



# STREETSCAPE AUDIT

## Pakington Precinct

Universal design / access audit report

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## Introduction

Instructions were received from the Council of City of Greater Geelong to undertake a universal design / access audit of the Pakington Street area to inform preparation of an urban development framework. An audit was carried out of Pakington Street area, shown on the map, figure 1, below.

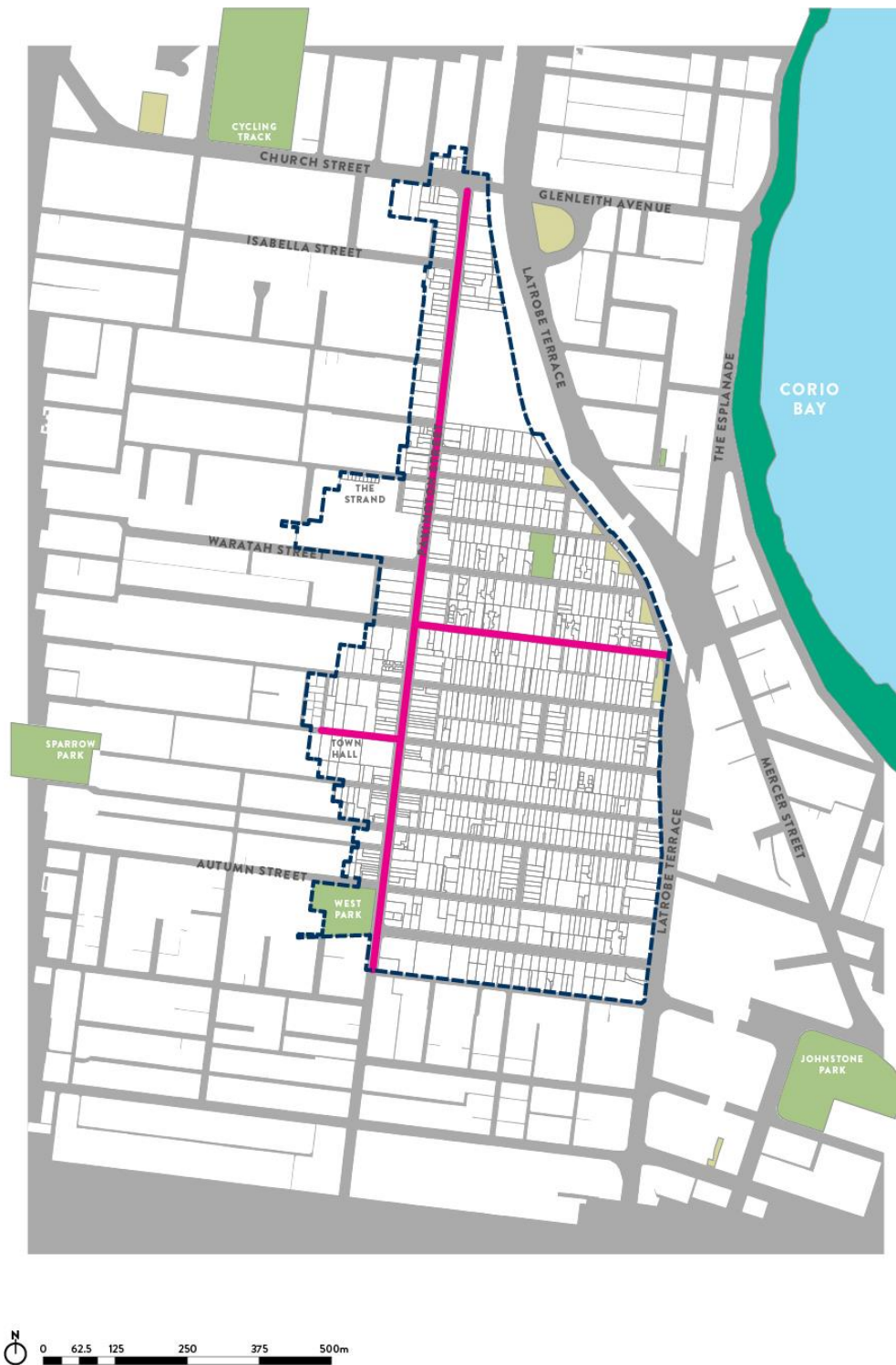


Figure 1 Audit area, Pakington Street

The report scope, reference documents, key recommendations, summary maps and next steps form the concise part of the report. Information relating to the design of common design elements is held

within Appendix 1. Detailed audit findings are provided in Appendix 2, shown by photographic schedule and comments.

## Scope

In undertaking the audit, the principles of universal design were considered. Universal design means design that is suitable for most users to the greatest extent possible, without the need for specialised adaptation. A series of common design elements are referred to as appropriate in the audit findings and these include:

- Ground surfaces
- Pedestrian Paths / Walkways
- Tactile ground surface indicators (TGSIs)
- Pedestrian road crossings
- Vehicle crossovers/loading bays
- Parking
- Trees
- Signage and information
- Street furniture
- Art
- Staircases
- Entrances
- Bus stops
- Acoustics
- Lighting

Appendix 1 summarises key design criteria from the relevant Australian Standards for each design element.

## Reference Documents

The audit has been conducted with regard to the following reference documentation:

### Legislation

- Disability Discrimination Act 1992
- Disability Standards for Accessible Public Transport (2002)
- Disability (Access to Premises – Buildings) Standards (2010)

### Australian Standards

- AS 1428.1 – 2009 Design for access and mobility Part 1: General requirements for access – new building work
- AS 1428.2 Design and access for mobility – Part 2: Enhanced and additional requirements – Buildings and facilities; 1992
- AS/NZS 1428.4:2002 Design for Access and Mobility Part 4: Tactile indicators
- AS/NZS 1428.4.1:2009 Design for Access and Mobility Part 4.1: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators
- AS/NZS 2890.6:2009 Parking facilities Part 6: Off street parking for people with disabilities
- AS 1742.14:2014 - Manual of uniform traffic control devices – Part 14: Traffic Signals

## Other

- Infrastructure Design Manual Clause 13 Mobility and Access Provisions, v 5.01
- Outlines, Central Geelong Public Realm Framework, December 2015
- Traffic Engineering Manual volume 3 – Additional Network Standards and guidelines, Accessibility (DDA) Guidelines, March 2017; Vic Roads
- Sustainable Communities - Infrastructure Development Guidelines, City of Greater Geelong, June 2016
- Access and inclusion Action Plan 2018-2022; City of Greater Geelong

## Key recommendations

The following key recommendations are consolidated from the detailed audit findings held in Appendix 2.

- Renewal of surfaces, to consider interface with service covers to maintain required surface tolerances.
- Maintenance of pavings is crucial to avoid slip/trip risk
- Throughout the Pakington Street area, there are a number of footpaths that have excessive crossfalls. This can have a significant impact on accessibility for people using wheeled devices, as well as people with a vision impairment. See figure 2 below. Footpaths on priority routes require to be upgraded first.
- Regular maintenance required to footpaths adjacent planted areas, including trees.
- Discrete and composite type TGSIs require maintenance if damaged, missing or dirty. UV also degrades colour and affects luminance contrast. Yellow discrete TGSIs on brick surface have examples of compliant and non-compliant installation.
- For areas where directional TGSIs are considered important, adequate lighting should also be provided.
- Application of TGSIs requires careful planning to ensure pedestrian safety and predictability for users. There are differences between AS1428.4.1 and the CoGG Design Notes no 11, such as reference to high volume vehicle crossings, and hazards to pedestrians from carriageway at grade with the footpath.
- Many pedestrian 'kerb cuts' do not meet AS1428.4.1 required geometry for kerb ramps and thus TGSIs are recommended.
- In many cases, if a compliant kerb ramp were to be provided, no TGSIs would be required. This may reduce ongoing maintenance of TGSIs.
- Many 'kerb cuts' do not align with the path of travel and will be hazardous for visually impaired users and lack amenity for wheelchair users. Where TGSIs have been provided, non-aligned path of travel is a design conflict and confusing and hazardous.
- The majority of controlled crossings did not meet the standards set out for kerb ramp design or TGSIs placement, see figure 3 below.
- The majority of crossings for side streets were provided by grading the footpath to the carriageway and most of these did not provide TGSIs or compliant kerb ramps, as required.
- At many pedestrian crossings, the footpath is graded to the carriageway with a cobbled gutter detail and a brick edged kerb lip. This transition will create a barrier for many wheelchair users and should be improved.
- Push button assemblies (PBAs) are mounted either on the face of a pole with a vertical arrow indicating direction or are side mounted with a horizontal arrow mounted on the approaching face of the pole, ie facing accessible path of travel. Vic Roads guidance refers only to the side mounted PBA and horizontal arrow. Both styles may be acceptable, but this should be clarified with Vic Roads.

