LEVEL CROSSING REMOVAL AUTHORITY

URBAN DESIGN FRAMEWORK:
PRINCIPLES & OBJECTIVES, MEASURES & QUALITATIVE BENCHMARKS

Version 4

MAY 2018
## Document Status

### PMF Classification

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<th>Owner</th>
<th>Approver</th>
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<td>Lisa Dunlop</td>
<td>Kevin Devlin</td>
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## Version Control

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<th>Title</th>
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<td>Urban Design Framework</td>
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<td>General update with inclusion of Implementation section</td>
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<td>4</td>
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<td>LD/TN</td>
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## Approval

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<td>May 2018</td>
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<td>Australian Sustainable Built Environment Council</td>
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<tr>
<td>COAG</td>
<td>Council of Australian Governments</td>
</tr>
<tr>
<td>CSG</td>
<td>Creative Strategy Guideline</td>
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<td>Department of Economic Development, Jobs, Transport and Resources</td>
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<td>DELWP</td>
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<td>Level Crossing Removal Authority</td>
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<tr>
<td>MREP</td>
<td>Mernda Rail Extension Project</td>
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<td>MMRA</td>
<td>Melbourne Metro Rail Authority</td>
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<td>OGVA</td>
<td>Office of the Victorian Government Architect</td>
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<td>TIA</td>
<td>Transport Integration Act (2010)</td>
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<td>Urban Design Advisory Panel</td>
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<td>Urban Design Framework</td>
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FOREWORD

A UNIQUE OPPORTUNITY

The Major Transport Infrastructure Program (MTIP) is one of the most significant investments in transport infrastructure in Victoria’s history.

The program, which includes projects being undertaken by the Level Crossing Removal Authority (LXRA), is more than just road or rail projects, they are city shaping projects that will create a lasting legacy for Melbourne. Incorporating the principles and practices of great urban design and place making is therefore a priority if this investment is to deliver a full range of benefits for current and future Victorians.

The Victorian State Government, through the LXRA, is removing 50 dangerous and congested level crossings across Melbourne, as well as undertaking other infrastructure projects, to improve safety for rail and road users, pedestrians and cyclists.

Achieving high quality urban design is a long-term complex process that is intent on creating integrated, useful, attractive, safe, environmentally sustainable, economically successful and socially equitable places. By maintaining a focus on urban design from the outset, we will build more cohesive and inclusive community places, more environmentally sensitive infrastructure and new urban spaces that are safe and engaging for people, and contribute to civic pride and local economies.

This Urban Design Framework (UDF) sets the expectations of the LXRA for high quality, context sensitive urban design outcomes and sets out principles, measures and qualitative benchmarks so that we can measure and be sure design outcomes meet those expectations.

Thanks to all the people who have contributed to this document and who are working hard to achieve great urban design outcomes for the level crossing removal program. Together we are shaping the future landscape of Melbourne, its transport network and its role in building and sustaining healthy and prosperous communities.

KEVIN DEVLIN
Chief Executive Officer
Level Crossing Removal Authority
1. INTRODUCTION

1.1 WHY IS URBAN DESIGN IMPORTANT?

Urban design is the practice of designing and making great places and spaces that work well and are enjoyable for people to be in. It ensures that every move considers and capitalises on opportunities to maximise the safety and amenity of users, provide integrated transport solutions and create a better environment for people.

Urban design shapes the built environment to improve the quality and overall liveability of cities and towns. While urban design is often tailored for a specific project, the dynamic and evolving nature of urban environments means that urban design is a long-term process.

Good urban design employs a multi-disciplinary approach, derived from a variety of disciplines, such as planning, architecture, engineering and landscape architecture. It draws on these disciplines to create a vision for an area and then deploys the resources and skills needed to bring that vision to life.

Good urban design operates at a variety of scales; from the macro scale of urban structures, such as city-wide transport networks, to micro scale elements such as lighting. Urban design is also involved throughout the project lifecycle, from the project definition, through to option studies, concept and detailed design, construction and evaluation.

