place and experience of Moe.

The Master Plan should seek opportunities for views from the Rail Precinct to the wider geography and landmarks, and for celebration of the railway and its intersection with key north-south streets.

Moore Street provides significant and attractive view opportunities to the Baw Baw’s to the north, but this view is not currently available from the Station. Views to the south along Fowler Street to the Strzelecki Ranges are also dramatic and enticing. Reconfiguration of the Rail Precinct should enhance access to these view opportunities, as well as new ones, and should ‘celebrate’ the experience of the railway corridor and train movements.

Localised views must also be considered and resolved, to ensure attractive views to, and from, the Rail Precinct and Station. This includes alignment and positioning of built form, spaces and car parking, and the design of buildings and landscape to offer optimal visual conditions.

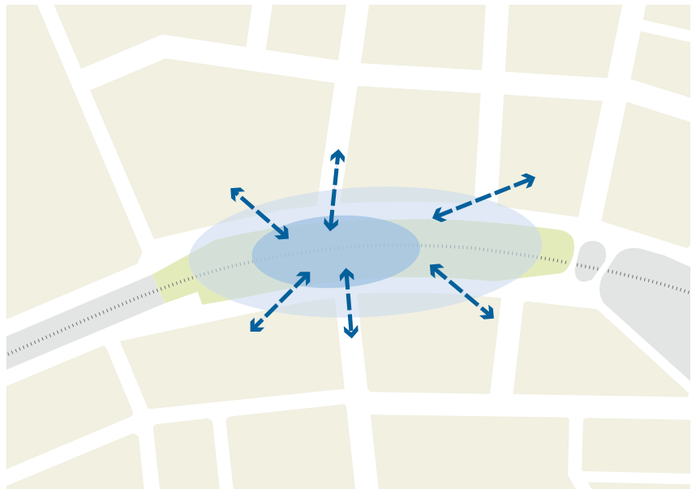
Principle 10: Stageability

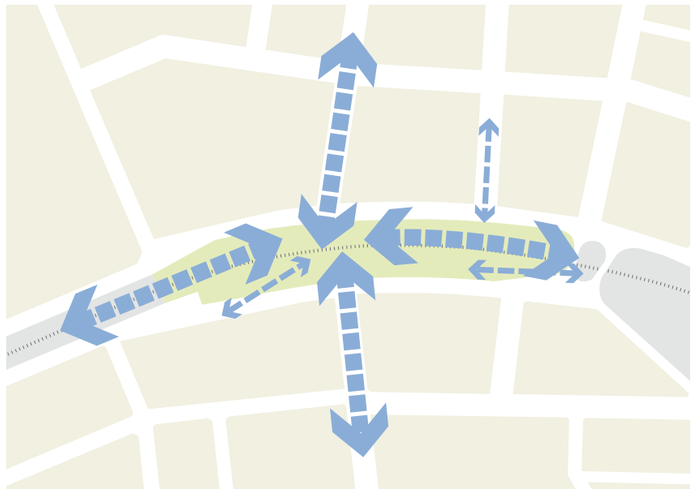
Plan for the Rail Precinct to evolve and redevelop over time, and utilise and build upon existing assets.

Master Plans must accommodate the need to implement the proposals over extended periods, as conditions change and funding becomes available, as well as providing a degree of flexibility to adapt to changed circumstances in the future. The Master Plan for the Rail Precinct should reflect a series of discrete projects which can be delivered into the future.

The Moe Rail Precinct is a large area and its potential redevelopment will not occur all at once. The Master Plan must accommodate this, by allowing the incremental contribution to the overall vision and framework through multiple individual projects.

Building on existing assets within the Rail Precinct is also key to achieving the overall vision, rather than seeking drastic redevelopment of the overall area.





4.2 Master Plan - Design Statement

The proposed Master Plan for the Moe Rail Precinct integrates the various inputs and drivers, including:

- Directions contained in the Moe Activity Centre Plan
- Consultation inputs for the Moe Rail Precinct
- Site analysis and assessment
- Urban Design Principles
- Review of draft plans during the project process

In essence, the Master Plan is about creating an active, vibrant urban centre, with a key public space, framed by new buildings providing active edges, enhanced movement and access provision to integrate the various transport modes, and integration of other spaces and facilities within a continuum of landscape space.

This ‘green corridor’ provides a consistent framework along the length of the Precinct, which accommodates the various other spaces and uses through expansion and compression of landscape space.

The rail corridor itself forms a key design driver. Its broad, curving sweep sets up a dynamic, kinetic condition, which influences the arrangement of space and built form, and the railway is ‘celebrated’ through enhanced viewing and experiential opportunities within the Precinct.

The alignment of the rail corridor as it straightens to the west, is extended through the Precinct, as a dynamic, defining line and view corridor as one moves between the Station and Moore Street.

Moore Street is to be upgraded as a Shared Space, creating an enhanced, pedestrian-focussed main street experience, while retaining vehicular access at low speed. The Master Plan proposes to extend this streetscape condition across George Street and into the Rail Precinct. The new pedestrian plaza thereby becomes an extension of the main street. This is a key strategic initiative to connect the Rail Precinct with the CBD, facilitating easy pedestrian movement, and focussing pedestrian activity in and around this urban hub.

The potential for increased commercial and residential development within the Rail Precinct has been raised previously. The Master Plan accommodates some commercial development at the western end facing the Clifton Street Precinct, but takes the approach that the Precinct should be reinforced as a green, recreational open space corridor, with increased urban development focussed on the town centre itself, which appears to present significant development potential.

The Master Plan incorporates the retention, continuing use or adaptive re-use of existing built form and landscape elements wherever possible. This includes the existing Station building and platform, pedestrian level crossing, community furniture items, significant trees and open space areas.

The components of the Master Plan are described in more detail in Section 4.4, in the form of Sub-Precincts and Elements.

Axial alignments provide key design drivers for the Master Plan, providing enhanced view corridors and opportunities to ‘celebrate’ the experience of the railway

4.3 Moe Rail Precinct Revitalisation Project: Master Plan – A Contemporary Response to Local Context

The proposed Master Plan is derived from a number of references and sources, including the extensive background work, community consultation inputs and physical site considerations. The work also represents an interpretation of local character and context - a response to Moe's unique urban qualities, in a distinctive, contemporary language.

This response to context may be summarised as follows:

Building diversity

Moe's CBD incorporates a diverse range of building types, periods and styles, without any apparent dominant characteristics. Buildings are typically one-two storeys in height, and may be of party-wall configuration (connected buildings), or buildings set in grounds (separate, standalone buildings).

Response: this setting can accommodate new, contemporary buildings, to further contribute to the established richness and diversity.

Strong, bold buildings forms

Central Moe includes a number of prominent buildings of bold architectural design and siting. These buildings become landmarks and memorable sites within the urban context, and mark key locations, functions and event spaces in the city. These buildings typically accommodate important functions for the city.

Response: The city appreciates and benefits from bold, modern design, as appropriate to marking key sites in Moe. Important civic functions should be accommodated in strong, contemporary and responsive architecture.

Streets and lanes

Moe's town centre incorporates a grid-based system of streets, with laneways for rear access and parking. This creates a traditional, highly legible urban structure, and provides multiple choices of movement routes. The railway corridor interrupts this system, forming a barrier through the town. Buildings typically display 'zero lot lines', or no setbacks, creating defined streetscapes and urban spaces.

Response: The Master Plan builds on Moe's established street system, creating new paths and 'lanes', and utilises built form to define key movement paths and urban spaces.

Wide streets - boulevards

A key characteristic of the Moe town centre is the wide, straight avenue streets, which extend from the CBD out towards suburban and rural areas. These streets engender a spacious, dispersed feel in the centre, and provide a legible urban system.

Response: The Master Plan extends the key avenues of Moore and Fowler Streets (extending to the north and south) to inform the layout of buildings and spaces. The Plan also reinforces the Precinct as a broad, landscaped corridor through the city.

View corridors

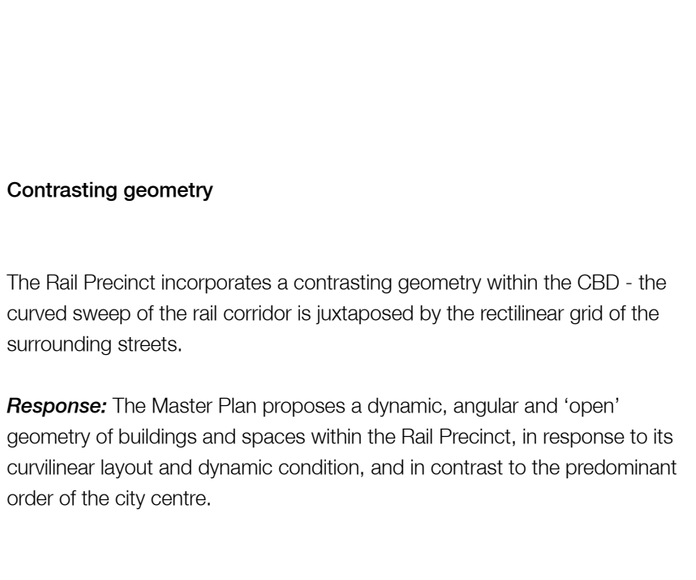
The street structure described above sets up long-distance view corridors, including sightlines to the Baw Baw's to the north, and the Strzelecki Ranges to the south.

Response: The Master Plan also uses movement paths and built form to define and 'frame' interesting viewing opportunities, of the railway corridor/ train movements, and other sights within and beyond the town centre.

Contrasting geometry

The Rail Precinct incorporates a contrasting geometry within the CBD - the curved sweep of the rail corridor is juxtaposed by the rectilinear grid of the surrounding streets.

Response: The Master Plan proposes a dynamic, angular and 'open' geometry of buildings and spaces within the Rail Precinct, in response to its curvilinear layout and dynamic condition, and in contrast to the predominant order of the city centre.



4.4 Master Plan – Elements

This section will describe the various components of the proposed Master Plan for the Moe Rail Precinct, with descriptions categorised by Sub-Precincts, and elements within each Sub-Precinct.

Sub-Precinct 01: Civic/Community Hub

The proposed Civic Hub comprises a careful arrangement of several elements, as follows:

City Square/Pedestrian plaza
The city square urban plaza comprises paved and lawn areas, trees, furniture and lighting, located on axis with Moore Street on the north side of the railway line, as an extension of the Moore Street Shared Zone (but without vehicle access to the plaza).

Moore Street connection
This extension of the Shared Space surface between Moore Street and the city square, at a constant level, forms a raised 'table' which vehicles cross over along George Street.

Civic/Community Hub
This new, three-level building comprises the redeveloped Moe Library and associated spaces, Council functions, galleria/lobby, internet café, community meeting rooms/spaces and outdoor deck areas.

Pavilion
This small building contains a small tourist information/community information space, café and public toilets, with opportunities for bicycle hire or other related facilities.

South forecourt
The forecourt to the south of the railway line comprises paved and lawn areas, trees, furniture and lighting with pedestrian pathways aligned with existing crossing points to Lloyd Street, and pedestrian desire lines to the Train Station.

Existing Station building
The existing building and platform remain in place, with potential for inclusion of a small café or other community use within the building. Potential new architectural treatment to the building's east end would enhance its appearance and visibility from the pedestrian plaza and Moore Street.

Existing pedestrian level crossing
The existing crossing is retained in the short term, with potential for upgrades to paving, fencing and landscaping.

Future pedestrian bridge
The Master Plan allows for the potential construction of a new pedestrian overpass, to replace the existing pedestrian level crossing at the Station. This bridge would be located close to the existing Station building and platform, and would incorporate lifts and stairs at both ends.

This bridge may be constructed concurrently with construction of the Civic Hub, or at a later stage as additional funding becomes available.

There is potential for the bridge to be attached to the Civic/Community Hub building and 'share' the vertical circulation for the building, thereby saving costs for the bridge as a separate element, supporting a more integrated design and co-locating different activity generators.

Sub-Precinct 02: Moore Street Shared Space

Shared Space (south section)
Based on the overall strategy for connecting an enhanced Moore Street Shared Space with the Rail Precinct, this street becomes a Sub-Precinct within the Master Plan. It provides a new, continuous paved surface, with pedestrian priority while maintaining vehicular access, and with new landscaping, lighting and street furniture. On-street parking is not provided in this section, but relocated to the north section, with a slight net gain in parking provision. Short-term stopping, drop-off and deliveries will be available. A 'break' in the roadway immediately south of Hasthorpe Place helps to slow vehicles approaching the Shared Space from the north.

Using operable/movable bollards or similar controls, this space may be temporarily closed to vehicular traffic for special events, such as Market days and festivals.

Moore Street / parking (north section)
The northern section is proposed to remain largely in its existing form, to minimise required expenditure, with potential for minor reconfiguration of streetscape/landscape treatments and linemarking for car parking. This section contains all the on-street parking, providing more spaces than currently exist in Moore Street between Albert Street and George Street. This section provides turning space before the 'break' near Hasthorpe Place, to allow vehicle U-turns when the Shared Space is closed to traffic for events.

In the future, the Shared Space may be expanded to incorporate the northern section of Moore Street up to Albert Street.

Sub-Precinct 03: Commercial / mixed-use

Potential commercial building(s)
This precinct presents opportunities for future private sector development of commercial buildings, with design flexibility within a general framework for built form distribution and arrangement. Residential or mixed-use development is also possible in this location.

Taxi rank
The upgraded, indented taxi rank is located on the south side of George Street, west of Moore Street, providing for six car spaces (with potential for more as required)

Car parking
New on-street, angled parking is proposed immediately west of the new taxi rank, providing additional parking close to the Civic Hub.

Sub-Precinct 04: Active space

Potential recreation/entertainment facility
This Sub-Precinct presents the opportunity to integrate a recreation/entertainment facility – potentially incorporating entertainment/hospitality uses, indoor sports, or function/event spaces. This building should provide active frontages through transparent walls, revealing the activity inside.

Skate Park
Through integration with other active recreation facilities, the Skate Park is 'legitimised' as a genuine recreational pursuit, providing a range of youth-focussed recreation opportunities. The new Skate Park will be integrated with the terrain, including the existing level increase from the street in this area, and forming a back drop to conceal the rear of the Service station to the south.

Rail Trail
The Moe-Yallourn Rail Trail is to be extended from its current starting point east of the Rail Precinct, though the Precinct to the Civic Hub, running parallel with the railway lines and emerging at the front of the active recreation sub-precinct. Commercial or Council-run bicycle hire and/or sales should be investigated to further support this initiative.

Transport interchange
The new, indented transport interchange accommodates up to four (4) local buses concurrently in street-based parallel bays, and is located on the south side of George Street, east of Moore Street.

