

**Pedestrian Evaluation Report  
System  
Hoddle Street Planning Study**

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## Contents

<b>1.</b>	<b>Introduction</b>	<b>1</b>
<b>2.</b>	<b>Methodology</b>	<b>2</b>
2.1	PERS Assessment framework	3
2.1.1	Link	3
2.1.2	Crossing	6
2.1.3	Route	9
2.1.4	Public transport waiting area	11
2.1.5	Public space	14
<b>3.</b>	<b>Results</b>	<b>16</b>
3.1	Gradient	16
3.2	Legibility	16
3.3	Tactile information	16
3.4	Colour contrast	17
3.5	Personal security	17
3.6	Surface quality	17
3.7	Quality of environment and maintenance	17
3.8	Performance (vehicle behaviour)	17
3.9	Capacity – refuge	18
3.10	Delay	18

### Appendix A

Results

# 1. Introduction

Aurecon, as part of the Hoddle Vision Team, undertook a Pedestrian Evaluation Review System (PERS) audit along Hoddle Street, between Swan Street (Olympic Boulevard) and the Eastern Freeway.

PERS and CERS (Cycling Evaluation Review System) are dynamic software applications used to assess and audit the quality of any pedestrian and cycling environment, which can assist in the identification of opportunities to improve pedestrian walking routes, public spaces and cycling infrastructure whilst supporting the effective targeting of resources.

On site audits were undertaken on various days between 22/03/2010 and 14/04/2010. The area between Swan Street and Alexandra Parade has been investigated, as well as the routes to local train stations.

Hoddle Street was found to be dominated by vehicles, which generally creates an uninviting environment for pedestrians, cyclists and other users. The lane configuration along Hoddle Street varies from three to four lanes in each direction, turning lanes, bus lanes and kerbside parking. Also, Hoddle Street intersects with Swan Street, Bridge Road / Wellington Parade and Victoria Parade, which have through tram lines running east-west across Hoddle Street.

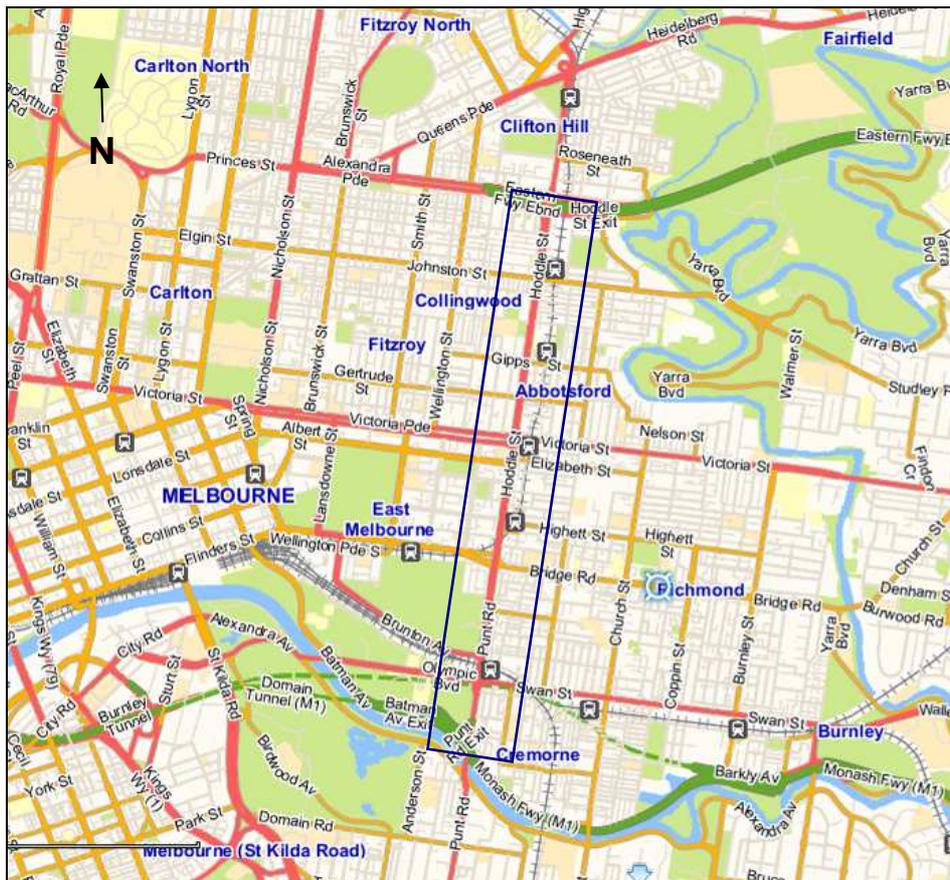


Figure 1-1: The study area

## 2. Methodology

The TRL Street Audit Network software package was used to undertake the Hoddle Street PERS.

The following pedestrian categories were assessed:

**Table 2-1: Categories**

Categories	Definition
<b>Link</b>	Any complete footway, footpath or highway or any section of one
<b>Crossing</b>	At any significant crossing point, including crossings observed away from formal pedestrian facilities
<b>Route</b>	Considers how individual pedestrian facilities (e.g. links, crossings) are serving pedestrian needs at a strategic level
<b>Public transport waiting area</b>	Designated space where people are required to wait in order to use public transport
<b>Public space</b>	Any space that allows the public to informally rest and enjoy

The following steps were employed in the course of assessing the pedestrian environment.

### Step 1 – Conduct desk top analysis

1. Provided drawings of the study area was used to determine potential routes, links, crossings, public transport waiting areas and public spaces.
2. Each route, link, crossing, public transport waiting area and public space was given a unique ID number

### Step 2 – On street evaluation

1. The pedestrian environment was evaluated on site against particular parameters at the level of individual categories (as listed above). Each of the parameters are detailed within Section 2.1
2. The identification of routes, links, crossings, public transport waiting areas and public spaces was refined on site

### Step 3 – Data entry

1. The hand written forms and scores were entered into the Street Audit Network software package (PERS).
2. Analysis of the outputs was then undertaken.

## 2.1 PERS Assessment framework

Each of the subjects listed in Table 2-2 required a range of parameters to be assessed.

Each parameter was scored on a range from -3 to +3, where +3 is the highest score and -3 the lowest. For a parameter to warrant a score of +3, it would need to be exemplary and of a standard to be identified as best practice. The scores are therefore allocated on a range from very poor to optimum with 0 representing the average:

The scoring scale is set out below:



Figure 2-1: Scoring scale – parameters

These parameters were not assessed mechanically, as it was crucial to the output that the assessment form was completed with the principal of how pedestrians are likely to want to use the environment and how well the environment meets those needs. Although quantitative measures may be available (such as footpath width), the majority of the parameters required an appreciation of the qualitative aspects of the pedestrian environment.

### 2.1.1 Link

Each link was assessed based on the following parameters:

- Effective width
- Dropped kerbs
- Gradient
- Obstructions
- Permeability
- Legibility
- Lighting
- Tactile information
- Colour contrast
- Personal security
- Surface quality
- User conflict
- Quality of the environment
- Maintenance

The link parameters definitions and score prompts are shown in the following table.

