

VicTrack

## Hampton Station Precinct: Future Use Study

### Phase 2: Transport Study Report

02

Issue | 18 October 2013

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It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 231764-00

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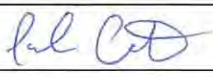



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# ARUP

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# 1 Introduction

VicTrack is working with key stakeholders Public Transport Victoria (PTV), Department of Transport, Planning and Local Infrastructure (DTPLI), VicRoads and Bayside City Council to investigate the optimal future use of parcels of land in the Hampton Station Precinct. As part of this process Arup has been engaged by VicTrack to identify the land that will be associated with future transport requirements to thereby establish the remaining envelope for potential future development.

VicTrack is a significant landholder in the Hampton Station precinct which includes land located adjacent to the station and rail reservation. In addition, there is a significant parcel of Department of Human Services (DHS) land located on the northern side of the rail corridor. Figure 1 highlights the areas of VicTrack and DHS land located adjacent to the rail corridor and the areas that are being investigated as part of this study.

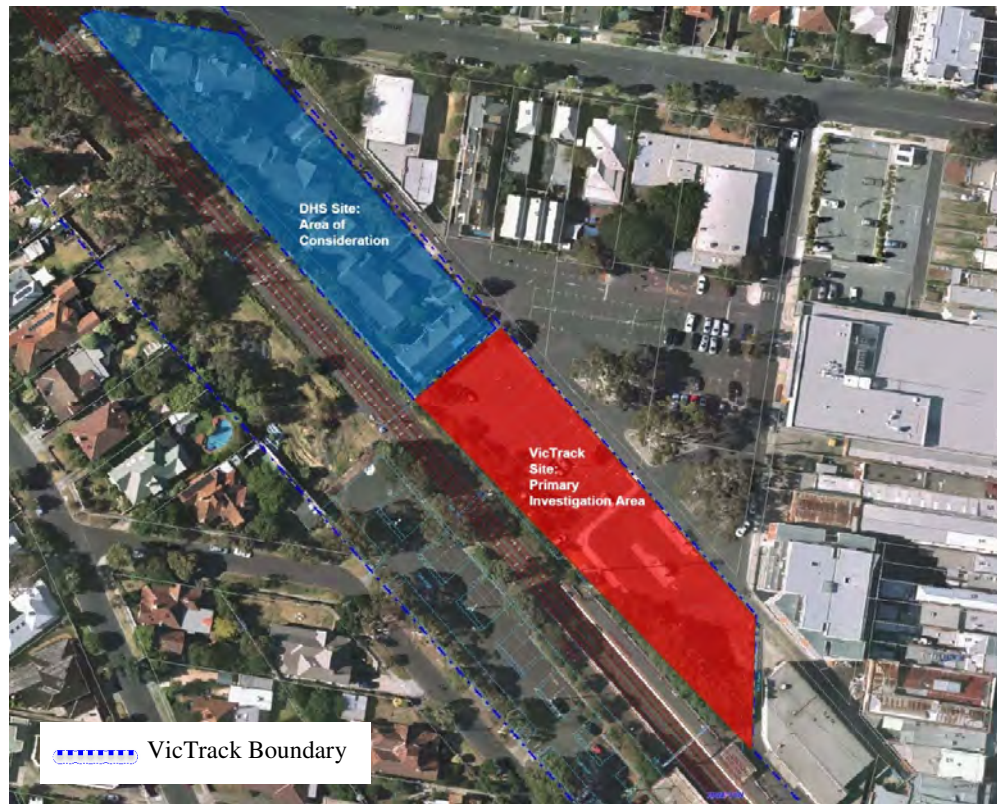


Figure 1: VicTrack owned land potentially available for development

The overall study is being guided by a Transport Working Group which includes members of VicRoads, PTV, DTPLI as well as VicTrack. This group has provided comment and steering at critical stages of the study to aid in the project delivery.

Phase 1 of this study involved the investigation of future potential grade separation options for Hampton Street and how they may impact on land in the station precinct. The outcome of this study is outlined in the report *Hampton Station Precinct: Future Use Study, Phase 1: Grade Separation Report* dated 25 September 2013 which outlines that Option 1 – Rail under Road should be the preferred option for future proofing for any potential grade separation of Hampton Street.

Phase 2 of the study involves further investigation of the future transport interchange arrangements and spatial requirements. Accordingly, the two reports prepared as part of this study are listed below.

- Phase 1: Grade Separation report (referenced above).
- Phase 2: Transport Study report.

This report documents Phase 2 of the project; detailing the existing conditions, spatial requirements to be considered, the development of six transport interchange options, the outcomes of a stakeholder workshop and the identification of a two preferred options based on a multi-criteria assessment. The contents of the report are described below.

- Existing conditions in the vicinity of Hampton Station (Section 2).
- Key spatial requirements for the precinct incorporating the transport functional requirements outlined by PTV (Section 3).
- Development of six transport interchange options, consultation undertaken and the assessment of the options (Section 4).
- Concept layouts of two preferred options (Section 5).
- Summary and conclusion of the study (Section 6).



## 2 Existing Conditions

### 2.1 Site Context

Hampton Station is located between Brighton Beach and Sandringham Stations on the Sandringham Railway Line, approximately 15km from the Melbourne CBD within the City of Bayside as shown in Figure 2.

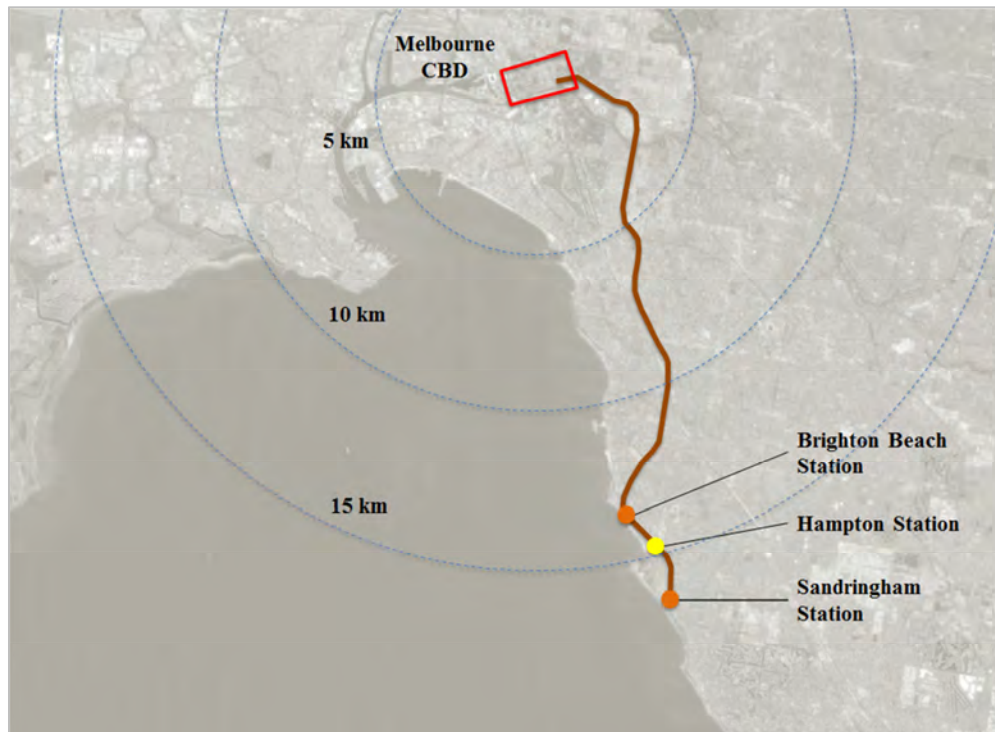


Figure 2: Hampton Station locality map

Land surrounding Hampton Station is mostly developed with residential and commercial uses surrounding the site and the following key features:

- Hampton Street Shopping Centre.
- Hampton Community Centre.
- Trevor Barker Reserve.

More locally, the areas for investigation highlighted in Figure 1 are generally bounded by Hampton Street, Willis Street, Railway Crescent and the rail reservation.

## 2.2 Station

Hampton Station is an unmanned station on the Sandringham Line. The station is located between Brighton Beach and Sandringham Stations.

The Sandringham Line operates between Flinders Street Station and Sandringham Station with approximately 180 services on an average weekday (90 services operating in each direction). The majority of services operate as stopping all stations trips with a typical journey from Hampton Station to Flinders Street Station lasting approximately 28 minutes.

