

# 4. Project Description and Design Response

## 4.3.2.3 Bus Platforms

Three bus platforms are provided to facilitate in-bound and out-bound bus services.

Each platform will be covered by a canopy to provide shelter and weather protection for passengers. Within the waiting areas, appropriate seating is provided with passenger information displays incorporated to inform waiting passengers of upcoming bus services.

The bus platforms are designed to comply with the *Disability Discrimination Act 1992 (DDA)* and Disability Standards for Accessible Public Transport (DSAPT), including the waiting areas.

Noise walls are provided along the southern half of the Hender Street frontage (adjacent to the bus turnaround) to effectively mitigate operation noise from the new bus accessways and the bus turnaround in accordance with EPR NV6. The proposed location of the noise walls is designed to align with the eastern wall of the passenger services building, noting that the passenger services building also provides noise mitigation from the bus platforms.

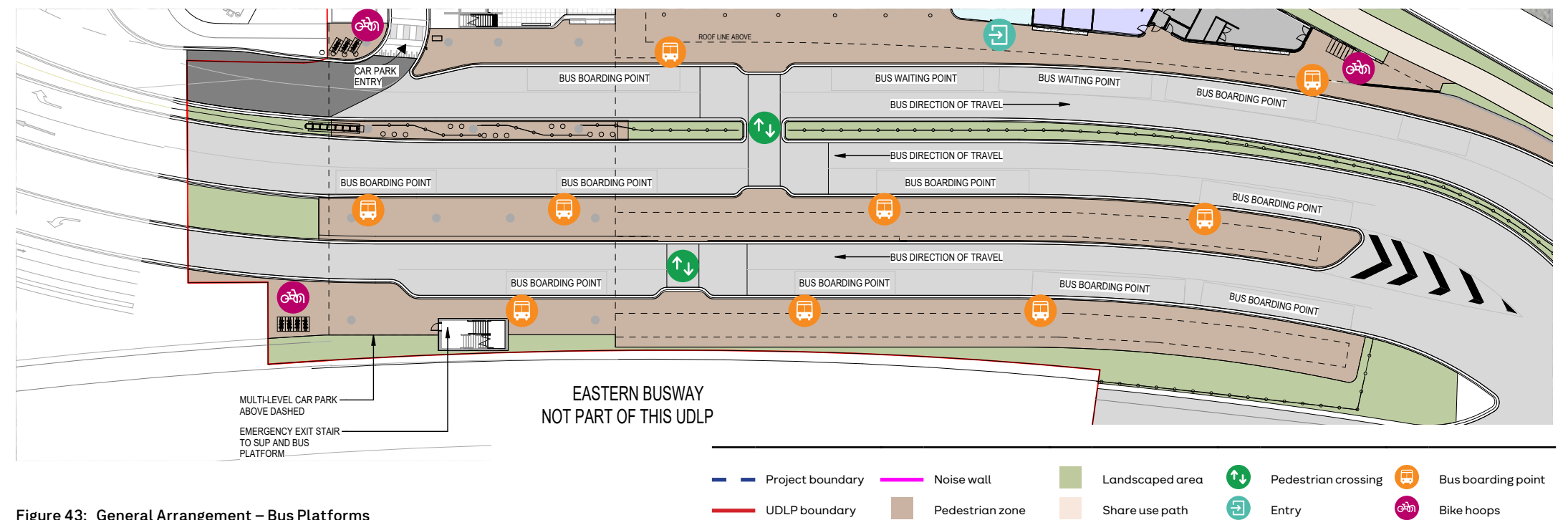


Figure 43: General Arrangement – Bus Platforms

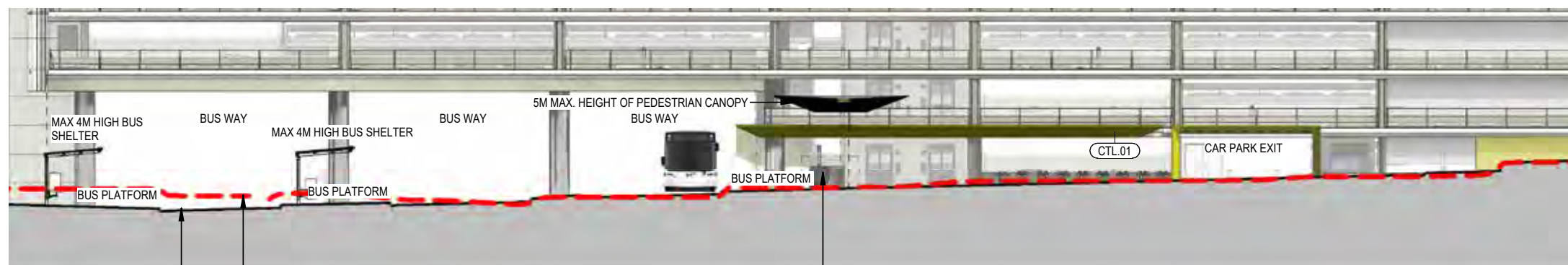


Figure 44: Typical Section – Bus Interchange

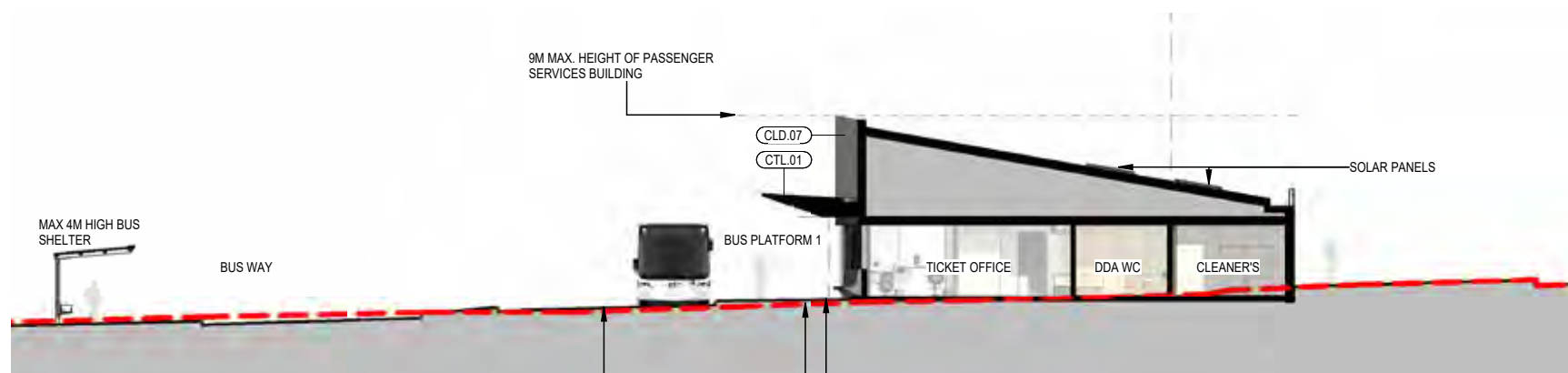