- Wide crossovers at grade represent a significant hazard to pedestrians and adequate warning should be provided for both drivers and pedestrians. Such warnings may include bollards; TGSIs; contrasted surfacing; audible warnings; mirrors, signs etc.
- Laneway crossovers at grade represent a hazard to pedestrians and adequate warning should be provided including TGSIs; contrasted or textured surfacing.
- It is hard to provide 'accessible' crossovers across narrow footpaths. Planning policy to provide building owners guidance on acceptable outcomes, including providing a section of footpath with maximum crossfalls along path of travel.
- Provide information on location of accessible parking spaces.
- There was minimal signage and general information noted during the audit. Provide consistent signage and information throughout the Pakington Street area to make a significant accessibility contribution.
- A wayfinding strategy is recommended to ensure good wayfinding outcomes when multiple projects are planned and delivered separately.
- Provide audible information points.
- Street furniture requires careful siting to ensure it is accessible. This has been done well generally in the audited precinct, with the provision of many seats and bins.
- Luminance contrast of new street furniture should be considered against the proposed background surface finishes to ensure min 30% contrast is achieved.
- The Pakington Street audit area had minimal street art. Any proposed new art to be as accessible as possible. Considerations for art are: Maintenance; lighting; vandal-proof; alternative legible signage for heritage signs; audible commentary.
- Footpath and streetscape upgrades offer potential to improve accessibility of entrances into individual buildings. This is especially important for narrow frontage (typically small) retail units and residential. Policy and streetscape design to include this.
- All streetscape works in and around bus stops to be carried out in conjunction with the travel operator.
- Ensure acoustic and lighting design considerations and specifications are factored into infrastructure improvement works.

## Summary maps showing non-conforming footpath and pedestrian crossings

Figure 2 shows the Pakington Street area footpaths that do not achieve compliant crossfalls. The non-compliant areas are shown as a green line. Crossfall measurements were taken at intervals and therefore, the figure is schematic only. Note the audit area is as per figure 1 and not the entire precinct, shown in red outline.

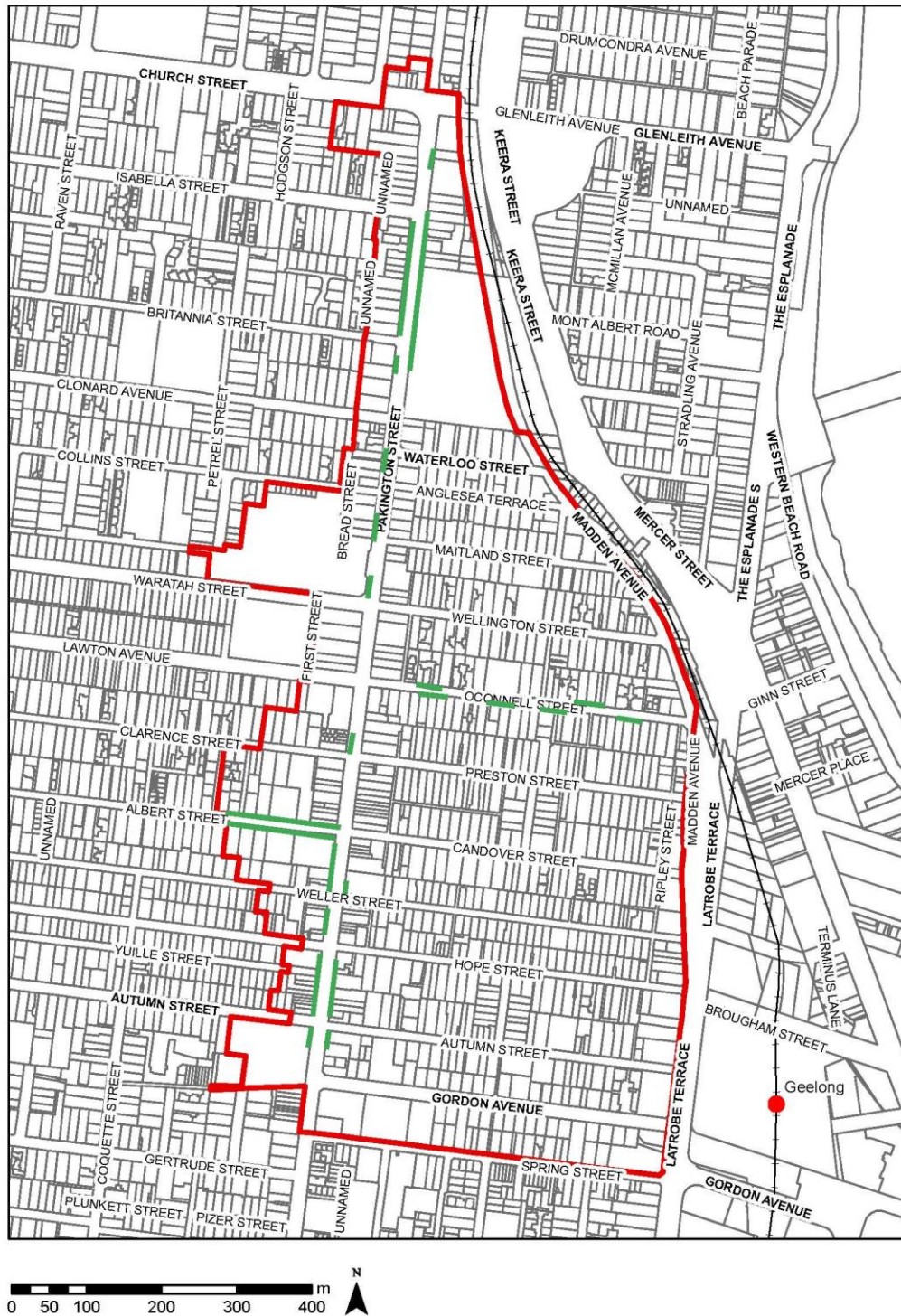


Figure 2 Non-compliant footpath crossfalls

Figure 3 shows the Pakington Street area pedestrian crossings that are not compliant. The non-compliant areas are shown as a blue dot. The figure is schematic only. Note the audit area is as per figure 1 and not the entire precinct, shown in red outline.

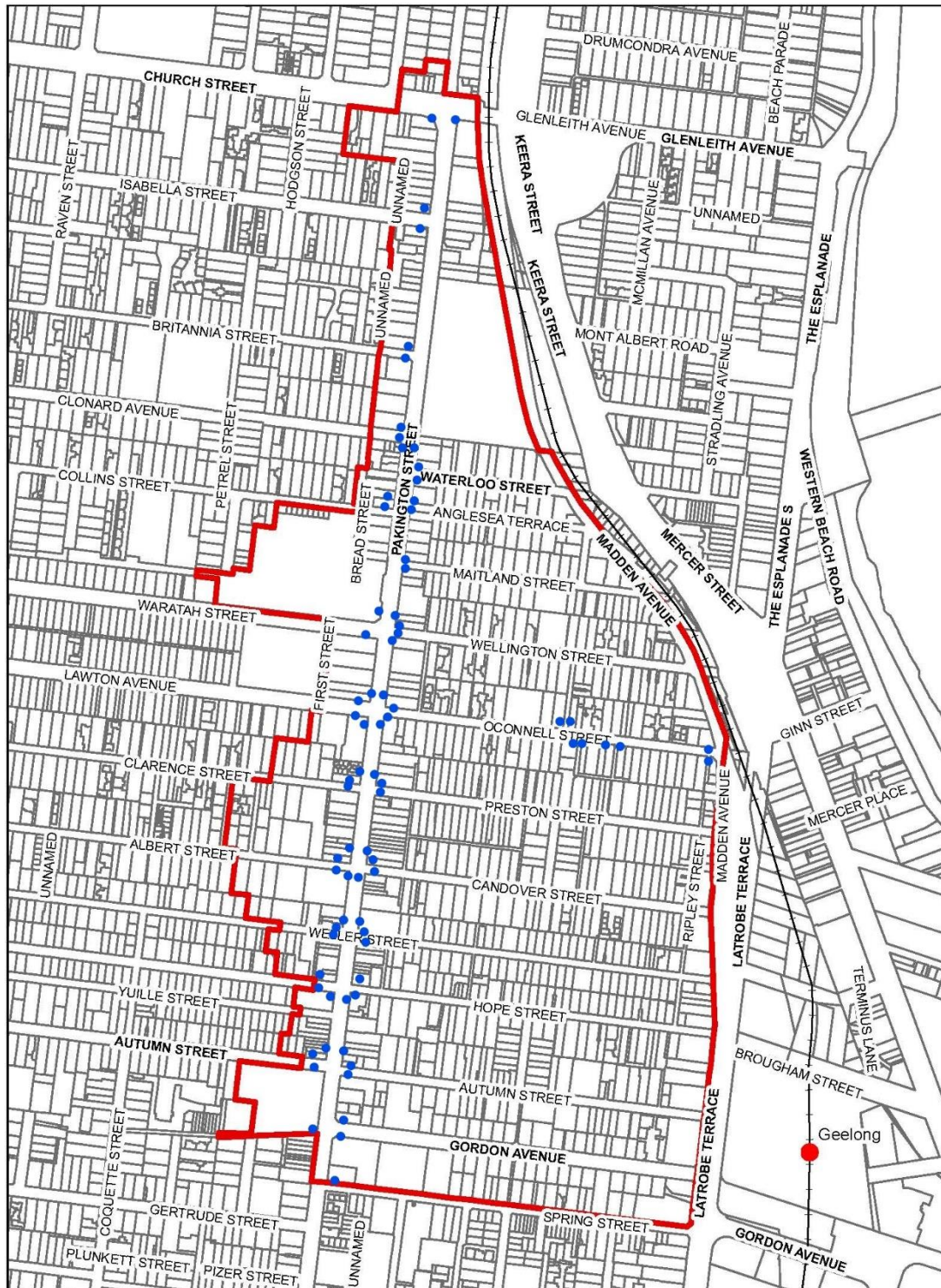


Figure 3 Non-compliant pedestrian crossings

Non-compliance at pedestrian crossings maybe major or minor and includes: lack of TGSIs where carriageway graded to road; incorrect kerb ramp geometry; kerb ramp or kerb cut, not aligned with path of travel – both with and without TGSIs; missing/incomplete TGSIs; inadequate luminance contrast TGSIs.