Table 2-2: Link parameters

Link parameter		Score prompts
Effective width	The space within a link available for pedestrian movement.	<ul style="list-style-type: none"> <li>- Width for pedestrian flow</li> <li>- Wheelchair accessibility</li> <li>- All sections acceptable width</li> <li>- Separation from traffic</li> <li>- Allowance for obstructions</li> <li>- Pedestrian congestion</li> </ul>
Dropped kerbs	The provision of adequate continual access along links which are interrupted by access roads or junctions with minor side roads (which are not subject to a separate crossing review). It is concerned with the physical barrier that kerbs can present to vulnerable pedestrians.	<ul style="list-style-type: none"> <li>- Located on desire lines</li> <li>- Adequate capacity</li> <li>- Level dropped/flush</li> <li>- Gradient of drop</li> <li>- Consistency</li> <li>- Frequency of dropped kerbs</li> </ul>
Gradient	The steepness or otherwise of a link, any crossfall on the link and the inclusion of features such as steps or ramps.	<ul style="list-style-type: none"> <li>- Severity</li> <li>- Steps/ramps</li> <li>- Rest points</li> <li>- Undulations</li> <li>- Appropriate handrails</li> <li>- Presence of crossfalls</li> </ul>
Obstructions	Physical barriers to pedestrian flow. Obstructions in the footway can have a number of negative effects on level of service to pedestrians.	<ul style="list-style-type: none"> <li>- Presence of obstructions</li> <li>- Location/alignment</li> <li>- Overhead obstructions</li> <li>- Tapering or transparent obstructions</li> <li>- Tactile warnings</li> <li>- Sightline reduction</li> </ul>
Permeability	The extent to which pedestrians can make informal movements on the link in order to serve their own personal journey purposes.	<ul style="list-style-type: none"> <li>- Frequency of crossing points</li> <li>- Parked cars/physical barriers</li> <li>- Traffic flow</li> <li>- Dropped kerbs</li> <li>- Pedestrian barriers</li> <li>- Sightlines</li> </ul>

Link parameter		Score prompts
Legibility	The ability of pedestrians to orientate themselves in relation to their destinations	<ul style="list-style-type: none"> <li>- Signage provision</li> <li>- Signage clarity</li> <li>- Information boards</li> <li>- Distances given on signs</li> <li>- Sightlines</li> <li>- Built form aids navigation</li> </ul>
Lighting	The quality of lighting on a link. Lighting of a pedestrian route can have a strong influence on pedestrians' perceptions of personal security and hence of the viability of the link after dark for some pedestrians.	<ul style="list-style-type: none"> <li>- Intensity/frequency</li> <li>- Definition/colour</li> <li>- Maintenance</li> <li>- Context suitability</li> <li>- After-dark</li> <li>- Obstructions</li> </ul>
Tactile information	The provision, accuracy and quality of surfaces that convey information to blind and partially sighted people.	<ul style="list-style-type: none"> <li>- Intensity/frequency</li> <li>- Definition/colour</li> <li>- Maintenance</li> <li>- Context suitability</li> <li>- After-dark</li> <li>- Obstructions</li> </ul>
Colour contrast	The colour and tonal contrast within a link as an aid to navigation and orientation and the protection of hazards to partially sighted pedestrians.	<ul style="list-style-type: none"> <li>- Tonal contrast</li> <li>- Location</li> <li>- Assists navigation</li> <li>- Enhanced visibility of obstructions</li> <li>- Space identification</li> <li>- Made to specification</li> </ul>
Personal security	The environmental features that relate to individual pedestrians' vulnerability to, or fear of, crime.	<ul style="list-style-type: none"> <li>- Perceived/sense of crime</li> <li>- Activity on the street</li> <li>- Lighting</li> <li>- Police presence</li> <li>- CCTV</li> <li>- Visual appeal</li> </ul>
Surface quality	The evenness, absence of trips hazards and frictional qualities of horizontal surfaces on which pedestrians may stand or walk.	<ul style="list-style-type: none"> <li>- Smoothness/trip hazards</li> <li>- Surface friction</li> <li>- Slippery surfaces</li> <li>- Maintenance</li> <li>- Context suitability</li> </ul>

Link parameter		Score prompts
User conflict	The hazards to pedestrians as a result of making conflicting movements with other users.	<ul style="list-style-type: none"> <li>- Conflicting movements</li> <li>- User flows</li> <li>- Encroachment on pedestrian space</li> <li>- Segregation from cyclists</li> <li>- Bus queues an obstruction</li> <li>- Adequate space provision</li> </ul>
Quality of the environment	The degree to which a link is pleasant to use. This scoring category is concerned with the general ambience of a link.	<ul style="list-style-type: none"> <li>- Traffic/noise</li> <li>- Aesthetics</li> <li>- Soft landscaping</li> <li>- Quality of materials</li> <li>- Quality of private frontages</li> <li>- Sense of place</li> </ul>
Maintenance	The environmental quality, with emphasis on the effectiveness of the management of a facility.	<ul style="list-style-type: none"> <li>- Cleanliness</li> <li>- Drainage</li> <li>- Evidence of neglect</li> <li>- Seasonal foliage</li> <li>- Graffiti</li> <li>- Landscaping</li> <li>- Durability of materials</li> </ul>

### 2.1.2 Crossing

Each crossing was assessed based on the following parameters:

- Crossing provision
- Deviation from desire line
- Performance
- Capacity
- Delay
- Legibility
- Legibility for sensory impaired people
- Dropped kerbs
- Gradient
- Obstructions
- Surface quality
- Maintenance

The crossing parameters definitions and score prompts are shown in the following table.

Table 2-3: Crossing parameters

Crossing parameter		Score prompts
Crossing provision	What level of facility is provided and how appropriate it is to the context.	<ul style="list-style-type: none"> <li>- Type suitable for context</li> <li>- Suitable for pedestrian type</li> <li>- Suitable for pedestrian volume</li> <li>- Suitable for type of road</li> <li>- Traffic speeds</li> <li>- Traffic volumes</li> </ul>
Deviation from desire line	The degree to which a pedestrian must travel additional distance in order to use a crossing.	<ul style="list-style-type: none"> <li>- Deviations</li> <li>- Serve likely desire lines</li> <li>- At grade / by level change</li> <li>- Pedestrian priority</li> <li>- Distance minimisation</li> <li>- Barriers causing deviation</li> </ul>
Performance	How well the particular crossing serves pedestrian needs overall.	<ul style="list-style-type: none"> <li>- Crossing operational</li> <li>- Safety/protection of pedestrians</li> <li>- Vehicle behaviour</li> <li>- Traffic control measures</li> <li>- Space ownership</li> <li>- Obstructions to sight lines</li> </ul>
Capacity	The degree to which the crossing provides sufficient space for users relative to recommended minimums and to flows of users.	<ul style="list-style-type: none"> <li>- Minimum dimension standards met</li> <li>- Peak hour performance</li> <li>- Pedestrian flows coped with</li> <li>- Waiting areas/widths</li> <li>- Refuge capacity</li> <li>- Width for wheelchair users</li> </ul>
Delay	The time for which a pedestrian is delayed by the need to cross an intersecting road.	<ul style="list-style-type: none"> <li>- Crossing stages</li> <li>- Effect of crossing type</li> <li>- Traffic flow</li> <li>- Pedestrian phase</li> <li>- Waiting time</li> <li>- Crossing time</li> </ul>

Crossing parameter		Score prompts
Legibility	The ease with which pedestrians can interpret how and when to use the crossing.	<ul style="list-style-type: none"> <li>- Surface type continuity</li> <li>- Obvious where to cross</li> <li>- Driver stop line in place</li> <li>- Delineation for pedestrians</li> <li>- Positioning of infrastructure</li> <li>- Lighting</li> </ul>
Legibility for sensory impaired people	The provision that is made to allow sensory impaired people to use the crossing safely.	<ul style="list-style-type: none"> <li>- Button position</li> <li>- Audible information</li> <li>- 'Pulse' information</li> <li>- Tactile information provided/intact</li> <li>- Appropriate tactile information</li> <li>- Colour contrast</li> </ul>
Dropped kerbs	The degree to which any kerbs along a particular crossing are sufficiently dropped in the correct location to enable maximum accessibility for all users	<ul style="list-style-type: none"> <li>- Suitable locations</li> <li>- Capacity</li> <li>- Level dropped/flush</li> <li>- Gradient of drop</li> <li>- Provision</li> <li>- Profile</li> </ul>
Gradient	Any features of the crossing that may present difficulties to pedestrians, including steep approach ramps, high kerbs, significant camber or crossfall.	<ul style="list-style-type: none"> <li>- Crossing at grade</li> <li>- Crossfall evident</li> <li>- Impedience to access</li> <li>- Camber</li> <li>- Severity of gradient on approach</li> <li>- Severity of gradient on exit</li> </ul>
Obstructions	Any physical impediment to pedestrians who wish to use the crossing.	<ul style="list-style-type: none"> <li>- Obstructions on approach</li> <li>- Obstructions on crossing</li> <li>- Location/alignment</li> <li>- Overhead obstructions</li> <li>- Opaque/tapering obstructions</li> <li>- Tactile warnings</li> <li>- Sight line reduction</li> <li>- Permanent obstructions</li> </ul>