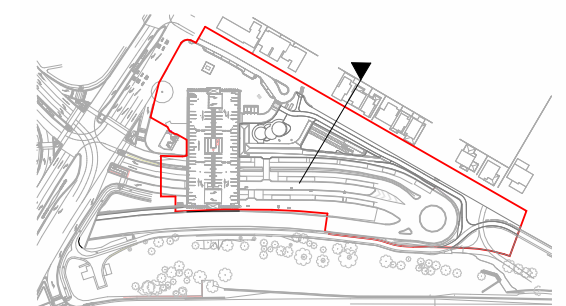
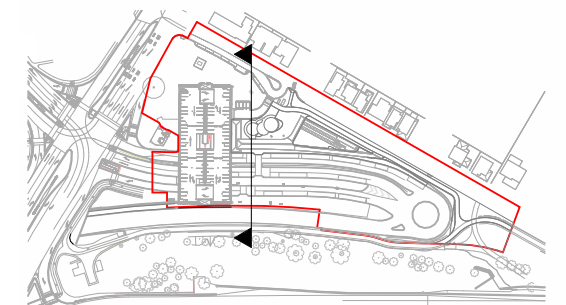


Figure 45: Typical Section – Passenger Services Building





# 4. Project Description and Design Response

## 4.3.3 Landscape Design and Open Space

### 4.3.3.1 Overview

The design seeks to create a sustainable outcome through the establishment of contemporary buildings that are nested within a predominantly native Australian landscape. Driven by this notion, the landscape design demonstrates integration with the surrounding area (while setting it apart from the built environment) through inviting open space and appropriate planting selection.

Existing and future landscaping characters of the surrounds are mostly influenced by the Eastern Freeway Upgrades – Burke Road to Tram Road UDLP due to the close proximity. A contemporary landscape theme is, therefore, adopted to complement new buildings at the upgraded park and ride while making a positive contribution to the Freeway corridor through incorporation of indigenous and native vegetation.

Key components of landscape design in this UDLP include:

- forecourt
- landscape design to Doncaster Road and Hender Street
- retention of a locally significant English oak tree within the Doncaster Road setback
- water sensitive urban design
- planting selections.