Urban design is not limited to special projects and should underpin all government projects. It is achievable and important in even the smallest urban interventions. Good urban design processes and outcomes are important because they improve:

- The functionality, character and spirit of public places for individuals and communities;
- The levels of comfort, accessibility, safety and inclusiveness of places;
- The expression of social and cultural values associated with places;
- The socio-economic composition, diversity and economic vibrancy of urban areas;
- The sustainability and resilience of urban environments; and
- Community connectedness, health and wellbeing, and pride of place.

When urban design objectives are considered alongside technical considerations from the outset of a project and throughout the project delivery, it results in better, more integrated and efficient urban outcomes which can often be achieved at minimal additional cost. Altering the urban environment can be challenging and costly and attempts to implement urban design objectives at later stages of projects proves difficult and expensive. Figure 1 shows that when key design initiatives are put in place at the early stages of a project, there is greater opportunity for good design to be realised.

Figure 1 Design Quality and Delivery Stages (Source: OVGA Government as Smart Client)
High quality, well-integrated design is critical to the success of a major infrastructure project. Establishing a vision and key design initiatives that consider the long-term possibilities for a place and community during early stages and at a broader scale than just that of the initial transport project investment may act as a catalyst and unlock transformative urban integration and urban renewal opportunities.

It is essential that any integrated development opportunities contribute to improved urban amenity through incorporation of good urban design approaches, to ensure site responsive, locally relevant higher density development. This project has the potential to set strong benchmarks for design quality in urban renewal and to serve as a catalyst for positive urban renewal that reinvigorates and reconnects communities.

Factors that can have a significant impact on design outcomes include:
- Developing a vision statement;
- Quality of the brief;
- Adequacy of the budget;
- Adequacy of the program;
- Good design review processes;
- Good management and governance of urban design process;
- Skill of the design team; and
- Ability to integrate multiple design disciplines.

The LXRA is committed to ensuring high quality urban design is achieved through all of its projects.
1.2 PURPOSE AND ROLE OF THE UDF

The UDF will guide the integrated planning and design of level crossing removal projects, and other projects as allocated, to deliver high quality, context sensitive urban design outcomes which enhance urban amenity and minimise adverse impacts. The UDF will be used to:

- Inform and influence the project design and options;
- Inform site specific urban design guidelines;
- Evaluate design proposals;
- Evaluate detailed design; and
- Assess built form outcomes.

Design must address both the rail and road infrastructure, as well as identify broader place making opportunities for communities and places through which the project passes.

The UDF encourages private sector expertise and innovation in creating outstanding urban design outcomes, through a collaborative design approach to developing technical proposals.

It is essential each project demonstrates integrated urban design thinking as a catalyst for urban renewal, improving the quality of the public domain, being context responsive and helping to enhance existing urban character and amenity.

Rather than providing prescriptive urban design solutions, the UDF sets out what is to be achieved in terms of urban design quality and performance.

The principles, objectives, measures and qualitative benchmarks set out in this UDF will:

- Ensure proposals develop with good urban design considerations, treated as being integral to project solutions;
- Provide the basis for the Urban Design Advisory Panel (UDAP) to provide advice and feedback;
- Guide the evaluation of design proposals; and
- Establish the minimum quality expected by the State in terms of performance outcomes and benchmarks for quality.

The UDF is a living document that will be updated as the LXRP progresses.

While the UDF provides program wide guidance, LXRA also produces Urban Design Guidelines and detailed project requirements for each level crossing removal site. These are informed by the UDF and complemented by the Integrated Art Guidelines. Figure 2 shows the relationship between these four documents.
URBAN DESIGN DOCUMENTATION

1. URBAN DESIGN FRAMEWORK (UDF)
   - Overarching framework that describes high-level design aspirations and expectations of the State.
   - Contains eight key urban design principles, with objectives, measures and benchmarks.
   - Used to inform and influence the development of design proposals and provide a framework for design evaluation.

2. URBAN DESIGN GUIDELINES (UDG)
   - Site-specific guidelines that establish design intent for each location.
   - Contains context analysis and design intent.