Crossing parameter		Score prompts
Surface quality	The evenness and friction of the surfaces on which the pedestrian waits and crosses.	<ul style="list-style-type: none"> <li>- Smoothness/trip hazards</li> <li>- Context suitability</li> <li>- Consistency</li> <li>- Quality of reinstatements</li> <li>- Drainage</li> <li>- Slippery surfaces</li> </ul>
Maintenance	The amount of litter and debris, the quality of maintenance of crossing markings, cleaning of the crossing furniture, such as removal of chewing gum from waiting areas and signal buttons and stickers from columns and equipment.	<ul style="list-style-type: none"> <li>- Cleanliness</li> <li>- State of repair</li> <li>- Littering</li> <li>- Evidence of neglect</li> <li>- Impact of seasonal foliage</li> <li>- Graffiti/stickers/chewing gum</li> <li>- Evidence of debris</li> </ul>

### 2.1.3 Route

Route assessments were conducted between Hoddle Street and to the following train stations:

- Richmond
- West Richmond
- North Richmond
- Collingwood
- Victoria Park

Each route was assessed based on the following parameters:

- Directness
- Permeability
- Road safety
- Personal security
- Legibility
- Rest points
- Quality of environment
- Individual link and crossing performance

The route parameters definitions and score prompts are shown in the following table.

Table 2-4: Route parameters

Route parameter		Score prompts
Directness	The degree to which a route serves, or deviates from, the most direct possible line between an origin and destination.	<ul style="list-style-type: none"> <li>- Actual distance compared with direct distance</li> <li>- Evidence of short-cuts</li> <li>- Deviation due to barriers</li> </ul>
Permeability	The extent to which pedestrians can make informal movements within the environment in order to serve their own personal journey purposes.	<ul style="list-style-type: none"> <li>- Frequency of viable crossing points</li> <li>- Access/exit points</li> <li>- Pedestrian barriers / parked cars</li> <li>- Traffic flow</li> <li>- Dropped kerbs</li> <li>- Road width</li> <li>- Crossing places/refuge points</li> <li>- Sightlines</li> </ul>
Road safety	The degree to which a route offers an environment that is, or appears, safe to use.	<ul style="list-style-type: none"> <li>- Perceived road safety</li> <li>- Traffic speeds/volumes</li> <li>- Effect of noise, spray and fumes</li> <li>- Potential for conflict</li> <li>- Segregation from cyclists</li> <li>- Casualty record</li> </ul>
Personal security	The environmental features that relate to individual pedestrians' vulnerability to, or fear of, crime.	<ul style="list-style-type: none"> <li>- Perceived personal security/sense of crime</li> <li>- Street activity</li> <li>- Lighting suitability</li> <li>- Formal surveillance</li> <li>- Visibility levels</li> <li>- Visual appeal</li> </ul>
Legibility	The ease with which pedestrians can follow a route and orientate themselves within it.	<ul style="list-style-type: none"> <li>- Signage continuity</li> <li>- Signage clarity</li> <li>- Information boards/maps</li> <li>- Surface type</li> <li>- Tactile information</li> <li>- Colour contrast</li> </ul>

Route parameter		Score prompts
Rest points	Facilities that enable pedestrians, particularly those with mobility difficulties, to tackle a route in stages.	<ul style="list-style-type: none"> <li>- Frequency per 100m</li> <li>- Suitability for type of user</li> <li>- Safe area</li> <li>- Protection from the weather</li> <li>- Quality</li> <li>- Support public activity</li> </ul>
Quality of environment	The degree to which a route is pleasant to use and may encourage use (the general appeal and amenity of the pedestrian route).	<ul style="list-style-type: none"> <li>- Public spaces</li> <li>- Cleanliness/maintenance</li> <li>- Pleasantness/aesthetics</li> <li>- Soft landscaping</li> <li>- Quality of materials and private frontages</li> <li>- Prompts for activity</li> </ul>
Individual link and crossing performance	The consideration of the scores given to any link/s or crossing/s that may be utilised within the route	<ul style="list-style-type: none"> <li>- Reference within PERS, which link/s and crossing/s may be utilised within the route</li> </ul>

#### 2.1.4 Public transport waiting area

Each public transport waiting area was assessed based on the following parameters:

- Information to the waiting area
- Infrastructure to the waiting area
- Boarding public transport
- Information at the waiting area
- Safety perceptions
- Security measures
- Lighting
- Quality of the environment
- Maintenance and cleanliness
- Waiting area comfort

The public transport waiting area parameters definitions and score prompts are shown in the following table.

Table 2-5: Public transport waiting area parameters

Public transport waiting area parameter		Score prompts
Information to the waiting area	The level of ease experienced by the bus user in both getting to, and leaving the waiting area in terms of the quality of information provided.	<ul style="list-style-type: none"> <li>- Visibility of waiting area</li> <li>- Brand image</li> <li>- Local information</li> <li>- Public transport information</li> <li>- Route names and numbers</li> <li>- Direction and distances of trip generators</li> </ul>
Infrastructure to the waiting area	The suitability of the footways and pedestrian crossings surrounding the waiting area in terms of the quality of service provided to users in getting to and from the waiting area.	<ul style="list-style-type: none"> <li>- Accessibility via pedestrian crossings</li> <li>- Safety from traffic</li> <li>- Dropped kerbs</li> <li>- User conflict</li> <li>- Tactile information</li> <li>- Footways and surface quality</li> </ul>
Boarding public transport	The ease with which public transport users can board their chosen means of transport from the waiting area.	<ul style="list-style-type: none"> <li>- Raised kerbs and gaps minimised</li> <li>- Waiting area capacity</li> <li>- Safety from traffic</li> <li>- Access and egress points accessible</li> <li>- Bus boarders available</li> <li>- Assistance for mobility impaired people</li> </ul>
Information at the waiting area	The quality of the static information that is provided at the waiting area, both on the flag post and in the shelter if one is present, timetables, real time and route information for example.	<ul style="list-style-type: none"> <li>- Timetables</li> <li>- Visible and legible</li> <li>- Location and accuracy</li> <li>- Colour contrast of information</li> <li>- Real time information</li> <li>- Additional/'specialised' sources of information</li> </ul>

Public transport waiting area parameter		Score prompts
Safety perceptions	The features that are likely to relate to users perceptions of personal security.	<ul style="list-style-type: none"> <li>- Evidence of graffiti or vandalism</li> <li>- Telephone/instant response facility</li> <li>- Local ownership of space</li> <li>- Sightlines</li> <li>- Potential for anti-social behaviour</li> <li>- Places for concealment</li> </ul>
Security measures	The level of formal and informal surveillance at the waiting area.	<ul style="list-style-type: none"> <li>- Formal surveillance</li> <li>- Informal surveillance</li> <li>- Publicised surveillance</li> <li>- Ease of reporting incidents</li> <li>- Maintenance of CCTV</li> <li>- Telephones accept coins</li> </ul>
Lighting	The quality of the lighting provided at a waiting area.	<ul style="list-style-type: none"> <li>- Quality of materials / private frontages</li> <li>- Suitability for location</li> <li>- Proximity to waiting area</li> <li>- Pedestrian route lighting</li> <li>- Obscured/obstructed</li> <li>- Maintenance</li> </ul>
Quality of the environment	Qualitative factors that may affect how pleasant the area is to use as a waiting area in terms of ambience, aesthetics and noise.	<ul style="list-style-type: none"> <li>- Environment</li> <li>- Sense of place</li> <li>- Aesthetics</li> <li>- Soft landscaping</li> <li>- Quality of materials / private frontages</li> <li>- Noise</li> </ul>
Maintenance and cleanliness	The effectiveness of management of the waiting area and the area in the immediate vicinity in terms of damage, litter, surface water, soft landscaping and the removal of graffiti and chewing gum.	<ul style="list-style-type: none"> <li>- Level of cleanliness</li> <li>- Evidence of neglect</li> <li>- Seasonal foliage</li> <li>- Litter bins provided</li> <li>- Graffiti and vandalism</li> <li>- Adequacy of drainage</li> </ul>

Public transport waiting area parameter		Score prompts
Waiting area comfort	The level of comfort experienced by the waiting passengers in terms of the presence, suitability and quality of shelters and seating.	<ul style="list-style-type: none"> <li>- Shelter and capacity</li> <li>- Protection from weather</li> <li>- Provision for mobility impaired people</li> <li>- Seating visible /easy to reach</li> <li>- Suitability of seating</li> <li>- Nearby facilities</li> </ul>

### 2.1.5 Public space

Each public space was assessed based on the following parameters:

- Moving in the space
- Interpreting the space
- Personal safety
- Feeling comfortable
- Sense of place
- Opportunity for activity

The public space parameters definitions and score prompts are shown in the following table.