Sub-Precinct 05: Public open space (west)

Open space and landscape
The existing open green space at the west end of the Rail Precinct is to remain, with potential for landscape upgrade. Some elements of park furniture should be relocated to the central open space in the south forecourt, or other locations, to accommodate the expanded commuter car park.

A new landscape/planting strategy should be prepared for the Rail Precinct overall. New plants and trees should be local/indigenous, drought tolerant species.

Public art
This sub-precinct adjoins Lloyd Street, which is the arterial road and main vehicular access route to and through Moe. A significant public art (sculpture element) or landscape device would provide a visual gateway gesture to the town and the Rail Precinct from the west.

Compression/contraction between green space and grey space
The configuration of open space areas throughout the Rail Precinct Master Plan reflects the expression of compression and expansion/contraction between green spaces and paved areas, and a visual continuity of green space along the corridor.

Sub-Precinct 06: Public open space (east)

Open space and landscape
The existing open green space at the east end of the Rail Precinct is to remain and expand, with potential for landscape upgrade. Further landscape treatment should be incorporated to mitigate the visual impact of the road overpass.

Public art
A public art/landscape gateway gesture may also mark the eastern end of the Rail Precinct (refer Sub-Precinct 05).

Substation
The existing substation has been considered for adaptive re-use, potentially as a café or gallery. However advice to this study indicates that due to site contamination, this building is to be removed, and so is not shown in the Master Plan.

Sub-Precinct 07: Commuter car parking

Car parking provision, layout and access
The reconfigured and expanded commuter car park provides at least 100 spaces (the existing commuter car park contains 34 spaces). The layout of two aisles and a central pedestrian path is oriented to align with pedestrian desire lines for accessing the Station and view lines to the Station, and to respond to the overall, dynamic design approach.

A taxi rank for three vehicles is also located within this car park, immediately in front of the Station building.

V/Line coach access and interchange
A separate forecourt space is allocated for stopping and turning movements by V/Line coaches, adjoining the commuter car park area. Coaches will enter off Lloyd Street through the commuter car park entrance, and then circulate around, stopping in front of the existing Station building, then exit back to Lloyd Street via a dedicated access way.

This space also accommodates four (4) ‘kiss and ride’ short-term parking/ drop off spaces.

Pedestrian movement and landscape
The commuter car park is proposed to be arranged around an ‘angled’ orientation, with a central pedestrian pathway through the car park, aligned with the natural desire line for pedestrians moving along Lloyd Street from the west towards the Station. This also presents the opportunity for a line of trees along this path, aligned with the view line to the Station building. The significant oak tree near this car park is retained and protected.

Sub-Precinct 08: Public car parking

Car parking provision, layout and access
The reconfigured and expanded public car park provides 67 spaces, including some long-bay spaces for cars with caravans or boats, arranged in a two-aisle layout with landscaping treatment in the car park area.

Pedestrian movement and landscape
The pedestrian footpath should be reconstructed along George Street, along the north edge of this car park, with full DDA compliance. To the south of the car park, the proposed Rail Trail extension runs between the car park and the railway line, with associated landscaping.

Sub-Precinct 09: Service Station

Expansion
It is understood that the current owners of the Service Station on the Rail Precinct, Freedom Fuels, have lease arrangements to remain in this location for the long term, as well as to expand its operations, utilising its lease area west of the existing Service Station, currently used for overflow commuter car parking. This expansion is understood to extend west approximately to the extent of the existing pedestrian level crossing.

Interfaces
It is important to manage the visual impacts of the Service Station within the Rail Precinct, as the Precinct is upgraded and redeveloped as a centre and focal point for the town. Addressing its interfaces with other part of the Rail Precinct will allow the visual impacts to be addressed.

Proposed interventions include:

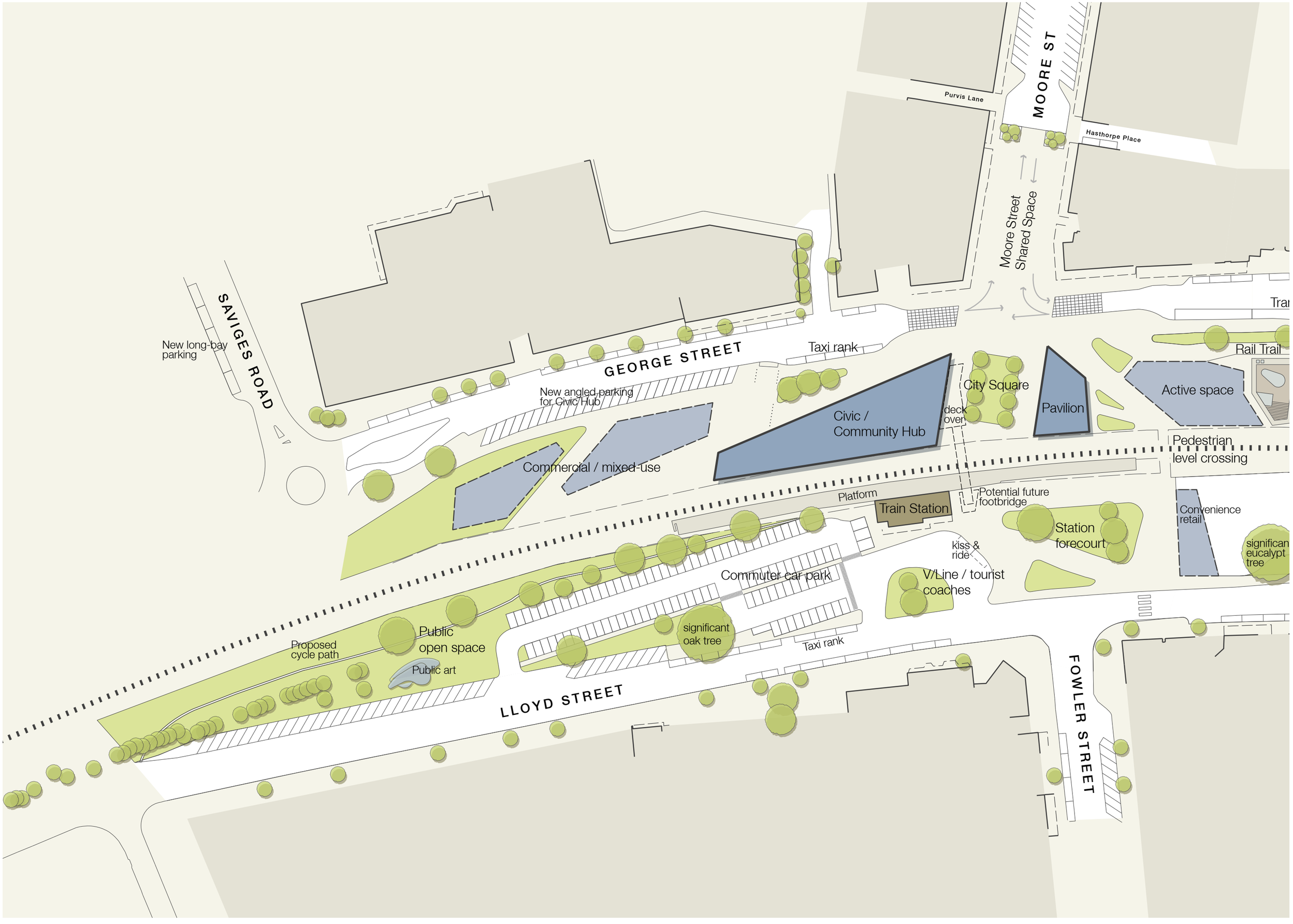
- Small convenience/retail/commercial: addressing the south Train Station forecourt and access to the level crossing, providing an active frontage and screening the Service Station from these areas.
- Landscaping to Lloyd Street frontage, to ‘soften’ the appearance of the Service Station area.
- Landscape screening to open space area east of Service Station.
- Landscape mounding and planting to rear (south) edge of proposed Skate Park, to visually screen the rear of the Service Station as viewed from the north.
- The significant eucalyptus tree just west o the Service Station is retained and protected.

Car parking summary

The following table provides a summary of the numbers of car parking spaces currently provided, and proposed in the Master Plan.

The expanded and reconfigured parking areas provide for significant increases in the number of spaces available, to accommodate possible future demand. The loss of some on-street parking on George Street is predominantly due to the new Transport Interchange (bus bays), but this loss is offset by gains elsewhere.

	Existing provision	**Master Plan provision**	**Net change**
Commuter car park (south)	34 spaces	102 spaces	+ 68 spaces
Public car park (north)	63 spaces	72 spaces	+ 9 spaces
George Street (on street parking)			-9 spaces
Moore Street (on street parking)	52 spaces	53 spaces	+1 spaces
TOTAL			**+ 69 spaces**


MOORE ST
Purvis Lane
Hasthorpe Place
Moore Street
Shared Space
SAVIGES ROAD
New long-bay
parking
GEORGE STREET
New angled parking
for Civic Hub
Taxi rank
City Square
Pavilion
Active space
Rail Trail
Civic /
Community Hub
deck
over
Commercial / mixed-use
Pedestrian
level crossing
Platform
Train Station
Potential future
footbridge
Station
forecourt
Convenience
retail
kiss &
ride
Commuter car park
V/Line / tourist
coaches
Proposed
cycle path
Public
open space
Public art
significant
oak tree
Taxi rank
LLOYD STREET
FOWLER STREET

KIRK STREET

GEORGE STREET

ANZAC STREET

nsport Interchange

New l ong-bay parking

Skate Park

Public open space

Rail Trail

Public car park

Service Station

Public open space

Public art

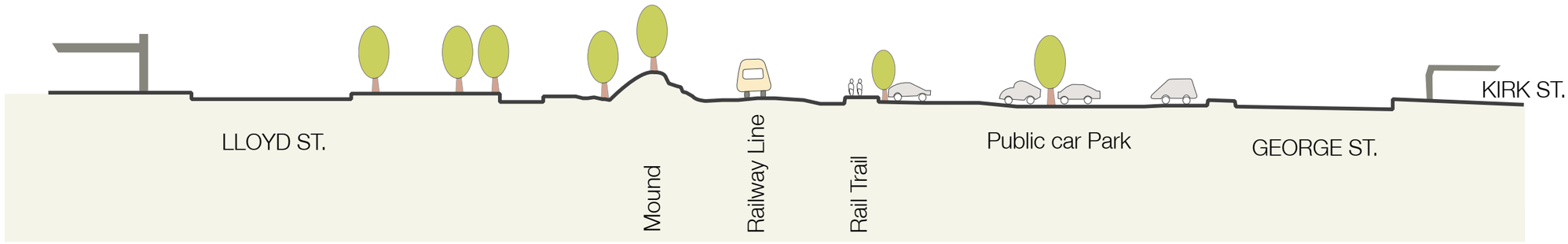
LLOYD STREET

N

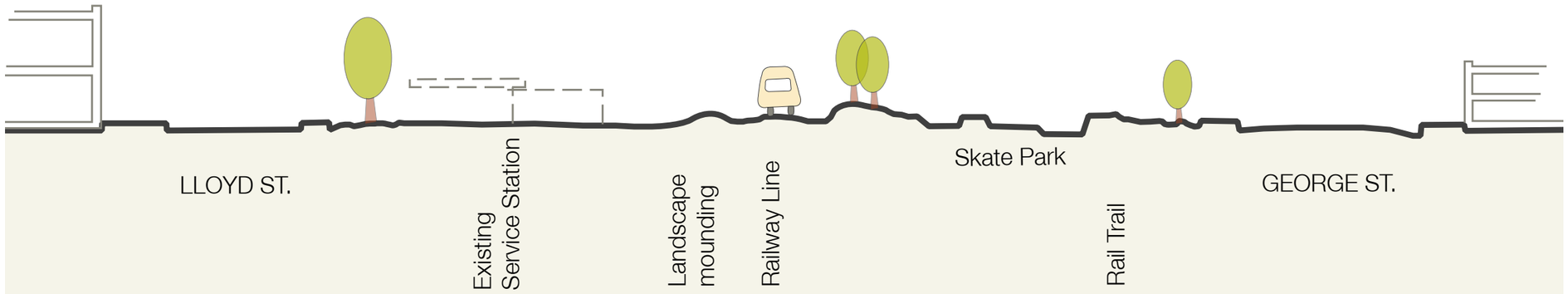
0 10 20 30 40 50m

Scale 1:1000 @ A3

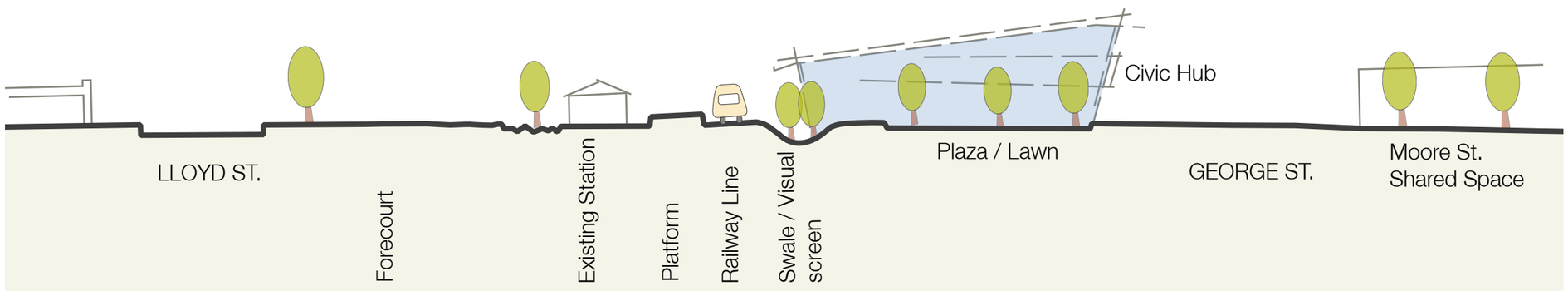
Indicative Master Plan Sections



Section through public car park and railway line, looking west



Section through Skate Park and Service Station, looking west



Section through City Square and existing Station

4.5 Reference Images

The new Geelong youth recreation space occupies a prominent, valuable location, adjoining parkland and a children's playground

This high-quality facility provides a range of recreational opportunities for young people, and has been very well respected and looked after by those using it

The proposed landscape treatments of mounding, decking and screening can incorporate high quality public realm spaces and seating opportunities

4.6 Design Guidelines

This section incorporates outline design guidance for the various Sub-Precincts and elements proposed in the Master Plan, providing further explanation and direction for future detail design and implementation of the initiatives in the Plan.