Figure 46: Site Plan – Landscape Design



Figure 47: Forecourt and Bus Boarding Area



## 4. Project Description and Design Response

### 4.3.3.2 Forecourt

The landscape design responds to level changes within and beyond the park and ride and features a forecourt with a split level situated between the multi-level car park and the passenger services building. The design follows the existing site contours and has transformed the space into a useful, functional, and interesting open space featuring:

- direct pedestrian access via Hender Street, creating an inviting atmosphere
- provision of garden beds and tree planting to add colour and visual interest
- inclusion of seating opportunities around the garden beds that are merged into the landscaped background, offering an experience to pause and rest
- provision of passive surveillance between new buildings and within open spaces
- improved pedestrian connectivity within and around the park and ride
- provision of amenities, including a bicycle repair station and drinking fountain
- incorporation of lighting to facilitate the function of the park and ride, improve safety and amenity without adversely impacting on adjacent residential properties.

The forecourt establishes a linkage between user experience and the park and ride through landscape design and connections to pedestrian friendly paths. It creates an adaptable open space with a unique sense of place.



Figure 48: Landscape Design – Forecourt

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## 4.3.3.3 Landscape Design to Doncaster Road and Hender Street

The landscape design within the setbacks of Doncaster Road and Hender Street further expands the notion of the forecourt and transforms the existing at grade car park into an inviting and accessible landscape.

In framing this approach, this UDLP demonstrates that the landscape design:

- preserves the locally significant English oak tree (estimated to be between 100-150 years old) within the Doncaster Road setback
- supports the new buildings at a human scale, which is achieved through planting mixes at street frontages and landscape treatments at building entries
- creates added amenity and value for nearby residential properties, adjacent streetscapes and the adjacent Koonung Creek Corridor by providing landscape between the buildings, within the street setbacks and along the street frontages, which in turn create new pedestrian networks and plantings with an appreciable degree of visibility at street level
- maximises tree canopy cover where possible
- unifies new buildings with landscaping and vegetation that are native and indigenous to the area
- creates a landscape made from simple materials, appropriate planting species and bold forms (such as through the material and finishes of paving and garden beds) that can be managed and maintained with ease.

The landscape design has considered the Hender Street streetscapes and the Drop and Go zone and incorporated key design elements as follows:

- retention of existing trees on the east side of Hender Street, which provides visual relief between the Drop and Go zone and residential properties
- incorporation of planting at the traffic island located towards the southern end of the Drop and Go zone, adjacent to the intersection at Finlayson Street
- provision of canopy trees and low ground planting within the Hender Street setback, particularly along the shared use path at this location, to screen views of the multi-level car park and complement the streetscapes.

Overall, the design surrounding the new buildings and within the street setbacks creates high quality landscape enhancing the amenity of the park and ride.



Figure 49: Long Section 01

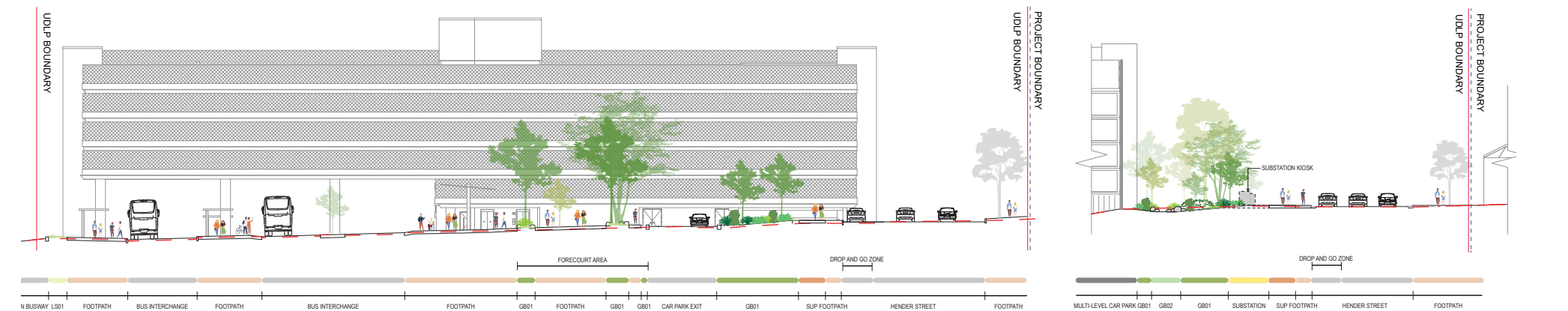


Figure 50: Long Sections 02 and 03



## 4. Project Description and Design Response

### 4.3.3.4 Water Sensitive Urban Design (WSUD)

Water sensitive urban design (WSUD) is an integral design approach to improve the landscape character of the site. The project provides for a series of new WSUD treatments that have been carefully integrated with new buildings and landscape design as sustainability initiatives in this UDLF.

