BETTER BUS ACCESS

Summary Report of the Bus Access Forum

Held 1 September 2011

Held in collaboration between the Victorian Council of Social Service (VCOSS), the Council on the Ageing (COTA) Victoria and the Victorian Department of Transport (DOT)

VCOSS Report

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The Victorian Council of Social Service (VCOSS) is the peak organisation of the non-government social and community services sector. VCOSS raises awareness of the existence, causes and effects of poverty and inequality, and contributes to initiatives seeking to create a more just society.

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Introduction

On 1 September 2011, the Victorian Council of Social Service (VCOSS) and the Council on the Ageing (COTA) Victoria co-hosted a forum in collaboration with the Department of Transport (DOT) to discuss the accessibility of Victoria's bus network. Around 100 people registered to attend, including seniors, people with a disability, and representatives of community organisations and local government. The forum included a mix of people from both metropolitan Melbourne and rural and regional Victoria.

The forum began with some short presentations from representatives of the Department of Transport and the Bus Association of Victoria. Most of the event was focused on facilitated group discussion which examined people's experiences, requirements and ideas about the accessibility of the scheduled route bus network. Participants also made additional comments about other bus services. The discussion posed focus questions to participants, and the main ideas were recorded. Participants were also given a list of the discussion points, and were free to record additional comments. A list of the discussion points is appended to this report. Group discussions were led by staff members from DOT, VCOSS and COTA. The notes from discussions and the written comments by individuals were collated to form the basis of this report.

This report provides an edited collation of comments received from the forum, including some additional comments submitted to VCOSS by e-mail and telephone by people unable to attend the event in person. The summary was generated by thematic analysis and synthesis of the comments received. It neither purports to represent the view of any particular person or organisation present at the Forum, nor would every attendee agree with every statement made in this document. Rather, the report seeks to provide a general perspective of the views of participants, and present their ideas in a logical format.

We would like to acknowledge and thank COTA and the Department of Transport for their assistance in hosting this event, and especially thank all of the participants for giving their time, ideas and energy to make the Forum a success. We would also like to thank Travellers Aid Australia, who provided attendant care at the event, for helping ensure everyone was included and able to participate.

Summary of key points

Designing accessible buses

- Bus vehicles should be designed according to universal design principles and should be able to easily accommodate a variety of users, including people using mobility aids and walking aids, people with a vision impairment, including those with guide dogs, cyclists, parents with prams and strollers, and people travelling with luggage or shopping trolleys.

- The internal layout should be able to accommodate a broad variety of mobility aids, prams or other luggage. This includes providing a safe, easy, and independently accessible way to board and disembark the vehicle, sufficient space to manoeuvre within the cabin, and an ability to secure mobility aids within the vehicle.

- The internal fittings in the bus should promote access, including avoiding use of 'flip seats' over allocated spaces, provision of seatbelts, well-placed handrails at a variety of heights in high-contrast colours, use of non-slip materials, and suitable alert buttons for attracting the attention of the driver and indicating a desire to disembark.

- Other suggested access improvements included: ticketing systems that were easy to use; clear destination displays visible from the front, side and rear of the vehicle; and provision of smaller vehicles for low-patronage routes.

Better bus stops

- Bus stops should have good amenities, especially at high-use locations, including shelter, seating and lighting, as well as being well-maintained.

- Bus stops should be designed to maximise easy boarding and safety, including by providing sufficient space for a diversity of users to board, creating vehicle docking that minimises boarding gaps; good visibility between drivers and passengers waiting at the bus stop; and good layout at bus interchanges.

- Bus stops need to be accompanied by good pedestrian infrastructure, including clear pedestrian access paths, nearby pedestrian crossings, and well-placed Tactile Ground Surface Indicators (TGSIs).

- Bus stops should be located to maximise proximity to points of origin and destination to minimise walking distances and maximise convenience, and be visibly 'paired' with a companion stop for the return journey.

- Bus stop signage should be accessible, including at a height that allows different people to read signs, and not be difficult to manoeuvre into position to read it.

The driver relationship

- A good driver places priority on his passengers needs, seeks to facilitate access for everyone, and is friendly, courteous and well-presented to make passengers feel welcome.

- Drivers should have good local knowledge act as local travel guides, assisting people in finding the correct public transport service and to arrive at their desired destination.

- Drivers should have the skills and awareness to provide assistance to passengers who require it, including assisting with boarding and ensuring passengers are able to obtain appropriate seating.

- Drivers should prioritise the safety of passengers in operating the bus, including making turns gently, avoiding sudden changes in speed, allowing sufficient time for passengers to be safely seated, and manoeuvring the vehicle to facilitate accessible boarding.

- Drivers and other bus staff should be recruited and trained to provide a highly accessible service.