3. PROJECT/CONTRACTUAL REQUIREMENTS
   - Detailed performance requirements for the project addressing disciplines including urban design, architecture and landscape architecture.

4. CREATIVE STRATEGY GUIDELINES (CSG)
   - Guidelines to facilitate engagement of creative industries to develop and integrate works for incorporation into the project.

Figure 2  Purpose and the Role of contract documents including UDF, UDG and CSG
1.3 POLICY CONTEXT AND RELEVANT DOCUMENTS

The UDF is informed by and seeks to give effect to a range of policies and strategies at both the federal and state government level. The key policy documents are outlined below.

- The eight principles of the UDF are derived from the Australian National Urban Design Protocol ‘Creating Places for People’. These principles outline the expected urban design outcomes for LXRA projects, and are supported by objectives, measures and qualitative benchmarks.

- The Transport Integration Act 2010 (TIA) is Victoria’s principal transport statute and sets out an integrated decision-making framework. The TIA includes six transport system objectives that are relevant to the UDF:
  - Social and economic inclusion;
  - Economic prosperity;
  - Environmental sustainability;
  - Integration in transport and land use;
  - Efficiency, coordination and reliability; and
  - Safety, health and wellbeing.

- The UDF has been informed by the PTV Network Technical Standard for Public Transport Precincts (2017), as well as Transport for Victoria’s Transport User Needs document. Precinct environments will be designed to provide safe and predictable movements prioritised according to Public Transport Victoria’s (PTV) transport mode hierarchy – prioritising pedestrians and bicycle access over private vehicle access.

- The Metropolitan Planning Strategy ‘Plan Melbourne 2017-2050’ includes the following action, which the UDF will assist in delivering:

  Implement measures to ensure new transformative and city-shaping infrastructure projects, such as the Metro Tunnel and level crossing removals, deliver exemplary design outcomes and opportunities for new public spaces and connections that will add to Melbourne’s vitality.

Figure 3 provides some context between the different elements of urban form, and the relationship and scale of planning and LXRA documentation in which they are addressed.

Links to a number of these documents and other useful documents that have informed the UDF and are relevant to urban design are located at Appendix C.
Thinking about urban design, strategic and statutory planning at different scales helps put them in context. The elements of urban design are illustrated next to the scale of planning at which they are commonly addressed. Concept adopted from Next Generation Planning, published by the Council of Mayors (SEQ), 2011.
1.4 LOCAL CONSIDERATIONS

Each individual project site should be viewed as a specific and distinctive opportunity to improve a local place, the rail corridor and the associated journey. Effective enhancement of local places requires an understanding of existing character, including the physical conditions, strategies, plans and local community values.

Each site, whether it be a level crossing removal, new station or associated development site, has its own unique character and ‘sense of place’. There are distinctive issues and opportunities inherent in each place in terms of its urban design quality. The design for each site, and each area affected by the project, should take into account the unique characteristics, issues and opportunities in its location and community. Consideration should also be given to the dynamism of communities and to the needs of those who may live in and use these areas in the future.

Key local considerations for each site will be informed by discussion with Council and the community as part of consultation for the projects.

While the UDF provides program-wide guidance, local considerations are identified in Urban Design Guidelines (UDGs) prepared for each project site. UDGs define a specific site vision, identify key opportunities and constraints and unique character qualities. They also integrate relevant local government and key agency stakeholders.

Project teams should undertake careful analysis of existing contexts through site investigation and research to understand local issues and opportunities to enhance and contribute to better local outcomes. This should include analysis of each existing site, associated precincts and the corridor as a whole to establish a sound basis for a responsive design solution to LXRA projects and any integrated development opportunities.
2. FRAMEWORK STRUCTURE

The Urban Design Framework has five components in three sections.
The five components will be used to evaluate and assess a design proposal at each stage through to delivery.
High quality urban design will be achieved through the holistic application of the Principles, Objectives, Measures and Benchmarks contained within the UDF.

VISION AND ASPIRATIONS
The vision and aspirations describe the goal to achieve high quality urban design outcomes for the whole program.