**Table 2-6: Public space parameter**

Public space parameter		Score prompts
Moving in the space	The level of ease afforded to the pedestrian in terms of negotiating and orientating themselves around the public space.	<ul style="list-style-type: none"> <li>- Provision in the space</li> <li>- Surface quality</li> <li>- Ease of movement</li> <li>- Barriers for mobility impaired people</li> <li>- Frequency of obstructions</li> <li>- User conflict</li> </ul>
Interpreting the space	The ability of the users of a public space to navigate themselves around is considered in more detail, in particular in terms of physical attributes to assist in orientation.	<ul style="list-style-type: none"> <li>- Presence of maps</li> <li>- Use and appropriateness of signage</li> <li>- Signage consistency</li> <li>- Provision for mobility/sensory impaired people</li> <li>- Layout of the built form</li> <li>- Landmark visibility</li> </ul>

Public space parameter		Score prompts
Personal safety	The environmental features that relate to individual pedestrians' vulnerability to, or fear of, crime.	<ul style="list-style-type: none"> <li>- Perceptions of safety</li> <li>- Informal surveillance</li> <li>- Formal surveillance</li> <li>- Ease of reporting an incident</li> <li>- Lighting provision</li> <li>- Type of area/environment</li> </ul>
Feeling comfortable	The extent to which people feel comfortable in a public space is critical to the functionality of that space.	<ul style="list-style-type: none"> <li>- Spending time in the space</li> <li>- Provision of shelter</li> <li>- Seating provision</li> <li>- Toilets</li> <li>- Noise level</li> <li>- Impact of traffic</li> </ul>
Sense of place	The sense of place the environment evokes, in relation to the aesthetics and quality of the environment , which can significantly impact upon the success of a public space as a place to spend time in.	<ul style="list-style-type: none"> <li>- Quality of the materials</li> <li>- Character of the built environment</li> <li>- Aesthetics</li> <li>- Sense of identity</li> <li>- Distinctiveness</li> <li>- Ambience</li> </ul>
Opportunity for activity	A public space can have many functions and can provide a facility for a variety of needs. The most successful public spaces are likely to be those that can cater for and integrate a variety of uses.	<ul style="list-style-type: none"> <li>- Evidence of social interaction</li> <li>- Atmosphere</li> <li>- Diversity of user types</li> <li>- Type of activity appropriate for space</li> <li>- Function of the space used appropriately</li> <li>- Evidence of decay/dereliction/lacks activity</li> </ul>

## 3. Results

Please refer to Appendix A, for graphical representations as produced by PERS.

The following section will summarise the 'poor' and 'very poor' parameters or categories continuously found within the study area and aspects that could be improved.

### 3.1 Gradient

**Category: Link, crossing**

At the footbridge in proximity to Collingwood College and access to train stations (Collingwood, North Richmond and Victoria Park), it was noted that the ramps provided were relatively long and at a steep gradient (i.e. it would not be appropriate for wheelchair users). It was noted that the ramp styles appear outdated and do not include any 'rest' or flat stretches over the entire length of ramp.

It was observed that during school peak times, people preferred to use the pedestrian operated signal over the pedestrian ramp, as it added a significant amount to the journey time.

### 3.2 Legibility

**Category: Link, crossing, route**

Although existing vehicular signage along Hoddle Street may assist pedestrian navigation in general, it was found route signage to popular destinations in proximity to Hoddle Street was poor. This is seen as a particular issue with routes to and from train stations. It was found that from Hoddle Street, there was no indication that train stations were within a short walking distance.

Train stations that were not visible or signed from Hoddle Street include:

- Richmond
- North Richmond
- Collingwood
- Victoria Park

It is noted however, that West Richmond Station is visible from Hoddle Street, along Jika Place.

Further, it was also found that the route quality was poor to the train stations, in terms of mobility impaired access, security and aesthetics.

### 3.3 Tactile information

**Category: Link, crossing, public transport waiting area**

Information for mobility impaired people overall was found to be below average throughout Hoddle Street along the adjacent streets and at public transport facilities. It was found that DDA<sup>1</sup> compliant infrastructure was provided inconsistently in both layout and colour. Audio and push button pulses were broken at some locations, or the audio could not be easily heard over the noise of vehicular traffic.

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<sup>1</sup> Disability Discrimination Act

### 3.4 Colour contrast

#### Category: Link

Within the study area, there was not a consistent use of colour, to aid pedestrian legibility. Tactile pavement was provided of different colours and the pedestrian environment was otherwise predominantly monotone.

### 3.5 Personal security

#### Category: Route, link, crossing, public transport waiting area, public space

Personal security was consistently marked negatively, as there was continuous evidence of anti-social behaviour. Although the areas were heavily trafficked by vehicles, informal security via passing pedestrians and active street fronts were not always provided.

### 3.6 Surface quality

#### Category: Link, crossing

Surface quality was consistently average, due to the fact that small blemishes in the concrete / asphalt occurred on a regular basis, which has a potential to hinder pedestrian movement.

### 3.7 Quality of environment and maintenance

#### Category: Route, link, crossing, public transport waiting area, public space

Across all categories the quality of environment / maintenance continuously scored poorly.

In general, it was not a 'pleasant' experience to walk along Hoddle Street. This was primarily due to noise and pollution from the vehicles travelling along Hoddle Street. This was exacerbated by the overall lack of cleanliness of the area, graffiti and the numerous old posters or advertisements.

This was especially the case under the bridge at Richmond Station, in proximity to Swan Street, where the atmosphere was congested with fumes, poorly lit and heavily graffitied.

### 3.8 Performance (vehicle behaviour)

#### Category: Crossing

It was observed that vehicles 'blocked back' and queued across pedestrian crossings, blocking pedestrian access and forcing pedestrians to negotiate a route around cars deviating away from their designated crossing space.

Whilst this was generally the case at all intersections, it was particularly poor at the Victoria Parade intersection, at the partially signalised double (amber and red) left turn from Victoria Parade west to Hoddle Street north. As Hoddle Street northbound is congested during the PM peak, traffic entering Hoddle Street was at times 'force merging' into stationary traffic. As such, vehicles were storing across the pedestrian crossing. Additionally vehicles were observed to be running red lights on multiple occasions. Buses and trucks were observed to also queue across the crossing, such that pedestrians could not see the pedestrian aspect (green man / red man).

It was also noted that the streets running perpendicular to Hoddle Street, more often than not, had filtered right turn movements. Vehicles were observed to be quite aggressive, often turning right at speed, irrespective of pedestrians and vehicles turning left from the opposing direction.

### 3.9 Capacity – refuge

#### Category: Crossing

Waiting within pedestrian refuges along Hoddle Street is not a comfortable experience, due primarily to the refuge width, vehicle type and speed. This was found to be the case not only at signalised intersections but also at Pedestrian Operated Signals (POS), with split phasing (i.e. separate crossing across the north and southbound carriageway).

Of particular concern is the POS in proximity to the Collingwood Town Hall and Stanton Street. Although a footbridge is provided approximately 130 m north of the crossing (refer 2.8 Access ramps), this POS was observed to be the most popular route to and from Collingwood Station and Collingwood College. It was observed that around school start and end times, school children crowd the refuge whilst completing the staged crossing. It is clear that the capacity of the refuge is not sufficient.