The guidelines reflect and respond to the background documentation and various project inputs, and the site analysis and assessment set out previously in this Report. They are intended to provide a general overview of the design intent and preferred outcomes, in the context of a large-scale Master Plan, rather than specific requirements or deliverables.

Sub-Precinct 01: Civic/Community Hub

Durability
Building and public realm materials, fixtures and finishes should be selected for durability and longevity, and resistance to vandalism and weather damage, while maintaining visual and tactile quality and a welcoming, accessible feel.

The Pavilion building is intended to reflect a more 'hard-edged' or 'rugged' design aesthetic, while the main Civic/Community building will reflect more refined, high quality construction and materials.

Transparency
The building designs should maximize transparency, allowing views into and through the building from the Station platform and other locations, and supporting passive surveillance and visual interaction between people inside and outside the building.

ESD
Encourage the incorporation of ESD initiatives in the building, potentially including:

- Stormwater collection, for irrigation of landscape areas
- Low energy fittings and fixtures
- Glazing selection and effective solar shading to optimize natural light access and solar control
- Natural ventilation – openable windows, designed for cross-ventilation
- 'Stack-effect' ventilation using central atrium space
- Thermal mass heat storage
- Heat exchangers, or other active/technical devises for heating and cooling

Specialist ESD consultants should be engaged to assist the detail design of the buildings.

Fencing
Replace existing steel fence for a more aesthetically pleasing fence type, especially within the Civic Hub area, such as timber battens and/or glass/perspex screens.

Investigate opportunities for fencing to be concealed within a landscaped swale, to provide a green backdrop to views to the Civic Hub down Moore Street.

Rail crossing
Retain the existing pedestrian level crossing in its current location.

When available, seek opportunities to construct a new pedestrian overpass, which is integrated with the proposed Civic/Community building, to replace the existing level crossing.

Café
Encourage a high-quality operator to occupy the proposed café space, perhaps incorporating local/Gippsland/organic produce as a theme. Encourage both quick, take-away coffee service for commuters, and more relaxed dining.

Tourist information / community information
Encourage this flexible space to be used for tourism/travel information, as well as for community group activities.

Sub-Precinct 02: Moore Street Shared Space

Signification
Clearly communicate to drivers that this is a different type of street, which is shared with pedestrians, through paving design, contrasting materials, colours and textures, landscaping, lighting and street furniture.

Extent
Extend the alignment of Moore Street across George Street, to become the Civic Hub pedestrian plaza.

Provide operable bollards or similar control device, to allow the Moore Street Shared Space to be temporarily closed to vehicular traffic for special events.

Surface
Surface treatment should provide various human-scaled segments of contrasting materials and/or colours.

Contrasting patterning/finishes, along with planting, furniture and lighting, should delineate 'pedestrian-only' areas adjoining the building frontages.

Surface level should be continuous between building frontages, without kerbs or other level changes.

Paving materials on approaches should provide an audible or vibrational warning to drivers that they are approaching changed traffic conditions, while also warning pedestrians of approaching vehicles.

Landscape
Incorporate new avenue planting to both sides of the Shared Space, in WSUD water-collection pits.

Lighting
Provide for sensitively-designed, subtle streetscape lighting at low- and high levels, to optimise safety and amenity.

Water Sensitive Urban Design (WSUD)
The streetscape design should incorporate 'urban' WSUD initiatives, such as rain gardens and tree pits which collect surface run-off water.

Sub-Precinct 03: Commercial / mixed-use

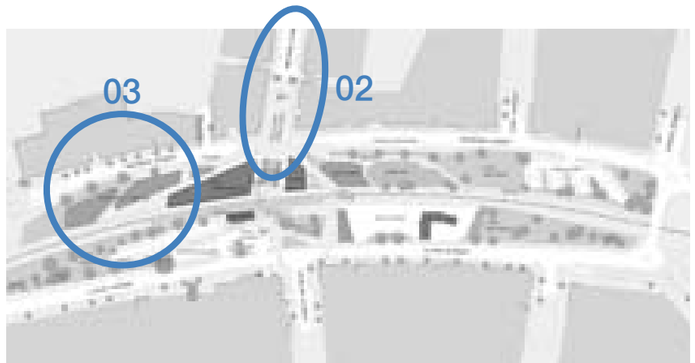
Siting
Building footprints should express the 'slippage' between buildings and spaces, with angular forms and linear view corridors between buildings.

Land uses
This Sub-Precinct may incorporate a range of land uses/activities, including:

- Small-medium commercial office spaces
- Institutional/education uses
- Small/convenience retail
- Hospitality / food and beverage
- Residential / accommodation

Frontages
Encourage active building frontages to George Street, through prominent building entries, diverse uses at ground floor, and transparent facade materials.

Encourage passive surveillance to public realm spaces around the building, and to the railway corridor. Provide opportunities for visual interaction between the inside and outside of the buildings.



Sub-Precinct 04: Active space

Skate Park
Install a new ground-based, built-in skate park which is engaged with the landscape, to accommodate skateboarding and BMX, and other youth-focussed recreation activities.

Install landscape mounding and planting along the rear of the Skate Park and Rail Trail, to visually conceal the rear of the Service Station, as viewed from the north.

Rail Trail
Extend the Rail Trail cycle path through the Rail Precinct, providing for two-way cycle movement, on a paved or granitic surface.

Active facility
Investigate opportunities for a new facility/building in this Precinct, potentially accommodating entertainment, hospitality, functions or active/leisure activities.

Land uses
This Sub-Precinct may incorporate a range of land uses/activities, including:

- Recreation/indoor sports
- Institutional/education uses
- Hospitality / food and beverage
- Function/event space(s)

It is essential that this facility provides a dynamic, active interface to the public realm.

Sub-Precinct 05: Public open space (west)

Planting
New landscaping should utilise local/indigenous plants, and drought tolerant species.

Park furniture
Retain existing community furniture (picnic tables and benches), relocate these items to new or existing landscape spaces within the Rail Precinct as required due to car parking expansion.

Public art
Encourage new public art (sculpture set in landscaped grounds) as a gateway gesture to the Rail Precinct, at both the east and west ends.

Sub-Precinct 06: Public open space (east)

See also Sub-Precinct 05.

Landscape screening
Provide additional planting and mounding to screen the visual impact of the existing road overpass at the east end of the Precinct.

Sub-Precinct 07: Commuter car parking

Stormwater collection / WSUD
Investigate opportunities to install stormwater collection systems to surface car park areas, for use in landscape irrigation or public toilet flushing.

Incorporate WSUD devices to treat stormwater run-off and provide a pleasant landscaped setting.

Pedestrian path
The Master Plan incorporates a continuous pedestrian pathway through the expanded commuter parking area, providing access to the Station from the south-west.

Landscape
Retain and protect the significant oak tree adjoining the new car park, near the Lloyd Street frontage.

Maximise new landscaping within and around surface car park areas.

Sub-Precinct 08: Public car parking

See also Sub-Precinct 07.

Sub-Precinct 09: Service Station

Built form interface
Encourage a new built form interface between the west end of the Service Station and the south Station forecourt, containing small, convenience retail or similar uses, to provide an active frontage to the pedestrian link to the existing level crossing.

Landscape
Provide new landscaping to the Lloyd Street frontage to the Service Station, and at the interface to the open space to the east.

Retain and protect the significant eucalyptus tree in this location.

4.7 Implementation Strategy

This report seeks to progress the Moe Rail Precinct Revitalisation Project: Master Plan from the previous strategic studies and extensive consultation, towards clear directions for implementation, in a form which responds to and builds upon the previous work.

The Master Plan and Concept Designs contained within this Report have been prepared with a clear focus on short term delivery of the key components. After extensive work and discussion over several years, the need for rapid action is apparent.

The optimal outcome would be for as much of the Master Plan as possible to be delivered as soon as possible, towards achieving a consolidated 'end goal', and minimising disruption. However, it is expected that the implementation or construction of the various components of the Master Plan will occur over an extended period, depending on the availability of funding, but commencing in the immediate/short-term future.

Therefore, a strategic implementation plan is required, to guide the sequence of development and urban improvements. The strategy set out below is intended to provide a basis for discussion and confirmation of priorities and the preferred order of delivery.

Phase 1 (2010 - 2012)
Implementation components:

- Civic/Community Hub
- Pavilion
- City Square
- [Commercial/mixed use]
- [Active space]

The first Phase involves construction of the Precinct 'heart', providing an initial 'big bang' to kick-start the urban revitalisation process.

It is important to establish the two main civic/community buildings, and the key public space in between, which is 'framed' by the two buildings, in the first instance, if possible. This grouping of built form and public space forms the primary vehicle for urban renewal and signifying a change of image and direction for this locality, so it is vital that this takes place first.

The commercial/mixed-use development and the Active Space may be implemented by the private sector, so could occur during this Phase, or at a later date.

Phase 2 (2012 - 2015)
Implementation components:

- Moore Street Shared Space
- Moore Street/George Street connection
- Skate Park
- Rail Trail
- Commuter car park
- [Service Station expansion]
- [Commercial/mixed use]
- [Active space]

In the second Phase, Moore Street is reconfigured with new landscape treatments and parking arrangements, and is fully integrated with the Rail Precinct, as a new Shared Space which connects across George Street. The key recreational facilities of the Skate Park and Rail Trail assist in consolidating the new Civic Hub as the focus for community education, interaction, recreation and entertainment.

The projected growth in demand is accommodated within an expanded and reconfigured commuter car park, together with V/Line coach interchange area, south of the railway line. The Service Station expansion and other private sector components may also occur during this Phase.

Phase 3 (2015 - 2018)
Implementation components:

- South forecourt
- Public car park

In Phase 3, the potential increase in demand for car parking is accommodated through an expanded and reconfigured public car park area north of the railway line. If required, this car park expansion may be implemented earlier in the process.

The reconstruction of the south Station forecourt will provide new pedestrian spaces and access, replacing the existing landscape area.

05 Concept Design: Moore Street Shared Space

5.1 Shared Space Research

5.1.1 Shared Space in Bendigo CBD

The following research notes are taken from:

- 'Shared Space in Bendigo CBD: Principles, Best Practice and Proposals'
  (A Report for Presentation and Assets, City of Greater Bendigo) by Rodney Tolley, February 2007

Principles

Three principles should underpin the management of pedestrians, cyclists and vehicles in the CBD:

- To manage the road transport system to allow for human error but without it leading to serious injury.
- This means that on streets which are used by pedestrians, cyclists and cars, the speed of the cars must be reduced to a level which guarantees that no-one is killed in a crash. This principle is based on the Vision Zero approach to traffic safety adopted in 1997 in Sweden.
- In any decisions on the public realm in the CBD, the impact on pedestrians should be considered first, followed by mobility-impaired and cyclists. The impact on car-borne commuters should be considered last. This principle is drawn from the widely adopted 1998 York (UK) Road User Hierarchy.

The CBD should be conceptualised as a 'canvas', not a conduit, in order to:

- eradicate current conflict points or corridors
- equitably redistribute urban space giving priority to the largest volumes of people

These principles all lead to a new approach to pedestrians and vehicles in the CBD.

A key element of this is to decrease space for vehicles on streets in the CBD by reducing the number of lanes, particularly turning lanes at junctions, and reallocating it for more public space. Traffic must be slowed to speeds which do not endanger pedestrians, which in turn allows space to be shared between the modes.

Benefits

Evidence from around the world cited by Loveday (2006) shows that these approaches will result in many benefits including:

- Increased footfall
- Longer stays (hours/days)
- More expenditure
- Increased property values
- More and varied jobs
- Increased confidence, prompting wider urban regeneration
- Creation of a new image – cafe society, festival city, evening economy hub, etc – to stimulate profile and investment

Shared Space

'Shared Space' is a term used to describe an emerging approach to urban design, traffic engineering and road safety in Europe and, increasingly, in North America.

In conventional streets pedestrians are provided with a set of footpaths which does not represent a network as it is interrupted at every road intersection.

At the heart of Shared Space is the concept of integration. This contrasts with the principle of segregation - the idea of separating different functions and different users within the urban landscape - which continues to underpin most conventional traffic engineering schemes in Australia

Integration, on the other hand, is achieved through traffic management methods which rely on the design of the road, the environment around the road and the behavioural psychology these generate, to inform the driver that this is a social space and extra caution must be taken

In contrast to current design practice, Shared Space strives to combine, rather than separate, the various functions of public spaces. In this manner Shared Space aims to improve the quality of public spaces and the living environment for people, without needing to restrict or banish motorised traffic

The way in which the Shared Space concept is implemented varies, but there are key measures - such as the removal or reduction of traffic signs, markings and other instructions to drivers - which aim to prevent the road looking like a space designed for traffic. The concept taken to its fullest requires the removal of the separation between motorised vehicles and other road users, mainly through the removal of the traditional footpath, kerb and controlled crossing points, resulting in a shared surface streetscape

The Shared Space approach produces an environment which is extremely safe for pedestrians. As long as the speed of all vehicles is slow enough, it is easy for pedestrians to get along with cars and buses. This concept allows for a new design of urban space, which is not orientated along the lines of motion of vehicles, but is based on spatial concepts of urban planners. This is usually rather puzzling to motorists, which makes them automatically slow down, which in turn is the basis of the pedestrian safety in these places. Street users negotiate priority and movement through the use of 'eye contact'

Shared Space, Bendigo

‘Traditional’ policies of segregating traffic flows often increase the feeling of safety, but in practice they appear to be counterproductive. What feels safe is not necessarily safe - and conversely what feels unsafe may actually be quite safe. Shared Space is successful because the perception of risk may be a means or even a prerequisite for increasing objective safety. In other words, when a situation feels unsafe, people are more alert and there are fewer accidents

The development of Shared Space
Shared Space does offer important practical starting points for the design of a public space

Experience shows that it is possible to enhance the quality of usage options of a public space without banishing motorised traffic completely. It also shows that public spaces can be beautiful and safe.

Recent Shared Space application began with the 1970s Dutch ‘woonerf’ concept, in which streets are treated like extended back yards. Cars do not have priority but their drivers submit themselves to a ‘common law’ of equal speed for all street users. In such zones, pedestrian priority is applied to the entire surface of the public space, and this is possible not just in side-streets in residential areas, but in the hearts of towns and cities

More public spaces need to be created in the city centre, given the vital importance of public space to building social capital and a sense of community, and to public safety and conviviality.