PRINCIPLES AND OBJECTIVES
The eight principles of the UDF are derived from the Australian National Urban Design Protocol ‘Creating Places for People’. These principles outline the expected results for achieving good urban design outcomes.
The objectives clarify aspects of the principles, and describe specific outcomes to be achieved, to give effect to each principle.
The principles and objectives provide overarching expectations for high quality design considerations across the whole program, and are used to inform selection of preferred options, development of solutions and evaluation of proposals and final built outcomes.

MEASURES
The measures provide performance requirements, based on a range of elements, that demonstrate the Principles and Objectives have been achieved.
The measures communicate the outcomes required to achieve the Principles and Objectives, as the basis for which proposals will be informed, evaluated and delivered.

QUALITATIVE BENCHMARKS
The qualitative benchmarks provide a series of images that illustrate the minimum standard of design quality expected for project elements, drawn from relevant precedent projects.
The qualitative benchmarks provide a reference to illustrate the level of quality in meeting the measures in terms of conceptual and detailed design integration, innovation and detailed resolution.
3. URBAN DESIGN VISION AND ASPIRATIONS

The vision and aspirations describe the goal to achieve high quality urban design outcomes for the whole program.

3.1 VISION

A collaborative, interdisciplinary approach integrates technical and urban design aspects in project solutions, and enables architectural, landscape and urban outcomes that focus on creating great places for people.

3.2 ASPIRATIONS

Five aspirations support the vision:
- Urban design excellence will be achieved to benefit all of the transport network, its users and the communities and places through which the project passes;
- The positive impacts of the project will be maximised, and negative impacts will be minimised;
- High quality urban design will be closely integrated with best practice technical solutions;
- Opportunities to provide added community benefits will be pursued, including health and wellbeing through urban amenity and quality;
- Collaborative, multi-disciplinary integrated design thinking will be achieved through an urban design led process.
The eight principles of the UDF are derived from the Australian National Urban Design Protocol ‘Creating Places for People’. These principles outline the expected results for achieving good urban design outcomes. The objectives clarify aspects of the principles, and describe specific outcomes to be achieved, to give effect to each principle.

The principles and objectives provide overarching expectations for high quality design considerations across the whole program, and are used to inform selection of preferred options, development of solutions and evaluation of proposals and final built outcomes Urban design outcome.
## Urban design outcome

### ENHANCING

**Identity**

A well-defined identity and sense of place is key to creating strong and vibrant communities.

**Objective 1.1 Sense of Place**
Recognise, maintain and enrich the identity of the local neighbourhood. Develop a design that embodies the qualities, character and aspirations of the local community.

**Objective 1.2 Responsive**
Design and integrate infrastructure to respond and contribute to the unique and valued social, cultural and physical aspects of the local area. Demonstrate sensitivity to interfaces with neighbours.

**Objective 1.3 Heritage**
Respect and respond to indigenous and non-indigenous cultural heritage and local history.

**Objective 1.4 Journey**
Enrich the civic identity of the rail corridor, to enhance the journey and to create engaging and memorable experiences for commuters.

**Objective 1.5 Consultation**
Enhance the quality of project outcomes by working closely with affected stakeholders and communities to identify and prioritise key local issues & opportunities.

## Urban design outcome

### DIVERSE

**Urban Integration**

A well-integrated environment is a sound framework for the successful development of a great place.

**Objective 2.1 Integration**
Provide an integrated design aligned with analysis findings, local government and community vision and relevant broader government policies.

**Objective 2.2 Reconnect**
Reconnect communities if previously severed by infrastructure intervention, and foster community cohesion.

**Objective 2.3 Urban renewal**
Identify and optimise IDOs at an early stage. Demonstrate how the new works will integrate with and catalyse future urban renewal.

**Objective 2.4 Future-proofing**
Respond to strategic transport and land use planning for the broader precinct.
Urban design outcome

**CONNECTED**

**Principle 3**
**CONNECTIVITY & WAYFINDING**

A well connected and legible environment contributes significantly to a strong economy and an integrated community.

**Objective 3.1 Connectivity**
Improve connectivity and enable ease of movement between spaces for all users by providing direct connections and clear sightlines in the station precinct, the broader region and across the rail corridor.