Table 1: Passenger rail service to Hampton Station for an average weekday

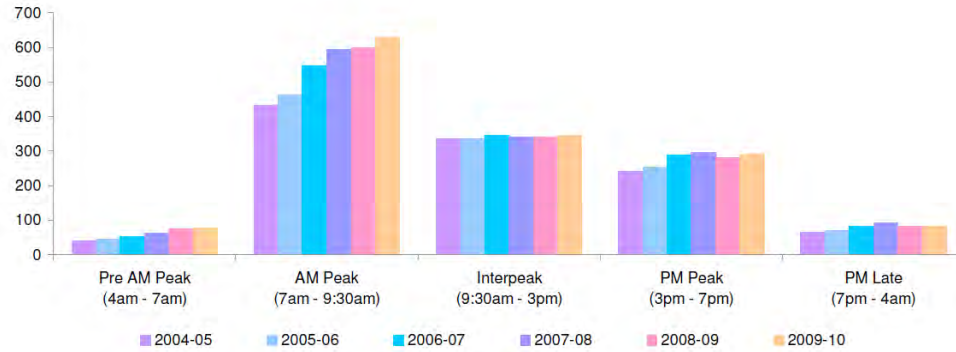
Route	Daily Services (Up/Down)	Frequency (min)		Hours of Operation
		Peak Hr	Average	
Sandringham Line	90 / 90	7	10-20	5 am – 1 am

Key information about Hampton Station is listed below:

- The station comprises of two side platforms servicing the up and down tracks.
- The existing platforms are approximately 150 m long and 5.4 m wide, that provide seating and lighting facilities.
- A station building is located on the up platform, south of the rail corridor. The station building provides sheltered waiting areas and ticketing machines. A smaller station building is located on the down platform.
- Access to the station is provided to both platforms via pedestrian only paths from Hampton Street. Willis Lane and Railway Crescent provide vehicular access to the Down (north) and Up (south) platforms respectively.
- Access between the platforms, across the rail corridor, occurs via a pedestrian bridge that spans over the platforms. The bridge is non DDA compliant and cross corridor connection for DDA users must occur via the Hampton Street level crossing.
- PTV has indicated that there are 167 car parking spaces provided for commuter parking at Hampton Station. These spaces are located in two car parks; one located off Willis Lane to the north (77 car spaces) and the other off Railway Crescent to the south (90 car spaces). Bicycle parking facilities (bicycle parking rails) are also provided.
- Bus access to the station is provided as detailed in Section 2.5.
- Data provided by PTV indicates that approximately 62% of station users walk all the way to the station, 33% travel by car, 4% by bus, 1% cycled.



- Similar to the above, data provided by PTV indicates that on an average weekday in 2009-2010 there were approximately 630 station entries in the AM peak period (7am-9:30am) with approximately 300 station entries in the PM peak period (3pm-7pm) as shown in Figure 3.



Prior mto increase in public transport usage of ???

Figure 3: Estimated station entries at Hampton Station

An overview of the indicative existing station cross-section is outlined in Figure 4 based on aerial photography measurements and title boundary information. It is clear that the existing platforms are wider than the minimum requirements of 3.5m.

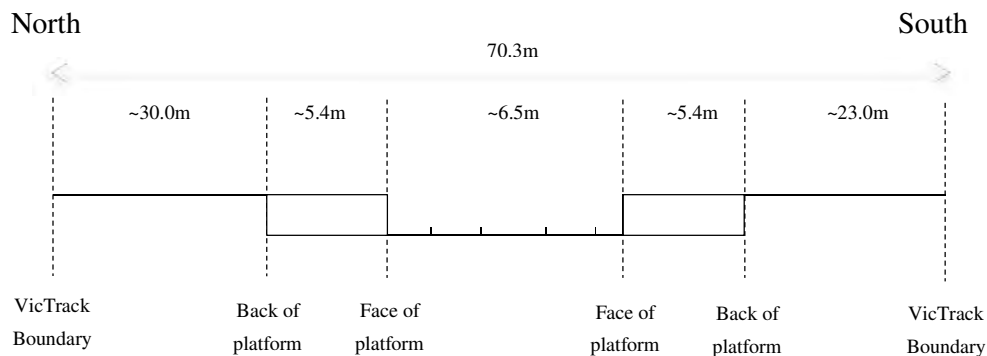


Figure 4: Existing station cross-section

## 2.3 Walking

Walking is a key mode of access within the Hampton Station precinct. Figure 5 shows a selection of images illustrating the pedestrian environment around Hampton Station. The existing walking environment includes a number of conflicts with vehicles, large crossing distances and areas of uneven surface treatments.



Bus Interchange – View Northwest



Bus Interchange – View South



Hampton Station Entrance – View Northwest

Figure 5: Images of pedestrian infrastructure for rail line crossings

Figure 6 highlights the pedestrian desire lines to land uses within the vicinity of Hampton Station. Given the proximity of Port Phillip Bay to the west, it is expected the main walking catchment is focussed to the east of the station.



Figure 6: Pedestrian desire lines to/from Hampton Station



## 2.4 Cycling

Cycling infrastructure at Hampton Station and surrounds is limited. Bicycle parking hoops are provided at the station entrances on both sides of the rail corridor and is well utilised, however, there is no Parkiteer (secure, sheltered bicycle parking) provided.

As shown in Figure 7, there are no existing dedicated cycling connections from Hampton Station or within the rail corridor. The draft Principal Bicycle Network (PBN) (2012) shows the Bay Trail, an existing off-road path along Beach Road and a proposed on-road facility along Hampton Street. The Bayside Bicycle Plan (2003) shows additional existing on-road municipal paths along Willis, Deakin and Crisp Streets. The plan also proposes future on-road paths along Thomas Street and Small Street (to connect to the Bay trail).

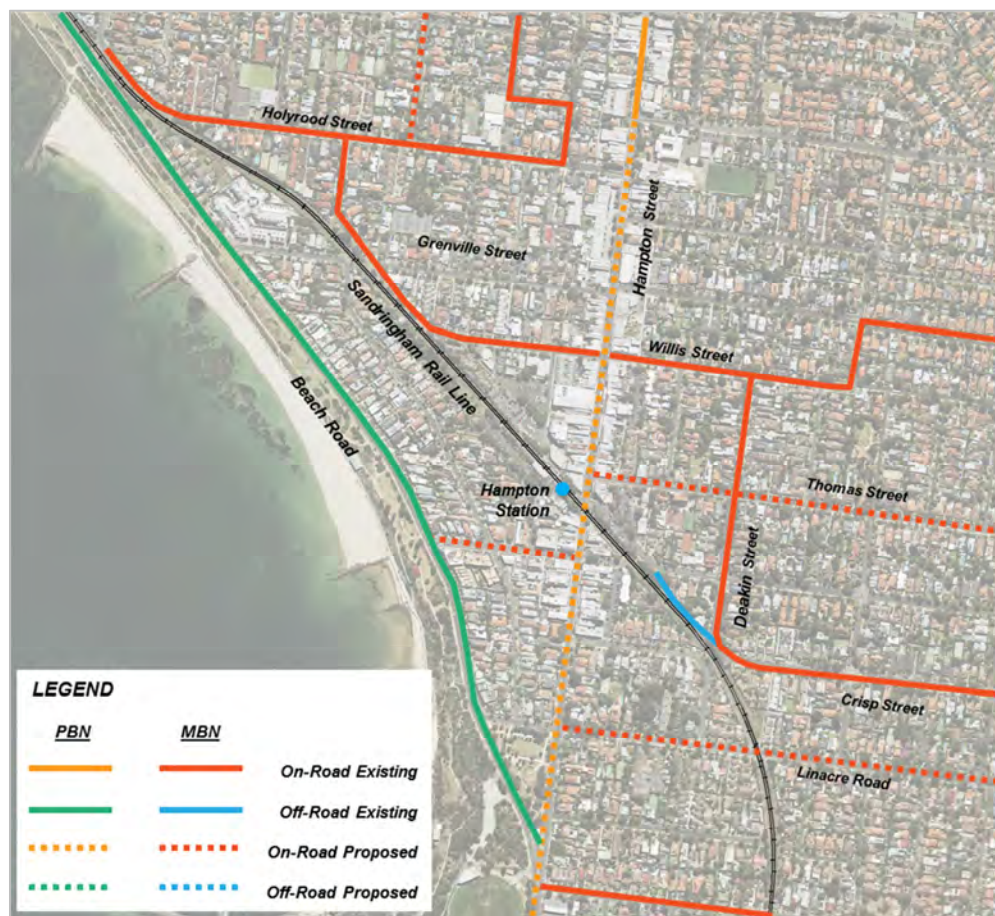


Figure 7: Principal Bicycle Network (PBN) and Municipal Bicycle Network (MBN) around Hampton Station.

