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Department of Infrastructure, Energy & Resources

Main Road Transit Corridor

Pedestrian Access Assessment

Stage 1 – Issues Paper

April 2012

INFRASTRUCTURE | MINING & INDUSTRY | DEFENCE | PROPERTY & BUILDINGS | ENVIRONMENT

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Contents

Table Index

Figure Index

Appendices

1. Introduction

1.1 Glenorchy to Hobart CBD Transit Corridor

GHD has been engaged by the Department of Infrastructure, Energy and Resources (DIER) to provide a pedestrian access assessment report for the Glenorchy to Hobart CBD Transit Corridor Plan. This proposed transit corridor is the first for Hobart and is part of a larger plan to improve transit operations and sustainability in the Hobart Transport Network.

This report forms part of the development of an overall transit corridor plan for Main Road, New Town Road and Elizabeth Street. Main Road has been identified as a transit priority route due to its existing use as a public transport corridor for a number of services, it contains a number of major trip attractors and has a higher proportion of the population within walking distance of the corridor and would be able to support further development of higher residential densities along the corridor.

This study is the first step in a long-term plan to develop the transit corridor to have high frequency, reliable and high quality transport. In achieving this long-term plan, interim projects need to be identified and implemented that improve the reliability and accessibility of the existing transit services and this is the purpose of this study.

1.2 Pedestrian Access Objectives

Pedestrian access to bus stops is an important factor in developing a transit corridor. If pedestrians find the transit corridor easy to use and access, and feel safe and comfortable doing so, then they will use public transport more frequently. Encouraging people to use public transport has environmental benefits and also helps to reduce traffic congestion in built up areas. This works towards the plan to improve transit operations and sustainability in the Hobart transport network.

This report provides the findings of an assessment into the existing issues regarding pedestrian access to ten key bus stops along the transit corridor.

2. Assessment Methodology

2.1 Bus Stop Audit

This assessment has focussed on 10 bus stops nominated by DIER and supported by Metro, Glenorchy City Council and Hobart City Council, as listed below:

- Elizabeth Street Bus Mall Stop E (Outbound)
- Collins Street near Elizabeth Street (Inbound)
- Elizabeth Street between Liverpool Street and Bathurst Street (Outbound)
- North Hobart between Pitt Street and Newdegate Street (Outbound)
- North Hobart between Federal Street and Strahan Street (Inbound)
- New Town approaching Risdon Road (Outbound)
- New Town approaching Risdon Road (Inbound)
- Moonah (Outbound)
- Moonah (Inbound)
- Glenorchy Bus Mall

2.1.1 Audit Checklist

Site audits of the bus stops were undertaken on Wednesday 11th and Thursday 12th January 2012. A checklist was formulated to guide the audit which included the following information:

Environmental Factors

- Information provided at bus stop
- Safety and Security
- Surrounding land use
- Shelter
- Seating
- Footpath and Kerbs
- Pedestrian access
- Disabled access
- Bus stop location
- Other (obstacles etc.)

Bus stop arrangement

- Capacity
- Design
- Provision for Kiss and Ride

- Provision for Park and Ride

Impact on other road users

- Congestion
- Road safety issues
- Cycling
- Width of road

The full checklist can be seen in Appendix A.

2.2 Springfield Depot Alternative Inbound Bus Stop Assessment

An assessment was also undertaken of the potential for replacing the existing inbound bus stop at Springfield Depot. Currently all inbound buses turn right from Main Road into the old Springfield Interchange, before exiting onto Springfield Avenue and then turning right onto Main Road to continue towards Moonah and the Hobart CBD. This is a significant source of travel time delay for buses in the transit corridor.

3. Bus Stop Audit

3.1 Elizabeth Street Bus Mall Stop E (Outbound)

3.1.1 Location Description

This bus stop is located in the CBD bus mall on Elizabeth Street between Collins and Macquarie Street. Stop E is located outside Australia Post on the corner of Elizabeth and Macquarie Street. The bus stop is a block away from the Elizabeth Street Mall shopping area.

Figure 1 Elizabeth Street Bus Mall – Outbound (Facing North)

Figure 2 Elizabeth Street Bus Mall - Outbound (Facing South)

3.1.2 Pedestrian Environment

Table 1 describes the characteristics of the pedestrian environment at the bus stop.