**Objective 3.2 Legibility**
Design for legibility and intuitive wayfinding by providing a clear hierarchy of pathways and spaces that reduces reliance on signs.

**Objective 3.4 Multi-modal transport**
Provide a range of well provisioned transport options. Make inter-modal connections effective for all users, reflecting PTV’s Station Access Mode Hierarchy*. Prioritise pedestrians and cyclists.

**WALKABLE**

**Principle 4**
**ACCESSIBILITY**

A highly accessible and inclusive environment provides a positive user experience and contributes to health, wellbeing and the perception of care in a community.

**Objective 4.1 Universally inclusive**
Design for universal accessibility, promote equity, and minimise perceived and physical barriers in public spaces within and beyond the precinct. Improve building accessibility for all users.

**Objective 4.2 Walkable**
Prioritise walkability by coordinating land use patterns, providing high quality footpaths and pedestrian friendly traffic and road conditions.

**Objective 4.3 Active transport**
Plan and design to enable and encourage walking, cycling and using public transport within and beyond the precinct.

* Station Access Mode Hierarchy from Public Transport Precincts Design Requirements and Guidance
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<tr>
<td><strong>Principle 5</strong></td>
<td><strong>SAFETY</strong></td>
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<td></td>
<td>A safe environment is essential for a strong, connected and happy community.</td>
</tr>
<tr>
<td><strong>Objective 5.1 Personal safety</strong></td>
<td>Apply Crime Prevention Through Environmental Design (CPTED) principles to design places that are and feel safe, that engender positive use of and care for the environment and are not conducive to vandalism.</td>
</tr>
<tr>
<td><strong>Objective 5.2 Natural surveillance</strong></td>
<td>Maximise passive surveillance opportunities in public spaces. Eliminate hidden corners and spaces that allow entrapment.</td>
</tr>
<tr>
<td><strong>Objective 5.3 Natural access control</strong></td>
<td>Design clear, accommodating and easily visible entries and exits to differentiate between public space and private space. Ensure users do not encounter dead-ends.</td>
</tr>
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<td><strong>Objective 5.3 Territorial reinforcement</strong></td>
<td>Design buildings, fences, pavements, signs, lighting and landscape to express ownership and define spaces.</td>
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<td><strong>Principle 6</strong></td>
<td><strong>AMENITY</strong></td>
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<td></td>
<td>High quality urban amenity associated with access to services and the experience of a great public place contributes to a successful, equitable and prosperous community.</td>
</tr>
<tr>
<td><strong>Objective 6.1 Improved amenity</strong></td>
<td>Improve urban amenity with a design that facilitates a range of activities and mix of uses.</td>
</tr>
<tr>
<td><strong>Objective 6.2 Comfort</strong></td>
<td>Design for the physical comfort and psychological wellbeing of users of all physical capabilities.</td>
</tr>
<tr>
<td><strong>Objective 6.3 High quality</strong></td>
<td>Provide a high-quality design outcome that makes a positive contribution to the local area, through a well-considered concept, design resolution, construction detail and finished product.</td>
</tr>
<tr>
<td><strong>Objective 6.4 Impact mitigation</strong></td>
<td>Minimise the negative impacts of noise, spilled light, overshadowing and visual pollution.</td>
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Urban design outcome
VIBRANT

Principle 7
VIBRANCY

Animation and diversity in the experience of urban places supports a prosperous and healthy community.

Objective 7.1 Put people first
Design an integrated, welcoming and inclusive public realm that facilitates social interaction and positive engagement between people, spaces and activities.

Objective 7.2 Vibrant public realm
Create memorable, engaging, authentic and inspiring spaces and places.

Objective 7.3 Range of experiences
Provide opportunities for a range of experiences that are accessible at different times of the day and the year.

Urban design outcome
ENDURING

Principle 8
RESILIENCE & ENVIRONMENTAL SUSTAINABILITY

Places must be sustainable, enduring and resilient to support and nurture current and future generations.