Many crossings with TGSIs have kerb cuts not aligned with the path of travel which creates potential confusion with TGSi information (where provided), as well as sending a person in the wrong direction. For a visually impaired person this may have serious consequences; for a wheelchair user, considerably more effort is required to correct one’s position and traverse the road. A kerb cut with the incorrect geometry poses a hazard both in not identifying the hazard and also encouraging a person in the wrong direction.

TGSIs require ongoing maintenance to ensure their effectiveness as they may become missing, damaged, lose their colour etc. Kerb ramps, if the correct geometry, provide an ongoing longer-lasting installation.

TGSIs provide important information about hazards for all users. However, for some, they may represent a trip hazard and are uncomfortable for people used wheeled devices (wheelchairs, wheelie-walkers, strollers). For this reason, stakeholder consultation is recommended for preferred approaches to non-controlled crossings and this should link in with an overall wayfinding.

## Next Step Recommendations

One of the purposes of the audit is to inform and support the development of an urban development framework. Existing environments can pose challenges as well as opportunities. The scale of the proposed programme will require prioritisation, careful development of designs and specifications, planning policy guidelines and maintenance planning. There are multiple stakeholders involved in the delivery of projects and multiple works packages and it will be important to integrate ‘accessibility’ into each of these packages, to minimise duplication and ensure all aspects are included in tender packages.

### **Preferred pathways**

Identify key services and preferred pathways within Pakington Street area, as a means of prioritising works such as, footpath and road crossing upgrades. This may be done by identifying key services such as transport, Council services, leisure areas and so on. Preferred pathways to be capable of use by motorised scooters.

### **Pedestrian crossings**

Carry out repairs and upgrade works to make pedestrian crossing points predictable and safe to use, including correct application of TGSIs, kerb cuts and kerb ramps. The use of kerb ramps (with compliant geometry) should be considered alongside the use of TGSIs, and be part of a stakeholder consultation.

### **Wayfinding and information strategy**

A wayfinding strategy should be developed across the Pakington Street area, including connections to Geelong Station and central Geelong area. This strategy should cover signage, TGSIs for ‘preferred pathways’, information points (visual and audible); other wayfinding cues such as colour schemes/palette, use of street art, lighting and so on. Technology and wayfinding apps may also be considered. In this way, wayfinding can be included within discrete projects and ultimately provide a consistent whole.

### **Design and specification**

From an accessibility perspective, the success or failure of infrastructure improvement works is often determined by the attention to detail. Seemingly small aspects of design can have significant impact on accessibility. It is recommended that design standards are consolidated into documents such as the Infrastructure Design Manual to ensure consistency and certainty for designers, contractors and end users. It is further recommended that projects are subjected to peer review by nominated COGG disability services colleagues or an external Accredited ACAA Access Consultant.

Where a palette of finishes is being developed, it is recommended that streetscape samples are installed for review. Many palettes are based on manufacturer data, but application in situ can yield different outcomes. In this way aspects of the specification can be reviewed in situ and assessed and tested for features such as slip resistance, luminance contrast, wearability etc in both wet and dry conditions, as well as in different light conditions. Expensive mistakes can be avoided.

### **Maintenance, cost-in-use, and budgets**

Lack of maintenance can create many barriers to the built environment, from slips, trips and falls on footpaths, to poor legibility of maps, dirty and worn TGSIs, and so on. Maintenance needs to be timely and cost effective. It is recommended that maintenance requirements and costs are evaluated as part of initial tenders for work and that a 'whole-of-life- cost' is considered, not just the capital cost.

Maintenance considerations include availability of spare parts; ability to repaint, renewal; eg cleaning/replacement/renewal of TGSIs; re-lamping; damage from planters/trees; graffiti removal; damage from skateboards; vandalism etc. It is recommended that all project specifications include a section on maintenance. Maintenance and budget information on early projects should be gathered to inform subsequent projects, allowing for design/specification changes to be made if necessary.

## Appendix 1 Common Design Elements

The following tables summarise key design criteria from the relevant Australian Standards for each common design element. The list of features is not exhaustive, and any specifications should refer to the relevant standards for all required design features.

### Ground surfaces

Key design features for ground surfaces are summarised below. Grates and utility covers are commonly integrated within the surface finish affecting surface tolerances. Types of surfacing affects textures and tolerances. Service access covers take many forms depending on the utility provider. Siting of utility covers can affect other design features such as TGSIs.

Key design features	
<b>Ground surfaces</b>	
<ul style="list-style-type: none"> <li>• Slip resistant</li> <li>• Texture for use by wheelchair user, person with ambulant or visual impairment</li> <li>• Surface abutments               <ul style="list-style-type: none"> <li>○ +/-3mm square edged</li> <li>○ +/- 5mm bevel/round edge</li> </ul> </li> <li>• Paving joints 1-12mm</li> <li>• Paving texture &lt;2mm</li> </ul>	
<b>Grates</b>	
<ul style="list-style-type: none"> <li>• ≤13mm diameter, long dimension perpendicular to path of travel</li> <li>• Slot ≤150mm long</li> </ul>	

### Pedestrian Paths / Walkways

Key design features for pedestrian paths / walkways are considered in terms of their dimensions and geometry. Key words are width, height, cross falls and obstructions, all of which can adversely affect accessibility.

Key design features	
<ul style="list-style-type: none"> <li>• Gradient shallower than 1:33, crossfall shallower than 1:40min (or 1:33 asphalt)</li> <li>• Walkways to have:               <ul style="list-style-type: none"> <li>○ Kerb/Kerb rail min 65mm high or &gt;150mm</li> <li>○ Wall &gt;450mm high</li> <li>○ Or, different material 600mm horizontally (To assist shorelining)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Height - min 2000mm</li> <li>• Width - min 1000mm; 1200mm preferred</li> <li>• Passing space 1800 x 2000mm If path of travel &lt;1800mm wide every 6m</li> <li>• Circulation space               <ul style="list-style-type: none"> <li>○ 60° – 90° turn = 1500 x 1500mm</li> <li>○ 90° - 180° turn = 2070 x 1540mm</li> <li>○ 360° turn = 2250mm diameter</li> </ul> </li> <li>• If width of path of travel &lt; 1200mm, for 300- 600 turn, add 500 x 500mm splay</li> </ul>

### TGSIs

Tactile surface ground indicators (TGSIs) are used to assist people with a vision impairment navigate the environment. There are 2 basic types of TGSIs; hazard and directional. TGSIs are required to be used in stairways, ramps, escalators, moving walkways, carriageways, and to warn of hazards. In a transport setting, TGSIs are also deployed at bus/tram stops, stations, wharves and so on.

AS1428.4.1 states “...in the absence of any indication or warning to the contrary, there will be a clear, safe continuous path of travel in front of them 2000mm high, a minimum of 1200mm in width and a depth of 900mm before the hazardous situation.”

One of the most important features of the use of TGSIs, is that they should be predictable. For this reason, it is important to conform to the relevant Australian Standard. The relevant standard can be confusing as the Australian Standard appendices have multiple scenarios and this often leads to variable implementation. This is especially so at road crossings.