### 3.10 Delay

#### Category: Crossing

Due to long cycle times, signalised intersections were observed to cause the greatest delay to pedestrians across the corridor. This was particularly the case for pedestrians wanting to cross Hoddle Street, as the vast majority of the cycle time is allocated to through traffic and turning movements from Hoddle Street.

As such, pedestrians crossing Hoddle Street were often observed crossing against a red man (jaywalking).

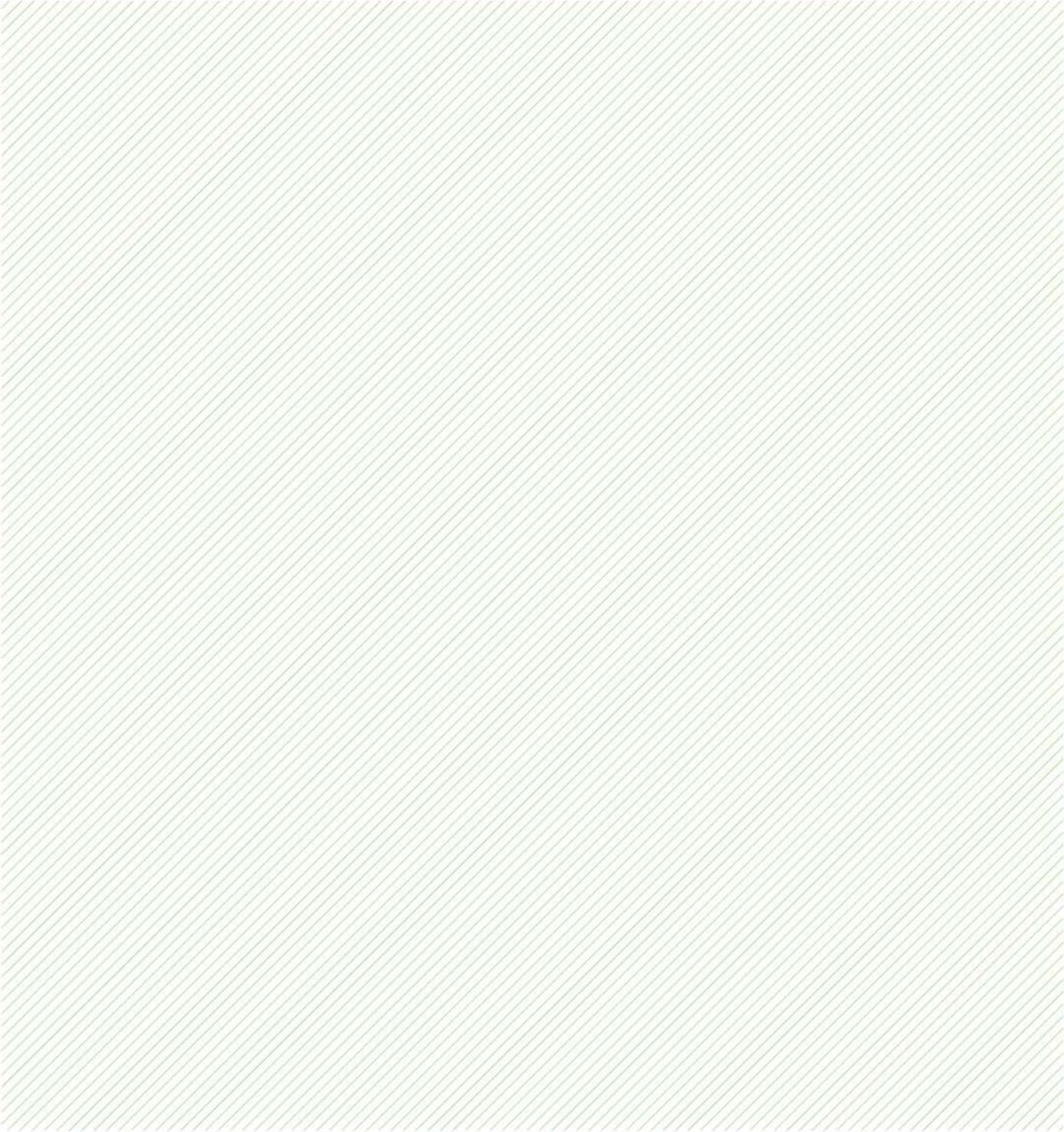
It was also observed that at some intersections, the pedestrian phase was not coordinated with complimentary traffic phases. Pedestrians crossing streets perpendicular to Hoddle Street (i.e. crossing with Hoddle Street flow), may have to wait a full cycle or longer before their signal was activated as the pedestrian button was not pushed.

In addition, the crossing time afforded to pedestrians at signalised intersections across Hoddle Street was relatively short. Elderly and the mobility impaired may find it difficult to cross Hoddle Street within one phase. Although pedestrian refuges were provided, it was found that waiting within them was not a comfortable experience, due to the width, vehicle type and speed along Hoddle Street.



# Appendix A

## Results



## Appendix A

# PUNT ROAD / SWAN STREET / OLYMPIC BOULEVARD OVERALL SCORE



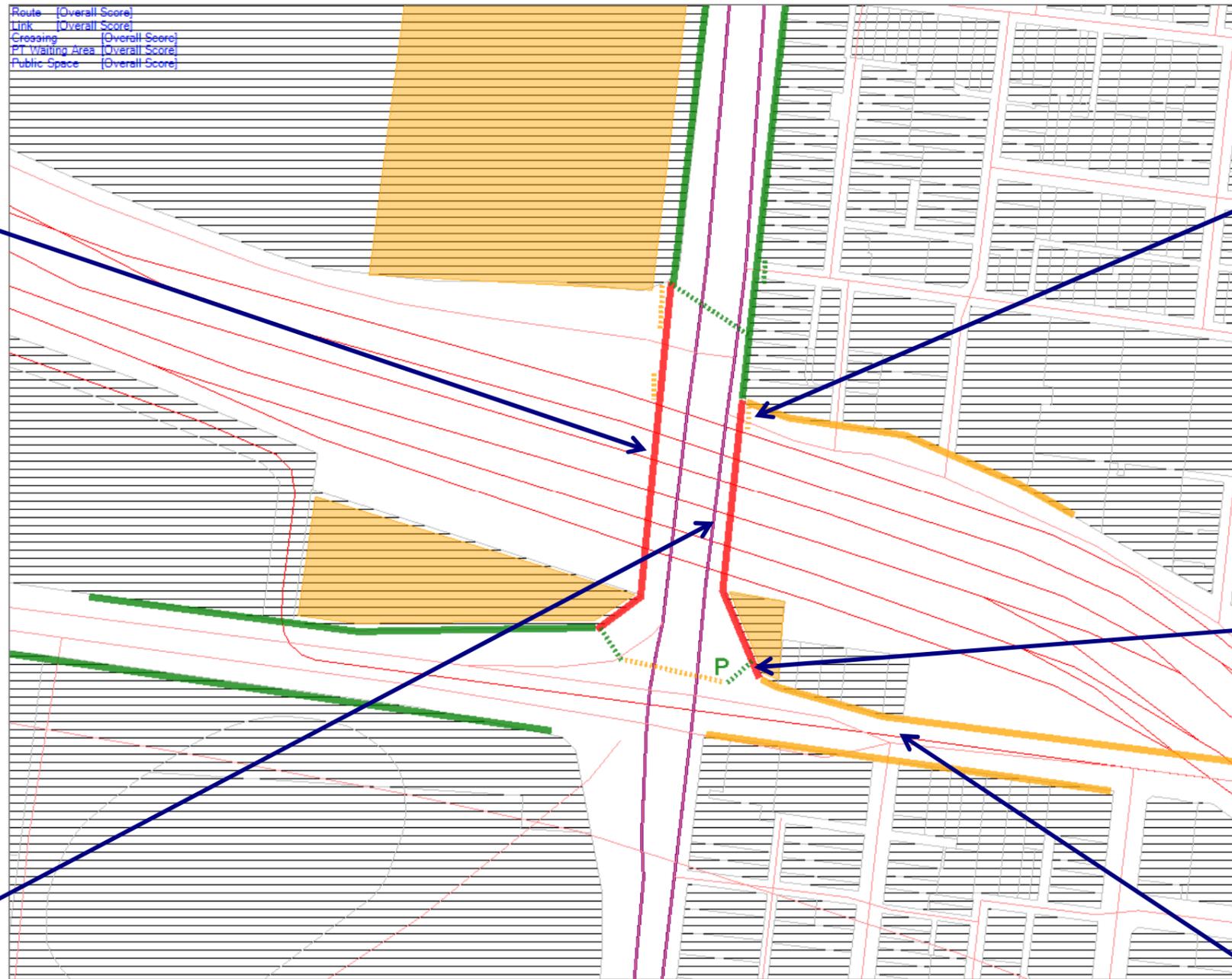
### Tunnel – western side

Pedestrians observed to walk in tunnel along western side. No footpath provided for pedestrian desire line from Olympic Boulevard to Brunton Avenue.