Shared Space, Bendigo

5.1.2 City of Greater Bendigo inputs

Notes from telephone conversation between Simon McPherson (SJB Urban) and Tim Bucks, Landscape Architect, City of Greater Bendigo (21 August 2009)

- The primary philosophy of Shared space is to not define spaces, but keep it all consistent/ill-defined/continuous
- Slowing vehicles down is the most important thing
- Bluestone cobbles on approach provide warning to vehicles (vibration) and to pedestrians (acoustic), and slows the vehicles down
- Squeeze point created by stone plinths with glass vertical blades – serve to narrow the roadway on the approach
- Water features (low-height fountains in the street surface) form a ‘soft’ traffic management device (rather than bollards or similar)
- By creating ambiguity, the space causes different behaviours
- It is essential that the design is of human-scale, rather than ‘car-scale’
- Variations in ground surface texture and colour which are highly visible
- Small scale break-up of the surface, rather than large expanses of materials
- Community response has been mixed
- The communication strategy could have been better

5.1.3 UK design guidance

"Shared Zone" is the term for a street where people and vehicles share the whole of the road space safely, and on equal terms; and where quality of life takes precedence over ease of traffic movement.

The Role of Shared Zones in Creating Better Places to Live
Shared Zones can:

- Restore the balance between traffic and communities.
- Allow the street and public realm to be used more for social activities.
- Make it safer for residents to walk and cycle through their local streets.
- Allow children the opportunity to play safely next to their homes.
- Discourage through traffic or 'rat-runners'.
- Encourage community interaction and neighbourliness.
- Reduce the likelihood of crime and anti-social behaviour.

Shared Space, Oxford UK

Key Principles for Shared Zones
Design for 10mph driver speeds:

- Minimise the physical and visual impact of cars on people and environment and design for equal priority amongst street users.
- Design streets and spaces as lively community places that are fully inclusive of all and safe to play, socialise and travel in.
- Create an attractive streetscape that contributes to the local sense of place, community safety and security.
- Zig-zagged or winding streets and/or carriageway alignment shifts to create horizontal deflections for vehicles
- Single-track streets reduce driver speeds by narrowing the effective vehicle pathway
- Traffic calming. Chicanes are preferred in the form of features that are in keeping with the
- overall design, such as planted areas, trees or kerb build-outs
- Use of innovative on-street parking arrangements
- Features to reduce forward visibility
- Containment of the sides of a route
- Long horizontal or parallel lines tend to encourage speed. Vertical and diagonal lines, projections, and the variety created by set backs and street trees, increase the sense of change and can therefore encourage drivers to slow. Patterns that set up small-scale rhythms encourage slow speed, whereas large-scale rhythms –higher speeds
- Shared Surface where distinction between pedestrian and vehicle areas has been removed or reduced and sends a strong signal that the whole of the highway space is open equally to all users.
- Gateway features

Minimise the physical and visual impact of cars on people and environment and design for equal priority amongst users:

- Coloured and textural surface contrasts
- Trees on opposing sides of the street. Trees can break up the visual impression of a long, straight highway and create a sense of street enclosure that helps to reduce driver speeds
- Lower parking density allowing for greater provision of public amenity space, and encouraging uptake of more sustainable transport modes.

Design streets and spaces as lively community places that are fully inclusive of all and safe to play, socialise and travel in:

- The public realm should be designed to encourage the activities intended to take place within it
- Inclusion of social areas and child play areas within and/or next to the street, -protected from vehicle intrusion.
- On-street parking should normally be provided in Home Zone streets
- Active property frontages
- Space making: a series of different types of community spaces – connected by convenient and attractive routes – should be created.

Create an attractive streetscape that contributes to the local sense of place, community safety and security:

- Use of quality surface materials
- Soft landscaping and trees for aesthetic/ environmental benefits. Tree canopies should therefore be at least two metres above the street surface.
- Installation of quality street lighting
- Innovative accommodation of utility services, eg. a utilities strip with easily replaced surface materials.

Special Considerations for ‘Retrofit’ Shared Zones:

- The Key Principles for Retrofit Shared Zones are identical to New Build
- Possibly the greatest consideration in designing a retrofit Shared Zone is in getting the existing community involved.
- Community ‘buy-in’ to the scheme is critical
- Parking provision may be reduced slightly in the new Shared Zone scheme to enable more highway space to be used for other purposes, such as public amenity, and to encourage lower car use. However, this issue may be contentious and residents should therefore be involved at an early stage when considering revised parking solutions. The alignment of existing utility equipment under the highway must be considered when revisions of the highway layout are proposed, especially where there are changes to the vehicle route and/or location of parking areas and where street trees are proposed.

Shared Space, London UK

Retrofit Shared Space, Oxford UK

5.2 Moore Street Shared Space

5.2.1 Design Statement

The concept designs for the proposed reconfiguration and landscape treatment of the Moore Street Shared Space has been informed by the research and international guidance outlined above.

The proposals reflect two key strategic design initiatives:

- Relocating all the parking to the northern section of Moore Street (between Albert Street and Hasthorpe Place), with a defined 'break' in the middle, immediately south of Hasthorpe Place
- Creating a pedestrian-focussed Shared Space in the southern section, which extends across George Street into the Rail Precinct

Through this approach, the Moore Street Shared Space merges into the new pedestrian plaza, providing a seamless, integrated, pedestrian-focussed connection, between the Rail Precinct and the city centre.

The Shared Space can become an active, vibrant, people-friendly area, which is both part of the CBD and part of the Rail Precinct. It remains accessible for vehicles, but at very low speeds.

The northern section largely remains as existing, with potential for new linemarking and landscaping as budgets allow, but may be further developed as a Shared Space in the future.

The surface treatment of the Shared Space is designed to clearly signify a very different street condition, communication to drivers that speeds must be very low, and visual interaction with pedestrians will be necessary as one drives through.

For special events, this Shared Space may be closed to vehicle traffic, while maintaining vehicle movement along George Street in both directions, using operable bollards. This may be to accommodate a weekend Farmers' Market, performance/gathering, or annual events in Moe.

Textured paving areas and strips along George Street provide a warning that vehicles are approaching the Shared Space. George Street is also significantly narrowed at the approaches, to slow vehicles down (while maintaining ample space for two-way traffic).

New tree planting in rain-garden pits reinforces the avenue qualities and provides shading and amenity.

These trees, along with the paving pattern and materials, and street furniture and lighting, help to define 'pedestrian-only' zones adjoining the shop frontages, but the continuous surface treatment and level encourages pedestrians to criss-cross the street freely.

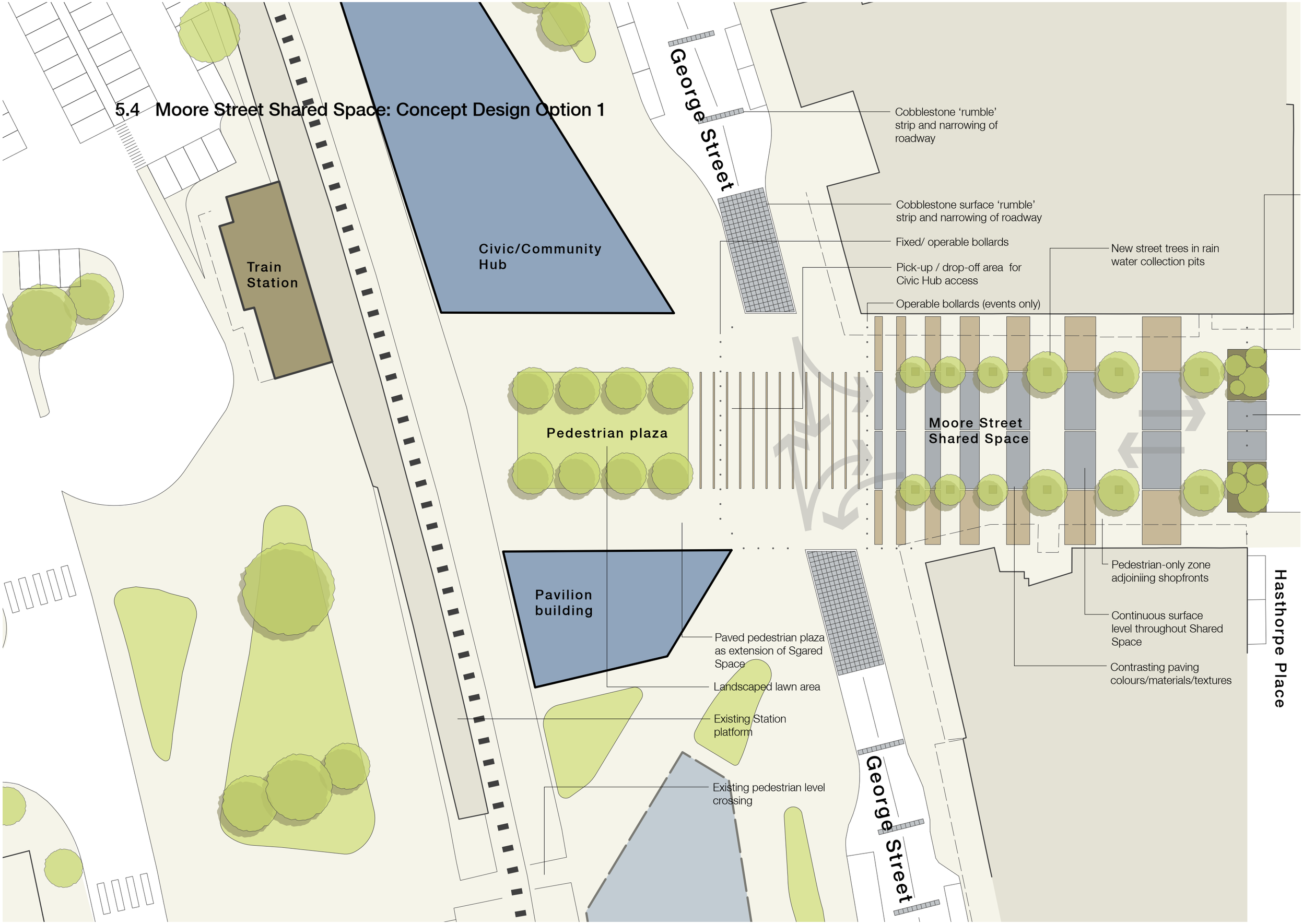
Raised planters or rain-gardens form the 'break' between the north and south sections of Moore Street, located to allow continued access for vehicles to/from Hasthorpe Place. The concepts provide more on-street parking spaces than are currently provided on Moore Street.

5.3 Concept Design

5.3.1 Shared Space Concept Design Options

The following pages incorporate two concept design options for the Moore Street Shared Space. The options are very similar in configuration and layout, but demonstrate that a variety of paving and landscape treatments could be adopted as the design is further developed.

5.4 Moore Street Shared Space: Concept Design Option 1



Purvis Lane

Raised rain-garden / planter

Operable bollards

$^{1}/_{4}$P short term parking spaces

Moore Street

Existing and reconfigured angle parking
(no loss of total parking spaces)

Vehicle turning area

Albert Street

N

0 10 20 30 40 50m

Scale 1:400 @ A3

5.5 Moore Street Shared Space: Concept Design Option 2

Train Station

Civic/Community Hub

George Street

Cobblestone 'rumble' strip and narrowing of roadway

Cobblestone surface 'rumble' strip and narrowing of roadway

Fixed/ operable bollards

Pick-up / drop-off area for Civic Hub access

Operable bollards (events only)

New street trees in rain water collection pits

Pedestrian plaza

Moore Street Shared Space

Pavilion building

Paved pedestrian plaza as extension of Sgared Space

Paved pedestrian plaza as extension of Sgared Space

Landscaped lawn area

Landscaped lawn area

Existing Station platform

Existing pedestrian level crossing

Pedestrian-only zone adjoiniing shopfronts

Continuous surface level throughout Shared Space

Contrasting paving colours/materials/textures

George Street

Hasthorpe Place

Purvis Lane

Raised rain-garden / planter

Operable bollards

1/4P short term parking spaces

Moore Street

Existing and reconfigured angle parking
(no loss of total parking spaces)

Vehicle turning area

Albert Street

N

0 10 20 30 40 50m

Scale 1:400 @ A3

5.6 Moore Street Shared Space: Reference Images

New built form interacting with the public realm/streetscape, with temporary markets supporting a vibrant street environment

The proposed City Square/pedestrian plaza provides a north-facing lawn area for meeting, gathering and relaxing in the sun

Events and gatherings such as the Moe Jazz Festival and Moe Cup will utilise the proposed City Square/pedestrian plaza and Moore Street Shared Space

The proposed Moore Street Shared Space could accommodate a Gippsland Farmers Market, art and craft stalls or other temporary uses

06 Concept Design: Civic Hub

6.1 Civic Hub Design Statement 6.2 Concept Design 6.3 Reference Images

6.1 Civic Hub Design Statement

The proposed design of the Civic Hub at the heart of the Moe Rail Precinct responds to both the objectives of the Master Plan and specific client requirements including:

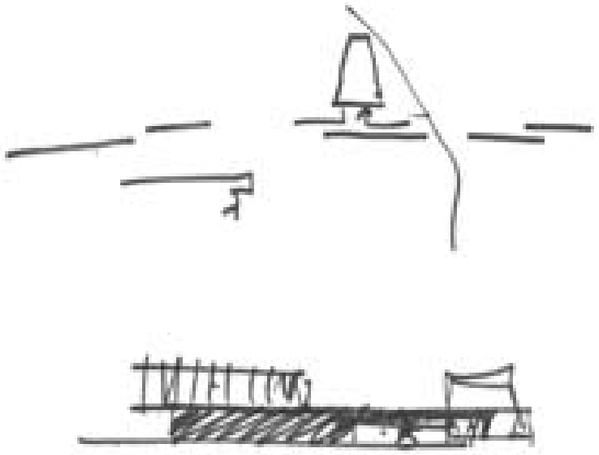
- appropriate built form within the Civic/Community Hub, Commercial and Active Space sub-precincts identified in Principle 5 of the Urban Design Principles (section 4.1 of this report)
- building design which recognises and contributes towards achieving the desired outcomes stated in principles 7, 8, 9 & 10 of the UDP's above,
- namely - creating a centre
  - image and presentation
  - views, viewing opportunities
  - stageability
- client briefing document for library and community facilities

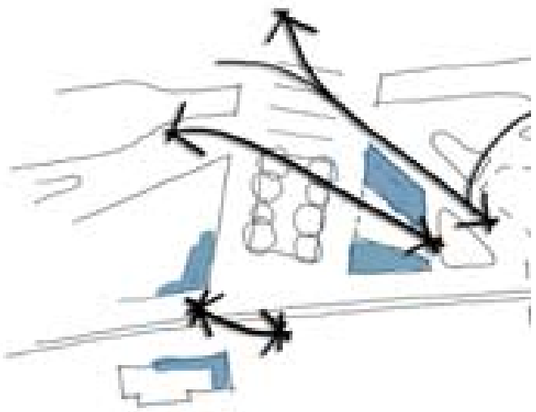
We have proposed a group of buildings, which together with their adjoining public spaces, contribute to the major objective of creating a vibrant urban centre for the city of Moe. New buildings providing active edges and arranged to provide enhanced movement and access provision to integrate the various transport modes.