Further confusion can arise as in transport settings, the prescribed standard is AS1428.4, whereas in all other settings, it is AS1428.4.1. Finally, to add another layer of compliance, there are 3 main styles of construction of TGSIs and each has a different requirement for achieving a minimum standard of luminance contrast. Key design features for TGSIs are:

<b>Key design features</b>	
Hazard TGSIs required for:	<ul style="list-style-type: none"> <li>• Required top and bottom, 300mm from hazard</li> <li>• At landings if &gt;3000mm, depth of 600-800mm</li> <li>• At landings if &lt; 3000mm, depth of 300-400mm</li> <li>• If handrails provided both sides AND continuous, NO TGSIs</li> </ul>
<ul style="list-style-type: none"> <li>• Stairways</li> <li>• Ramps</li> <li>• Escalators</li> <li>• Moving walkways</li> </ul>	
<ul style="list-style-type: none"> <li>• Overhead hazard</li> <li>• Carriageways</li> </ul>	<ul style="list-style-type: none"> <li>• Depth of 600-800mm, allows 300mm splay</li> <li>• Depth of 600-800mm</li> </ul>
TGSI style and luminance contrast:	
<ul style="list-style-type: none"> <li>• Integrated: 30%</li> <li>• Discrete: 45%;</li> <li>• Composite: 60%</li> </ul>	
<b>Hazard TGSIs</b>	<b>Directional TGSIs</b>
<ul style="list-style-type: none"> <li>• 300-400mm = 6no studs/600-800mm = 12no discrete studs</li> <li>• 25mm dia top, 35mm max base/ 4-5 mm height</li> <li>• Placement = perpendicular to direction travel</li> <li>• Set back 300mm +/-10mm edge hazard</li> <li>• If angled approach 600-800mm required</li> </ul>	<ul style="list-style-type: none"> <li>• Parallel with and along centreline path of travel</li> <li>• 300-400mm wide if in line path of travel</li> <li>• 600-800mm if across path of travel</li> </ul>

## Pedestrian road crossings

Pedestrian road crossing points are a crucial part of the urban infrastructure. Pedestrian crossings may be controlled, for example at traffic lights, or non-controlled, with a suggested crossing point provided by a kerb ramp, median and so on. There are ongoing crossing upgrades planned throughout Geelong.

In Geelong, common forms of crossing noted in the audit are:

- kerb ramp with TGSIs at traffic light crossing; with push button assembly (PBA);
- kerb ramp at traffic light crossing with push button assembly, no TGSIs;
- kerb ramp with TGSIs;
- Kerb ramp;
- footpath graded to carriageway with TGSIs at traffic light crossing and PBA;
- footpath graded to carriageway at traffic light crossing and PBA;
- footpath graded to carriageway with TGSIs; and
- footpath graded to carriageway.

In Geelong, it was noted that push button assemblies (PBAs) were either mounted to the side of the path of travel, ie the side of a pole with a horizontal arrow indicating direction of travel or facing the path of travel and fitted to the front of the pole with a vertical arrow indicating direction of travel. Vic Roads guidelines indicate

that a horizontal arrow should be used. Both arrow positions were clear, however future upgrades may wish to adopt a consistent approach.

The geometry of kerb ramps requires achieving a level sharp transition to provide a gradient of 1:8 – 1:8.5, with splayed sides at an angle of 45°. The ramp itself needs to be in the direction of travel and must line up with the crossing point on the other side. A compliant kerb ramp of gradient 1:8 will have a length of 1.52m. If the distance from the top of the kerb ramp to the building line is >3m, TGSIs are also required, (ie TGSIs required if the footpath is >4.52m wide). In Geelong, many footpaths are more than 4.52m wide and thus where kerb ramps are provided, compliant TGSIs are required too. For footpaths less than 4.52m wide, a compliant kerb ramp at a single crossing point, provides sufficient information and TGSIs are not required.

Key design features for crossings are:

<p><b>Key design features</b></p> <ul style="list-style-type: none"> <li>• Types kerb ramp: Inserted/ Attached / Inline</li> <li>• Aligned in direction travel</li> <li>• Top and bottom of kerb ramp at 90° to direction travel</li> <li>• Sharp transition gradient</li> <li>• Rise 190mm, max grad 1:8, length 1520mm</li> <li>• Slip resistant</li> </ul>	<p><b>Kerb ramp landings</b></p> <ul style="list-style-type: none"> <li>• No change direction = 1200mm</li> <li>• T junction = 1500 x 2000mm</li> <li>• Single change direction = 1500 x 1500mm</li> </ul> <p><b>TGSIs required</b> if &gt;3m from top of ramp to building line, ie .4520mm wide (3000mm + 1520mm), for single entry crossing</p>
<p><b>Crossings</b></p> <ul style="list-style-type: none"> <li>• Single entry, single crossing point</li> <li>• Dual entry, single crossing point</li> <li>• Dual entry, separate crossing point</li> <li>• Time delay not more than 0.4m/s</li> </ul>	<p><b>Push button assembly</b></p> <ul style="list-style-type: none"> <li>• Height 1000 +/-100mm</li> <li>• Zone of common reach = 300-400mm from APT</li> <li>• Audio/tactile device</li> <li>• &gt;2m from another audio/tactile device</li> <li>• Horiz arrow direction travel</li> </ul>

## Vehicle crossovers/loading bays

Vehicle crossovers to loading bays and car parks arise in various audit locations. The conflict here is to preserve the rights of the building owner to access their property (over the footpath) but protect the needs of pedestrians. In the context of accessibility, key issues are the width of the crossover, cross falls, visibility and luminance contrast, hazard warning. Vehicle users may also have reduced visibility, creating hazard for driver and pedestrian alike. Key design features for vehicle crossovers are:

<p><b>Key design features</b></p> <ul style="list-style-type: none"> <li>• Gradient shallower than 1:33,</li> <li>• Cross fall shallower than 1:40min (or 1:33 asphalt)</li> <li>• Hazard warning TGSIs for path of travel crossing 'carriageway'</li> </ul>	<ul style="list-style-type: none"> <li>• Width - min 1000mm; 1200mm preferred</li> <li>• Surface abutments <ul style="list-style-type: none"> <li>○ +/-3mm square edged</li> <li>○ +/- 5mm bevel/round edge</li> </ul> </li> <li>• Paving joints 1-12mm</li> <li>• Paving texture &lt;2mm</li> </ul>
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## Parking

On-street parking was audited where noted. Both angled and parallel parking scenarios were observed. Key design features for parking are:

<b>Key design features</b>	
<p><b>Angled parking</b> Between 45° and 90° comprising:</p> <ul style="list-style-type: none"> <li>• Dedicated space 2400 x 5400mm, line marked, and</li> <li>• Shared space to the side 2400 x 5400mm; line marked; and</li> <li>• Shared space to the end of dedicated space, 2400 x 2400mm, not line marked.</li> </ul> <p>Kerb ramp provided at end corner (if required) Bollard in shared space 800mm +/- 50mm from front</p>	<p><b>Parallel parking</b></p> <ul style="list-style-type: none"> <li>• Dedicated space 3200 x 7800mm long</li> <li>• Shared space (to non-trafficked side) 1600 x 7800mm, may be at higher level, but kerb ≤190mm high and include kerb ramp</li> <li>• Kerb ramp provided at end corner</li> </ul>
<p><b>Parking meters</b> Parking in designated bays is free with a displayed disability badge</p>	<p><b>Surface</b> Dedicated and shared spaces to be at same level; max cross falls 1:40 (1:33 bitumen); slip resistant</p>
<p><b>Space identification</b></p> <ul style="list-style-type: none"> <li>• White symbol for access on blue background, centred and 500-600mm from entry point</li> <li>• Dedicated parking – unbroken lines</li> <li>• Shared walkways – unbroken longitudinal lines</li> <li>• Vacant non-trafficked areas (capable of obstruction) unbroken diagonal stripes.</li> </ul>	<p><b>Headroom</b></p> <ul style="list-style-type: none"> <li>• For vehicular path of travel 2200mm</li> <li>• Above dedicated space AND shared area 2500mm (may reduce for angled space)</li> </ul>

## Trees

Trees can add significant benefits to an urban landscape. They require adequate water and oxygenation, which means they need protection from compaction around the roots and a water supply. Additionally, trees require space for roots to grow, without which, tree roots may cause damage to adjoining surfaces such as footpaths, drains, utility infrastructure and so on.

Trees are typically not on the accessible path of travel, being set to one side of the footpath or located on the road. Damage to footpaths has potential to affect accessibility by damaging surfaces, creating trip hazards, cracks, unevenness and so on. Key design features for trees are:

<b>Key design features</b>
<ul style="list-style-type: none"> <li>• Water points</li> <li>• Root protection/tree grates</li> <li>• Leaves/leaf litter = slip risk</li> <li>• Tree conservation</li> </ul>

## Signage and information

Signage and information are crucial to wayfinding and is beneficial to all users, especially visitors.