## 2.5 Public Transport

Three public bus routes provide access to Hampton Station as shown in Figure 8. Key information on the public bus routes are listed in Table 2 below.

- **Hampton Station Bus Interchange:** Located off Willis Lane. Includes two island bus stops with sheltered waiting areas.
- **Hampton Street Bus Stops:** On-street bus stop on Hampton Street and also stops for rail replacement bus services.

Table 2: Bus timetable information (average weekday) at Hampton Station

Route No	Route	Daily Services (Inbound/Outbound)	Frequency (min)		Hours of Operation
			Peak Hr	Average	
708	Carrum–Hampton (via Southland).	0 / 30 (terminus)	30	30	6 am – 10 pm
828	Hampton–Berwick Station (via Southland SC).	0 / 43 (terminus)	20	20-30	6 am – 10 pm
922	Southland SC – St Kilda Light Rail Station.	14 / 12	60	60-90	7 am– 9 pm



Figure 8: Bus routes providing access to Hampton Station



## 2.6 Road Network and Local Vehicle Movement

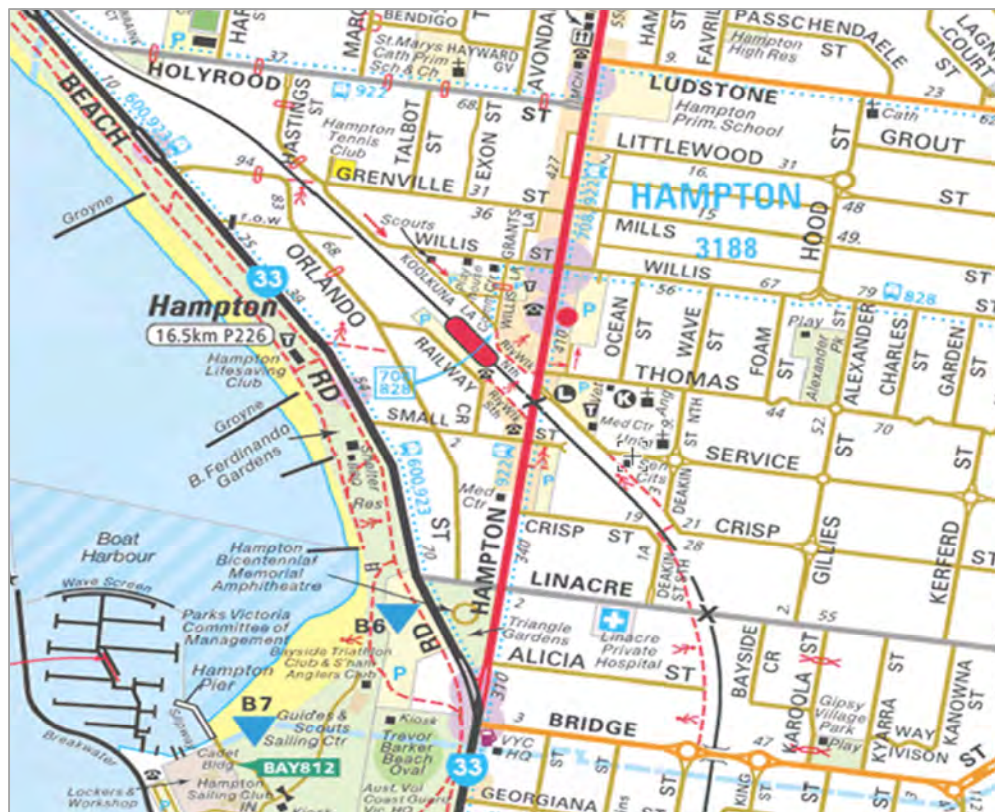
An overview of the road network around Hampton Station is shown in Figure 3 with the key characteristics of these roads provided in Table 3.

Hampton Street is an arterial road for which VicRoads is the responsible authority and provides sub-regional connection between Nepean Highway and Beach Road. VicRoads SmartRoads Network Operating Plan identifies that Hampton Street, within the vicinity of the precinct, is classified as follows:

- Pedestrian Priority Zone over a length of 1,400m from Crisp Street (south of the rail line) to Ratho Avenue (north of South Road).
- Bicycle Priority Route between Beach Road and Nepean Highway.

While a contrasting function to the objectives of the SmartRoads Network Operating Plan, Hampton Street remains approved for use by B-double and Higher Mass Limit Trucks between Beach Road and Nepean Highway.

Bayside City Council is the responsible authority for those streets providing access to the north side of the rail corridor in the vicinity of the station (i.e. Willis Street, Willis Lane and Koolkuna Lane). These streets provide local access to the adjacent residential properties, the car parking areas at the rear of the Hampton Street shopping strip as well as providing access to Hampton Station.



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Figure 9: Road network surrounding Hampton Station



Table 3: Key roads which interface with the rail corridor

Road/Lane	Responsible Authority	Classification	Capacity	Estimated AWDT*
Hampton Street	VicRoads	Declared Arterial	2 lane, two-way	9,400 v/d
Willis Street	Bayside City Council	Collector Road	2 lane, two-way	-
Willis Lane	Bayside City Council	Lane	2 lane, two-way	-
Koolkuna Lane	Bayside City Council	Lane	1 lane, one-way (south bound)	-

\*AWDT: Average weekday daily traffic volume estimate from spot counts and data provided by VicRoads.

There are a number of movements and varying circulation patterns within the precinct as outlined in Figure 10 with the key movements as follows:

- Koolkuna lane operates one way south bound.
- Circulation within the car parking aisles also operates one-way.
- The travel paths of buses conflict with entering buses crossing the path of exiting buses.
- There are also a number of car park and property access points that contribute to vehicle circulation movements within the precinct.

Is that a problem with frequency??

In addition, as noted in Section 2.3, there are a number of pedestrian movements and routes through this area including connections along Willis Lane, Koolkuna Lane, to and from the car parks and bus interchange facilities.

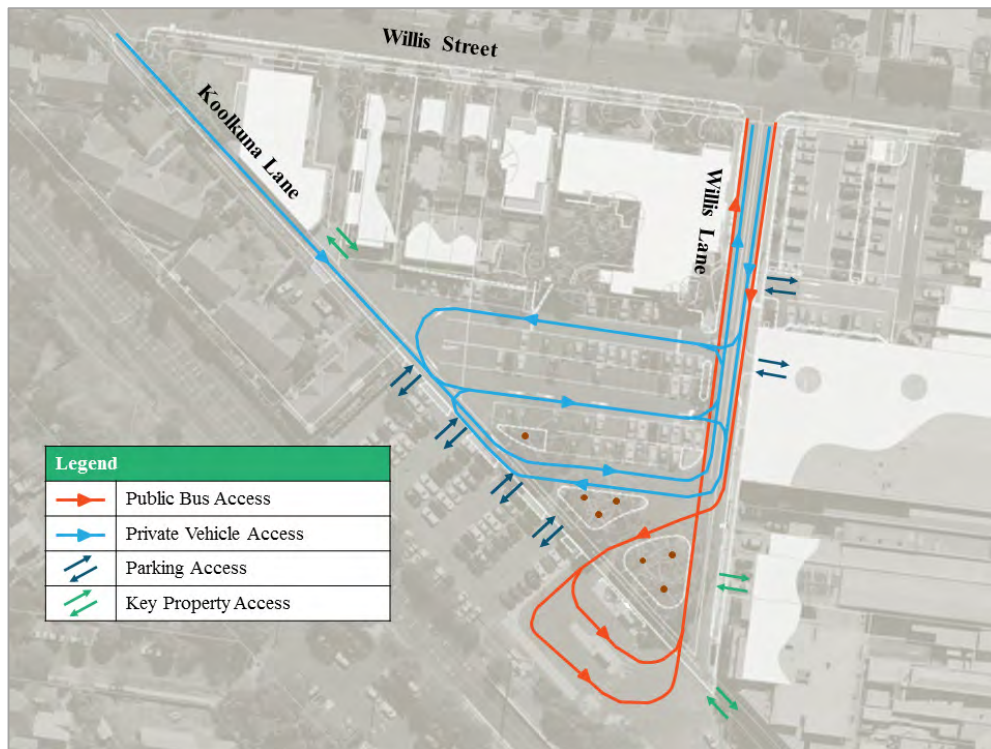


Figure 10: Vehicle movement patterns on the north side of Hampton Station

## 2.7 Parking

The land surrounding Hampton Station includes a mix of on-street and off-street car parking. The car parking is generally short-term associated with the Hampton Street shopping strip. Of particular focus for this study is the area north of the rail corridor including the existing commuter car parking that is provided on VicTrack land (77 spaces) as well as the parking within the off-street car park on Council land (100 spaces). These car parking areas as well as the remaining available car parking (including the undercover car parking provided for the existing Safeway) is shown in Figure 11.