Table 1 Elizabeth Street Bus Mall Stop E (Outbound)

Characteristic	Description
Bus Stop	• signs are non-standard • static timetables • no route or locality maps are on display
Footpath	• paved • approx. 2 m wide • width varies due to building line and placement of other shelters within bus mall • tactile surface indicators on pram ramps
Pedestrian Crossings	• signalised pedestrian crossings located at traffic lights at both ends of the mall
Safety	• CCTV cameras located at both ends of mall • high level of pedestrian activity occurs near the bus stop
Lighting	• street lighting located along the length of the mall
Pay phone	• 2 located on opposite side of mall
Shelter	• enclosed glass shelter • faces away from the street

Characteristic	Description
Seating	• wooden bench seat • waiting passengers also sit on steps outside Post Office
Access	• limited to buses, taxis, service vehicles and cyclists

3.1.3 Identified Issues

- Lack of route or locality maps available at this main stop (although there is a Metro Shop on the opposite side of the bus mall where passengers can seek information during business hours);
- Unused space on the road side of the bus shelters;
- View of oncoming buses when sitting in the shelters facing buildings is restricted mainly by the wide shelter pillar supports;
- Queuing arrangement is unclear for passengers waiting to board;
- Congestion associated with through pedestrian traffic and waiting passengers; and
- Difficulty for buses moving from Stop E into the traffic stream and turning around corner, especially when other buses are departing mall. Buses experience delay when turning left and right from mall as they need to give way to pedestrians using the signalised crossings.

3.2 Collins Street near Elizabeth Street (Inbound)

3.2.1 Location Description

All buses arriving in the Hobart CBD from the transit corridor terminate in Collins Street near the corner of Collins and Elizabeth Street. Buses stop in a 3.5 m wide lane to drop passengers off and then turn left directly into the bus mall.

Figure 3 Collins Street Drop Off – Inbound (Facing East)

Figure 4 Collins Street Drop Off – Inbound (Facing West)

3.2.2 Pedestrian Environment

Table 2 describes the characteristics of the pedestrian environment of the bus stop.

Table 2 Collins Street near Bus Mall (Inbound)

Characteristic	Description
Footpath	• paved • slight gradient • approx. 2 m wide • width varies due to building line and placement of other shelters with bus mall • normal kerb height
Safety	• passive • good due to high levels of pedestrian activity and the Collins Street taxi rank situated diagonally opposite • CCTV cameras located above the stop
Lighting	• street lighting
Shelter	• not required due to drop off only nature of the stop
Seating	• not required due to drop off only nature of the stop
Pay phone	• located nearby in mall

3.2.3 Identified Issues

- Buses drop passengers off directly onto footpath which causes congestion with through pedestrians.
- Second bus alights in front of a building with a revolving door which causes pedestrian conflicts.

3.3 Elizabeth Street between Liverpool Street and Bathurst Street (Outbound)

3.3.1 Location Description

This stop is an outbound stop located between Liverpool Street and Bathurst Street, one block away from the Elizabeth Street mall.

Figure 5 Between Liverpool and Bathurst Street – Outbound (Facing North)

Figure 6 Between Liverpool and Bathurst Street – Outbound (Facing South)

3.3.2 Pedestrian Environment

Table 3 describes the characteristics of the pedestrian environment of the bus stop.

Table 3 Elizabeth Street between Liverpool Street and Bathurst Street (Outbound)

Characteristic	Description
Bus Stop	• static timetables provided • no route or locality maps are on display • no tactile surface indicators • located in main shopping area
Footpath	• paved • approx. 4 m wide • slight crossfall • kerb is lower than standard at approx. 100 mm, which increases the step height when boarding bus
Pedestrian Crossings	• signalised crossings at each of the nearby intersections
Safety	• high level pedestrian activity
Lighting	• street lighting • provided by shop awnings • adjacent alley way poorly lit during the day
Shelter	• provided by irregular shop awnings

Characteristic	Description
Seating	• 3 benches • 2 single seats
Visibility	• good view of oncoming buses • difficult to identify location of stop when looking from Mall

3.3.3 Identified Issues

- During the day the adjacent alley way is poorly lit and may be a safety / security issue;
- The kerb is lower than standard which may make it harder for some passengers to step up onto a bus;
- Queuing of passengers can cause congestion with through pedestrian traffic;
- The bus stop sign information is misleading as it reads 'Route 100 All Stops' however not all buses are Route 100; and
- The bus stop is not easily identifiable from the Elizabeth Street mall.