The individual buildings include the following:

- civic hub (library/community facilities)
- pavilion
- active space adjacent to the proposed skate park
- commercial/mixed-use fronting George Street
- retail facility adjacent to the service station

The design of these buildings must assist in the definition of a new 'public space' and encourage engagement with the proposed facilities through clear recognition of access/entry points, appropriate response to the scale of existing buildings, the street system and the railway line. The orientation and arrangement of the built form are also proposed to enhance the key objectives of the Master Plan.

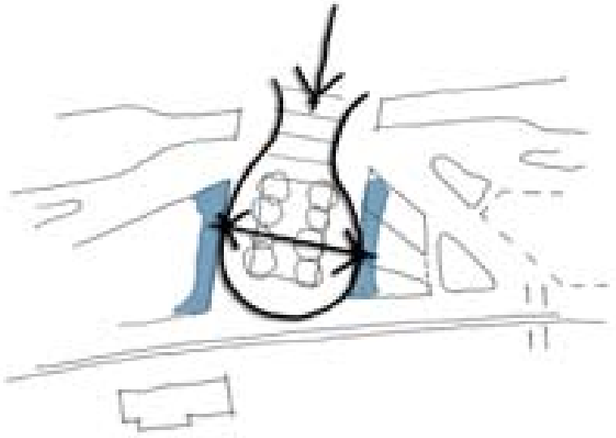




Access & Views

6.2 Concept Design

In response to the Master Plan objectives and the specific requirements of the current project, we have proposed two buildings to enhance the movement of people, cyclists and vehicles at the determined location of the new Civic Hub. The placement of these buildings on either side of the new City Square (pedestrian plaza) ensures an appropriate definition of the extended Shared Space streetscape condition from Moore Street across George Street and into the Rail Precinct. The proposed location of the pavilion building also ensures 'protection' of the new landscaped City Square from possible future development in the 'Active Space' precinct located to the east of the civic area.

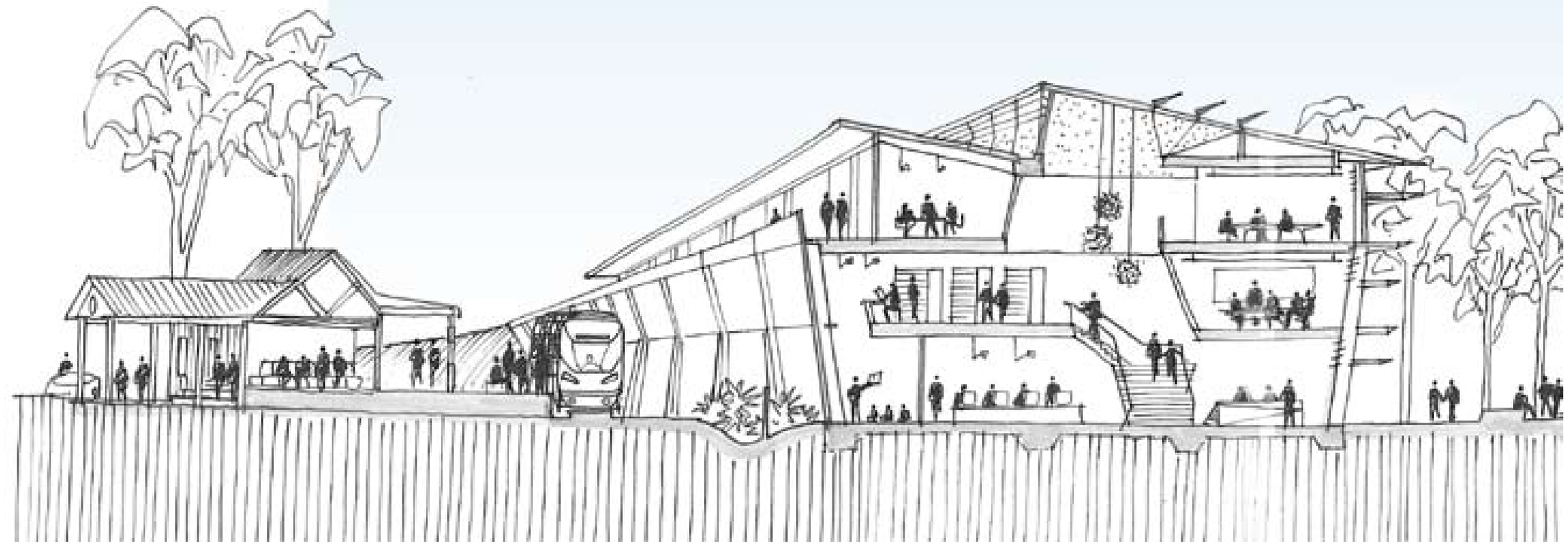


Site Arrangement

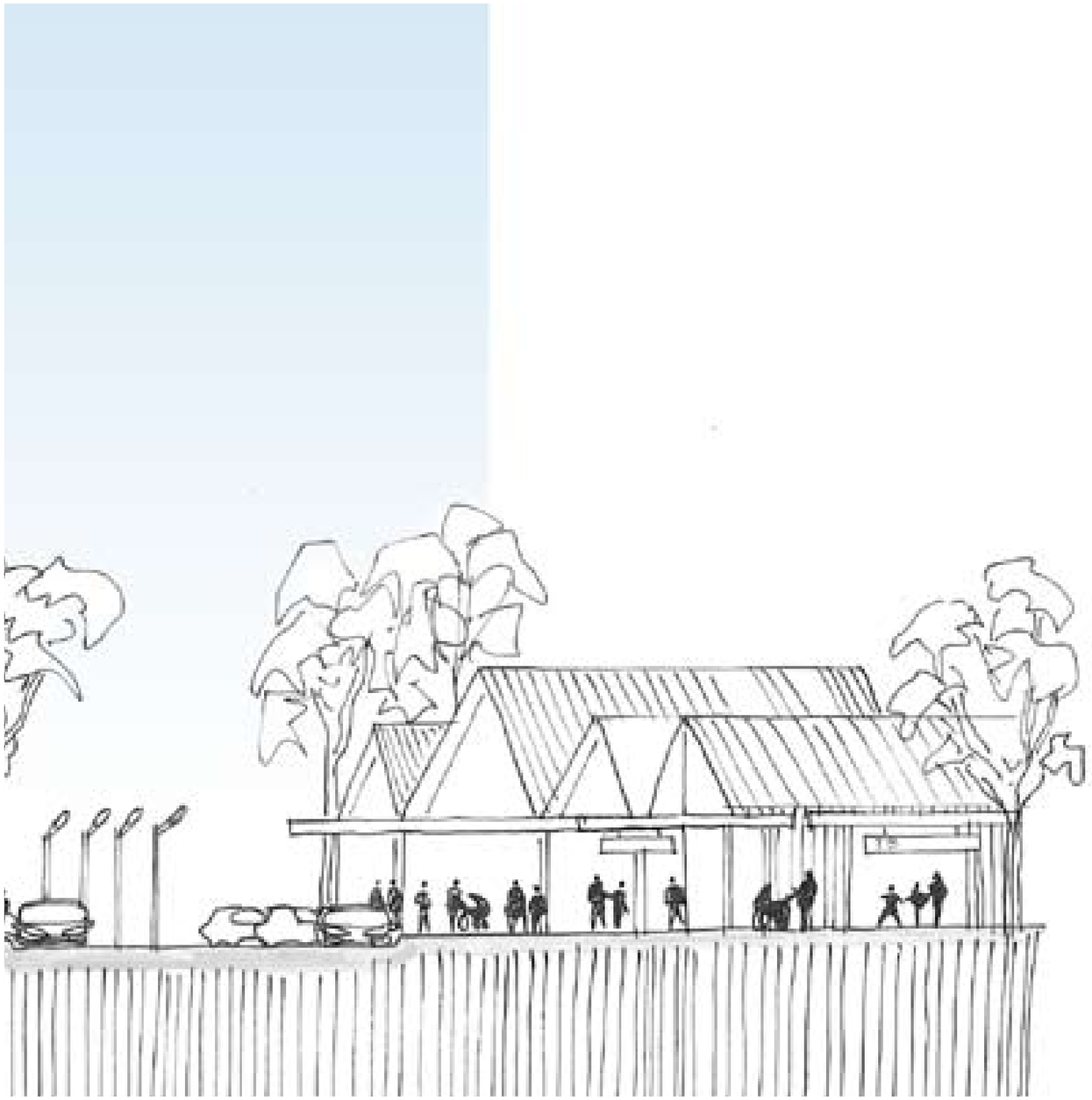
Civic Hub – Library/Community Facility
This facility is located directly to the north of the existing station building, allowing views towards the hub and outwards to surrounding natural landscape features and the railway system. The alignment of the east façade of this building with the extension of Moore Street ensures views of the station building and the platform from the retail heart of Moe.

The 'iconic recognition' of this building will be provided by its location, three-storey height and architectural expression. The proposed height at its maximum in the north-east corner (George Street / Moore Street intersection) and reducing towards the railway line, responds to the scale of existing commercial buildings along George Street and the lower height (1 ½ storeys) of the proposed adjoining pavilion building to the east. As a composition these two buildings will be recognised as the major contributor to the identity of the new Civic Hub.

Vertical circulation within the building is provided by an open stair system connecting the two levels of the library collection and a lift adjacent to the entry lobby providing disabled access throughout and separate connection to the community centre located on the second floor. Provision is made for a public lift, accessible from the pedestrian plaza, for future connection to a bridge link over the railway line to the station building. External decks are provided at the upper levels of the building for both public and staff to enjoy outdoor recreation and views along the railway line and over adjoining buildings to the distant mountain ranges.



Section through Civic/Community Hub looking west



Functions within the building include the following:

Ground Level GFA - 680sqm
- Entry/Reception
- Exhibition
- Library Collection
- Browsing
- Internet Café
- Games
- Story time
- Adult Reading
- Storage
- Loading/Parking

First Floor GFA - 600sqm
- Library Collection
- Open Study
- Research
- Meeting Rooms
- Offices
- Staff Workroom
- Staff Amenities

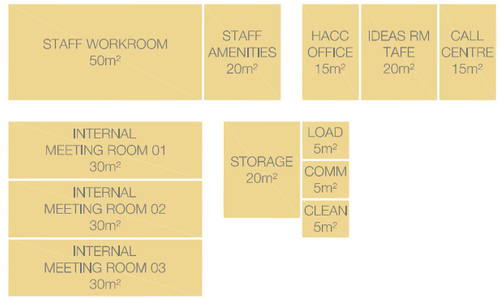
Second Floor GFA - 500 sqm
- Business Centre
- Meeting Rooms
- Community Kitchen
- Offices
- Parents Room
- Interview Room
- Work Cubicles
- Future bridge link

LIBRARY - PUBLIC

TOTAL : 670m²

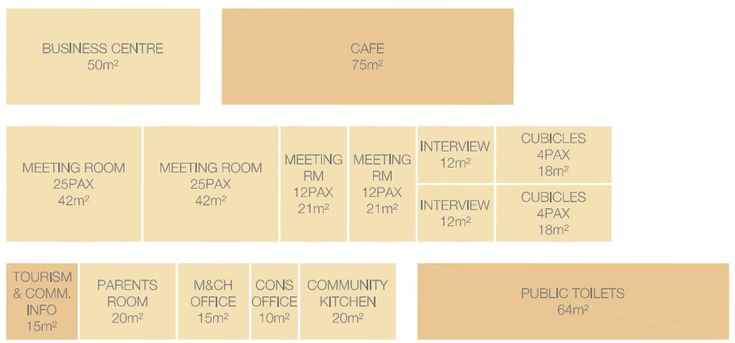
LIBRARY - SECURED

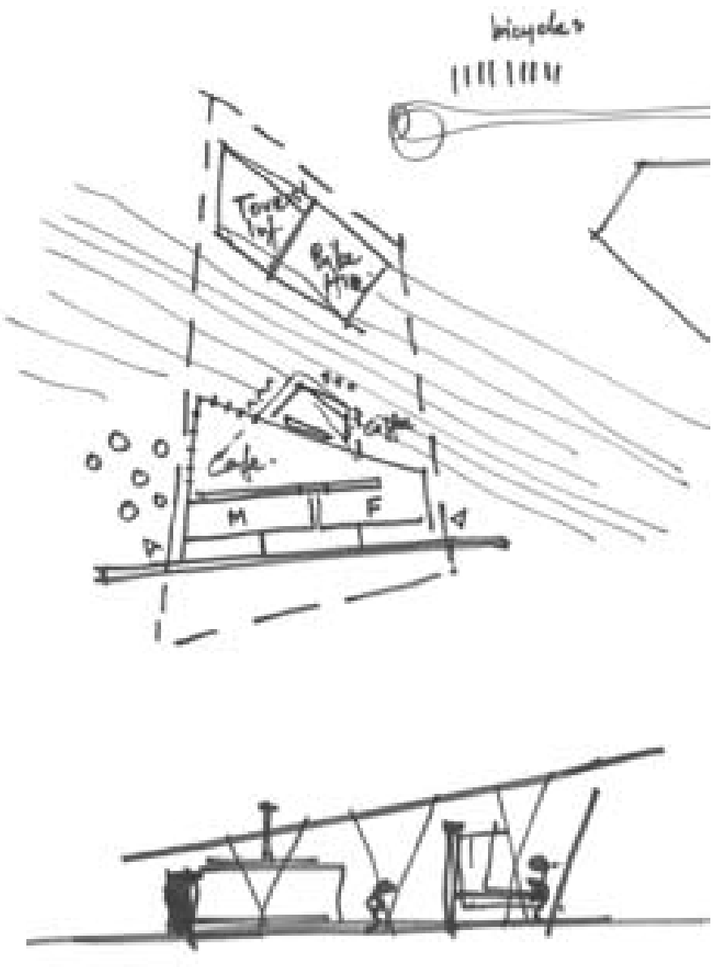
TOTAL : 245m²



COMMUNITY AREA

TOTAL : 455m²





Pavilion Building
Located to enhance the 'containment' of the new pedestrian plaza, this building also allows for a more recognisable and direct pedestrian link to the existing railway crossing.

Proposed uses within this structure include a tourism & community information office, café/coffee shop and public toilets which would be accessible 24 hours a day. The location of this latter facility on route to the station building and adjacent to active space facilities to the east will ensure passive surveillance for security purposes. The Pavilion could also accommodate bike hire facilities.