While no parking survey data was available, anecdotal evidence from discussions with key stakeholders combined with observations from site inspections suggest that both the short-term and commuter car parking areas are well utilised.



Figure 11: Key car parking sites

## 3 Key Spatial Requirements

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The development of transport options for the precinct has been informed by the transport functional requirements outlined by PTV and also by key design parameters.

### 3.1 Transport Functional Requirements

In order to understand the land that could be available for development, PTV has defined the future transport functional requirements for the precinct. The functional requirements essentially inform the land that is required for transport purposes, thereby establishing the land envelope available for future development. The key functional requirements that have been developed and refined through discussions with PTV, VicTrack and the Transport Working Group are as follows:

- Provide for three bus bays of 12.5m in length with the potential for one of the bays to be a dynamic and/or dependent bus bay. These are intended to cater for route 708, 828 and other future services. Route 922 is expected to continue to operate along Hampton Street in the future. Through discussions with PTV, it was identified that there is no requirement to accommodate articulated buses.
- Achieve no net loss of commuter car parking within the precinct and provide adequate DDA parking. This would require that any loss of the 77 car spaces located on the northern side of the rail corridor be replaced. Through discussions at the Transport Working Group, it was agreed that no formal kiss and ride parking would be required.
- Investigate the implications to grade separate Hampton Street with either Rail over Road or Rail under Road.
- Allow for future platform provision for 220m long trains.

As outlined in Section 1, the implications of a potential future grade separation have been assessed as part of Phase 1 of this study where Rail under Road was the preferred option. Similarly, the implications of 220m trains were identified as part of Phase 1.

Based on the above, the key focus of the transport interchange options is the future bus and car parking requirements whilst incorporating the footprint for a potential future Rail under Road grade separation with 220m long trains.

## 3.2 Key Design Parameters

The key design parameters that have informed the option development are outlined as follows based on Austroads and VicRoads guidelines as well as guidelines provided by PTV:

- Bus interchange layouts are to accommodate the swept path of a 12.5m bus.
- Parallel bus bays of 12.5m in length, 3m in width, 5m for passing, 13.5m between independent bus bays and 1m between dependent bus bays.
- Minimum road width of 5.5m where buses are operating in a single lane one-way, which allows for a bus to pass a car that may be illegally parked/stopped within any one-way section.
- Nature strip/footpath width of 5m to accommodate bus shelters and pedestrian movement or 3m where bus shelters are not required (or where shelter at the bus stops could be provided by an awning as part of a future development).
- Maintain access to existing properties.
- Provide for safe and efficient bus operations including consideration of sight lines, conflict points and pedestrian routes.

In addition, a number of factors have influenced the developed options including the preference to minimise passenger walking distances, avoid impact to existing street trees where possible and maximise the potential developable area.

## 4 Options, Consultation and Assessment

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This section describes the options that have been developed, the consultation that has been undertaken as well as the outcomes of the option assessment.

### 4.1 Options Development

A series of six transport options were developed by Arup and VicTrack with differing outcomes for the precinct. The options developed have sought to explore two scenarios; the first focuses on accommodating buses on the VicTrack land or DHS land (see Section 1 for land boundary extents). The second scenario seeks to utilise VicTrack, DHS and Bayside City Council land for the provision of bus bays and are subject to further discussions between VicTrack and Council. Within these two scenarios, various configurations of bus bays and access routes were explored with the developed options described as follows:

#### VicTrack and DHS Land Options

- Option 1 - Parallel Exit Koolkuna Lane (VicTrack)
- Option 2 - Parallel Adjacent to Rail
- Option 3 - Island Configuration in Existing Area

#### VicTrack, DHS and Council Land Options

- Option 4 - Parallel Exit Koolkuna Lane (Council)
- Option 5 - Parallel with Large Plaza Area
- Option 6 - Island Configuration in Council Car Park

These options and the assessment results associated with each option is outlined in Section 4.4.


## 4.2 Assessment Criteria

The assessment criteria used to assess each of the options were developed by Arup, VicTrack and through consultation with the Transport Working Group. The assessment criteria were also refined following the consultation with stakeholders as outlined in Section 4.3. The final assessment criteria (incorporating stakeholder comments) adopted for the appraisal of options are shown in Table 4.

An assessment of each of the options was undertaken based on a scoring of -3 negative impact to +3 positive impact relative to the existing conditions.

Table 4: Assessment criteria

Criteria	Considerations
Urban realm	Provision of public space Legibility of connections
Precinct pedestrian access and circulation	Linkages through the precinct Compliance with desire lines
Personal security	Casual surveillance and security
Development outcome	Development vehicle access Footprint impact
Passenger interchange amenity and safety	Conflict points with vehicles Amenity
Passenger interchange walking distance	Distance from down platform station entrance to closest and furthest stop
Bus operations	Manoeuvring requirements Bus conflicts with vehicles
Parking impact	Number of public car spaces relocated to new development
Environmental impact	Impact to existing significant trees
Property access and circulation	Property access requirements
Cycling access	Local cycling connection to the station



Impact on surrounding residential not included as an assessment criteria??



### 4.3 Stakeholder Consultation

In initial meeting was held with PTV (Bus Service Planning) on 29 July 2013 to discuss the requirements, opportunities and constraints that apply to the site. This discussion informed the transport interchange option development for the site.

Following the development of options, a workshop held on 17 September 2013 where Arup and VicTrack presented each of the options to representatives of Bayside City Council (Asset Management, Traffic Management, Strategic Planning), PTV (Bus Operations, Fleet and Infrastructure Planning, Timetable Development and Modelling), Metro Trains Melbourne and DTPLI. Through this session feedback was provided on the draft scoring of the transport interchange options with the following amendments made:

- The criteria for passenger interchange was split to two criteria, the first which focuses on passenger amenity and safety and the second which focuses specifically on walking distances for interchange between the station and the bus stops.
- Option 1: It was noted that this option is likely to be reliant upon a full wheel lock for bus manoeuvring, which is an undesirable outcome from a bus operations perspective (and this should score lower).
- Option 3: The convenience for passengers is such that passenger interchange criteria could be scored higher.
- Option 4: Provides the most simple bus stop layout and could be scored higher.
- Option 5: The impact of a dependent bay is not significantly detrimental to bus operations and could be scored higher.

These adjustments to the assessment criteria and the scoring of options are captured within the options presented in Section 4.4. The final outcomes from the stakeholder workshop are summarised in Section 4.5.

### 4.4 Transport Interchange Options and Assessment

This section provides an overview of each of the options broadly described in Section 4.1 and includes the scoring of the options relative to the assessment criteria outlined in Section 4.2, whilst also incorporating stakeholder feedback as discussed in Section 4.3.

#### 4.4.1 Option 1 - Parallel Exit Koolkuna Lane (VicTrack)

Option 1 includes the following key operational features:

- Buses travel on a one way system from Willis Lane to access the interchange area.
- The bays 1 and 2 can operate independently with the third bay dependent on the middle bay being vacant to allow egress from the interchange.
- Buses travel on a one way system along a widened Koolkuna Lane (direction of operation reversed to one-way northbound only) to egress from the interchange.
- The direction of operation of the car park is reversed to minimise conflict with buses.
- Pedestrians have generally uninterrupted travel paths.