Key features of the WSUD treatments include:

- provision of a bioretention area
- provision of harvesting and re-use of rainwater by way of rainwater tanks.

### 4.3.3.5 Planting selection

The design incorporates planting palettes heavily drawn from the Ecological Vegetation Classes (EVCs) and species commonly seen in this area. The selection approach will positively respond to and integrate with the ecological and biodiverse character of Koonung Creek Corridor and the built character of the area.

The planting selection has also considered appropriate planting density and types to maximise sightlines at key locations, such as at the entry and exit via Hender Street, the forecourt, and the shared use path along Koonung Creek Corridor. For example, the design opts for high canopy trees instead of very low ground cover planting and avoids medium dense planting that may have the potential to obstruct sightlines. Where sightlines are not of concern, planting densities remain appropriate for the level of visual screening required to mitigate visual impacts from built components. The final selection of species and landscape buffers will be resolved through the detailed design phase in consultation with key stakeholders (such as councils and the Department of Transport and Planning), to ensure plantings are fit for purpose, easily maintained, and reflective of design aspirations for an open, inviting, and welcoming public space.

Tree plans are provided in Figure 51 and Figure 52, showing the extent of green canopy across the park and ride. For details of the planting schedules, refer to the plans (NEL-STH-NSA-5700-ULS-DRG-0311 and 3011) in Attachment 2: Landscape Design.



Figure 51: Tree Removal Plan



Figure 52: Proposed Tree Plan



## 4. Project Description and Design Response

### 4.4 Key Considerations

#### 4.4.1 Drop and Go Zone

##### 4.4.1.1 Traffic and Transport

Changes to local traffic movements are expected as a result of the changed access for cars (which allows one-way southbound traffic at the intersection of Finlayson Street), inclusion of the Drop and Go zone and the multi-level car park exit incorporated via Hender Street.

Hender Street is a local access road providing access to and from residential properties along Hender Street, Finlayson Street, Gray Street and McLeod Street.

It is necessary to restrict movements along Hender Street to one-way only in the southbound direction to enable safer and a more efficient operation for cars exiting the multi-level car park and using the Drop and Go zone. This arrangement will result in some changes to local traffic movements. A key change is that local traffic from Finlayson Street, Gray Street and McLeod Street cannot exit Hender Street at the intersection with Doncaster Road and will need to exit to Doncaster Road via Harcourt Street or Pettys Lane.

Existing traffic movements at the Doncaster Road and Hender Street intersection have been investigated to understand the likely traffic impacts as a result of the changed access conditions proposed on Hender Street. Based on the existing traffic movements, dominant flows on Hender Street include cars turning left into Doncaster Road and/or turning right from Doncaster Road onto Hender Street; few cars take a right turn to Doncaster Road or a left turn from Doncaster Road onto Hender Street. The dominant traffic flows at the Hender Street intersection are depicted in Figure 53.

Based on the existing and expected traffic movements, the likely traffic impacts from the changed access on Hender Street, inclusion of the Drop and Go zone and car park exit arrangement via Hender Street are summarised as follows:

#### Altered traffic movements on Hender Street

Traffic impacts are restricted to a local catchment bound by Hender Street, Doncaster Road, McLeod Street, Harcourt Street (the nearest local street allowing left turns onto Doncaster Road) and Pettys Lane (the nearest intersection with traffic lights allowing full movements onto Doncaster Road).

As the dominant existing flows turning onto Doncaster Road from Hender Street are left-out, only the properties west of Harcourt Street may be inconvenienced by the reconfigured access on Hender Street. Local traffic within this catchment wishing to travel westbound on Doncaster Road will need to navigate the local area to Harcourt Street, where existing access to Doncaster Road is provided. This results in an increased travel time of up to 80 seconds during peak periods compared with the existing local road configuration. The increase in travel time for traffic movements originating closer to Harcourt Street will be less than 80 seconds, noting the distance to the Doncaster Road access is less.

For properties on Harcourt Street or to the east, it is unlikely that Hender Street would be used, as the ability to turn left onto Doncaster Road will remain at Harcourt Street and Pettys Lane (approximately 230 metres to the east of Harcourt Street).

Within the local catchment as identified, the existing low volume of traffic turning right from Hender Street onto Doncaster Road indicates that any traffic originating from this area wishing to travel eastbound on Doncaster Road is already utilising the traffic signals at Pettys Lane to make this movement. The changed access conditions on Hender Street, therefore, will have limited impacts to this movement and the existing local network.

For cars entering onto Hender Street from Doncaster Road, as one-way southbound access remains permissible on Hender Street, these movements will not be affected.