Objective 8.1 Environmental sustainability
Design, construct and operate environmentally sustainable places, considering the whole of life and precinct wide impacts and opportunities of the place.

Objective 8.2 Climate resilience
Design for climate resilience by considering the projected effects of climate change, such as heat island effect and extreme weather conditions.

Objective 8.3 Enduring & durable
Ensure a positive built legacy with design solutions that are enduring in quality and function, readily maintainable and that will age gracefully. Promote effective governance arrangements to optimise the on-going management of each place.
5. MEASURES AND QUALITATIVE BENCHMARKS

INTRODUCTION

The measures provide performance requirements, based on a range of elements, that demonstrate the Principles and Objectives have been achieved.

The measures communicate the outcomes required to achieve the Principles and Objectives, as the basis for which proposals will be informed, evaluated and delivered.

The qualitative benchmarks provide a series of images that illustrate the minimum standard of design quality expected for project elements, drawn from relevant precedent projects (refer to QB1 to QB55).

The qualitative benchmarks provide a reference to illustrate the level of quality in meeting the measures in terms of conceptual and detailed design integration, innovation and detailed resolution.

The measures and qualitative benchmarks together identify and illustrate the level of quality expected, and requirements against which proposals will be evaluated. A successful design must adequately meet the relevant measures to achieve a high-quality outcome for the project.

In developing the UDF, LXRA have built on initiatives by other agencies, which underpin many of the measures and benchmarks in this section.

Three spatial contexts have been identified (outlined below and at Figure 4), that describe the different environments for level crossing removal projects.

1. The station interchange and its immediate environment;
2. The transition between the interchange and the surrounding area; and
3. The corridor and the wider precinct - enhancing the wider context.

The UDF principles, objectives, measures and benchmarks apply to all three contexts, and LXRA expects that the measures and qualitative benchmarks will be applied, as relevant, to these areas:
5.1 GENERAL MEASURES

M1.1 The design delivers a high quality, well-resolved, innovative outcome that is enduring in expression and timeless in nature, for all transport users, the adjacent community and Melbourne as a whole.

M1.2 The design is responsive, engaging, functional, adaptable for future infrastructure needs and finely executed in detail across the whole project.

M1.3 Structural, functional and service elements are resolved and integrated with the landscape, cultural heritage, land use, and character of the precincts along the alignment. A sense of journey is created and all elements deliver overall coherence and identity.

M1.4 The design is sensitive to the context of the local area by considering amenity impacts on nearby residents and adjacent land uses, including public open space and future development sites, and providing safe and convenient access.

M1.5 Where land acquisition and demolition occur and a new interface is created, negative impacts are minimised.

M1.6 Best practice environmentally sustainable development is achieved from design through to operation as:

- New infrastructure is aligned with the LXRA Sustainability Policy, LXRA Sustainability Management Plan and LXRA Sustainability Strategy.

- Environmentally Sustainable Development (ESD) initiatives are demonstrated at the planning stage.

- An Infrastructure Sustainability Council of Australia (ISCA) rating for the project and a Green Building Council of Australia (GBCA) rating for station buildings is achieved.
- The sustainability of any building is addressed by effective and innovative design and technology solutions.
- The design is resource efficient by minimising energy usage, using materials efficiently, reducing and recycling waste and minimising materials wastage.
- Greenhouse gas emissions and embodied energy are minimised.
- Water usage is minimised, including by the use of integrated water capture, rainwater tanks and reuse into adjacent open space areas where feasible.
- Natural elements are used in the design where possible and biodiversity is promoted in the whole-of-life and precinct wide context.
- The long-term impacts of a changing climate on the design and surrounding communities is considered through a climate resilient approach.

**M1.7** Principles for form, finishes and siting for all rail, road and street furniture, lighting, signage housings and other miscellaneous items are established at the concept stage of the design. The principles minimise visual clutter and align with the urban design concept or local palettes as appropriate.

**M1.8** Substations and ancillary structures (such as signal buildings or communication equipment buildings) are located with consideration of amenity impacts on nearby residents and adjacent land uses, and minimise the need for vegetation removal.