### General tunnel conditions

Conditions within the tunnel are extremely poor. Footpath width appears to be insufficient. Dim lighting and graffiti / posters contribute to the poor conditions.



### Stewart Street / Punt Road intersection

Pedestrians are vulnerable at this crossing as vehicles turn into Stewart Street at speed. No tactile pavement is provided.



### Swan Street / Punt Road intersection

No tactile pavement is provided. Vehicles were observed to queue across zebra crossing. Bus stop is located within traffic island.



### Swan Street

Pedestrians have poor sightlines due to parked cars and path alignment. Minimal lighting is provided.

### LEGEND

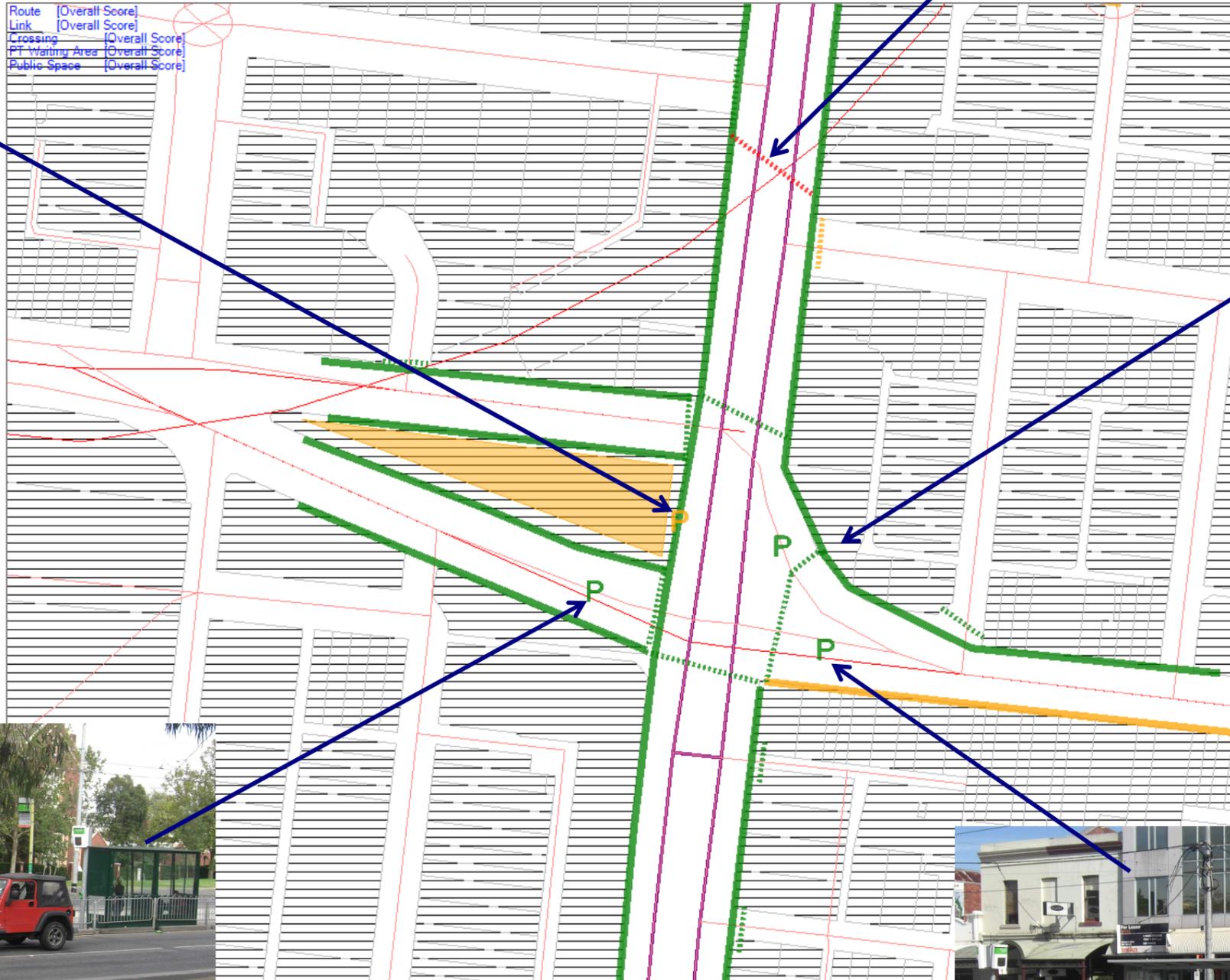


# PUNT ROAD (HODDLE STREET) / WELLINGTON PARADE (BRIDGE ROAD) OVERALL SCORE



### Public transport waiting area

There are no pavement tactiles, shelter and seating provided at this bus stop. A bin is also located in the centre of the footpath



**Informal crossing**  
Refer page 3



### Tactile pavement

Inconsistently coloured and provided. Poorly maintained with debris present.

### Tram stop

Inconsistent with tram stop at the opposite side of Hoddle Street



### Tram stop

Example of the better performing public transport waiting areas, where shelter, seating and real time information is provided