Key design features for signage and information:

<b>Key design features</b>	
<ul style="list-style-type: none"> <li>• Use of International symbol disability/deafness</li> <li>• Use of Braille</li> </ul>	<ul style="list-style-type: none"> <li>• Style, Consistency, Font</li> <li>• Symbols</li> </ul>

<ul style="list-style-type: none"> <li>• Use of tactile</li> <li>• Size of symbols/viewing distance</li> <li>• Height of letters</li> <li>• Illumination of signs</li> </ul>	<ul style="list-style-type: none"> <li>• Intuitive</li> <li>• Talking maps</li> <li>• Information points</li> <li>• Avoid reflections,</li> <li>• 30% luminance contrast letters/background</li> </ul>
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## Street furniture

Street furniture may include items such as seats, drinking fountains, bins, bicycle stands and repair stations, bollards, telephone kiosks, tables, and games. These items provide people with amenity and require minimum circulation spaces and to be sited on reasonably level surfaces. Key design features for street furniture:

Key design features	
<ul style="list-style-type: none"> <li>• Seats set back 500mm from APT</li> <li>• Seats to be provided with arms and without</li> <li>• Seat heights varied</li> <li>• Spaces for wheelchairs or prams adjacent seating</li> <li>• Objects achieve 30% LC with background</li> <li>• Prefer street furniture on one side path of travel only</li> </ul>	<ul style="list-style-type: none"> <li>• Locate on areas with minimal cross falls, ie shallower than 1:40</li> <li>• Achieve minimum AS1428.1 circulation spaces</li> <li>• Seating at max 60m intervals</li> </ul>

## Art

Art can enliven and activate spaces. Art can take many forms and utilise a range of materials, providing sights, sounds and textures. Water features and gardens can add sounds, smells and tastes. The cultural importance of art in its many forms can pose challenges trying to make it accessible. Key design features for art include:

Key design features	
<ul style="list-style-type: none"> <li>• Adequately lit</li> <li>• Descriptions of artist and name of piece in accessible fonts</li> </ul>	<ul style="list-style-type: none"> <li>• Provide newer, alternative signs where say brass plates weathered and hard to read</li> <li>• Provide audible commentary if possible</li> </ul>

## Staircases

The proximity of staircases to the building line and footpath can create unnecessary hazards. Key design features for stairs include:

Key design features	
<p><b>Stairs</b></p> <ul style="list-style-type: none"> <li>• Set back 900mm from path of travel</li> <li>• Opaque risers</li> <li>• Nosing not project beyond riser</li> <li>• Nosing profile 5mm radius/chamfered</li> <li>• Nosing strip 50-75mm/ full width/max 15mm from edge/30% Luminance Contrast</li> <li>• If nosing not set back, ≤ 10mm down riser</li> <li>• TGSIs</li> </ul>	<p><b>Stair handrails</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Both sides</li> <li>• Follow angle of stairway</li> <li>• Extend 1 tread depth parallel nosing line +300mm horizontally</li> <li>• Extend 300mm past top riser</li> <li>• Extension NOT required for continuous handrail at intermediate landing</li> <li>• Not encroach</li> </ul>

<ul style="list-style-type: none"> <li>• Rise 150-165mm; going 275-300mm preferred</li> </ul>	<ul style="list-style-type: none"> <li>• 30-50mm cross section circular/elliptical</li> <li>• Top of handrail 865 – 1000mm</li> <li>• Handrail ends returned to wall, floor, post</li> <li>• 50mm clearance between handrail and adjacent surface</li> <li>• No obstruction to hand movement</li> <li>• If handrail not continued, ‘dome button’ 150mm from end</li> <li>• Handrail achieve 30% luminance contrast from wall</li> </ul>
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### Entrances

Many buildings are entered from entrances built at, or close to, the building line. Footpath upgrades offer potential to improve accessibility into individual buildings.

<b>Key design features</b>
<ul style="list-style-type: none"> <li>• The principal pedestrian entrance to a building shall be accessible.</li> </ul>

### Bus stops

Bus stops and features associated with bus stops, such as bus shelters, seating, bus timetable information etc, are covered by the Disability Standards for Accessible Public Transport (DSAPT or Transport Standards). Design features such as ground surfaces, circulation spaces are as covered in earlier sections. The design of TGSIs to comply with the Transport Standards is required to be to AS1428.4 (1992), which is slightly different to AS1428.4.1 (2009). Often, disability interest groups express a preference for the newer TGSI standard to be utilised, however this is not strictly compliant with DSAPT, and should be a policy level decision, made with relevant stakeholder consultation, including disability groups.

Streetscape upgrade works adjacent bus stop works should be carried out in consultation with the Bus Operator.

<b>Key design features</b>
<ul style="list-style-type: none"> <li>• Design requirements, such as for seating, signage, information etc are the same as for other design elements; the exception is TGSIs</li> </ul>

### Acoustics

Acoustic design consideration in public realm spaces might include: the formation of natural ‘amphitheatres’, spaces away from traffic, noise cancelling features, such as waterfalls to cancel out / distract from road noise, provision of hearing loops in spaces intended for public performances where sound amplification systems will be used, or a power supply to allow for the use of temporary loop systems, audible information and so on.

### Lighting

Lighting design considerations in the public realm might include: adequacy, type, frequency, light levels, control of glare, shade structures, pools of light and dark creating visual confusion, shadows (different throughout day). Without adequate light, luminance contrast has no effect.

## Appendix 2 – Detailed Audit Findings

The detailed audit findings are presented by way of photographs and commentary for each block.

The Pakington Road precinct audited includes Pakington Street between Spring Street and Glenleith Avenue/Church Street; O'Connell Street between Pakington Street and La Trobe Terrace; and Albert Street between Pakington Street and laneway behind shops.

The commentary starts with the east-side of Pakington Street including O'Connell Street followed by the west side including Albert Street. Street crossings have been integrated into each 'block' section. Summaries of the street crossing upgrades and footpath crossfalls have been identified on summary maps within the body of the report. The audit findings primarily identify deficiencies and overall recommendations are included in the body of the report.

**Pakington Street - East – Glenleith Avenue - Waterloo Street**



General view from mid-point crossing to Pakington Street east

- × Worn confusing lines
- × TGSIs - Poor luminance contrast
- × Uneven surface



General view from Pakington Street east to mid-point crossing; footpath graded to carriageway, gradient 6.9%

- × Worn missing lines
- × TGSIs - Poor luminance contrast
- × Uneven surface



General view



General view

- ✓ TGSIs provided
- × Some directional TGSIs missing
- × Crossfalls 4.9%, in excess of 3% for asphalt



Typical concrete crossover  
 × Crossfalls 4.9%, in excess of 2.5% for concrete



View north. Asphalt footpath, concrete crossovers.



View north. Asphalt footpath, asphalt crossovers; abutment with brick footpath.



Asphalt/brick abutment transition gradient 5.4%



- × Damage to brick footpath and uneven surface from street trees



- × Cross falls approx. 4.3%, in excess of 2.5% for non-asphalt surface



- Extensive length concrete footpath
- × Crossfall approx. 5.0% in excess of 2.5% for concrete surface



- General view. Wide crossovers servicing car park.



Typical bus stop  
 ✓ TGSIs provided  
 × TGSIs poor luminance contrast



Typical bus stop  
 ✓ TGSIs provided  
 × TGSIs poor luminance contrast



× Crossfall approx. 3.6% in excess of 2.5% for concrete surface



General view



- × Crossfall approx. 5.2% in excess of 2.5% for concrete surface



- Footpath graded to carriageway, gradient 5.2%.
- × No TGSIs



General view



- View across Waterloo Street.
- ✓ TGSIs provided
  - ✓ TGSIs adequate luminance contrast
  - ✓ TGSIs aligned path of travel
  - × Kerb cut not aligned with path of travel

**Pakington Street - East –Waterloo Street - Anglesea Terrace**



View across Waterloo Street, kerb cut gradient 13.0%.  
× No TGSIs  
× Incorrect geometry for kerb ramp



General view



General view



General view



View across Anglesea Terrace, kerb cut gradient 9.3%.

- × No TGSIs
- × Incorrect geometry for kerb ramp

**Pakington Street - East –Anglesea Terrace - Maitland Street**



View across Anglesea Terrace, kerb cut gradient 10.5%.

- × No TGSIs
- × Incorrect geometry for kerb ramp



General view



General view



General view  
 × Some unevenness and localised damage to asphalt



General view  
 × Some unevenness and localised damage to asphalt



View across Maitland Street, kerb cut gradient 13.9%  
 × No TGSIs  
 × Incorrect geometry for kerb ramp

**Pakington Street - East –Maitland Street - Wellington Street**



View across Maitland Street, kerb cut gradient 17.6%.  
 × No TGSIs  
 × Incorrect geometry for kerb ramp



General view



General view, including green bike stand



General view



General view



General view



- Controlled crossing across Pakington Street.
- ✓ TGSIs provided where kerb gradient shallower than 12.5% (1:8)
  - ✓ TGSIs adequate luminance contrast
  - ✓ TGSIs aligned path of travel



- Controlled crossing across Wellington Street.
- ✓ TGSIs provided
  - ✓ TGSIs adequate luminance contrast
  - ✓ TGSIs aligned path of travel
  - ✗ Kerb cut not aligned with path of travel

**Pakington Street - East –Wellington Street - O' Connell Street**



- Controlled crossing across Wellington Street.
- ✓ TGSIs provided
  - ✓ TGSIs adequate luminance contrast
  - ✓ TGSIs aligned path of travel
  - ✗ Kerb cut not aligned with path of travel
  - ✗ Uneven footpath adjacent utility covers



Controlled crossing across Pakington Street.

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel
- ✗ Kerb cut not aligned with path of travel



General view



General view. Typical seat and bin.



Cobbled strip to rear shops behind building line



Example showing footpath and retail entrance with step.



Example showing footpath and retail entrance with temporary ramp.



Mid-block crossing with mid-point refuge.  
× Footpath grades down to carriageway with gradient approx. 3.3%, with cobbled edge and lip edge.  
× No TGSIs



General view.  
Retail structure with seating.



General view



Crossing point.

- × Footpath grades down to carriageway, gradient approx. 2.1%, with cobbled edge and lip edge.
- × No TGSIs
- × Some unevenness in brick evident



General view

- × Repair around utility cover adversely impact on aesthetic of brick finish



View across O'Connell Street.