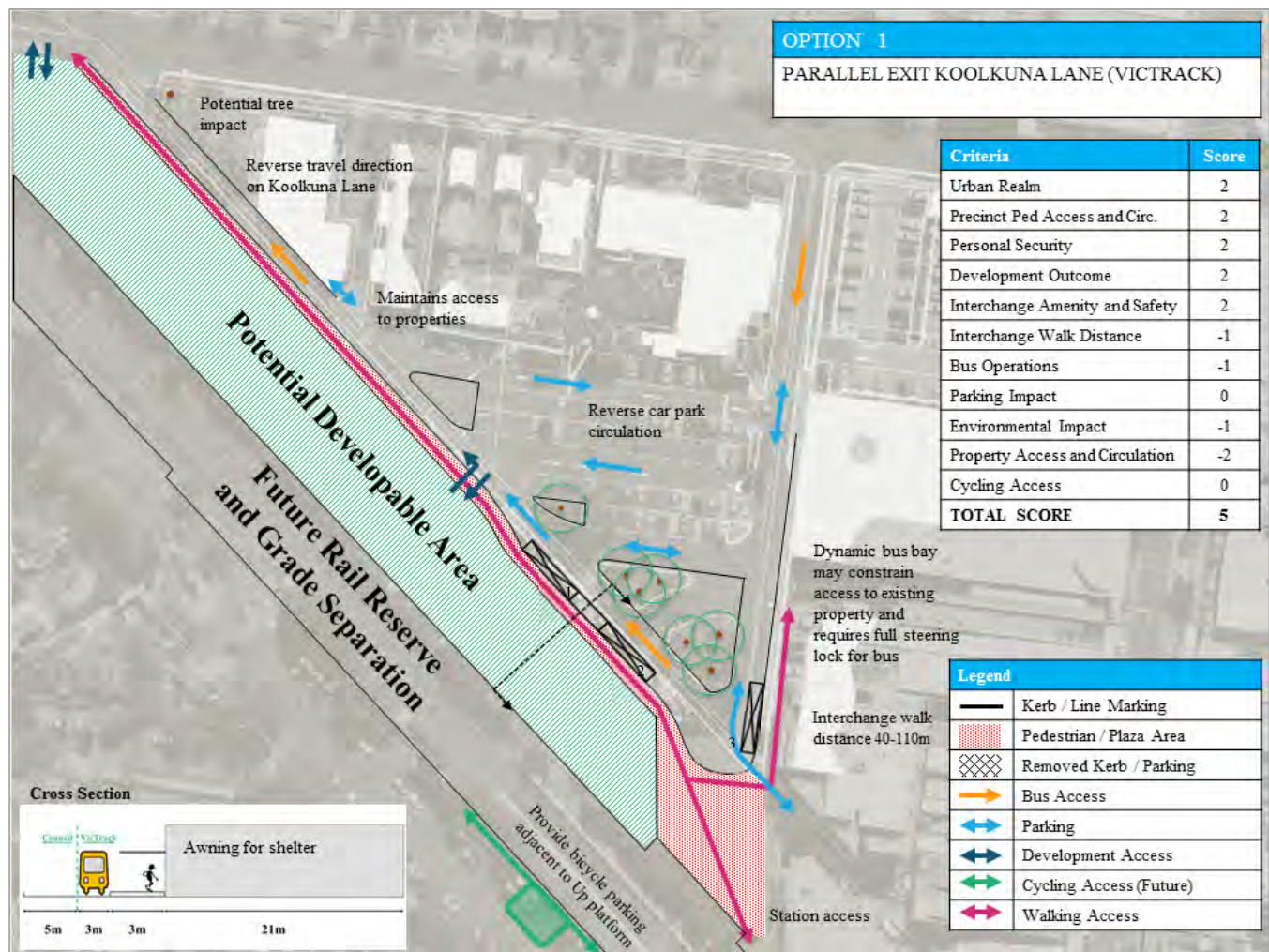


Figure 12: Option 1 - Parallel Exit Koolkuna Lane (VicTrack)



#### 4.4.2 Option 2 - Parallel Adjacent to Rail

Option 2 includes the following key operational features:

- Buses travel on a one way system from Willis Lane to access the interchange area.
- The first two bays can operate independently with the third bay dependent on the middle bay being vacant to allow egress from the interchange.
- Buses travel along a one way system along the rear of the development area. This area has no footpath.
- The direction of operation of the car park and along Koolkuna Lane remains as per the existing conditions.
- Pedestrians walking to the northwest residential area are required to cross the path of buses and walk along Koolkuna Lane to access Willis Street. There is a risk that pedestrians will walk along the bus egress route to the rear of the development which is a safety concern.

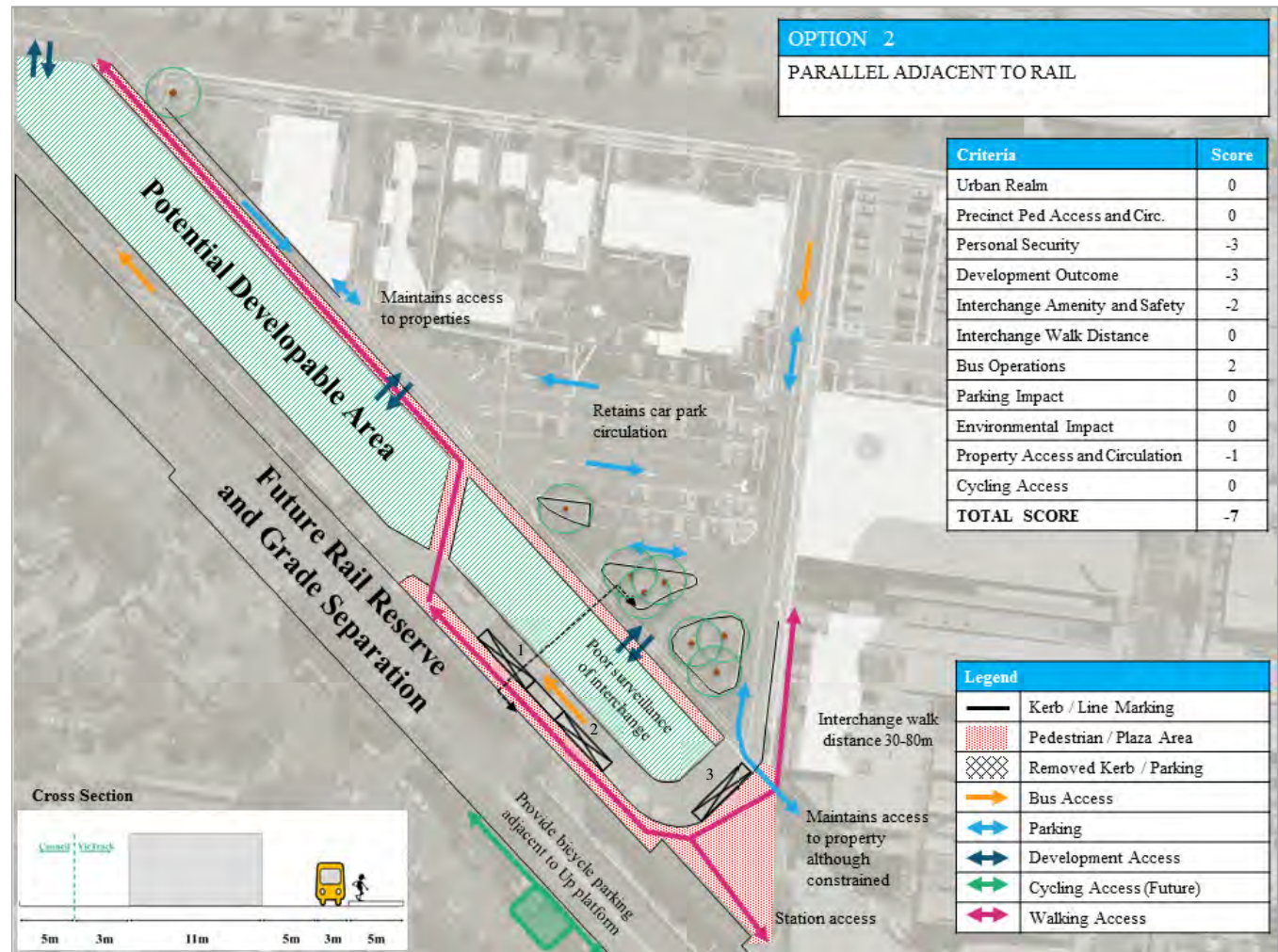


Figure 13: Option 2 - Parallel Adjacent to Rail

### 4.4.3 Option 3 - Island Configuration in Existing Area

Option 3 includes the following key operational features:

- Buses travel on a one way system from Willis Lane to access the interchange area and circulate in the opposite direction to the existing arrangement. This could require widening of the entrance to Koolkuna lane to accommodate the swept path of the bus
- Three buses could generally operate independently if required.
- The direction of operation of the car park and along Koolkuna Lane remains as per the existing conditions.
- Pedestrians are diverted around the interchange to access Koolkuna Lane as per the existing conditions but do not need to cross the existing car park entrances.
- Pedestrians need to cross the paths of buses to access the island bus stops.