3.4 North Hobart between Pitt Street and Newdegate Street (Outbound)

3.4.1 Location Description

This stop is an outbound stop located between Pitt Street and Newdegate Street in North Hobart. The stop is located centrally in North Hobart in a restaurant and shopping zone.

Figure 7 North Hobart – Outbound (Facing North)

Figure 8 North Hobart – Outbound (Facing South)

3.4.2 Pedestrian Environment

Table 4 describes the characteristics of the pedestrian environment at the bus stop.

Table 4 North Hobart between Pitt Street and Newdegate Street (Outbound)

Characteristic	Description
Bus Stop	• static timetables • no route or locality maps are on display • signage can be obstructed by surrounding signage and awnings
Footpath	• paved • approx. 3 m wide • lower than standard at approx. 100 mm • pavement markings highlights bus stop for motorists • tactile surfaces on pram ramps at signalised crossing
Safety	• CCTV cameras present above awning • view of stop is most likely obstructed by awning • high vehicle and pedestrian traffic creates high passive surveillance
Lighting	• street lighting • provided by shop awnings
Pay phone	• 30 m away
Shelter	• provided by shop awnings
Seating	• one bench facing shops

Characteristic	Description
Access	• connectivity to surrounds is good
Visibility	• clear

3.4.3 Identified Issues

- There is only one bench seat that is well utilised which faces shops making it harder to see oncoming buses;
- Advertising boards take up space on footpath which causes extra congestion with queuing passengers and through pedestrians;
- The kerb is lower than standard which may make it harder for some passengers to step up onto a bus;
- The bus stop sign is obstructed by awnings; and
- Buses stop a few meters back from sign due to obstacles including the street light pole and bench seat, as well as difficulty negotiating around a kerb blister back into the traffic stream.

3.5 North Hobart between Federal Street and Strahan Street (Inbound)

3.5.1 Location Description

This stop is an inbound stop located between Federal and Strahan Street in North Hobart. The stop is near the end of the main North Hobart Strip in a restaurant and shop zone.

Figure 9 North Hobart – Inbound (Facing North)

Figure 10 North Hobart - Inbound (Facing South)

3.5.2 Pedestrian Environment

Table 5 describes the characteristics of the pedestrian environment at the bus stop.

Table 5 North Hobart between Federal Street and Strahan Street (Inbound)

Characteristic	Description
Bus Stop	• static timetables • no route or locality maps are on display • visible with the standard yellow sign and pavement paint markings
Footpath	• paved • approx. 3 m wide • with a slight crossfall • kerb is lower than standard at approx. 100 mm
Pedestrian Crossings	• located approx. 20 m north of stop at the signalised intersection
Safety	• no CCTV cameras in area • high vehicle through traffic and moderate pedestrian activity provides passive surveillance • Stop is located outside state cinema
Lighting	• illumination provided by street lighting
Pay phone	• 30 m away across road
Shelter	• no shelter directly above stop or seating

Characteristic	Description
	• there are adjacent shop awnings
Seating	• 1 bench seat on the building side of footpath facing road
Bike storage	• bike hoops nearby
Access	• a 'Guide to Hobart' including map is located directly across the road from stop • connectivity to surrounds is good
Visability	• roads is straight • good view of oncoming buses • may be hard to see from further into North Hobart strip

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3.5.3 Identified Issues

- There is no shelter directly at the stop and over the provided seating;
- The stop may be hard to identify from further into the North Hobart strip;
- Buses may have trouble re-entering traffic stream due to congestion on approach to Newdegate Street roundabout;
- Driveway at rear of stop may be temporarily obstructed by stopping buses;
- The kerb is lower than standard which may make it harder for some passengers to step up onto a bus.

3.6 New Town approaching Risdon Road (Outbound)

3.6.1 Location Description

This stop is an outbound stop located between Cross Street and Risdon Road in New Town. The stop is located near the New Town Plaza.

Figure 11 New Town – Outbound (Facing North)

Figure 12 New Town – Outbound (Facing South)

3.6.2 Pedestrian Environment

Table 6 describes the characteristics of the pedestrian environment at the bus stop.