### LEGEND



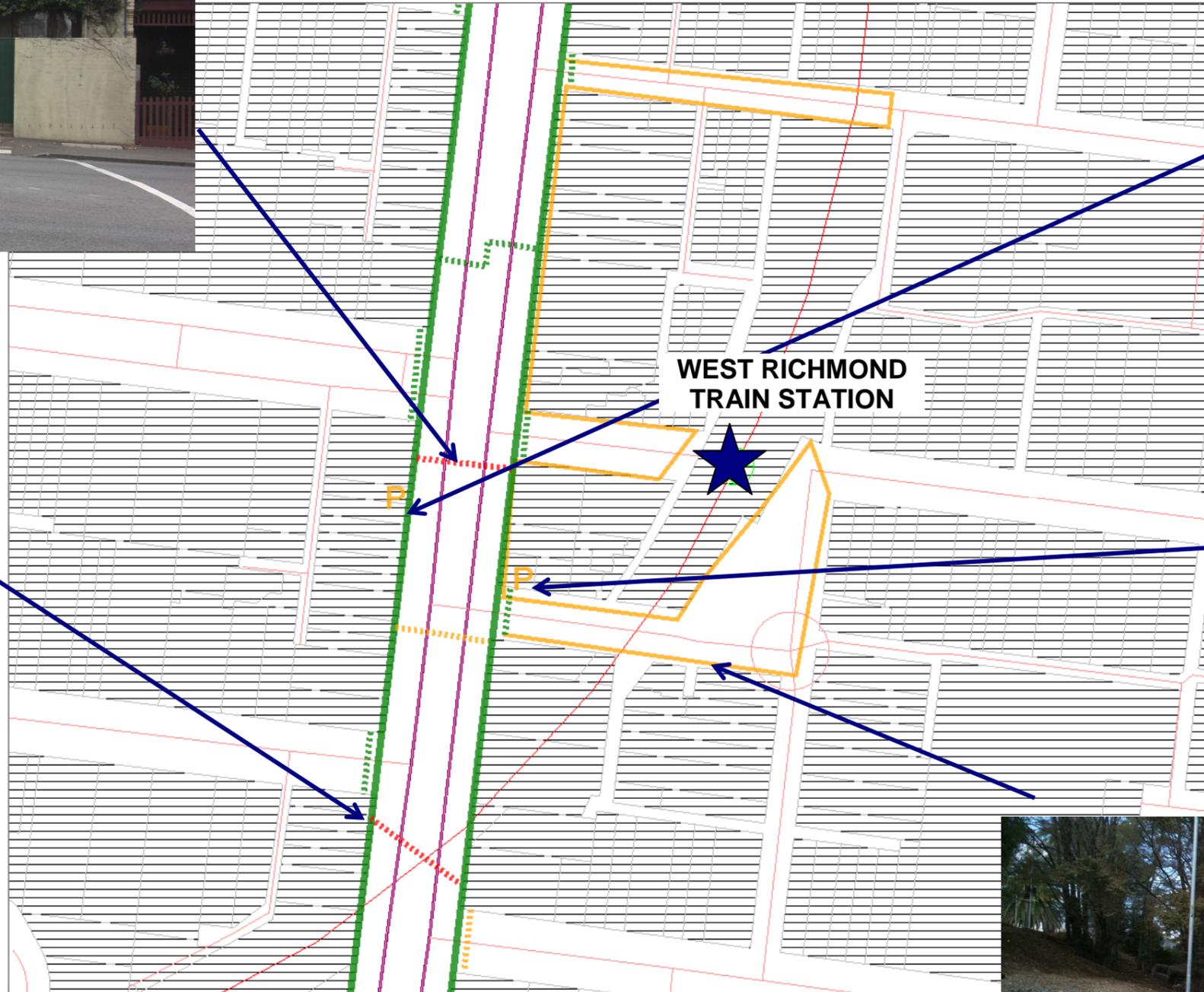
# HODDLE STREET – VICINITY OF WEST RICHMOND TRAIN STATION OVERALL SCORE



**Informal crossing**  
Pedestrian crossing against red man, away from provided crossing path



**Informal crossing**  
Located approximately within 200 m of a signalised crossing on either side. Due to delay and queued traffic, pedestrians (including man with a pram) elect to cross over kerbed median and weave through stationary traffic

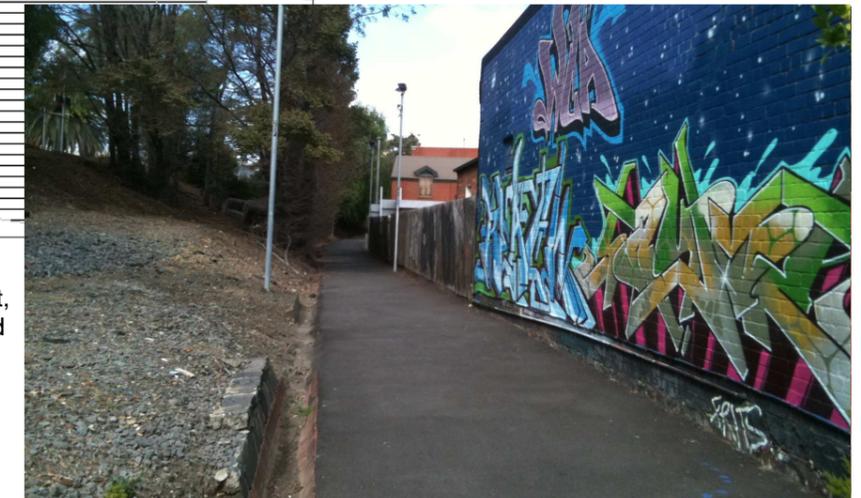


**Public transport waiting area**  
No shelter is provided. Lack of tactile pavement, which leads to confusion where passengers are to be picked up and dropped off



**Public transport waiting area**  
Edge of shelter located close to edge of traffic lane. Pedestrians walking through at this point may feel uncomfortable, due to proximity of fast moving traffic

**Route**  
Poor access to the station. Closed environment, lack of activity with no passive surveillance and minimal lighting



**LEGEND**

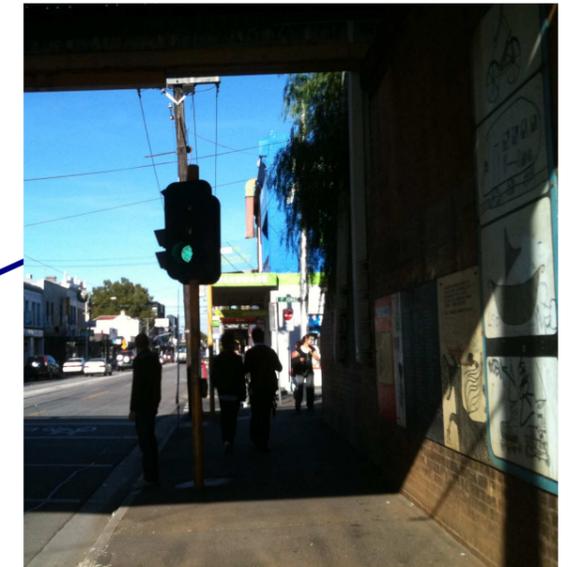


# HODDLE STREET, BETWEEN ALBERT STREET AND VICTORIA PARADE OVERALL SCORE



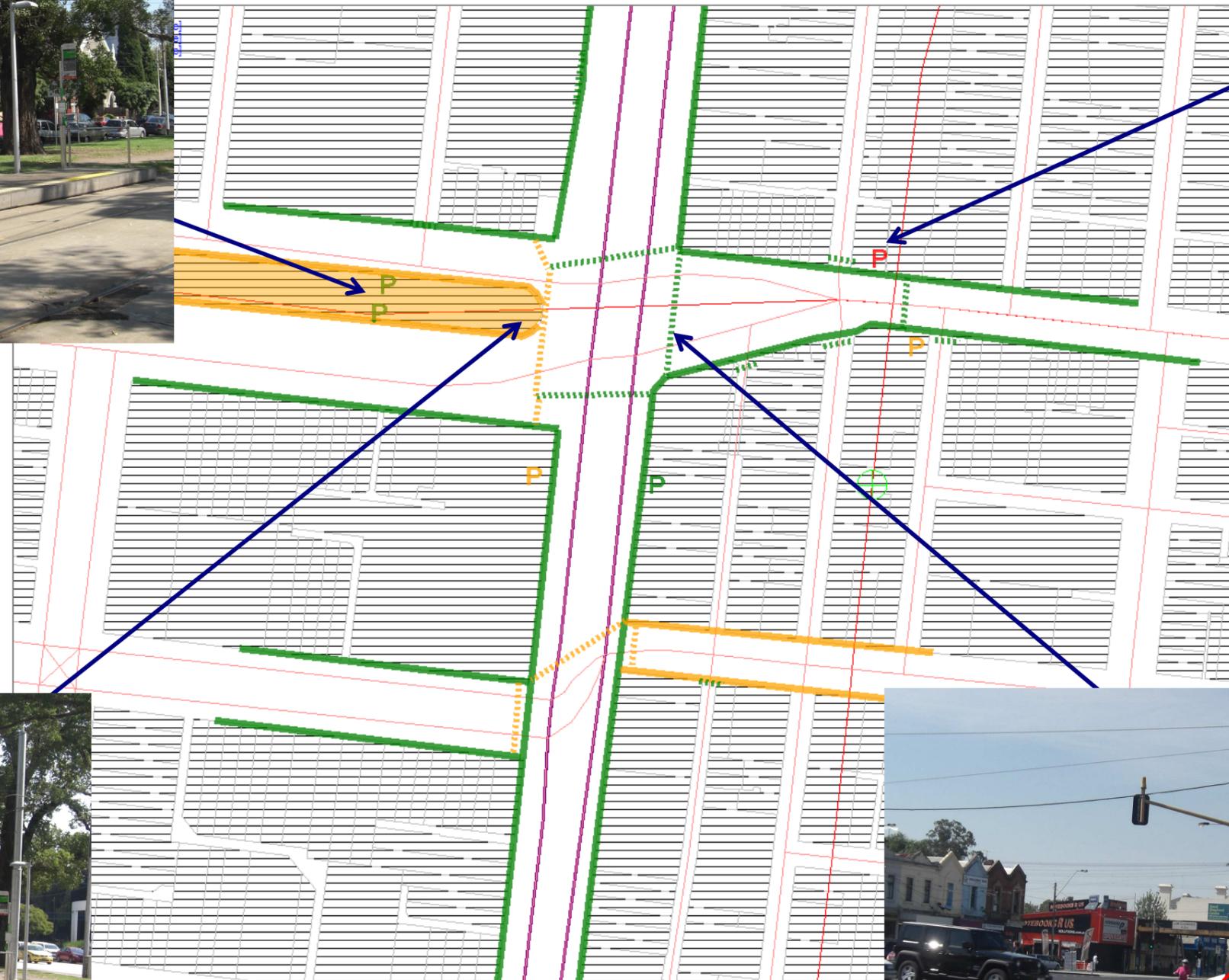
### Tram stops

Shelter, vagrant proof seating, bins and real time information provided at these tram stops