Car movements for the residential properties that are on Hender Street and have a direct interface with the Drop and Go zone are largely retained. Residents exiting their driveway to access Doncaster Road can either turn right onto Hender Street or turn left and navigate through the traffic island within the Drop and Go zone to head back towards Doncaster Road.

Pedestrians and cyclists will not be impacted by changed access at Hender Street as the connectivity provided by shared use paths via local streets remains unchanged.

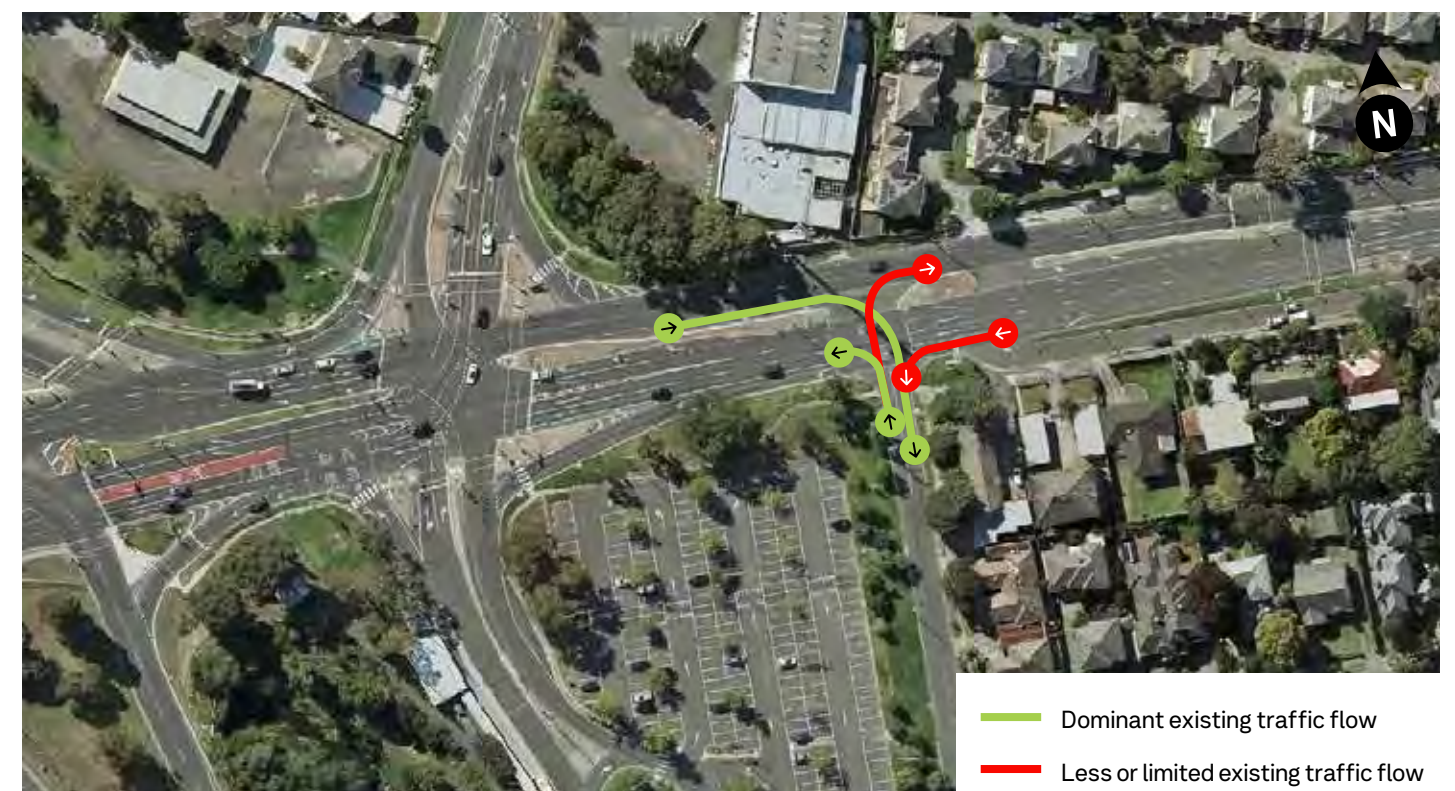


Figure 53: Traffic Flows – Hender Street Intersection

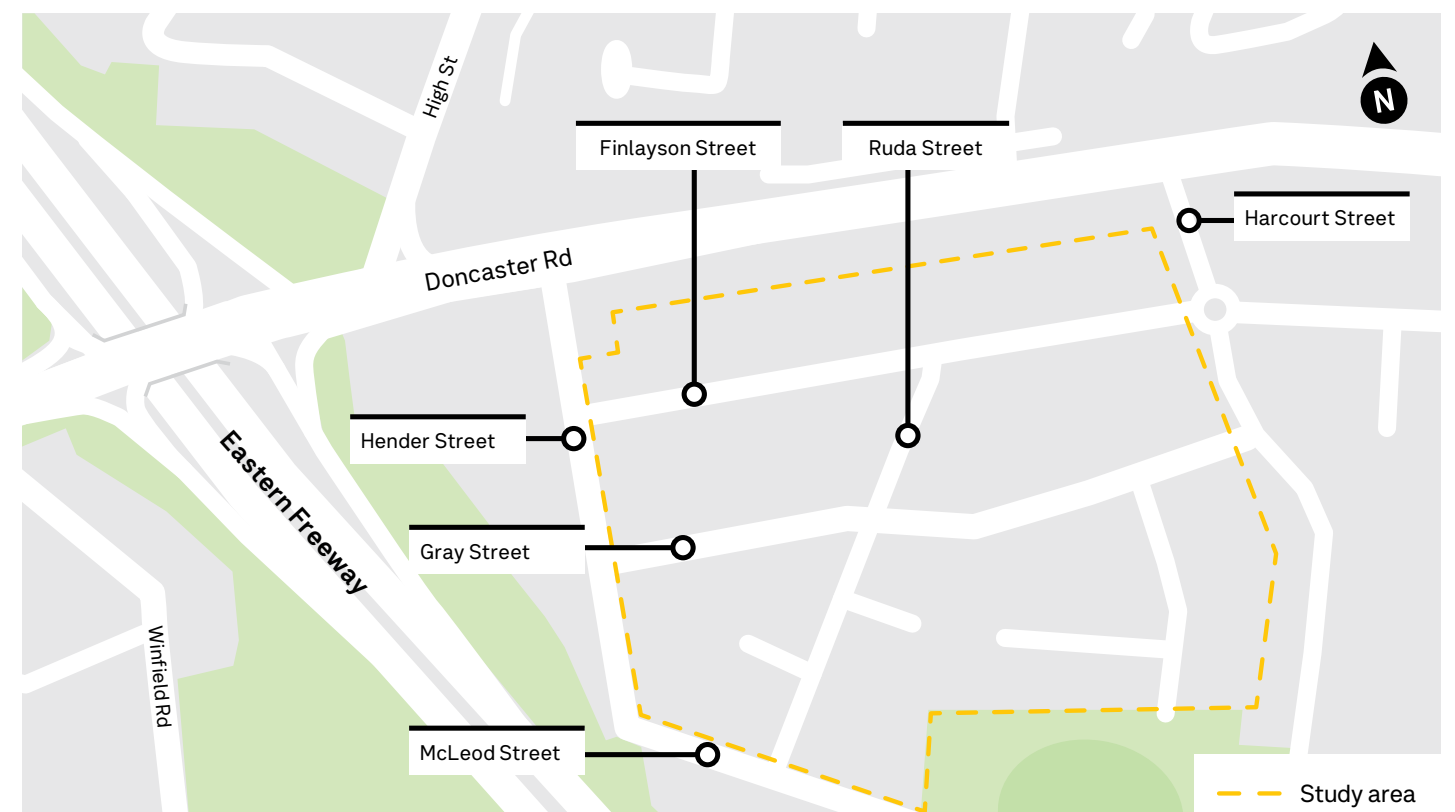


Figure 54: Traffic Impacts – Local Catchment Analysis



# 4. Project Description and Design Response

## Car park exit and Drop and Go zone on Hender Street

The number of parking spaces within the multi-level car park, and typical all day parking usage, will limit traffic volumes using the car park exit on Hender Street between Doncaster Road and Finlayson Street.

Most car park users are anticipated to leave the park and ride in the late afternoon and early evening between 3pm to 8pm, with approximately half of the multi-level car park users exiting during the peak period from 5pm to 7pm. Minimal car park users are expected to exit the car park on Hender Street during the morning peak.

Vehicle activity for the Drop and Go zone is also expected to be concentrated during the morning and late afternoon/early evening peak periods, with lower levels of use throughout the remainder of the day. The number of cars using the Drop and Go zone throughout the day is not expected to exceed the total number of cars using Hender Street to access surrounding local streets. Local southbound traffic is expected to remain the dominant source of traffic on Hender Street, with the new local access configurations (one-way at the corner of Hender Street and Finlayson Street) removing northbound traffic from the broader catchment.