Table 6 New Town approaching Risdon Road (Outbound)

Characteristic	Description
Bus Stop	• static timetables • no route or locality maps are on display
Footpath	• asphalt • approx. 2 m wide • standard height kerb • slight gradient
Pedestrian Crossings	• narrow median island on road • pedestrian crossing approx. 30 m north of stop at a signalised intersection
Safety	• no CCTV cameras in area • moderate pedestrian activity • high vehicle through traffic
Lighting	• illumination provided by street lighting
Shelter	• none
Seating	• none

3.6.3 Identified Issues

- There is no seating or shelter available in the vicinity of the stop;
- Street light post and bin are obstacles that further narrow the footpath at the bus stop;
- Pedestrians waiting causes congestion on the narrow footpath; and
- There are no way-finding measures and the stop may be hard to find from New Town Plaza.

3.7 New Town approaching Risdon Road (Inbound)

3.7.1 Location Description

This stop is an inbound stop located between Marsh Street and Risdon Road in New Town. The stop is located near the New Town Plaza.

Figure 13 New Town – Inbound (Facing North)

Figure 14 New Town – Inbound (Facing South)

3.7.2 Pedestrian Environment

Table 7 describes the characteristics of the pedestrian environment at the bus stop.

Table 7 New Town approaching Risdon Road (Inbound)

Characteristic	Description
Bus Stop	• static timetables • no route or locality maps are on display • approx. 200 m from New Town Plaza • located across from Pizza Hut • BWS and Hotel located on corner
Footpath	• asphalt • approx. 2 m wide • standard kerb • slight gradient
Pedestrian Crossings	• signalised pedestrian crossing approx. 30 m south of stop at the Risdon Road intersection
Safety	• high vehicle through traffic • low pedestrian traffic for much of the day
Lighting	• illumination provided by street lighting
Seating	• 1 bench seat on the footpath facing the road • waiting passengers could rest against a low concrete wall

Characteristic	Description
Visibility	• bus stop sign is just visible from the intersection • street signage and some landmark information at intersection • view of oncoming buses is good due to straight road alignment

3.7.3 Identified Issues

- There is limited space on the footpath due to the bus stop post, bin and bench all grouped together in one section of the footpath;
- View of approaching traffic is obstructed temporarily by buses for vehicles entering or exiting the bottle shop / hotel driveway;
- There is no shelter available; and
- It may be hard to find the stop from New Town Plaza, although once at the intersection the bus stop can be seen.

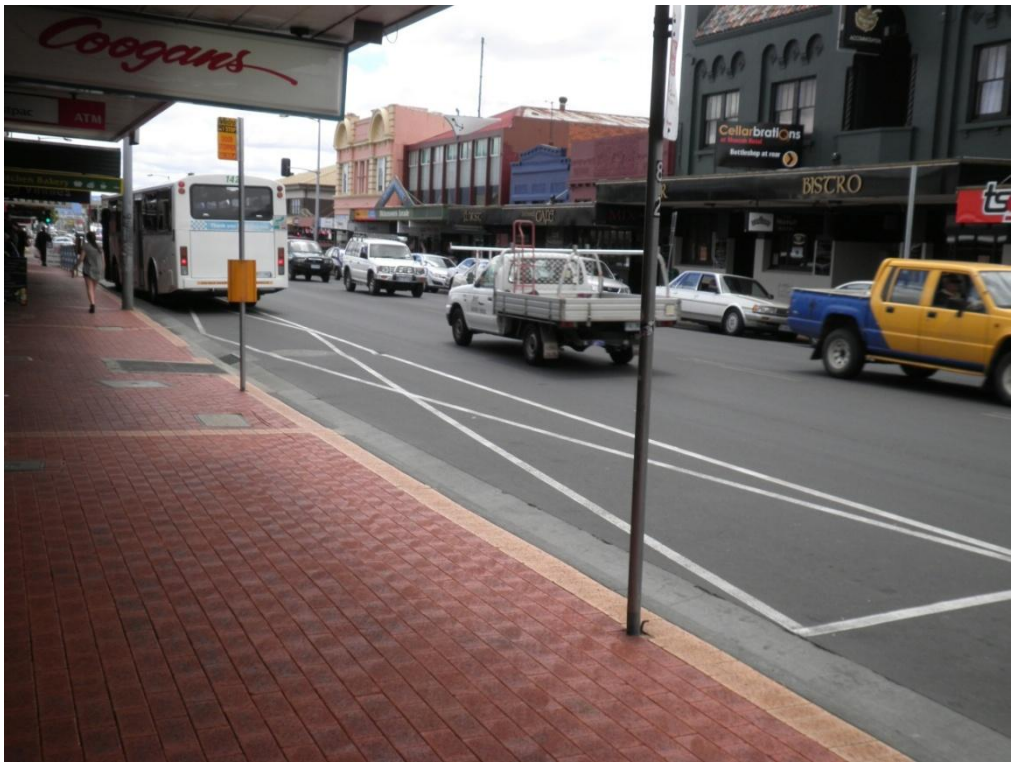
3.8 Moonah (Outbound)