### Tram stop

Poor lighting and heavily graffitied walls provide an uncomfortable public transport waiting area

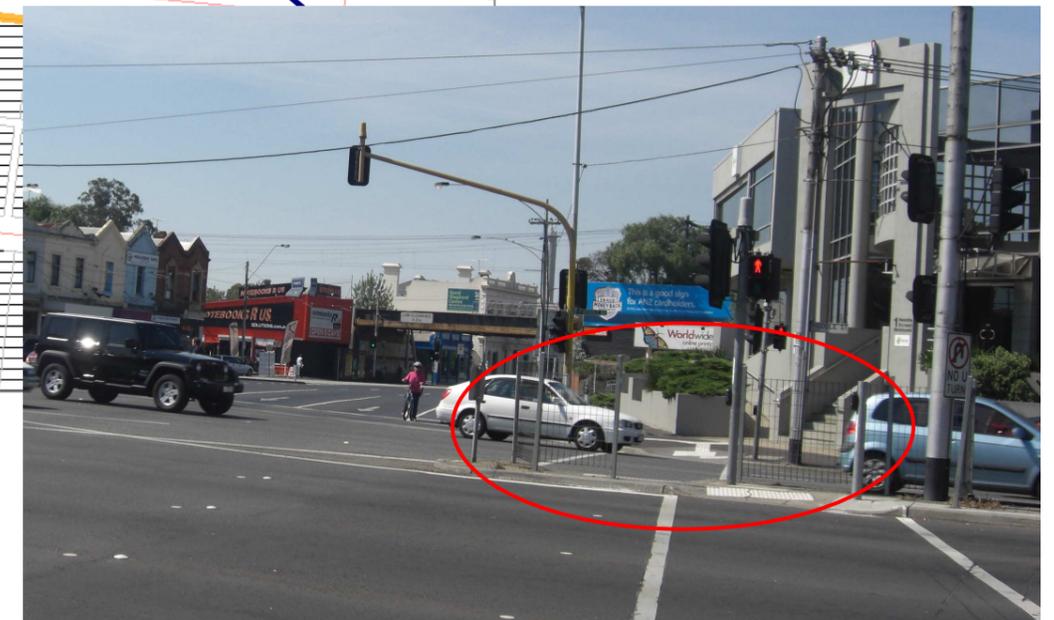


### Delay and crossing time

Due to the width of the median, which includes tram tracks, crossing time across Victoria Parade feels excessive. Poor vehicle behaviour observed on site

### Crossings

Crossings shown to perform generally well. Improvements to pedestrian fencing within the median can be improved. Also crossing across Hoddle Street is not aligned.



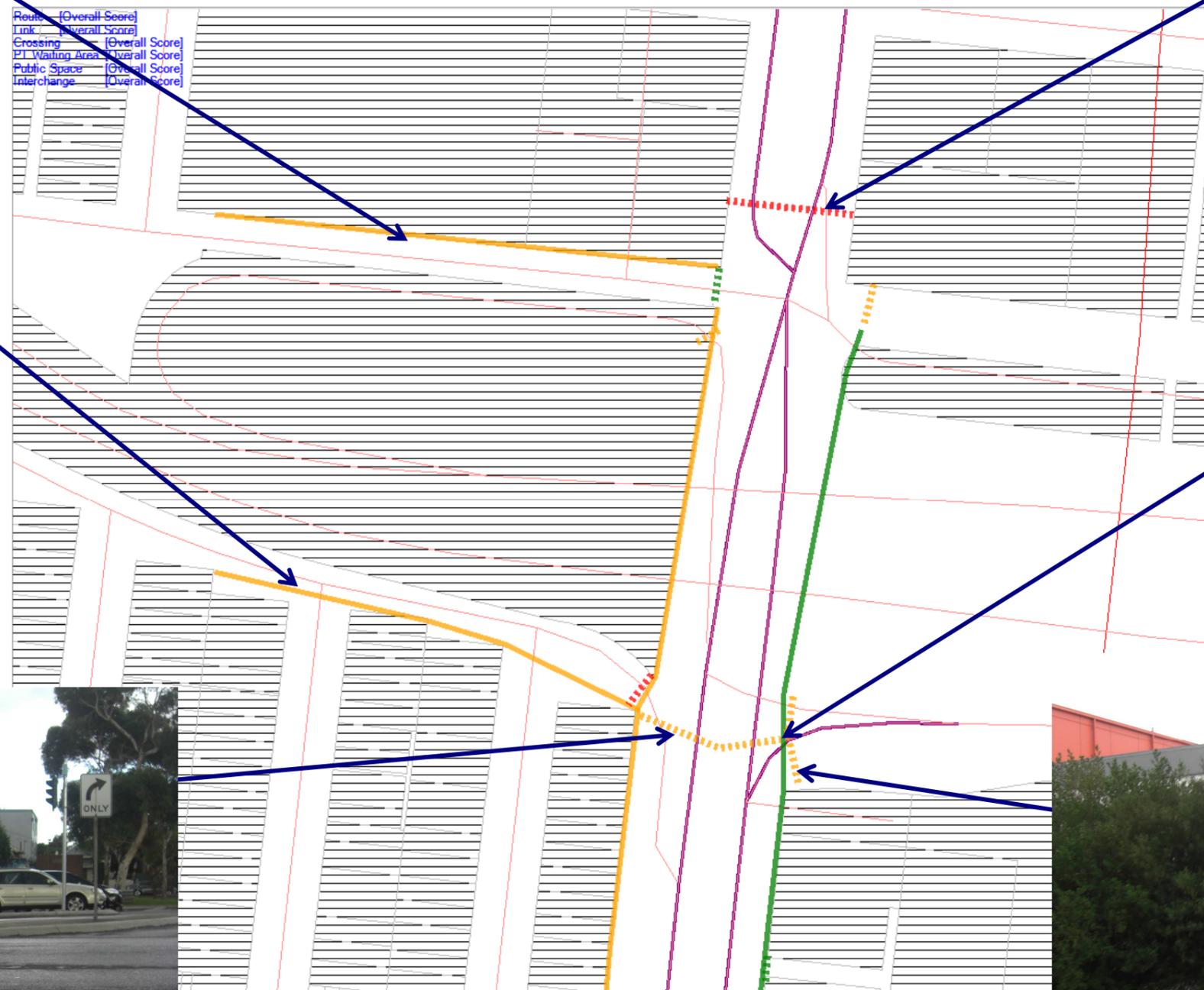
### LEGEND



# HODDLE STREET / EASTERN FREEWAY OVERALL SCORE



**Links**  
Below average pedestrian environment. Appears to be isolated, with inadequate tactile pavement provided



**Informal crossing**  
Pedestrians north of the freeway elect to cross at this location.

**Tactile information**  
Pavement, pulse and audible tactile information is not provided consistently at this intersection



**Obstructions**  
Obstructions located within the median

**Toucan crossing**  
Graffitied signal box, with shrubbery blocking pedestrian views of oncoming traffic. Proximity of bus lane leaves pedestrians feeling vulnerable, as buses observed to hug the road quite closely



# ROUTES VARIOUS SCORES

## PERSONAL SECURITY



## LEGIBILITY



## QUALITY OF ENVIRONMENT



### LEGEND