Car movements on Hender Street are supported by lower traffic speeds and traffic calming measures, including the provision of a traffic island and a pedestrian crossing, with a road configuration that is consistent with design principles for local access roads. This includes balancing and supporting the needs of all users including pedestrians and cyclists, safe property access and an appropriate number and width of lanes.

The new traffic signals\* at the intersection of Hender Street and Doncaster Road will ensure safe and efficient traffic movements for park and ride users and local residents.

## 4.4.1.2 Noise

### Existing noise context

The park and ride is located in an area comprising diverse land uses, where the existing noise environment is characterised by:

- substantial and continuous traffic movements along the Eastern Freeway and Doncaster Road, forming part of the principal road network
- the existing operation of the park and ride, including slow moving and idling bus activity with higher levels of activity during the morning and afternoon peak times and lesser activity during off-peak times
- the existing car park, which accommodates approximately 400 spaces at grade across the entire site, including spaces along the Hender Street frontage
- existing local traffic movements on Hender Street, which is a local access road controlled with a speed limit of 50 km/h and a ‘give way’ sign at the intersection at Doncaster Road
- residential properties, including single dwellings and multi-dwelling developments and associated traffic movements within driveways and adjacent local roads
- educational and commercial land uses at the intersection of Doncaster Road and High Street and on the northern side of Doncaster Road.

The nearest sensitive noise receptors are the residential properties on the eastern side of Hender Street, directly opposite the park and ride.

## Noise Impacts at Hender Street

The reconfigured access arrangement on Hender Street, north of Finlayson Street will result in changes to traffic movements.

Having considered the design of the Drop and Go zone, the multi-level car park exit and associated car movements on Hender Street, potential noise impacts arising from these changes are summarised as follows:

- Noise from individual cars in the multi-level car park is expected to be reduced, as the parking spaces are shifted from an open at-grade car park to a partially enclosed multi-level building that is angled obliquely away from the Hender Street frontage.
- Noise associated with cars exiting the multi-level car park is managed via traffic controls (such as signage and the road configuration) on Hender Street, enabling cars to exit directly towards the Doncaster Road intersection. This ensures any noise from traffic movements will be confined to part of Hender Street (between Doncaster Road and Finlayson Street), where existing noise levels are already dominated by heavy traffic movements on Doncaster Road, especially during peak times. As the introduction of a controlled environment for cars exiting the multi-level car park will give rise to lower travel speeds, noise emission from individual cars will be reduced compared with existing higher travel speeds along Hender Street.

- Potential noise impacts from cars using the Drop and Go zone is managed via traffic controls, including:
  - a lower speed applicable to cars moving along Hender Street and through the Drop and Go zone, resulting in reduced noise emissions per car
  - locating all parking bays on the western side of Hender Street, adjacent to the multi-level car park, preventing cars from stopping directly outside residential properties and ensuring cars exit directly onto Doncaster Road.
- As the noise environment will continue to be dominated by existing traffic noise from Doncaster Road, the expected noise associated with traffic on Hender Street (north of Finlayson Street) will have a negligible impact to the overall noise levels that are already experienced in this area. As such, the potential noise impacts on Hender Street (including the adjacent residential properties) will not be unreasonably increased.

Potential noise impacts related to the changes to Hender Street (including the Drop and Go zone) have been considered in the overall noise assessment for the park and ride. The acoustic reports will be further developed and finalised as part of design development to confirm that the park and ride (including the Drop and Go zone) will not result in unreasonable noise impacts to adjacent residential properties and the surrounds. Noise mitigation measures will be detailed in the acoustic reports if required and as appropriate.

\* The traffic signals at the intersection of Hender Street and Doncaster Road will be delivered in the Eastern Freeway Upgrades – Burke Road to Tram Road UDLP.

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Artist impression – indicative only

### 4.4.1.3 Safety and Amenity

The design of the Drop and Go zone on Hender Street has considered the potential for impacts to nearby residential properties and adopts a number of design solutions to ensure the safety and amenity of residents and site users.

#### Crime Prevention Through Environmental Design (CPTED)

A detailed assessment is provided in Section 5 of the report, in response to Principle 7 of the Urban Design Strategy. Specifically in relation to the Drop and Go zone, key considerations are outlined below.

The design of the Drop and Go zone considers and responds to the four key principles of CPTED, which include natural surveillance, access control, territorial reinforcement and space management. Incorporating these key principles of CPTED into the design ensures the creation of a safe and functional environment that promotes activity, vibrancy, and usability, enabling a greater level of security. These principles also assist in discouraging opportunities for anti-social behaviour and improving perceptions of public safety.

The following responses to each of the four key principles are noted within the design response for the Drop and Go zone.

#### Natural surveillance

The Drop and Go zone is located in an area of high activity at the corner of Doncaster Road and Hender Street, adjacent to residential properties with windows fronting the street.