3.8.1 Location Description

This stop is an outbound stop located between Albert Road and Hopkins Street in Moonah. The stop is located centrally in Moonah in a shopping and restaurant zone.

Figure 15 Moonah – Outbound (Facing North)

Figure 16 Moonah – Outbound (Facing South)



3.8.2 Pedestrian Environment

Table 8 describes the characteristics of the pedestrian environment at the bus stop.

Table 8 Moonah (Outbound)

Characteristic	Description
Bus Stop	• static timetables • no route or locality maps are on display
Footpath	• paved • approx. 3 m wide • standard kerb • no tactile surface indicators
Pedestrian Crossings	• close to signalised pedestrian crossing
Safety	• shops, restaurants and bars in close proximity to the stop creating high pedestrian traffic • high vehicle through traffic
Lighting	• illumination provided by street lighting
Pay phone	• phone box located across the road
Shelter	• provided by shop awnings
Seating	• 1 bench seat facing road on the footpath

Characteristic	Description
Bike storage	• bike hoops nearby
Access	• continuity and connectivity is good • stop located centrally in Moonah just before intersection so passengers can use signalised pedestrian crossings
Visibility	• good view of oncoming buses

3.8.3 Identified Issues

- Waiting passengers causes slight congestion with through pedestrian traffic, although the footpath is relatively wide;
- A second bus may not be able to stop completely parallel to kerb due to vehicle parking in the loading zone behind the bus stop.

3.9 Moonah (Inbound)

3.9.1 Location Description

This stop is an inbound stop located between Albert Road and Hopkins Street in Moonah. The stop is located centrally in Moonah in a shopping zone.

Figure 17 Moonah – Inbound (Facing North)

Figure 18 Moonah – Inbound (Facing South)

3.9.2 Pedestrian Environment

The below table describes the characteristics of the pedestrian environment at the bus stop.

Table 9 Moonah (Inbound)

Characteristic	Description
Bus Stop	• static timetables • no route or locality maps are on display
Footpath	• paved • approx. 3.5 m wide • standard kerb • surface level • no tactile surface indicators
Pedestrian Crossings	• stop located centrally in Moonah just before and intersection so passengers can use the signalised pedestrian crossings
Safety	• high pedestrian traffic
Traffic	• high vehicle through traffic
Lighting	• illumination provided by street lighting
Pay phones	• located across the road at Post Office
Shelter	• shelter provided by shop awnings

Characteristic	Description
Seating	• 1 bench seat facing the buildings on the kerb side of the footpath
Access	• close to shops and Commonwealth Bank • continuity and connectivity to surrounds good with a stop located centrally in Moonah
Sight distance	• good view of oncoming buses

3.9.3 Identified Issues

- Passengers waiting, lean against shop walls which causes slight congestion with pedestrian through traffic; and
- Limited seating capacity.

3.10 Glenorchy Bus Mall

3.10.1 Location Description

This bus stop is located in the Glenorchy Bus Interchange on Tolosa Street, just around the corner from Main Road. The bus interchange is located beside the Glenorchy Council offices. There is a moderate level of pedestrian activity near the stop.

Figure 19 Glenorchy – Inbound (Facing South)

Figure 20 Glenorchy – Inbound (Facing West)

3.10.2 Pedestrian Environment

Table 10 describes the characteristics of the pedestrian environment at the bus stop.