Navigating the bus network

- Many people lack knowledge of how to use bus systems, including whether they will be able to use the service, how to plan journeys using the bus network, how to find the information they need to make bus journeys, and what accessibility features will be available for a given service.

- Written information should be clear and legible to maximise the number of users, including through signage, timetables, Passenger Information Displays (PIDs) or hardcopy brochures; audible information systems should be easy to hear, switched on and well-maintained.

- Information should include easy-to-use timetables, route maps, local area maps, fare information, guides to journey planning, and good communication of service changes or disruption.

- Transport agencies and operators should maximise information supply through a range of formats (including written, symbolic, audible and tactile) and at different locations in the bus journey, including at bus stops, on board vehicles, through telephone, the internet and mobile devices, marketing and public awareness activities, and through boarding trials and travel training.

Route scheduling and network design

- Services should be punctual and frequent, have a wide span of operating hours, prevent overcrowding, meet the needs of local communities, make low-floor buses available, and support interchanging.

- Bus routes should connect people to the destinations they require, including sensible stop spacing, a balance of direct frequent routes and local coverage services, opportunities for interchanges, and be supported by good street design and bus priority measures.

A system that supports bus access

- Making decisions about the bus network should incorporate social and environmental objectives.

- Good community engagement and feedback mechanisms would improve the decisions made about accessibility of buses.

- Improved coordination across the public and community transport system, more resources and faster implementation of accessibility improvements would improve the accessibility of the bus system.
- The needs of rural communities require additional attention in decisions about bus services, including an understanding of their particular circumstances and the way they differ from passengers in cities.
- More attention should be given to alternative bus service models, such as flexible and demand-responsive services, and the use of community transport.

Designing accessible buses

Universal design

There was general agreement among forum attendees that buses should be designed from the outset to meet a wide variety of user needs in order to be independently accessible for everyone. This process should address both physical and informational access requirements both inside the vehicle and on its exterior. One person suggested that a new bus prototype be developed using universal design principles, while one group added that international experience in design be used to inform the design process of vehicles used in Victoria.

Participants questioned whether current low-floor buses should be considered accessible. A number of people regarded all buses as an inaccessible form of public transport, particularly for people who use mobility aids such as mobility scooters or electric wheelchairs. As a result, a number of people reported that they did not use the bus system due to their access requirements not being met. Others pointed out that the various bus models in the current fleet provide different levels of access, for instance, some people remarked that the 'SmartBus' fleet provides a better standard of access compared to local bus services.

In particular, lack of consistency in vehicle design and interior layout was reported as a problem. The multitude of bus models and space configurations meant that people could not rely upon a bus service to provide access consistently, even if some buses were able to be used. Constantly changing vehicle layouts make using the service more difficult for those with a vision impairment. Similarly, mobility aid users had variable ability to negotiate different interiors, if they could do so at all. Ultimately, users recommended that a single, consistent standard for vehicle configuration should be used across the bus fleet, with the possibility of retro-fitting older models to allow faster implementation. One discussion group suggested that this be further extended nationally.

Some participants were keen to distinguish between independent access and assisted access. Independent access is where a person can use the public transport without the intervention of another person. Assisted access is where access is reliant on the action of another person, such when a driver manually deploys a boarding ramp. Participants reported that the design of public transport should ultimately aim to ensure independent access, although assisted access might be a short-term solution while better solutions were implemented. One group reported that this required designers to go beyond minimum *Disability Discrimination Act 1992* (DDA) standards.

In adopting a universal design approach, participants stressed the diversity of users who needed to be catered for in the design process. While there was much discussion about those using mobility aids (discussed in further detail later), the needs of other users were also recognised. For instance:

- **Guide dog owners**, while noting that they have reasonable access, stressed that a guide dog will not direct a person into a confined space, and required egress at the front door.
- **Cyclists** noted that (non-foldable) bicycles were not permitted on buses, meaning that cycling journeys could not be combined with bus journeys, including for access to bike trails in country Victoria.

- **Parents of small children** required adequate space to manoeuvre and 'park' prams and strollers, without occluding access for other users.
- **People carrying luggage or shopping** required adequate storage space near their seating to store their possessions.
- **People using walking aids** also required sufficient space to store their device (such as a walking frame or 'wheelie-walker').

Designing for mobility aids

The largest area of discussion about bus design was catering to the needs of people using mobility aids, especially wheeled devices such as wheelchairs and mobility scooters, but also walking aids. There was general acknowledgement that the introduction of low-floor buses had improved access to buses, but there were continuing concerns about their accessibility.

Designing for easy boarding

A number of people, particularly those with certain models of mobility scooters or electric wheelchairs, reported that they could not consistently board the vehicle using their device, or were unable to board at all.