- × Footpath grades down to carriageway, gradient approx. 6.2%, with cobbled edge
- × No TGSIs
- × Some unevenness in brick evident
- × Raised kerbstone creating trip hazard to pedestrians

**O' Connell Street – North between Pakington Street and La Trobe Terrace**



- × Uneven brick surface
- × Uneven cellar (?) access point creating trip hazard



Wide asphalt crossover servicing rear carpark



Lane way crossover  
× Cobbled channel



General view  
× Crossfall approx. 4.7% in excess of 3% for asphalt surface



General view. Examples of crossovers from residential properties. These vary greatly along O'Connell street.



General view of Kindergarten entrance. Note location of PWD parking space and also presence of locked gates restricting access to dropped kerb.



Accessible parking space outside kindergarten.

- × No dropped kerb servicing space
- × Crossfall of 7.3% at space; ideally gradient for space 2.5%
- × Footpath crossfall 8.5% in excess of 3% for asphalt surface



General view. Path of travel is > 1000mm wide.



View across Kings Lane.

- × No TGSIs



View across Kings lane.

- × No TGSIs



General view



General view

- × Footpath crossfall 3.8% in excess of 3% for asphalt surface



General view



General view



× This crossover is confusing as it is opposite a lane way and not intended for pedestrians, see next photo



Refer comments above photo; crossover opposite residential hedge.



At grade crossing across O'Connell Street

- × No TGSIs
- × Kerb treatment not aligned with path of travel

**O' Connell Street – South between Pakington Street and La Trobe Terrace**



General view



General view



General view. Typical crossover.

- × Footpath crossfall 7.9% in excess of 3% for asphalt surface



General view. Typical crossover.  
× Footpath crossfall 7.9% in excess of 3% for asphalt surface



General view  
× Footpath crossfall 6.3% in excess of 3% for asphalt surface



General view  
× Footpath crossfall 6.3% in excess of 3% for asphalt surface



General view



- Lane way crossover
- × Cobbled channel
  - × No TGSIs



- Lane way crossover
- × Cobbled channel
  - × No TGSIs



- Lane way crossover
- × Cobbled channel
  - × No TGSIs



General view



General view

- × Footpath crossfall 5.1% in excess of 3% for asphalt surface



General view



General view across laneway

- × No TGSIs
- × Footpath unsealed beyond



Pedestrian crossing point across O'Connell Street

- × Unsealed section of footpath
- × No TGSIs
- × Kerb treatment not aligned with path of travel

**Pakington Street - East – O'Connell Street - Preston Street**



- View across O'Connell Street.
- × Footpath grades down to carriageway with gradient approx. 7.4%, with cobbled edge
  - × No TGSIs



General view



- View across Pakington Street.
- × General unevenness and water ponding evident in brick finish
  - × Footpath grades down to carriageway with gradient approx. 0.3%, with cobbled edge
  - × No TGSIs



- General view
- × Concrete crossover crossfall 4.2% in excess of 2.5% for concrete surface



- × Bus shelter away from bus stop – passengers not able to see bus coming



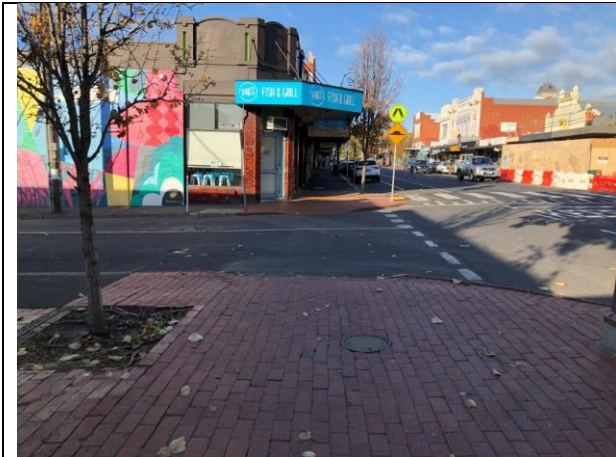
- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- × Bus shelter away from bus stop – passengers not able to see bus coming



- General view. Brick surface transitioning to asphalt.
- × Disruption to brick finish adjacent tree



- View across Pakington Street.
- × General unevenness and water ponding evident in brick finish
  - × Footpath grades down to carriageway with gradient approx. 1.5%, with cobbled edge
  - × No TGSIs



- View across Preston Street.
- × General unevenness in brick finish
  - × Footpath grades down to carriageway, gradient approx. 9.6%, with cobbled edge
  - × NoTGSIs

**Pakington Street - East –Preston Street - Candover Street**



- View across Preston Street.
- × Footpath grades down to carriageway with gradient approx. 6.9%, with partially cobbled edge
  - × No TGSIs



- At grade pedestrian crossing
- ✓ TGSIs provided
  - ✓ TGSIs adequate luminance contrast
  - ✓ TGSIs aligned path of travel



General view



General view  
× Uneven brick finish adjacent tree



General view



General view



General view



General view

- × Damaged TGSIs that no longer link to pedestrian crossing.



View across Candover Street.

- × General unevenness in brick finish
- × Footpath grades down to carriageway with gradient approx. 5.0%, with cobbled edge



Controlled crossing across Pakington Street.

- ✓ TGSIs provided
- ✓ TGSIs aligned path of travel
- × TGSIs inadequate luminance contrast
- × General unevenness in brick finish
- × Footpath grades down to carriageway with gradient approx. 3.6%, with cobbled edge

**Pakington Street - East – Candover Street - Weller Street**



View across Candover Street.

- ✓ TGSIs provided
- ✓ TGSIs aligned path of travel
- × TGSIs inadequate luminance contrast
- × Footpath grades down to carriageway with gradient approx. 7.5%, with cobbled edge
- × Kerb cut not aligned with path of travel



Controlled crossing across Pakington Street.

- ✓ TGSIs provided
- ✓ TGSIs aligned path of travel
  
- × TGSIs likely inadequate luminance contrast
- × General unevenness in brick finish
- × Footpath grades down to carriageway with gradient approx. 0.8%, with cobbled edge



- × Damaged TGSIs that no longer link to pedestrian crossing.
- × Brick surface uneven adjacent tree



General view



General view

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast



- Crossing point across Pakington Street.
- × Footpath grades down to carriageway with gradient approx. 0.6%, with cobbled edge
  - × No TGSIs



General view



- View across Weller Street.
- × Footpath grades down to carriageway with gradient approx. 7.3%, with cobbled edge
  - × No TGSIs

**Pakington Street - East --Weller Street - Hope Street**



- View across Weller Street.
- × General unevenness in brick finish
  - × Footpath grades down to carriageway with gradient approx. 13.2%, with cobbled edge
  - × No TGSIs



At grade pedestrian crossing across Pakington Street.

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel
  
- × General unevenness in brick finish



General view.



General view

- × Uneven brick finish adjacent tree



Some retail units have stepped entry.



Others have recessed entrances allowing for ramped entry.



General view



General view.  
 × Uneven repairs adjacent utility covers



General view



View across Hope Street.

- × General unevenness in brick finish
- × Footpath grades down to carriageway with gradient approx. 5.3%, with cobbled edge
- × No TGSIs

**Pakington Street - East –Hope Street - Autumn Street**



View across Hope Street.

- × General unevenness in brick finish
- × Footpath grades down to carriageway with gradient approx. 6.5%
- × No TGSIs



General view

- × Uneven brick finish around utility covers and adjacent tree



General view



Controlled crossing across Pakington Street.

- × General unevenness in brick finish
- × Footpath grades down to carriageway with gradient approx. 0.3%, with cobbled edge and 30mm lip edge
- × No TGSIs



General view

- × Generally uneven finishes, patch repairs



General view

- × Generally uneven finishes, patch repairs
- × Planter cracked



General view

- × Footpath crossfall 4.8% in excess of 2.5% for non-asphalt surface



General view

- × Footpath crossfall 2.7% in excess of 2.5% for non-asphalt surface



General view

- × Footpath crossfall 2.6% in excess of 2.5% for non-asphalt surface



General view



Controlled crossing across Pakington Street.

- ✓ TGSIs provided
- ✓ TGSIs aligned path of travel
- × TGSIs likely inadequate luminance contrast
- × General unevenness in brick finish
- × Footpath grades down to carriageway with gradient approx. 6.9%, with cobbled edge
- × No TGSIs



General view of controlled crossing



View across Autumn Street.

- ✓ TGSIs provided
- ✓ TGSIs aligned path of travel
- × TGSIs likely inadequate luminance contrast
- × Pole in path of travel
- × General unevenness in brick finish
- × Footpath grades down to carriageway with gradient approx. 7.5%, with cobbled edge



Close up of uneven bricks and cobbled kerb treatment

**Pakington Street - East –Autumn Street - Gordon Avenue**



View across Autumn Street, footpath grades down to carriageway with gradient approx. 3.8%.

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel
- × Kerb cut not aligned with path of travel
- × Multiple repairs around utility covers impact visual aesthetic



General view



× Ash tray not accessible



General view



× Bus shelter located at distance to bus stop  
 × Awning poles constrict free movement between bus shelter and bus stop.