Table 10 Glenorchy Bus Mall

Characteristic	Description
Bus Stop	• static timetables • some route or locality maps are on display
Footpath	• paved • approx. 4 m wide • standard kerb • surface is level • no tactile surface indicators
Pedestrian Crossings	• signalised crossings present at the intersection at both ends of the bus interchange
Safety	• no CCTV cameras at stop • majority of pedestrian activity is from passenger waiting for buses
Lighting	• illumination provided by street lighting
Pay phones	• within 35m of the inbound stop
Public toilets	• within 20m of the outbound stop
Shelter	• shelter provided

Characteristic	Description
Seating	• 2 benches under shelter • unsheltered bench seating available
Access	• no dedicated drop off zones or parking for kiss and ride or park and ride are provided • there is a car park adjacent car park that could be used for short-term parking
Visibility	• good • oncoming buses can be seen turning into interchange from Main Road

3.10.3 Identified Issues

- There is limited passive security at the stop as pedestrian traffic is mainly comprised of waiting passengers;
- Only limited bus route maps are available and there is a lack of locality maps;
- Way finding to the bus stop is limited as there are limited measures in terms of directing pedestrians to the bus interchange. There were no observed signs to help direct people from Main Road to the bus interchange; and
- There are no dedicated drop off zones or parking for kiss and ride or park and ride besides the Council car park adjacent to the stop with short term parking limits.

4. Alternative Springfield Depot Stop

Existing inbound bus stops in the vicinity of the Springfield Depot include:

- Johnson Street (KFC / Praties);
- Springfield interchange; and
- Maxwell Street (China Diner / Aurora).

Not including a "Do Nothing" option, there are essentially 2 options for an alternative inbound stop to replace the existing Springfield interchange, either north or south of the Springfield Avenue intersection. A number of factors need to be considered in determining the preferred location for a stop:

- The distance between Johnson Street and Maxwell Street is approximately 550m. The mid-way point between these two existing stops is opposite the Springfield interchange, north of the Springfield Avenue intersection. An even placement of stops will generally provide more complete coverage of the catchment area along a bus route.
- Individual land uses around the Springfield Depot mostly have low rates of pedestrian activity generation, although cumulatively the area is relatively busy. Therefore a bus stop should be easily accessible from a wide range of locations. Given the park and ride facility at the Springfield interchange, though, easy access to this should be provided.
- There are limited pedestrian crossing opportunities across Main Road: at the Main Road / Springfield Avenue / Derwent Park Road signalised intersection, and pedestrian refuge islands at Tregear St (Carlisle Hotel) and Maxwell Street (China Diner). A bus stop should also be easily accessible from these locations.
- Between Tregear Street and Springfield Avenue there are approximately 10 driveway crossovers providing access to the various commercial / retail operations on the eastern side of Main Road. Locating a sufficient length of kerb to accommodate the required number of buses (space for at least 2 buses to stand simultaneously would be required) is problematic without creating potential conflicts with vehicles using these accesses. It is understood that Metro have previously discussed closure of some of these crossovers with landowners and met with significant resistance.
- The southbound queue on approach to Springfield Avenue regularly extends back for the full length of the Springfield Depot frontage. A left turn lane is provided for approximately half of this length. A bus stop within this area would potentially disrupt traffic flow and affect intersection operation. A bus may also have difficulty entering the through traffic lane.
- A bus stop on the departure side of the intersection (i.e. south of Springfield Avenue) will generally have a reduced impact on intersection operation, provided that there is sufficient width for cars to pass a stationary bus. The current width of the southbound lane south of Springfield Avenue is not sufficient for traffic flow to be unaffected. Widening may not be possible due to the need to retain the median turn lane for access to the service station, and services located within the existing footpath. Buses would also potentially have to stop on approach to the intersection as well as on departure, increasing overall delay compared to an approach-side stop (although probably not compared to the existing situation). Unless sufficient width is available, the general traffic stream would be similarly affected.

It is apparent that there are 3 potential options for the alternative bus stop. These are outlined below, along with the advantages and disadvantages of each.