The pavilion building will also be covered by a soaring roof form, suspended above the uses below and providing outdoor protection at times of inclement weather.

The potential of this building to provide an active and popular meeting place at the new Civic Hub opposite the station should not be underestimated.

The evocative, lightweight nature of this building, utilizing zinc roofing and steel structural supports would be complemented by the soaring, tapering form of the library building designed to act as a "window for the community".

Several other buildings are proposed for possible future stages in order to enhance the initial contribution made to the precinct redevelopment by the library/community and pavilion buildings as described above.

An active space facility is proposed to the east of the pavilion building to further enhance the definition and recognition of the route to and from the existing railway crossing. In contrast to the pavilion building, this facility would be a more solid, asymmetrical structure, reflecting the multi-purpose nature of the activities within. In combination with the relocated skate park, this facility would become the focus for youth recreation activities adjacent to the new civic hub. The vibrancy and energy created by these activities could lead to a revitalised retail offer along the north side of George Street facing this precinct.

Commercial/mixed uses are proposed in two/three separate buildings facing George Street to the west of the Civic Hub precinct. These buildings reinforce the geometry of the library/community and pavilion buildings, opening up views through to the railway track and the retail activities along George Street to the north. Ease of access to taxi, bus and rail networks together with high visibility between George Street and Lloyd Street will ensure prominence for these proposed buildings.

A retail facility is also proposed at the western end of the existing service station site to clearly separate this commercial activity and its vehicle movements from the existing pedestrian crossing at Lloyd Street which provides access across a new public forecourt to the train station. This proposed building could provide a retail offer to both the service station and the public domain while at the same time assist in defining the eastern edge of the new Civic Hub and associated public spaces.


MOE

Section through Pavilion looking east

GEORGE STREET

RECEPTION

ENTRY

STORAGE

EXHIBIT

LIBRARY
230m²

BROWSING

GAMES

INTERNET CAFE

ADULT READING

STORYTIME

M

F

CLEAN

COMM

LOADING

DISABLED / SPECIAL PURPOSE PARKING

TOURISM & COMMUNITY INFO

BIKE HIRE

CAFE

F

M

Ground Floor Plan

Scale 1:300 @ A3

0m 5 10 15 20

First Floor Plan

Scale 1:300 @ A3

0m 5 10 15 20

INTER VIEW
MEETING ROOM 12PAX
MEETING ROOM 12PAX
MEETING ROOM 25PAX
MEETING ROOM 25PAX
M
F
INTER VIEW
CUBICLES 8PAX
BUSINESS CENTRE
COMMUNITY KITCHEN
CONS OFFICE
M&CH OFFICE
PARENTS ROOM
FUTURE BRIDGE LINK

Second Floor Plan

Scale 1:300 @ A3

0m 5 10 15 20

View from Moore Street towards Civic Hub, City Square and Station

View from Lloyd Street towards Station and Civic Hub

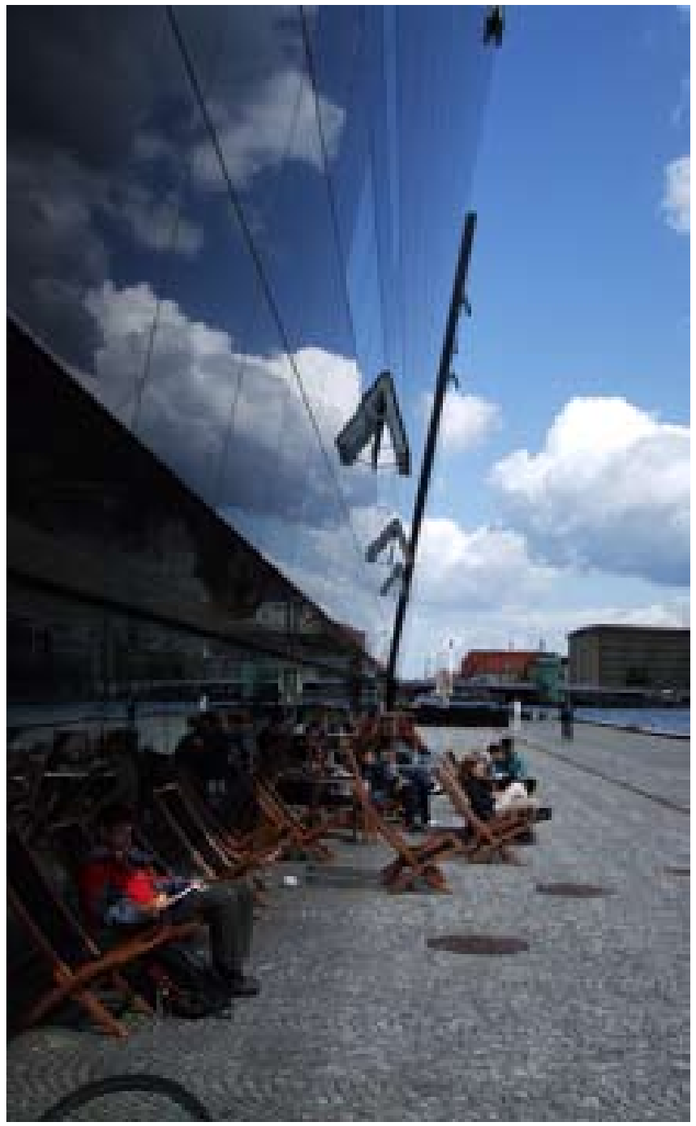
6.3 Reference Images

Chapel of the Deaconesses of Reuilly Versailles

It resides on park-like grounds, quite serene in spite of being located next to a train station. “Here the building itself is the window”.

Promenade Samuel-de Champlain
Saint Lawrence River Waterfront
Quebec City

A largely neglected industrial landscape is now a leafy linear park filled with pedestrians, runners and cyclists.



The Wheeler School Providence Rhode Island

“At dusk, the light it transmits illuminates the otherwise dark street, making it friendly and safe for children waiting to be picked up. Already a hub for students, faculty and parents drawn to its contemporary vibe, comfortable gathering spots and panoramic views, this small project is adapting to the school’s needs – not vice versa.”

The Hume Global Learning Centre in Broadmeadows contains a library, gallery space, cafe and computer facilities, providing a vital civic hub function.

The new library, childcare and community hub in Surry Hills, Sydney demonstrates high quality, sustainable architecture, transparency/visual openness, dynamic vertical circulation and active roof deck spaces

07 Cost Analysis

7.1 Background 7.2 Funding Model 7.3 Detailed Design 7.4 Governance

7.1 Background

This draft Master Plan is a concept plan which is subject to review and amendment pending input from the community. The final Master Plan will be considered by Council following community input.

The Master Plan and Concept Designs have been developed and refined following inputs from the community and discussions with the Project Team. It will be considered by Council for potential adoption prior to commencing the detailed design phase.

7.2 Funding Model

A number of funding partners will be sought, and following a comprehensive due diligence and business case, a funding model will be proposed for consideration by Council.

Funding partners may include Local, State and Federal Government involvement, in addition to potential commercial involvement. To date $2M has been committed from the State Government to implement property acquisitions required to implement the Moe ACP Rail Precinct Master Plan, with a further $2M promised by the Federal Government to contribute towards the cost of the community hub element of the project. An adopted Master Plan for the precinct is the first step in seeking additional Government funding towards implementation of Council's vision for the site.

7.3 Detailed Design

Once the Master Plan has been adopted the project will move into a detailed design phase which will involve inputs and advice from quantity surveyors to cost more detailed aspects of the project.

7.4 Governance

The detailed design together with a proposed funding model will be provided in a final report for consideration by Council.

08 Traffic and Transport Report

8.1 Existing Public Transport System

8.2 Railway Precinct Master Plan

8.1 Existing Public Transport System

The existing timetabled public transport system serving Moe consists of train, bus and coach services. Taxi services are also available. Each service is described separately in the following sections.

8.1.1 Bus Services

Bus services in the locality are operated by Latrobe Valley Buslines. There are four existing local routes and two intercity routes serving Moe, including:

- Moe Route 1 – Margaret St,
- Moe Route 2 – Staff St,
- Moe Route 5 – Old Newborough
- Moe Route 6 – North Newborough
- Moe – Yallourn Nth, and
- Moe-Traralgon Plaza intercity routes.

The existing route structure of these bus services is shown in Figure 1A and the Moe CBD structure is shown on Figure 1B.

The existing levels of service are listed in the summary Table 1. All of the above routes commence or terminate at the bus stop on the western side of Market St, just north of Albert Street, in the Moe town centre. (Refer to Figure 2). There are a number of other more minor bus stops within the Moe town centre that are served by inbound services. There is a second major bus stop, served by all outbound services, located on the eastern side of Anzac Street, adjacent to the Police Station. (Refer to Figure 3). Each of these two major bus stops is located approximately 500 metres walking distance from the railway station.

The existing local bus services do not stop at the Moe railway station. Most existing routes do not currently pass by the Station. As such, the existing bus services are not timed to link with the V/Line train services. Consequently, integration the PT system in Moe could be improved by initially amending all local and intercity routes to service a stop at the Station precinct.

According to the route map and the timetable published on Latrobe Valley Bus line website (http://www.lvbl.com.au), the four existing local bus services run in loops at hourly headways on a typical weekday between the times of 9am and 5pm. The timetable is a clock-face type, with buses departing and arriving at fixed times past the hour.
A summary of the existing bus routes is provided in Table 2 below.

Table 2 Latrobe Valley Bus Line Service Weekday Frequencies

Route No.	Route Type	Weekday		
		Headway (mins)	Daily Trips	Approx Trip Time (mins)
1	Local Loop	60	10	30 (round)
2	Local Loop	60	10	25 (round)
5	Local Loop	60	7	30(round)
6	Local Loop	60	7	30(round)
Moe – Yallourn Nth	Intercity	-	3 I/B & 2 O/B	25 (one way)
Moe-Traralgon Plaza	Intercity	60	13	50 (one way)

Figure 1A: Existing Local & Inter CIty Bus Routes within Moe
(Source: www.lvbl.com.au)

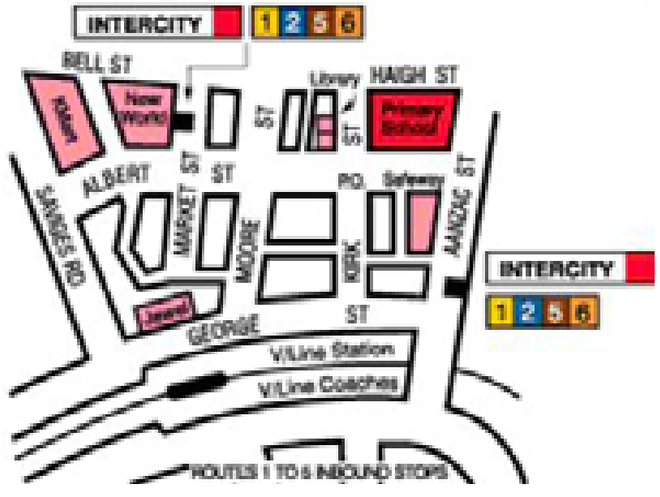


Figure 1B: Existing Key Moe Bus Stops
(Source: www.lvbl.com.au)

Figure 2: Market Street Bus Stop

8.1.2 V/Line Trains/Coaches

The V/Line passenger train services that stop at Moe include the Traralgon – Melbourne and the Bairnsdale – Melbourne services. The travel time by train between Moe and Melbourne is approximately 2 hours.

The Traralgon – Melbourne weekday train services depart from Moe to Melbourne at approximately half hourly intervals between 5am and 9am, and approximately hourly intervals from 9am onwards. The return weekday services arrive at Moe at approximately half hourly intervals between 5:00pm and 6:00pm and approximately hourly intervals outside of these times.

On weekdays the 6:25am, 7:47am and 4:47pm outbound services at Moe are provided by V/Line Coach. Coaches currently stop at a dedicated bay in the railway station car park located on the southern side of the railway line. (refer to Figure 4). Access to this car park is available to and from Lloyd Street.

The Bairnsdale – Melbourne weekday train services through Moe include 4 inbound and 4 outbound services. These trips are integrated with the timetable of the Traralgon services described above. There are also 4 inbound and 4 outbound train services that operate on Saturdays and 3 inbound and 4 outbound train services that operate on Sundays.

8.1.3 Taxis

Taxi services within La Trobe City area are provided by Churchill Taxis Moe Taxis, Morwell Taxis and Traralgon Taxis. There is an existing taxi rank (approximately 50m long) in George St adjacent to the Moe Railway station precinct. (Refer to Figure 5). There is passenger seating, shelter, public phone, taxi call box and refuse bin facilities associated with this rank.

Figure 3: Anzac Street Bus Stop

Figure 4: V Line Coach Bay and New Bike Cage

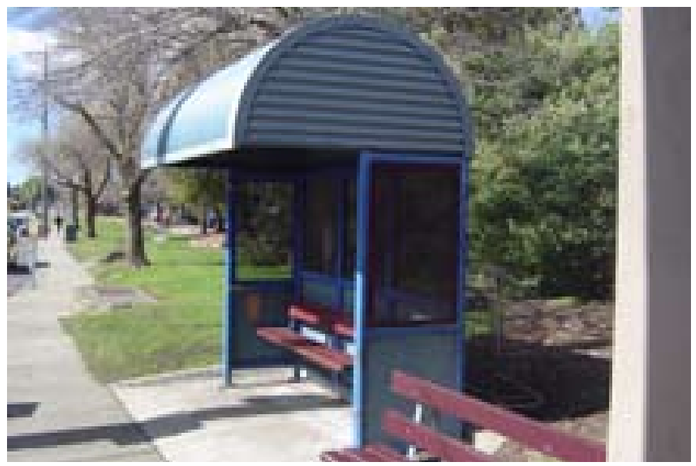


Figure 5: George Street Taxi Rank

8.2 Railway Precinct Master Plan - Public Transport Considerations

8.2.1 Integration of Services

It is understood that a review of the Latrobe Valley Buslines services, including all services operating through Moe, is currently being prepared by others. The final outcomes and recommendations are yet to be released. Notwithstanding, it is clear that better integration of following transport modes would serve to improve transport integration in the locality:

- Latrobe Valley Bus Line Routes,
- V/Line Services (Train & Coach) that operate from the Moe Station,
- Major Taxi rank that is located at the station,
- Commuter parking available at the station precinct, and
- Bicycle facilities.