Participants repeatedly raised the concern about the gap between the height of the vehicle entry and the kerb or hardstand available at the bus stop. Ideally, some participants proposed that a solution be found to allow seamless access to vehicles without the use of a manually-deployed boarding ramp, and that minimising the gap between the vehicle and boarding place was an important element of this task. It was also reported that this gap was not only a concern for wheeled devices, but also for other users, including people using walking frames, white cane users and others including seniors who had limited strength and ability to navigate the gap.

Participants reported that while low-floor vehicles had reduced the gap and the need to climb many stairs, they were concerned that there appeared to be no standard height for a 'low-floor' vehicle, that 'kneeling' functions[1] were inconsistent in height or inconsistently used and that kerb or hardstand heights were similarly variable.

Consequently there was a perception that the gradient of boarding ramps was highly variable, dependent on the relative height of the bus entry and kerb. The variability in gradients means that people were uncertain about how hard it would be to navigate the ramp, with steep gradients presenting difficulties for some users. One person suggested that steep gradients frequently did not meet DDA standards, and presented a hazard whereby people could slip off the ramp. Other participants considered the possibility of automated boarding ramps which could reduce the need for drivers to manually deploy ramps. However, it was also noted that automated ramps might be subject to mechanical failures, necessitating strong testing and maintenance regimes if this option were to be pursued. Others rejected the use of boarding ramps, and believed that a 'gapless' solution should be

[1] The 'kneeling' function is where the floor level of the entry door is lowered by a pneumatic device

found. Individual comments also noted that ramps should be able to incorporate situations where the bus did not meet a 'kerb', and be free from mechanical failures.

Manoeuvring mobility aids

It is not only boarding that presents potential problems for bus use, but the need to manoeuvre a mobility aid within the bus. This aspect of bus use attracted a great deal of commentary, appearing to be one of the most significant concerns for mobility aid users. In order to use a bus, people using a wheeled mobility aid need not only to board, but to also negotiate the turn into the vehicle, and then manoeuvre into the allocated space. Disembarking the vehicle necessitates conducting a 180º about-face in order to achieve the correct orientation to exit, as current requirements only provide ramp access at the front door. Users report that there is often insufficient space to conduct these intricate manoeuvres in current vehicle designs, particularly noting the diversity of mobility aids, vehicle layouts, presence of obstacles and other passengers, and variable skills of users.

A number of participants discussed problems with turning, particularly negotiating the entrance 'corridor' of the bus. A number of users noted the difficulty with moving past the driver's compartment, and with completing the turn through a narrow gap between the wheel hubs. Several participants suggested that the doorway and aisle should be wider, or the turn more gentle. People also suggested that there be additional room in the cabin for manoeuvring, including into and out of allocated spaces. Several discussion groups also remarked that the myki validator presented an obstacle which reduced the available space at the entry and made negotiating the turn more difficult.

One option that attracted many participants was the idea that buses be designed with an alternative access mechanism involving the rear door of the vehicle. There were a number of permutations of this idea. One version considered the idea of allowing rear door boarding for mobility aids, at doors located between the wheel axles. Accompanied by a re-organisation of the cabin design to allow more space for manoeuvring in the centre of the vehicle, this option would avoid the narrow space between the wheel-hubs and the difficult turn at the front of the vehicle altogether. A variant of this suggested that it could also allow an aid to back out of the vehicle, avoiding the need for a 'u-turn'. An alternative version would be to allow 'drive-through' access for buses, so that a mobility aid could enter through one set of doors and exit through the other, again avoiding the need to conduct an 'about-face' manoeuvre. Related suggestions included larger 'double-doors' in the middle of the vehicle, and gapless access to avoid the need to deploy a ramp. One person queried the use of alternative entry, suggesting it could contribute to fare evasion.

A related concern was the amount of space designated for mobility aids or other items requiring room in the bus, such as prams and shopping trolleys. Users made a number of comments that there were too few spaces, which were often too small, or too difficult to manoeuvre into. Other participants also noted that insufficient space meant that the centre aisle easily became obstructed, making access difficult for other users. One group noted that this may be a particular problem in country areas, while another suggested the possibility of allowing additional space elsewhere in the vehicle for prams and luggage, such as by installing side-facing seating at the rear of the vehicle, which would obstruct fewer users.

Securing mobility aids

Multiple discussion groups raised concerns about the stability of mobility aids during travel. This included wheeled mobility devices including wheelchairs and scooters, but also extended to walking aids, and included the instance where some scooter users wanted to be able to dismount from their aid to enable them to use more secure seating. Several people argued for some 'locking device' or other means of securing a mobility aid to the within the vehicle, including suggestions such as installing anchor points in the vehicle, or providing straps to secure mobility aids. One comment noted that the problem was particularly acute when the bus turned corners at speed, leading a mobility aid to move laterally, while another was specifically concerned that certain, less stable, mobility aids could tip over.