Table 11 Potential Options for Additional Bus Stop

Description	Advantages	Disadvantages	Other Notes
Bus stop opposite Carlisle Hotel (see Figure 21)	Located clear of influence of signalised intersection Proximity to pedestrian refuge island	Distance from Springfield interchange (park and ride) Potential for through traffic to be delayed due to inadequate lane width 2 buses may not be accommodated clear of driveways	Would potentially consolidate with existing Johnson Street stop May be able to negotiate temporary obstruction of driveways by a bus to avoid closing them altogether
Bus stop opposite Springfield interchange (at start of left turn lane) (see Figure 22)	Minimise delays for bus travel times Reduce impact on intersection operation	Driveway conflicts - 2 buses may not be accommodated clear of driveways. Power poles and road signs obstruct waiting area Buses may have difficulty re-entering through traffic lane Indirect pedestrian access to interchange May reduce capacity of left turn lane	Additional pedestrian refuge island should be considered Alternative access to Totally Workwear (e.g. through Building Supplies access) could resolve driveway conflicts
Bus stop opposite Bob Jane T-Mart (see Figure 23)	Minimise impact on intersection operation	Traffic departing signalised intersection may be stopped by stationary bus Buses potentially delayed twice in vicinity of intersection Distance from Springfield interchange (park and ride)	May be potential for reducing footpath width, but at expense of passenger facility space. In-ground services may also be an issue Would potentially consolidate with existing Maxwell Street stop

Neither of these options is without complications, and therefore no firm recommendation can be made at this stage. A fourth option which should be considered also is that the inbound stop remain at the Springfield interchange, and that bus priority measures be put in place to minimise the amount of delay experienced by buses turning right from Springfield Avenue into Main Road. Such measures could include the ability for approaching buses to extend or call early the right turn phase.

Given the uncertainty surrounding this situation, it is recommended that more detailed investigations be carried out, including more detailed design, estimates of the relative costs of each option, and consideration of the traffic impacts of each.

Figure 21 Potential Bus Stop Location Opposite Carlisle Hotel

Figure 22 Potential Bus Stop Location Opposite Springfield Interchange

Figure 23 Potential Bus Stop Location Opposite Bob Jane T-Mart

5. Discussion

This audit of bus stops has identified a number of common issues found throughout the corridor, including a lack of route map information and locality maps, and pedestrian congestion at bus stops due to narrow footpaths / waiting areas. In addition, specific issues were identified at particular locations, such as pedestrian access routes, the ability of buses to stop close to and parallel to the kerb, and kerb heights making stepping up onto a bus difficult for some passengers.

5.1 Next Steps

In light of the audit findings, the objectives for the corridor will need to be determined in consultation with DIER, and determine whether any corridor-wide improvements will be proposed. A framework for allocating priorities to potential works, reflecting the overall objectives for the corridor, should also be articulated. For instance, there will be issues identified by the audit that are not as strategically significant as others, and therefore should receive a lower level of priority.

With these objectives in mind, options for remedying the issues should be identified and prioritised in accordance with the nominated framework. Cost estimates should be prepared for each proposed item of work. Following on from this will be an implementation plan, identifying timing and funding requirements.

Appendix A

Bus Stop Review Checklists

Pedestrian Access

Site Location: **Bus Stop Number:**
Outbound / Inbound

Date:
Surveyor:

Bus Stop Checklist

Description	Comments
Environment	
Information (number, name, timetable, map, real time information).	
Safety & Security (CCTV, passive surveillance, emergency help phone, adequate lighting).	
Description of surrounding land use (type of use, hours of operation, level of generation).	
Shelter (type, cleanliness).	
Seating (type, amount).	
Footpath (condition, width ~1.5m to 2.5m, kerb height ~150mm).	
Pedestrian access (level of service, continuity and connectivity to surrounds, way-finding, visibility of bus stop, crossings, bicycle storage, phone box).	
Disabled access (gradient, surface type, tactile ground surface indicators).	
Bus stop location (Sight distance for pedestrians, appropriateness of location, etc.).	
Other (bins, drainage or other obstacles).	
Bus Stop arrangement	
Capacity (appropriate space / queuing).	
Design (length of stop, adequate approach and departure distances, ability of bus to	

stop close and parallel to kerb, entry and exit nature – whether stop is bound by parking).	
Drop off zone provision for Kiss and Ride.	
Parking for Park and Ride.	
Impact on other road users	
Congestion (pedestrians, vehicles).	
Road safety issues (conflicts with driveways, turning lanes, adjacent land uses etc.).	
Cycling (connectivity to cycling routes etc.).	
Width of road	

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