Further, improvements in terms of the following would also be capable of delivering improvements to overall levels of service offered to the travelling public:

- Bus route location and structure,
- Frequency and integration of timetabling,
- Span of PT operating hours etc, and
- Pedestrian and cycle facilities.

It is understood that one outcome of the bus network study is to provide a bus interchange to cater for up to 4 buses on the northern side of the railway line. This is consistent with the findings of work undertaken for this Masterplan study.

8.2.2 Facilities

The nature and facilities of the interchange developed at Moe Station should be consistent with the principles contained in the “Public Transport Guide Lines for Land Use and Development” published by Land Use and Planning Referrals Team Public Transport Division Department of Transport, Victoria.

This reference states that there are several principal objectives to be met in the design of an interchange layout:

- Maximise passenger and public transport vehicle capacity,
- Maximise quality, safety and security of the passenger and operating environment,
- Minimise the potential for conflict between passenger, cyclist and vehicle movements, and
- Minimise walking distances within the interchange and to nearby attractors.

The Guidelines further recommend the following design principles for an efficient modal interchange:

- Integrate transit stops and interchanges into the design and layout of the activity centre.
- Provide appropriate “Park and Ride” and “Kiss and Ride” facilities in strategic locations.
- Design active frontages along pedestrian paths to interchanges and public transport stops.
- Provide direct routes to interchange and ensure high visibility, activity and surveillance along these routes.
- Public transport waiting areas should be clearly visible from the street and adjacent buildings and provide clear views of train, tram or bus arrivals and departures.
- Lighting should be well integrated with signage and landscaping in order to maximise safety. Lighting should also illuminate timetables at night.
- Provide current passenger information about services and the range of service timetables.
- Provide directional signage to platforms, stops, conveniences, shops, parking and taxi ranks to minimise confusion.
- Additional DDA DSAPT 2002 requirements may be triggered at modal interchanges, such as the provision of resting points (seats) every 60 metres between services.

The proposed masterplan integrates or allows for all of these principles to be implemented.

Analysis of the current PT time tables indicate that if each of the Latrobe Valley Bus Line routes were to be amended to stop at a new Moe Railway Station Interchange Stop in the vicinity of the existing railway station, the expected distribution of arrivals and departures could be similar to that shown in Figure 6. This analysis indicates that, with no substantial changes to the current timetables, the peak requirement would be four bus bays. This requirement would be for several minutes on just one occasion during each normal weekday. For most of the day the general requirement would be just two bays. Consequently it is concluded that the provision of 4 bays would be appropriate and would provide for a measure of future growth by permitting increased utilisation through more frequent services on existing routes or, if found necessary, the inclusion of new routes. With careful timetabling and consideration of operating procedures, significant additional bus utilisation would be possible for such a facility.

The proposed bus bay provision on George St (4 x 25m bus bays) would allow for “independent” operation of each bus so that arrivals and departures for each vehicle would not be constrained (in a physical sense) by other buses.

The proposed continuing operation of V/Line coaches from dedicated bays on the Lloyd Street forecourt area of the station is considered appropriate as these services effectively “replace” rail services and location immediately adjacent to the station building and platform is appropriate.

The proposed location of the main Taxi rank in George Street is opposite Purvis Lane, is recommended as it allows for a high degree of integration with town centre activities and interchange function. At this location the walk distances between all relevant sites (Station, Bus Stops & Town Centre) are optimised and adverse interaction between bus and taxi operations are unlikely to eventuate.

A secondary taxi rank is proposed on the northern side of Lloyd Street, just west of the proposed central access. To ensure adequate pedestrian accessibility and standing area, the verge width adjacent to the taxi rank is required to be a minimum of 1.8 metres.

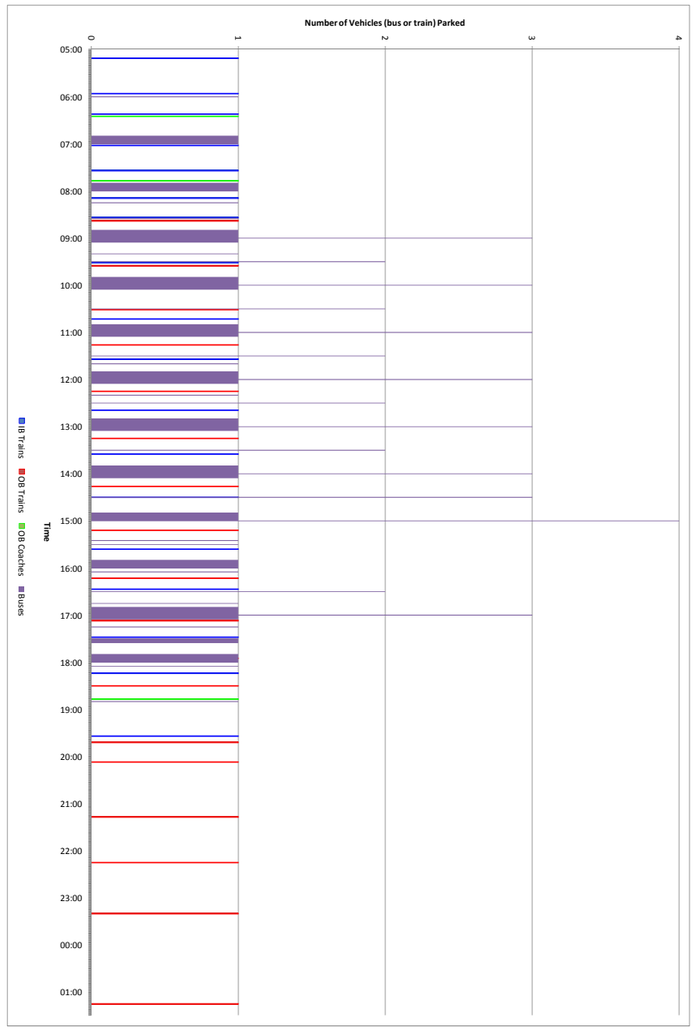


Figure 6: Distribution of Public Transport Services (Arrivals and Departures)

8.2.3 Moore Street / George Street Intersection

Traffic Surveys

Manual traffic and pedestrian surveys were undertaken at the Moore Street / George Street intersection during the following times:

- Friday 4 September between 6:30am and 9:30am
- Friday 4 September between 3:00pm and 6:00pm
- Saturday 5 September between 10:00am and 1:00pm

These surveys were undertaken to quantify the following:

- The peak hour traffic volumes on Moore Street and George Street
- The peak hour pedestrian volumes at the existing George Street crossing and in the vicinity of the Moore Street / George Street intersection
- The combined peak hour for pedestrians crossing and vehicles travelling on George Street

The above surveys provide guidance for the most appropriate pedestrian crossing treatment at the Moore Street / George Street intersection for both the current and future scenarios. They also assist to determine whether a shared zone arrangement is appropriate for the existing traffic situation.

The peak hour traffic and pedestrian volumes are illustrated as Figures 7 - 9 and summarised in the Table 3 below.

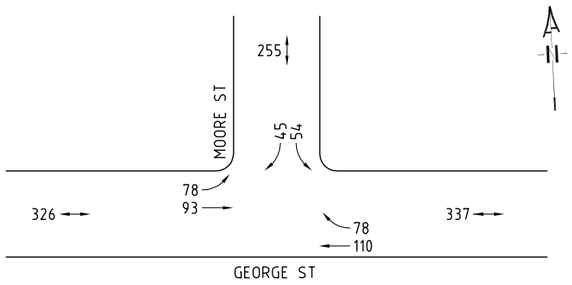
Table 3: Peak Hour Traffic and Pedestrian Volumes at the Moore Street / George Street Intersection

Survey Type	Location	Two-way peak hour volumes		
		Friday AM Peak (8:30am – 9:30am)	Friday PM Peak (3:30pm – 4:30pm)	Saturday Peak (10:30am – 11:30am)
Traffic	George St (east of Moore St)	337	541	543
	George St (west of Moore St)	326	537	486
	Moore St	255	474	458
Pedestrian	Across Moore St	52	48	92
	Across George St	99	171	148

Notes:

1. Peak hour periods represent combined traffic and pedestrian demand.
2. Pedestrian volumes have been factored up such that each older person counts as 2, as required by VicRoads' guidelines. Pedestrian volumes for unaccompanied primary school aged children and persons with a disability where not recorded and, as such, a factor for these groups has not been applied.

The surveys indicate that the Friday PM peak hour period is the most critical when considering both traffic and pedestrian volumes.



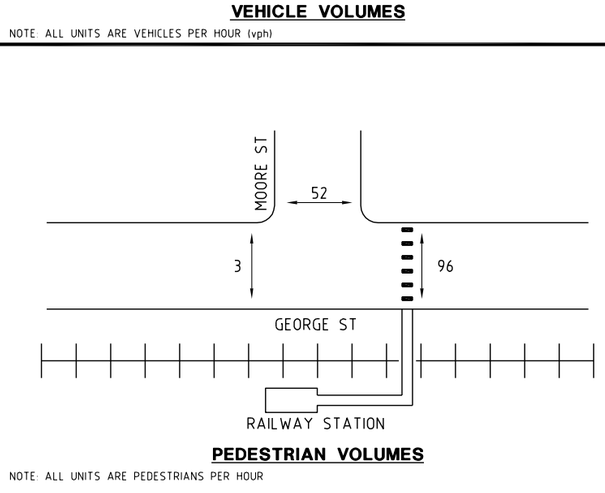
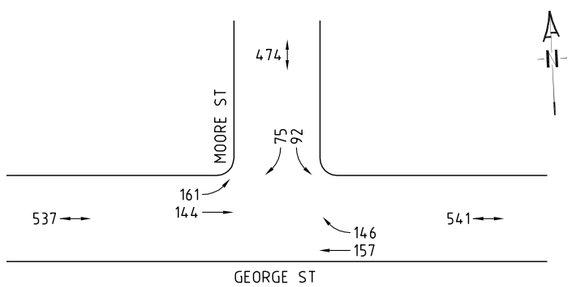


Figure 7: 2009 Pedestrian & Traffic Peak Hour Volumes at Moore George Street Intersection (Fri 0830-0930)



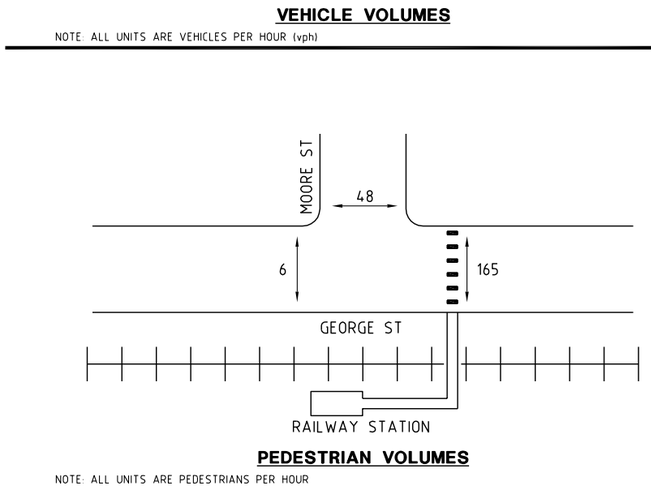
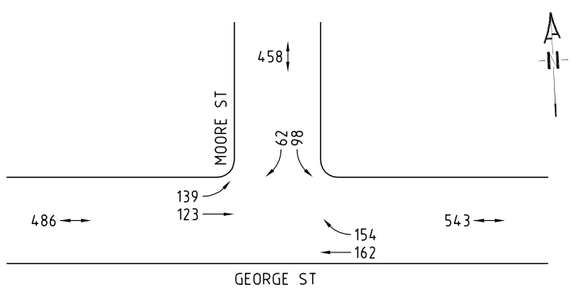


Figure 8: 2009 Pedestrian & Traffic Peak Hour Volumes at Moore & George Street Intersection (Fri 1530-1630)



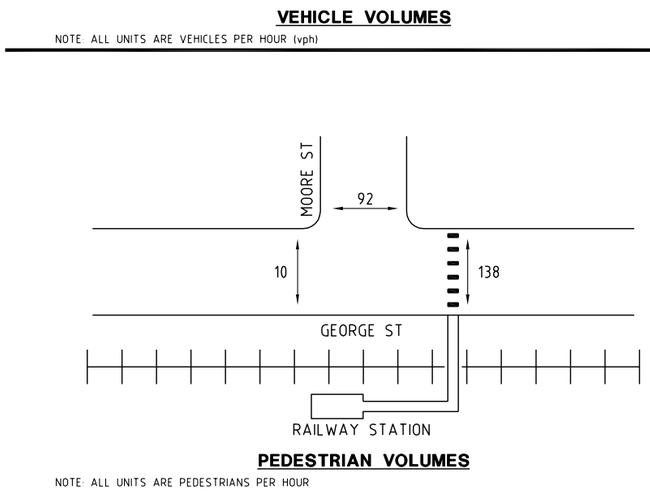


Figure 9: 2009 Pedestrian & Traffic Peak Hour Volumes at Moore & George Street Intersection (Sat 1030-11:30)

Pedestrian Crossings – Types and Warrants for installation

The most common pedestrian treatments and whether or not these treatments are warranted in the vicinity of George Street and Moore Street are provided in Table 4 below. The below assessment has been based on the Friday PM peak hour volumes.

Table 4: Pedestrian Warrants

Type of Pedestrian Facility	**Moore Street** Pedestrians per hour = 48 Vehicles per hour = 474	**George Street (west of Moore St)** Pedestrians per hour = 6 Vehicles per hour = 537	**George Street (east of Moore St)** Pedestrians per hour = 171 Vehicles per hour = 541
Pedestrian Refuge Islands	Generally appropriate	Not required	Generally appropriate
Pedestrian Crossing (zebra) – standard	Warranted	Not warranted	Warranted
Pedestrian Crossing (zebra) – with flashing lights	Not warranted	Not warranted	Warranted (currently exists)
Pedestrian operated signals (mid-block)	Not warranted	Not warranted	Warranted (without median) Not warranted (with median)

Based on the existing peak weekday traffic and pedestrian volumes and with reference to VicRoads' guidelines, the following can be established:

- A zebra crossing (without flashing lights) is warranted across Moore Street. Moore Street is currently signed as a shared zone;
- No pedestrian crossing treatments are required or warranted across George Street (west of Moore Street)
- Although the existing zebra crossing with flashing lights exists and is currently warranted across George Street (east of Moore Street), the need for additional treatment such as signals or a median is also triggered.