- Reverse view
- ✓ TGSIs provided
  - ✓ TGSIs adequate luminance contrast



General view



- Controlled crossing across Gordon Street.
- ✓ TGSIs provided
  - ✓ TGSIs adequate luminance contrast
  - ✓ TGSIs aligned path of travel
  - × Footpath grades down to carriageway with gradient approx. 10.1%
  - × Kerb cut not aligned with path of travel

**Pakington Street - East –Gordon Avenue - Spring Street**



- Controlled crossing Pakington Street/Gordon Street.
- × Step within building line but potentially confusing for pedestrians



- × Step at building line, potentially confusing as footpath continues at grade on splayed section and along Spring Street
- × TGSIs not reinstated after asphalt repair



- Controlled crossing across Gordon Street, footpath graded to carriageway
- ✓ TGSIs adequate luminance contrast
  - ✓ TGSIs aligned path of travel
  - × Kerb cut not aligned with path of travel
- Controlled crossing across Pakington Street.
- ✓ TGSIs provided
  - ✓ TGSIs adequate luminance contrast
  - ✓ TGSIs aligned path of travel



- General view
- × Query slip resistance of stone inlay



- General view
- × Query slip resistance of stone inlay



× Damaged asphalt adjacent tree



General view



View across Spring Street, footpath grades down to carriageway with gradient approx. 0.7%

× Kerb cut not aligned with path of travel



Reverse view across Spring Street

× Kerb cut not aligned with path of travel

**Pakington Street - West – Church Street -Isabella Street**



- General view from mid-point crossing to Pakington Street west
- ✓ TGSIs provided
  - ✓ TGSIs aligned path of travel
  
  - × Worn lines
  - × Potentially confusing worn 'zebra' crossing
  - × TGSIs - Poor luminance contrast
  - × Uneven surface



- General view from mid-point crossing to Pakington Street west
- ✓ TGSIs provided
  - ✓ TGSIs aligned path of travel
  
  - × Worn lines
  - × TGSIs - Poor luminance contrast
  - × Uneven surface



- General view to mid-point crossing from Pakington Street west
- ✓ TGSIs provided
  - ✓ TGSIs aligned path of travel
  
  - × Worn lines
  - × Potentially confusing worn 'zebra' crossing
  - × TGSIs - Poor luminance contrast
  - × Uneven surface
  - × Kerb ramp gradient approx. 13.8%, incorrect geometry



General view looking south – uneven asphalt surface



Wide concrete crossover.  
× Crossfalls 8.3%, in excess of 2.5% for concrete



General view  
✓ TGSIs provided  
✓ TGSIs adequate luminance contrast



General view – splits in asphalt



General view – asphalt damaged adjacent tree



General view



Crossing across Isabella Street, footpath grades to carriageway, gradient approx. 19.8%

- × No TGSIs
- × Kerb cut not aligned with path of travel

**Pakington Street - West –Isabella Street - Britannia Street**



Crossing across Isabella Street, footpath grades to carriageway, gradient approx. 9.5%

- × No TGSIs
- × Kerb cut not aligned with path of travel



General view

- × Footpath crossfalls 3.8% - 7.8%, in excess of 2.5% for non-asphalt surfaces



Wide crossover

- × Crossfalls 7.2%, in excess of 2.5% for concrete



General view



General view

- × Footpath crossfalls 4.2%, in excess of 2.5% for concrete surfaces



General view



**General view**

- × Footpath crossfalls 5.7%, in excess of 2.5% for concrete surfaces



**Crossing across Britannia Street, footpath grades to carriageway, gradient approx. 9.8%**

- × No TGSIs
- × Kerb cut not aligned with path of travel

**Pakington Street - West –Britannia Street -Clonard Avenue**



**Crossing across Britannia Street, footpath grades to carriageway with gradient approx. 13.7%**

- × No TGSIs
- × Kerb cut not aligned with path of travel



**General view. Repairs adjacent to utility covers.**



General view

- × Footpath crossfalls 3.6%, in excess of 3% for asphalt surfaces



General view



General view. Cracked and repaired asphalt.



General view

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast



General view



Crossing across Clonard Avenue, footpath grades down to carriageway with gradient approx. 14.3%

- × No TGSIs
- × Kerb cut not aligned with path of travel
- × Uneven footpath adjacent utility cover

**Pakington Street - West –Clonard Avenue – Collins Street**



Crossing across Clonard Avenue, footpath grades down to carriageway with gradient approx. 17.3%

- × No TGSIs
- × Kerb cut not aligned with path of travel
- × Uneven footpath adjacent repair



General view



- × Retail awning pole positioned in crossing zone
- × Footpath grades down to carriageway with gradient approx. 7.2%, no TGSIs



General view – multiple asphalt repairs



General view – multiple repairs adjacent utility covers



General view – multiple repairs



General view

- × At top of picture, wide crossover gradient 5.1%, in excess of 2.5% for concrete



General view



Crossing across Collins Street, footpath grades down to carriageway with gradient approx. 10.1%

- × No TGSIs
- × Kerb cut not aligned with path of travel

**Pakington Street - West –Collins Street – Woolworth’s service road**



Crossing across Collins Street, footpath grades down to carriageway with gradient approx. 11.7%

- × No TGSIs
- × Kerb cut not aligned with path of travel



General view



General view

- × Footpath crossfall 3.9%, in excess of 3% for asphalt.



View along Woolworth's service road



View across Woolworth's service road, footpath grades down to carriageway with gradient approx. 6.3%

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel

**Pakington Street - West – Woolworth's service road – Waratah Street**



View across Woolworth's service road, footpath grades down to carriageway with gradient approx. 10.6%

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel



General view



General view

- × Footpath crossfall 4.4%, in excess of 3% for asphalt.



General view



General view

- × Uneven asphalt adjacent utility covers



Controlled crossing across Pakington Street, footpath grades down to carriageway with gradient approx. 9.4%

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel
- × Kerb cut not aligned with path of travel



Controlled crossing across Waratah Street, footpath grades down to carriageway with gradient approx. 7.5%

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel

**Pakington Street - West –Waratah Street – Lawton Avenue**



Controlled crossing across Waratah Street, footpath grades down to carriageway with gradient approx. 8.3%

- ✓ TGSIs provided
- ✓ TGSIs aligned path of travel
- × Kerb cut not aligned with path of travel
- × TGSIs likely inadequate luminance contrast



General view



Controlled crossing across Pakington Street, footpath grades to carriageway with gradient approx. 9.6%

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel



General view

- × Some unevenness around utility cover



General view. All these retail units have a stepped entry and are stepped back from main footpath.



General view. All these retail units have a stepped entry and are stepped back from main footpath.



Mid-block crossing across Pakington Street, footpath grades down to carriageway with gradient approx. 5.9%

- × No TGSIs
- × Cobbled kerb detail with lip edge



General view



Crossing across Pakington Street, footpath grades down to carriageway with gradient approx. 7.6%

- × No TGSIs
- × Cobbled kerb detail with lip edge



General view



General view  
 × Extension of planter edging creating trip hazard



Crossing across Lawton Street, footpath grades to carriageway, gradient approx. 4.6%  
 × No TGSIs  
 × Planter edging creating trip hazard  
 × Cobbled kerb detail with lip edge

**Pakington Street - West –Lawton Avenue – Clarence Street**



Crossing across Lawton Street, footpath grades down to carriageway with gradient approx. 2.3%  
 × No TGSIs  
 × Cobbled kerb detail with lip edge



Crossing across Pakington Street, footpath grades down to carriageway with gradient approx. 4.8%

- × No TGSIs
- × Cobbled kerb detail with lip edge



General view with raised section of retail frontage adjacent the footpath

- × Trip hazard
- × Visually confusing



General view with raised section of retail frontage adjacent the footpath

- × Trip hazard
- × Visually confusing



General view with raised section of retail frontage adjacent the footpath that has now changed to asphalt panels

- × Trip hazard
- × Visually confusing
- × Footpath crossfalls 5.5%, in excess of 3% for asphalt surfaces



- × Leaf litter obscures step further
- × Footpath crossfalls 3.5%, in excess of 3% for asphalt surfaces



General view



- Crossing across Pakington Street, footpath grades down to carriageway with gradient approx. 8.4%
- × No TGSIs
  - × Cobbled kerb detail with lip edge



- Crossing across Clarence Street, footpath grades down to carriageway with gradient approx. 9.7%
- × No TGSIs
  - × Cobbled kerb detail with lip edge

**Pakington Street - West – Clarence Street – Albert Street**



Crossing across Clarence Street, footpath grades down to carriageway with gradient approx. 8.3%

- × No TGSIs
- × Cobbled kerb detail with lip edge



At grade pedestrian crossing

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel



General view. Construction hoarding blocking footpath.



General view



General view.