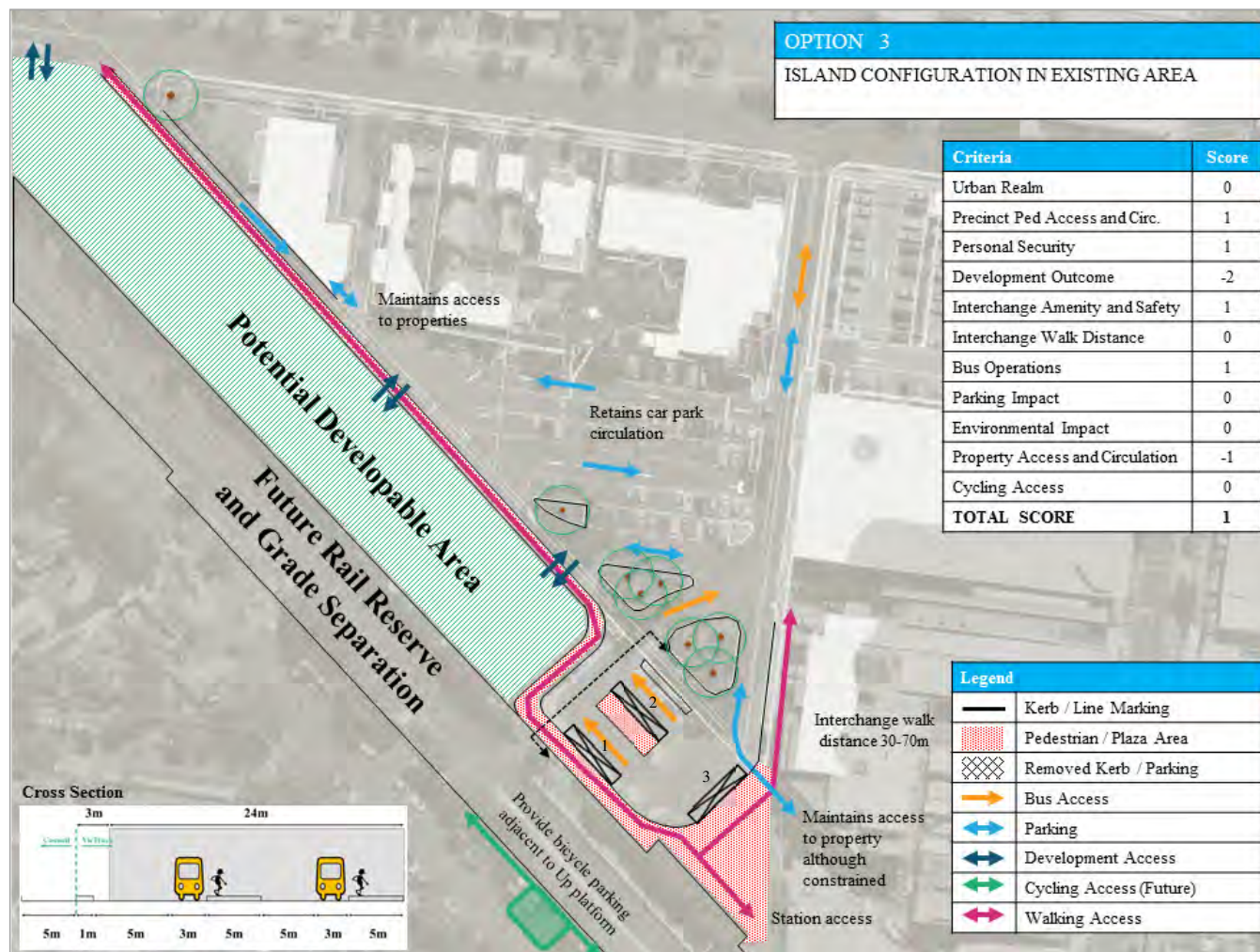


Figure 14: Option 3 - Island Configuration in Existing Area



#### 4.4.4 Option 4 - Parallel Exit Koolkuna Lane (Council)

Option 4 includes the following key operational features:

- Buses travel on a one way system from Willis Lane to access the interchange area.
- All bus bays can operate independently.
- Buses travel on a one way system along a widened Koolkuna Lane (direction of operation reversed to one-way northbound only) to egress from the interchange.
- The direction of operation of the car park is reversed to minimise conflict with buses.
- Pedestrians have generally uninterrupted travel paths.

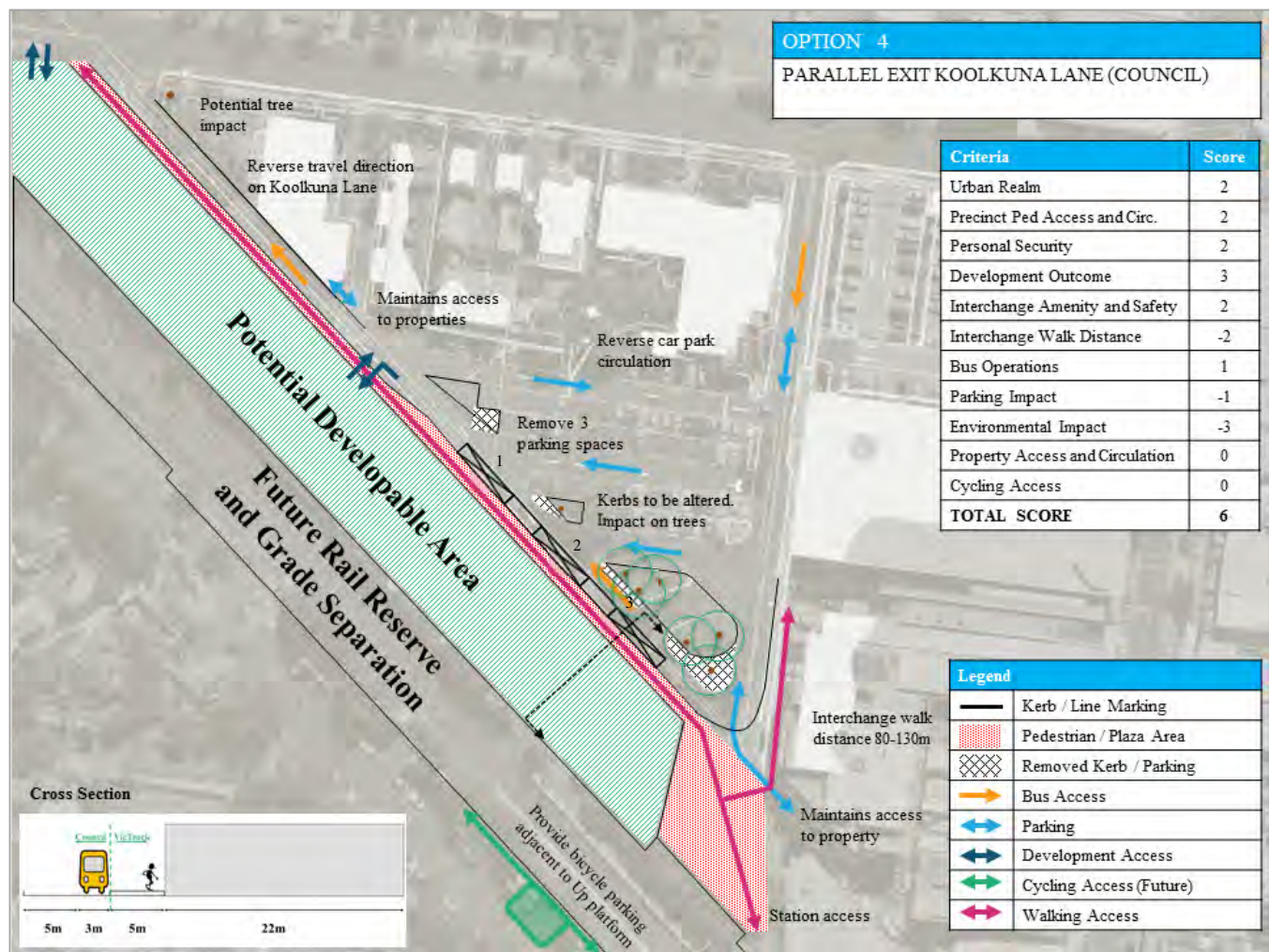


Figure 15: Option 4 - Parallel Exit Koolkuna Lane (Council)

#### 4.4.5 Option 5 - Parallel with Large Plaza Area

Option 5 includes the following key operational features:

- Buses travel on a one way system from Willis Lane to access the interchange area.
- The bays 1 and 2 can operate independent of one another with the third bay dependent on the middle bay being vacant to allow egress from the interchange.
- Buses travel on a one way system along Koolkuna Lane (direction of operation reverse to one-way northbound only) to egress from the interchange.
- The direction of operation of the car park is reversed to minimise conflict with buses.
- Pedestrians have generally uninterrupted travel paths.