The layout of the Drop and Go zone ensures clear lines of sight and avoids the creation of obscured or unsafe spaces.

Points of pedestrian entrance into the park and ride from the Drop and Go zone are clearly visible from the street and are easily identifiable to users.

The Drop and Go zone will include effective lighting that minimises unreasonable glare or dark shadows and ensures appropriate levels of visibility at night. Lighting will be located and designed to avoid unreasonable spillage onto nearby homes, to prevent nuisance and maintain opportunities for natural surveillance. The final design and locations will comply with relevant standards and be confirmed during design development in consultation with ultimate land and asset owner.

An appropriate landscape design is adopted adjacent to the Drop and Go zone to maintain opportunities for natural surveillance and avoid the creation of locations that provide a place to hide or entrap.

#### Access control

Clearly delineated pedestrian paths and crossing points are provided within the Drop and Go zone, allowing safe circulation of pedestrians into the park and ride and surrounding streets.

Car spaces and movements within the Drop and Go zone will be clearly identified by signage to prevent unintended access and regulate the use of these areas for temporary pick-up and drop-off activities.

Where possible, landscape planting is used as barriers to deter inappropriate access in place of solid structures, including around the exit ramp to the multi-level car park.

Changes to traffic access in the northern section of Hender Street prevent cars from the Drop and Go zone and those exiting the multi-level car park from accessing local streets such as Finlayson Street and causing congestion.

The upgraded park and ride will be subject to CCTV monitoring to discourage anti-social behaviour and increase perceptions of personal safety. The final design and locations of CCTV cameras will comply with relevant standards and be confirmed during design development in consultation with ultimate land and asset owner.

As a minimum, the upgraded park and ride and new Drop and Go zone will maintain the existing hours of operation associated with the current park and ride to ensure service consistency for passengers and surrounding residents. The final operation hours will be determined by the bus service provider and ultimate land and asset owner and will be based on the bus timetable post-opening of the upgraded park and ride.

#### Territorial reinforcement

A combination of landscaping, bollards and other street furniture will be employed in and around the Drop and Go zone to clearly define pedestrian spaces, create a sense of ownership and discourage inappropriate use.

A combination of distinct surface finishes and landscaping will be implemented in the final design of the Drop and Go zone to provide distinct transitions and boundaries between the public and private areas.

The final design and location of the above elements will be resolved during design development in consultation with the ultimate land and asset owner.

#### Space management

An appropriate landscaping scheme is incorporated in and around the Drop and Go zone to create an attractive and well-maintained environment that is inviting to users and nearby residents.

The Project prioritises use of materials and finishes in and around the Drop and Go zone that discourage opportunities for vandalism through texture, perforations, incorporation of landscaping and graffiti-resistant coatings. The final design and application of these elements will be resolved during design development in consultation with the ultimate land and asset owner.



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### 4.4.2 Overshadowing and overlooking

A detailed assessment is provided in Section 6 of the report, against EPR LP4. Key design considerations are also outlined below.

#### Overshadowing

The Project will not result in any additional shadow onto existing secluded private open spaces of residential properties in the surrounding context between the hours of 9am to 3pm on 22 September. Refer to Attachment 4: Urban Design Overshadowing Assessment for overshadowing details.

#### Overlooking

The Project interfaces with residential properties on Hender Street and part of Doncaster Road.

With consideration of residential properties on Hender Street, any direct views from the multi-level car park, especially within a distance of 15 metres as noted under the EPR LP4, will be cast onto the Hender Street roadway and will not have any adverse impacts onto existing secluded private open spaces and habitable room windows in this interface (noting that the shortest distance between the multi-level car park and existing windows exceeds 30 metres).

With regard to the passenger services building, the only visually permeable design component with views out to Hender Street is associated with the Parkiteer, as shown on the Hender Street elevation. However, these elements are at ground level and distanced more than 15 metres from the habitable room windows and existing secluded private open spaces to the east. Overlooking into secluded private open spaces and existing habitable room windows, therefore, is minimised.

With consideration of residential properties on Doncaster Road, the nearest properties are located on the north side of Doncaster Road, approximately 60 metres from the multi-level car park; given the distance, the Project will not result in any unreasonable overlooking.

Refer to the plan (NEL-STH-NSA-5700-BAR-DRG-U4000) in Attachment 1: Architecture and Urban Design for overlooking details.

### 4.4.3 Other Considerations

Other consideration relevant to operational impacts are detailed in the assessment against the EPRs provided in Section 6 of this Report.



Figure 55: Doncaster Park and Ride – View from southern end of site showing bus platform area, passenger services building and Hender Street