- × Some unevenness adjacent utility covers



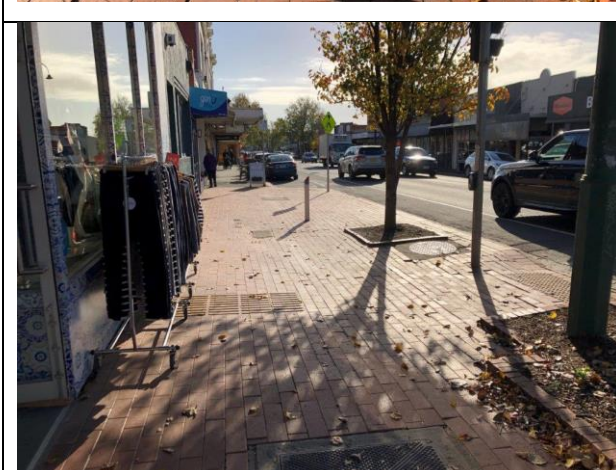
General view

- × Some unevenness adjacent utility covers and repairs



Controlled crossing across Pakington Street, footpath grades to carriageway, gradient approx. 5.2%

- ✓ TGSIs aligned with path of travel
- ✓ TGSIs provided
- × TGSIs likely inadequate luminance contrast
- × Kerb cut not aligned with path of travel
- × Uneven brick surfacing
- × Cobbled kerb and lip edge



- × Incomplete directional TGSIs adjacent shop front



- × Controlled crossing across Albert Street, footpath grades to carriageway, gradient approx. 9.1%
- ✓ TGSIs aligned with path of travel
- ✓ TGSIs provided
- × Kerb cut not aligned with path of travel
- × TGSIs likely inadequate luminance contrast
- × Uneven brick surfacing
- × Cobbled kerb and lip edge

**Albert Street – North – Pakington Street and rear lane way**



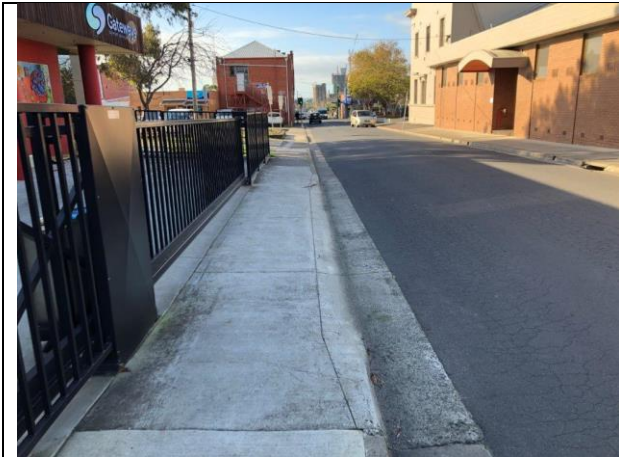
- × Footpath crossfalls 4.0%, in excess of 3% for asphalt surfaces.



- × Wide crossovers with crossfalls 9.8%, in excess of 2.5% for concrete finishes
- × No TGSIs to warn pedestrians



- × Footpath crossfalls 6.5%, in excess of 3% for asphalt surfaces.
- × Confusing TGSIs at dropped kerb, but nothing on opposite side of street



General view

**Albert Street – South – Pakington Street and Town Hall**



General view

Signage example

- × Footpath crossfalls 3.7%, in excess of 2.5% for concrete finishes



General view

- × Footpath crossfalls 6.7%, in excess of 2.5% for concrete finishes



- × Footpath crossfalls 7.2%, in excess of 3% for asphalt surfaces.



- × Footpath crossfalls 4.4%, in excess of 3% for asphalt surfaces.



General view

**Pakington Street - West – Albert Street - Weller Street**



- Controlled crossing across Albert Street.
- ✓ TGSIs aligned with path of travel
  - ✓ TGSIs provided
  - × TGSIs poor luminance contrast
  - × Kerb cut not aligned with path of travel
  - × Cobbled kerb and lip edge
  - × Signpost clutters access to push button assembly



- Controlled crossing across Pakington Street.
- ✓ TGSIs aligned with path of travel
  - ✓ TGSIs provided
  - × Kerb cut not aligned with path of travel
  - × TGSIs poor luminance contrast
  - × TGSIs damaged
  - × Uneven footpath
  - × Cobbled kerb and lip edge



General view

- × Footpath crossfalls 3.2%, in excess of 3% for asphalt surfaces.



Water fountain



Bus stop cluttered with bin and phone

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- × Bin blocking bus stop information
- × Bus stop very close to telephone



Level telephone pad on sloping footpath with asphalt making good to address level difference



General view

- × Footpath crossfalls 4.3%, in excess of 3% for asphalt surfaces.



General view

- × Footpath crossfalls 3.7%, in excess of 3% for asphalt surfaces.



General view



Crossing across Pakington Street, footpath grades down to carriageway with gradient approx. 9.0%

- × Kerb cut not aligned with path of travel
- × No TGSIs
- × Cobbled kerb detail with lip edge



Crossing across Weller Street, footpath grades down to carriageway with gradient approx. 9.5%

- × Kerb cut not aligned with path of travel
- × No TGSIs
- × Cobbled kerb detail with lip edge

**Pakington Street - West -- Weller Street – Hope Street**



Crossing across Pakington Street

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel



Crossing across Weller Street, footpath grades down to carriageway with gradient approx. 15.9%

- × Kerb cut not aligned with path of travel
- × No TGSIs
- × Cobbled kerb detail with lip edge



General view

- × Footpath crossfalls 5.8%, in excess of 2.5% for non-asphalt surfaces.



General view



General view

- × Footpath crossfalls 6.3%, in excess of 3% for asphalt surfaces.



General view



Crossing across Hope Street, footpath grades to carriageway with gradient approx. 5.0%

- × Kerb cut not aligned with path of travel
- × No TGSIs
- × Cobbled kerb detail with lip edge

**Pakington Street - West – Hope Street - Autumn Street**



Crossing across Hope Street, footpath grades to carriageway with gradient approx. 4.1%

- × Kerb cut not aligned with path of travel, see next photo
- × No TGSIs
- × Cobbled kerb detail with lip edge



- × Extreme non-alignment of kerb cut with path of travel



General view



Controlled crossing across Pakington Street towards Post Office, footpath grades down to carriageway with gradient approx. 6.5%

- × No TGSIs
- × Cobbled kerb detail with lip edge



Adjacent to controlled crossing across towards Post Office.

- × Planter edge extended to vehicle stop line - potential hazard or safety feature?



Adjacent to controlled crossing across towards Post Office.

- × Planter edge extended to vehicle stop line - potential hazard or safety feature?



General view



General view

- × Footpath crossfalls 3.0%, in excess of 2.5% for non-asphalt surfaces.



Controlled crossing across Pakington Street

- ✓ TGSIs provided
- ✓ TGSIs aligned path of travel
- × TGSIs inadequate luminance contrast
- × Footpath grades down to carriageway with gradient approx. 3.5%
- × Kerb cut not aligned with path of travel
- × Cobbled kerb detail with lip edge



Controlled crossing across Autumn Street, footpath grades down to carriageway with gradient approx. 8.9%

- × Partial TGSIs at crossing
- × TGSIs inadequate luminance contrast
- × Kerb cut not aligned with path of travel
- × Cobbled kerb detail with lip edge

**Pakington Street - West –Autumn Street -opposite Spring Street**



Controlled crossing across Autumn Street

- × Footpath grades down to carriageway with gradient approx. 2.2%
- × Kerb cut not aligned with path of travel

During audit, it was noticed that bus wheels clipped the kerb close to signal pole and close to pedestrians.

- × Query radius of road junction for buses?



General view

- × Footpath crossfalls 3.7%, in excess of 2.5% for non-asphalt surfaces.



General view



General view  
Footpath slope approx 7.0% (1:14) towards road. Consider additional barrier adjacent road.



General view



General view



General view

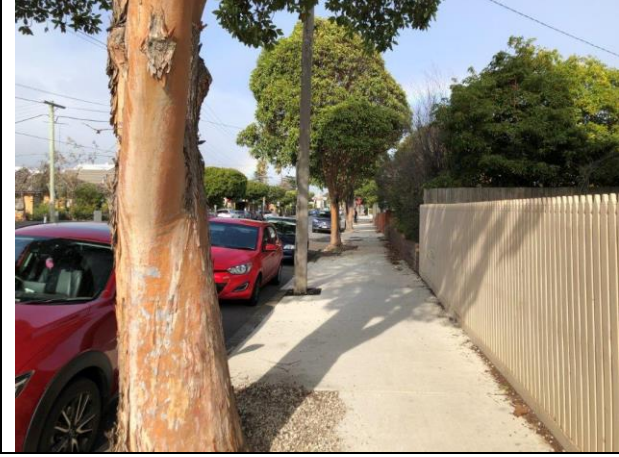


General view



Controlled crossing across Pakington Street, footpath grades down to carriageway with gradient approx. 8.7%

- ✓ TGSIs provided
- ✓ TGSIs adequate luminance contrast
- ✓ TGSIs aligned path of travel
  
- × Kerb cut not aligned with path of travel



General view



General view



General view



General view



Crossing across Gertrude Street, footpath grades down to carriageway with gradient approx. 0.2%  
 × Kerb cut not aligned with path of travel