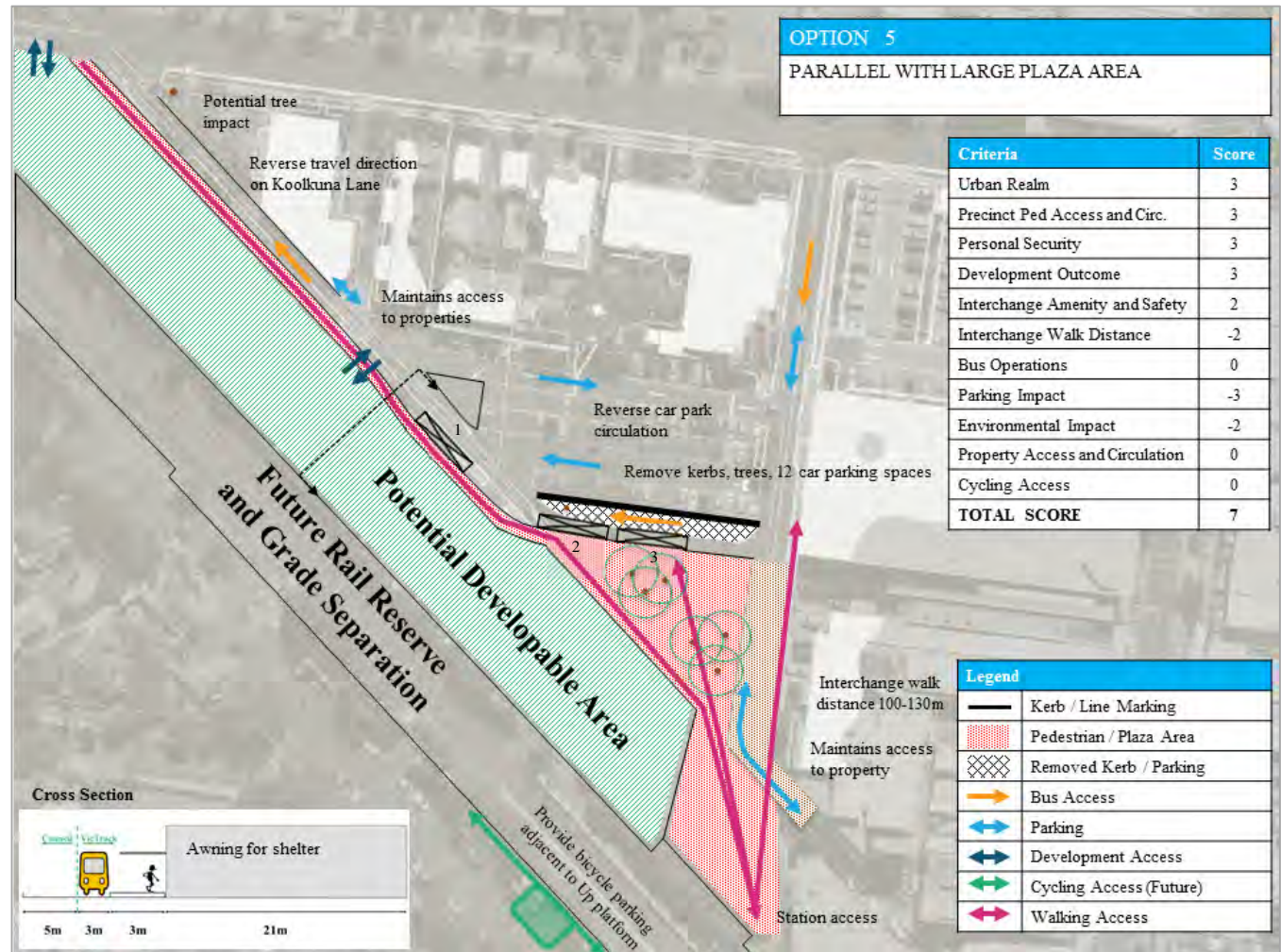


Figure 16: Option 5 - Parallel with Large Plaza Area



#### 4.4.6 Option 6 - Island Configuration in Council Car Park

Option 6 includes the following key operational features:

- Buses travel on a one way system along a widened Koolkuna Lane to access the interchange area.
- All bus bays can operate independently.
- Buses travel along Willis Lane to egress from the interchange.
- The remaining car park area requires a turnaround facility to maintain operation which is not desirable.
- Pedestrians need to cross the paths of vehicles to access island bus stops.

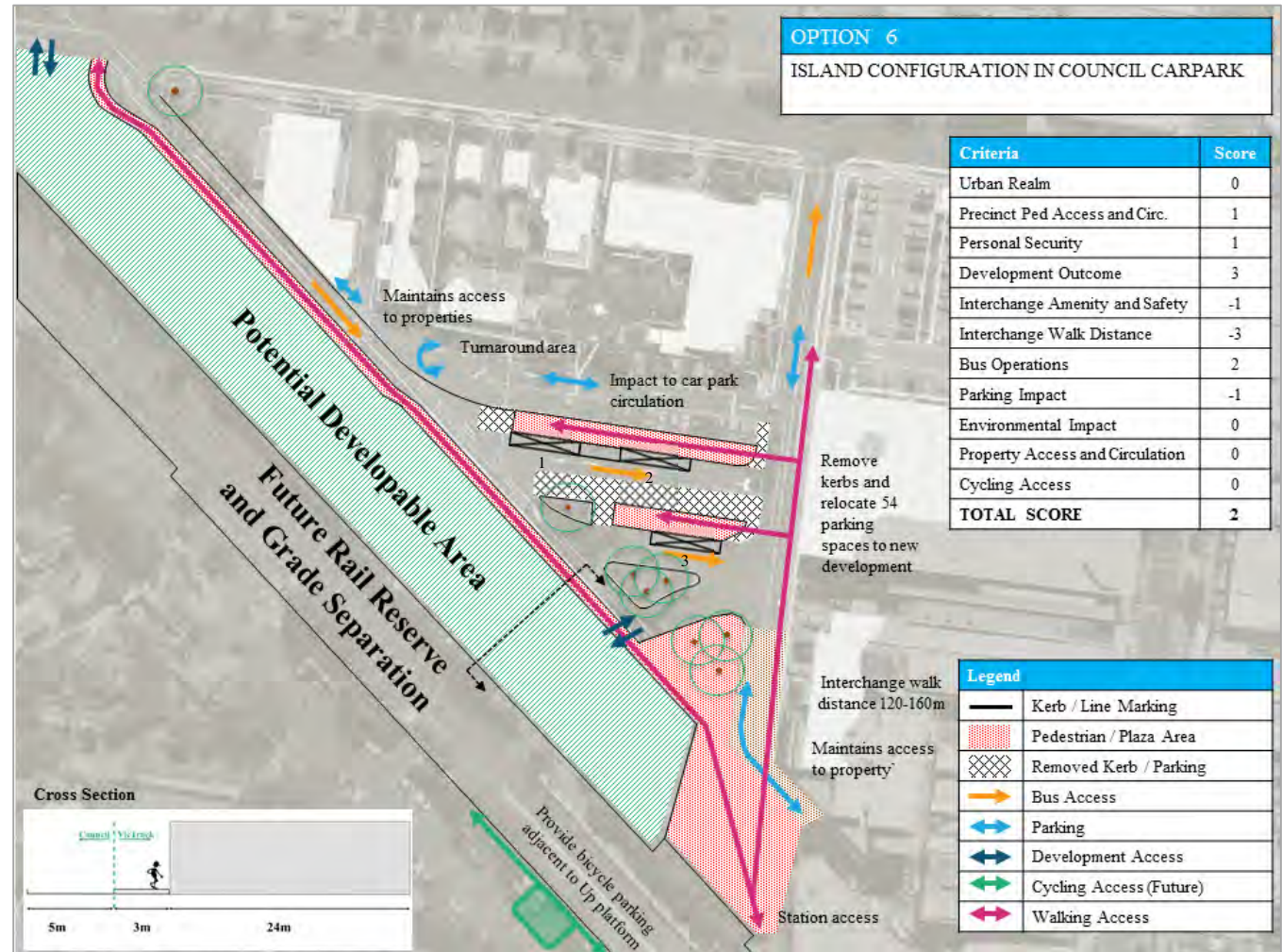


Figure 17: Option 6 - Island Configuration in Council Car Park

## 4.5 Assessment and Consultation Summary

The assessment based on the identified criteria highlights the positive and negative contributions to transport interchange and the overall precinct that each of the options presents. A summary of these assessment results is provided in Table 5.