Increased pedestrian activity would be expected in the vicinity of the Moore Street / George Street intersection with the improved civic space and the development of community facilities (such as a library) and office space within the railway precinct. It would also be expected that traffic movements along George Street would also increase although not to the extent of the increased rate of pedestrians. Therefore, due to the high volume of interacting pedestrians and vehicles in the vicinity of Moore Street and George Street, careful consideration to the appropriate intersection treatment is required for the safe and efficient movement of pedestrians and vehicles for each stage of the proposed Master Plan implementation.

Shared Zones

Existing Moore Street Shared Zone

The existing signed shared zone on Moore Street currently extends between George Street to the south and Albert Street to the north. Although signed appropriately for a shared zone, it has been observed, and raised by Council officers, that Moore Street is still functioning as a vehicle dominated carriageway. This is partly confirmed by the traffic and pedestrian survey results which recorded that, over the first 20m of the southern end of the shared, vehicles outnumbered pedestrians (on the defined carriageway) by at least 5 to 1.

Some features of Moore Street which may contribute to the domination of vehicles are listed below:

- There is a strong definition between the vehicle carriageway and footpath that discourages pedestrians from actively using the street space. It is preferable that the shared zone is on one level to "enhance the sense of equality between pedestrians and vehicles." [VicRoads guidelines].
- The existing vehicle carriageway is predominantly bitumen seal and does not clearly set apart the shared zone area from any other street within the locality. It is desirable that the shared zone surface be treated differently to emphasise to the driver that they are in a shared zone, and to modify their behaviour.
- Limited speed reduction devices currently exist within the shared zone. (Refer to Figure 10). VicRoads suggests that straight road lengths should not exceed 50m.
- The vehicle carriageway is currently too wide. This encourages higher vehicle speeds and provides less protection for pedestrians.

Further to the above, appropriate and inappropriate locations for shared zones, as guided by VicRoads (Traffic Engineering Manual Vol 1, Chapter 4 – Edition 4, September 2008), compared to the existing situation, are summarised in Table 5 below.

Table 5 – VicRoads' Guidelines for Appropriate and Inappropriate Shared Zone Treatments

Appropriate locations	**Existing Moore Street Shared Zone**
Low volume streets where pedestrians outnumber motor vehicles and where the pedestrian needs are best met by walking on the roadway	Non compliant. Moore Street is a significant shopping street within Moe.
Where the street has been constructed or reconstructed to a sufficient degree to ensure significant visual interruption and where speed is physically restrained	Non compliant
Where there is no cross motor traffic	Compliant
Inappropriate locations	Existing Moore Street Shared Zone
On streets that carry over 200 vehicles per hour in peak periods, or over 1000 vehicles between 7.00am and 7.00pm	Non compliant. Traffic volumes on Moore Street (southern end) were recorded as being just below 500 vehicles per hour.
On streets with a history of vehicle speed problems	Speed surveys have not been undertaken. Observed to be generally compliant.
On unprotected locations where approach speeds exceed 40-50km/h	Compliant

With reference to VicRoads' guidelines and the above review, additional treatments and other network modifications (to reduce the overall traffic volumes along Moore Street) are required to ensure a safe and efficient use of the existing shared zone arrangement.

Figure 10: Existing Shared Zone Arrangement (Looking north along Moore Street from George Street)

Shared Zone – Master Plan

As part of the proposed master plan, it is proposed to modify the existing shared zone arrangement as follows:

- Restricting the shared zone area on Moore Street to just the southern section. The northern section would be converted to a typical urban street with clearly defined vehicle and pedestrian areas.
- Relocating the majority of car parking on Moore Street from the southern to the northern section of Moore Street (i.e. to the proposed non shared zone area). A preliminary review has indicated that the car parking supply along Moore Street may be slightly increased from the existing supply.
- Continuing the shared zone area to include the intersection of George Street and Moore Street. This would provide a direct link to connect to the open space proposed between George Street and the railway line.
- Raising the shared zone area such that pedestrians and vehicles are on one level.
- Treating the shared zone area to clearly differentiate between the shared zone and surrounding road network.
- Restricting traffic lane width to reduce traffic speeds.

The physical measures as listed above are generally appropriate for a shared zone arrangement. However, as highlighted previously within this section, existing (and future) traffic volumes on both George Street and the southern section of Moore Street are required to be reduced to ensure the successful operation of the shared zone treatment.

The existing peak hour traffic flows on George St, Moore Street and through the George Street / Moore Street intersection are summarised as follows:

- George Street east of Moore Street (two-way): ~540 vph
- Moore Street (two-way): ~475 vph
- George Street / Moore Street intersection (all-movements): ~775 vph

In comparison, VicRoads' guidelines suggest an upper peak hour traffic volume within a shared zone of 200 vehicles per hour.

The proposed shared zone itself could assist with reducing the traffic volumes in its vicinity; however, in order to achieve wholesale traffic reductions, some or all of the following would be required (some of which are already proposed):

- Altering the town centre network to encourage the through vehicles to use alternative routes (other than Moore Street and George Street). This may also include road blockages and / or one-way traffic routes.
- Reducing car parking demand within the shared zone (this is already proposed as part of the Master Plan as the majority of car parking will be relocated to the northern section of Moore Street, but south of Albert Street).
- Introducing traffic calming measures to discourage the use of George Street for through traffic.
- Concentrating the pedestrian active, low vehicle land uses in close proximity to the George Street / Moore Street intersection.

Further to reducing the potential traffic volumes, it is strongly recommended that the shared-zone/crossing treatment at the Moore Street / George Street intersection be designed such that pedestrians travelling between the railway precinct and Moore Street are guided outside of the vehicle conflict zone of turning vehicles (i.e. in line with the verges along Moore Street).

Commuter Car Park

The commuter car park is proposed to be increased to 105 car parking spaces (minimum), which is consistent with the requirements of the Department of Transport, and will be located on the western side of the railway station building. It is proposed that this car park will predominantly cater for rail commuters. It is recommended that the proposed car park be designed to allow for adequate internal circulation (i.e. removal of dead-end aisles). For the current car park proposal, this can be achieved by providing an additional access off Lloyd Street at its western end and an internal link between the two car park aisles.

Access (both ingress and egress) to the railway car park is proposed to be located off the northern side of Lloyd Street, approximately 60m (clear separation) west of Fowler Street. This location is considered adequate and is unlikely to detrimentally affect the operational efficiency of the adjacent road network.

The V/Line coach service and set-down / pick-up areas (including the provision of two taxi bays) will ingress via the proposed railway car park access (described above) and egress via a secondary access approximately 30m west of Fowler Street.

The existing car park egress located on the northern side of the Lloyd Street / Fowler Street intersection is in a prohibited location (according to Australian Standards - AS2890.1:2004) and is proposed to be removed / relocated as part of the Master Plan development. This will improve safety and capacity at the Fowler Street / Lloyd Street intersection by:

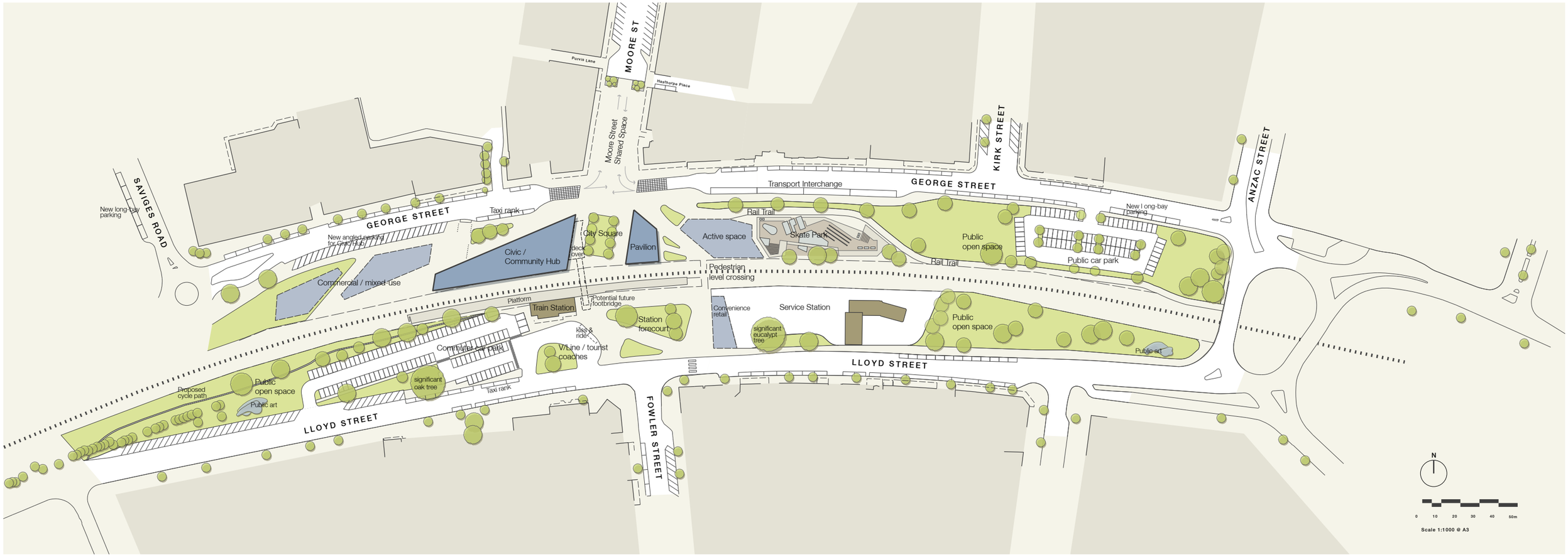
- Reducing the number of conflict points at the intersection;
- Reducing critical turn volumes; and
- Minimising confusion and hesitation from both the car park and Fowler Street.

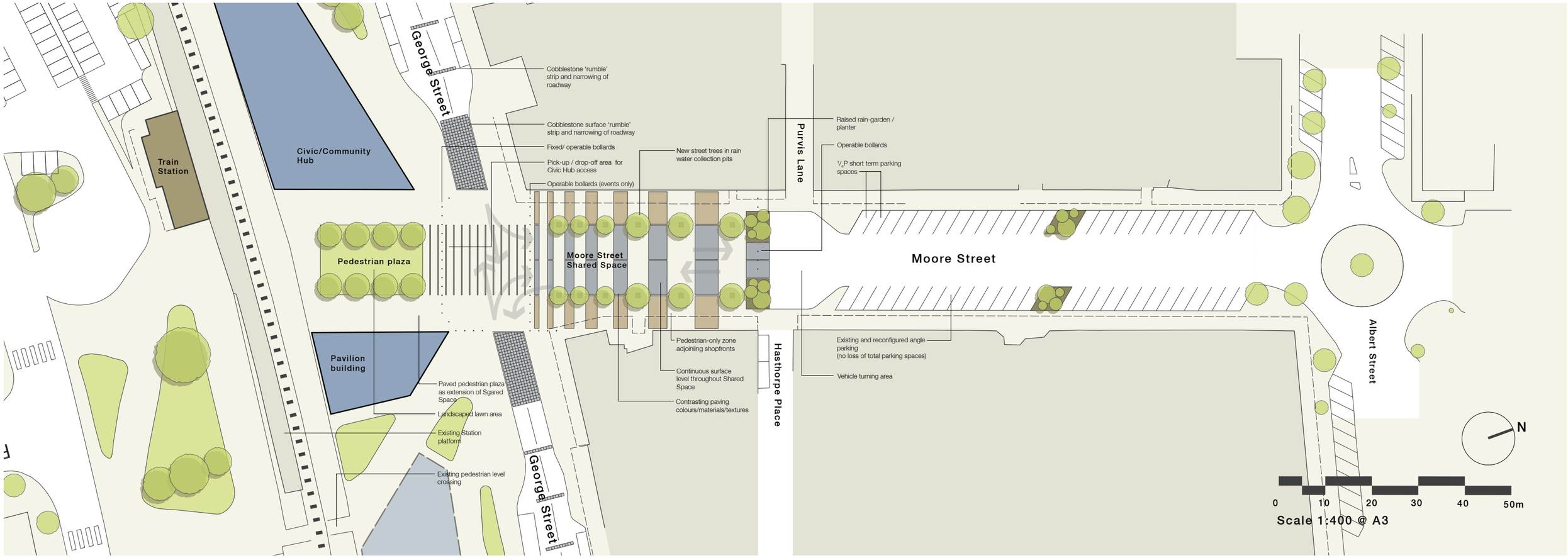
George Street Car Park

The George Street car park will gain access off the southern side of George Street approximately 40m east of Kirk Street. This car park will be available to the public for the V/Line train services and customers and staff of the town centre and rail precinct. In the order of 72 spaces (including 3 long bay spaces) will be supplied. The potential for a car park extension on its eastern side is available if the proposed supply is deemed insufficient.

09 Additional Plans

9.1 Single-page Plans


MOORE ST
Purvis Lane
Hasthorpe Place
Moore Street Shared Space
KIRK STREET
ANZAC STREET
SAVIGES ROAD
GEORGE STREET
Transport Interchange
New long-bay parking
Taxi rank
New angled parking for Creative
City Square
Civic / Community Hub
Pavilion
Active space
Rail Trail
Skate Park
Public open space
New l ong-bay parking
Public car park
Commercial / mixed use
Pedestrian level crossing
Platform
Train Station
Potential future footbridge
Station forecourt
Convenience retail
Service Station
significant eucalypt tree
Public open space
Public art
kiss & ride
Commuter car park
V/Line / tourist coaches
LLOYD STREET
Proposed cycle path
Public open space
Public art
significant oak tree
Taxi rank
FOWLER STREET
N
0 10 20 30 40 50m
Scale 1:1000 @ A3


George Street
Train Station
Civic/Community Hub
Pedestrian plaza
Pavilion building
Moore Street Shared Space
Purvis Lane
Moore Street
Hasthorpe Place
George Street
Albert Street
Cobblestone 'rumble' strip and narrowing of roadway
Cobblestone surface 'rumble' strip and narrowing of roadway
Fixed/ operable bollards
Pick-up / drop-off area for Civic Hub access
Operable bollards (events only)
New street trees in rain water collection pits
Raised rain-garden / planter
Operable bollards
1/4P short term parking spaces
Pedestrian-only zone adjoining shopfronts
Continuous surface level throughout Shared Space
Contrasting paving colours/materials/textures
Existing and reconfigured angle parking
(no loss of total parking spaces)
Vehicle turning area
Paved pedestrian plaza as extension of Sgared Space
Landscaped lawn area
Existing Station platform
Existing pedestrian level crossing
N
0
10
20
30
40
50m
Scale 1:400 @ A3


George Street
Train Station
Civic/Community Hub
Pedestrian plaza
Pavilion building
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Existing and reconfigured angle parking
(no loss of total parking spaces)
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N
0
10
20
30
40
50m
Scale 1:400 @ A3


MOE