Table 5: Summary of assessment results

Option	Results
Option 1 - Parallel Exit Koolkuna Lane (VicTrack)	5
Option 2 - Parallel Adjacent to Rail	-7
Option 3 - Island Configuration in Existing Area	1
Option 4 - Parallel Exit Koolkuna Lane (Council)	6
Option 5 - Parallel with Large Plaza Area	7
Option 6 - Island Configuration in Council Car Park	2

The options and the assessment were discussed at the stakeholder workshop on the 17 September with a consensus as follows:

- Option 1, Option 4 and Option 5 provide significant positive contributions to transport interchange and the overall precinct.
- Option 2 is a considerably worse outcome than the existing arrangements and should not be considered further.
- Option 6 has a significant impact on Council's land as well as considerable walking distances and should not be considered further.
- While there is only limited benefit, Option 3 has minimal change to the existing interchange operation and contains the bus facilities to existing VicTrack land which may be beneficial in expediting a land clearance process.

On the basis of the above, the following outcomes were agreed:

- Option 5 would be taken forward for further assessment
- A modified version of Option 1 (incorporating elements of Option 4), which generally locates the bus bays within VicTrack land whilst avoiding any property access impacts, would be taken forward for further assessment.

Option 3 would be further considered if Option 1 and Option 5 are found to not be viable or the timing of any necessary approvals/agreements was likely to significantly delay the overall project.

## 5 Concept Layouts

Having appraised the six options and undertaken consultation with key stakeholders, two options were identified for further development. The concept layouts of these options and the key issues associated with the layouts is discussed in the following sections. These concept layouts identify the functional areas for potential development, pedestrians and bus movements are associated with each option. There are a number of key considerations to note:

- VicTrack has advised that any loss of commuter car parking associated with the potential development would be accommodated within the precinct itself and include DDA parking for mobility impaired users.
- As outlined previously in Section 3.2, VicTrack has advised that the development outcome could be coordinated with the bus stop arrangements such that an awning is provided as shelter for the bus stops rather than providing separate shelter facilities.
- Following on from this study, it is expected that further investigation would be undertaken to understand the specific outcome for each of the functional areas. This is expected to include consideration of plaza design, confirmation of access requirements for the third party properties, consultation with private land owners in the vicinity etc.
- At further stages in the process to develop the site, further consideration would be given to the specific development outcome. This is expected to include the potential for land use to provide casual surveillance of the interchange area, built form that meets with pedestrian desire lines and seeks to provide line of sight to the interchange area, vehicle access to car parking, waste collection and servicing arrangements etc.
- The future development may present an opportunity to enable additional improvements to the precinct and transport interchange.

Accordingly, the aggregation of the elements above would determine the concept for precinct building upon either of the options presented below.

While the concept layouts have been developed with reference to the existing title boundaries, it is noted that the plans have been prepared at a concept level only. Various issues including consideration of the site levels, drainage, services, ground conditions, title re-establishment etc would need consideration in further stages of planning.

### 5.1 Option 1 - Parallel Exit Koolkuna Lane

The concept layout of the modified version of Option 1 is shown in Figure 18. The key features of this layout from a design perspective are noted as follows:

- A localised car parking ban may need to be introduced on the northern side of Willis Street in order to facilitate bus movements. This may result in the loss of 1 to 2 on-street car spaces.
- The existing street tree near the southeast corner of the intersection of Willis Street and Koolkuna Lane may require trimming or removal to maintain adequate sight lines for exiting buses.

- The swept path of buses encroaches into the existing property (Council land) on the southeast corner of the intersection of Koolkuna Lane and Willis Street (existing Scout Hall). It is noted however, that this area is already used by vehicles manoeuvring in Koolkuna Lane as the existing fence and kerb effectively chamfer this corner of the title boundary. Accordingly, there is no new impact to title boundaries introduced as a result of buses using Koolkuna Lane.
- The existing islands that currently protect the trees opposite the plaza and third bus stop may need to be adjusted (kerb pulled back by approximately 400mm) to provide adequate width for bus movements. Should this be considered to have an intolerable impact on the existing trees, there is the potential that this could be resolved in further detailed design stages or that a dispensation is agreed through discussions with PTV.
- It is recommended that traffic islands be provided at key interfaces with the travel path for buses to assist in controlling bus movements.
- The third bus bay is a dependent bay which allows for a bus to drop-off passengers but relies upon the second bay to be empty in order to pick-up passengers and depart.

## 5.2 Option 5 - Parallel with Large Plaza Area

The concept layout of the modified version of Option 5 is shown in Figure 19. The key features of this layout from a design perspective are noted as follows:

- The potential impacts to car parking, the existing street tree and title boundary near the intersection of Willis Street and Koolkuna Lane are the same as Option 1.
- There is additional impact to an existing tree within the car park and 12 council car spaces.
- As per Option 1, the third bus bay is a dependent bay which allows for a bus to drop-off passengers but relies upon the second bay to be empty in order to pick-up passengers and depart.

## 5.3 Alternate Hybrid Option

While not specifically explored as part of this report, there is potential for an alternate option that is a hybrid of Option 1 and Option 5. This option would be broadly the same circulation as Option 5 but with entering buses realigned to pass between the existing trees within the car park. This would increase the plaza area associated with Option 1 but avoid any impact on the 12 existing council car parking spaces that is associated with Option 5.





B		INCORPORATED VICTRACK COMMENTS		04/10/13	CJC	PC
A		ISSUED FOR INFORMATION		02/10/13	CJC	PC
Issue	Description	Date	By	Chkd	Appd	

Issue		Description	Date	By	Chkd	Appd

Member Firm  
Anup Pty Ltd  
ABN 18 000 968 165

Client

Job Title  
VICTRACK  
HAMPTON STATION

Figure 18

OPTION 1  
TRANSPORT INTERCHANGE

Scale at A1 1:400

Discipline CIVIL

Job No 231764

Drawing No 231764-CS-05

Drawing Status  
**FOR INFORMATION**

Issue  
**B**





Issue	Description	Date	By	Chkd	Appd
B	INCORPORATED VICTRACK COMMENTS	04/10/13	CJC	PC	
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Issue	Description	Date	By	Chkd	Appd

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Member Firm  
Arup Pty Ltd  
ABN 18 000 968 165

Client

Job Title  
VICTRACK  
HAMPTON STATION

Figure 19

Scale at A1 1:400

Discipline CIVIL

Job No 231764

Drawing No 231764-CS-06

Drawing Status  
FOR INFORMATION

Issue  
B



## 6 Summary and Conclusion

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Phase 2 of this study outlined in this report focused on possible transport interchange arrangements for Hampton Station and built upon the investigation undertaken as part of Phase 1 which focused on the potential future grade separation of Hampton Street and future platform extension requirements.

To consider possible interchange arrangements, the precinct has been reviewed and a total of six options have been developed that explore a variety of alternative transport interchange arrangements at Hampton Station. Of these options, half have focused on the use of VicTrack/DHS land with the remaining options focusing on the potential use of Council land in combination with VicTrack/DHS land.

These options have been appraised and consultation has been undertaken with stakeholders to refine the appraisal of these options. From this process, two options have been short-listed for further development.

These two options (Options 1 and 5) have been refined to further prove the functional areas that would be required for bus movements, a new station plaza and access as shown previously in Figure 18 and Figure 19. This has in-turn identified the area that would be available for potential development on VicTrack/DHS land and the area for which land clearance is sought.

It is clear that Option 1 relies on a greater area of VicTrack land to deliver the transport outcomes required than Option 5 which utilises a portion of Council land for the bus interchange and public plaza. Given that the interface and use of Council land is a part of ongoing discussions between VicTrack and Bayside City Council, the required land clearance will still require an element of flexibility to deliver the best precinct outcomes.

The land clearance parcel is shown as the hatched portion in Figure 20. It is understood that should negotiations with council fail, VicTrack must provide for the minimum bus bay requirements as noted within this report in addition to a public forecourt offering that will improve the commuter experience within the released land parcel. It is expected that VicTrack would continue to work with PTV and DTPLI with regards to achieving these outcomes.





All design, layouts and dimensions noted on this plan have been based on a series of data sets provided by external parties. DEPI was the source for Cadastre and 0.5m contour data, PTV (via PASS Assets) was the source for rail centreline information, VicTrack (via RailMap) was the source for the VicTrack reserve boundary and feature survey (partial coverage of study area only). Confirmation of boundaries through title re-establishment and/or detailed surveys is required.

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