Diversity of mobility aids

Most discussion groups discussed the problem of the diversity of mobility aids now available for purchase, including many motorised scooters that do not fit the dimensions specified for public transport use, including the turning circle. There were varied comments about this issue, including that buses be more accommodating in their design to allow for a greater diversity of aids. In addition, a number of people pointed to other responses, including the responsibilities of manufacturers, retailers, and users in ensuring devices were the correct size for public transport use. It was also suggested there is a role for government in providing better information to all parties on requirements, and providing a recognition of compliance such as a sticker or 'standards tick'. One person also suggested that the same problem occurred with prams and shopping trolleys; and perhaps similar mechanisms should be used to reduce problems.

Internal fittings

Participants identified numerous concerns about the design of buses that impact on their ability to make use of public bus transport in comfort and safety regarding the internal fittings of the vehicle. Prime among these were concerns about the design of seating, handrails, flooring, alert push-buttons and the use of colour contrasting materials to enhance safety.

A common issue regarding seating was the use of 'flip-seats' on buses, which provoked a number of responses. Several people mentioned that 'flip-seats' were frequently installed over allocated spaces, meaning that a conflict was produced between people sitting on the seats and people who required the allocated space. One comment reflected difficulty with folding up the seats, while others noted drivers' reluctance to help ensure the space was available and unobstructed. A further comment explained that the presence of 'flip-seats' produced an obstruction that limited manoeuvrability in the space.

Additional comments about seating included the lack of seatbelts, particularly for long trips in regional areas which are often driven at speed. Individuals also noted discomfort from hard or insufficient seating. Two comments drew attention to problems with using priority seating, believing that additional education or signage should be introduced to ensure the travelling public understood the purpose of priority seating and allocated spaces.

A large number of comments were concerned about the quality of the ride, with specific reference to the discomfort caused and the risk of injury through falls. This included the effects of sudden acceleration and braking, as well as cornering at speed. A frequent suggestion was that additional attention be paid to the presence and location of handrails

to ensure that passengers can steady themselves when unsteady. In particular, individual comments included the need for handrails at multiple heights, noting that many of these features (such as 'hanging straps') were unable to be used by people with insufficient height, strength or arm movement. The use of high colour contrast materials to identify handrails and other safety features were also mentioned as particularly important to people with low-vision.

A related concern was ensuring the use of non-slip materials to reduce safety incidents, especially when floors were wet. The importance of using non-slip material for boarding ramps was also mentioned.

A few further comments addressed 'alert' buttons located on the vehicle. One group noted that the 'next stop' button on some models was located in inconvenient or hard to reach locations, while another commended this function more generally, particularly the visibility of the 'next stop' light that illuminated at the front of the vehicle after pressing the button. Another group suggested a flashing light above the door when opening to assist people with low vision, while a further comment suggested the installation of assistance buttons to indicate to the driver that a person required additional time or assistance to exit the vehicle.

Designing to make bus use easier

A number of additional observations and suggestions were made about design elements that might improve the useability of buses, in addition to internal audible announcements and visual display capabilities (which are discussed later in this report). These include ticketing facilities, livery, external displays and signage and the appropriate use of universal access symbols.

Some participants made the observation that ticketing systems can create bottlenecks at the entry and exit points of vehicles, and in doing so can cause issues for access and egress, particularly in time-constrained circumstances. Several participants were concerned that the myki ticketing system exacerbated these issues by requiring people to validate upon exit as well as entry. In addition, one comment suggested that myki is more difficult to use than the Metcard ticketing system, particularly given the additional imposition when interchanging vehicles. Conversely, another participant noted that myki has resulted in cheaper fares for some passengers.

Participants at the forum discussed how easy public route bus services are to recognise in response to a specific question on the issue. Several tables noted that the colour and livery of buses helped in distinguishing public buses from charter or school buses, although the use of bus exteriors for advertising space made this ability more difficult. Two discussion groups suggested using additional colour identification or signage to better identify public route buses. One participant reported recognising the 'yellow bumper' to identify public buses, another used the disability access sticker to indicate a public bus, while a third person reported difficulties distinguishing buses: indicating they had once accidently boarded a school bus. An alternative suggestion was that private buses should not use the road lane adjacent to the bus stop, so that people waiting at the stop can discern that it is not available for boarding.

A prominent discussion topic for identification of buses was the design of the bus external display, which shows the bus route number and destination. Comments included that the display was too small to be seen at a distance, particularly from stops served by multiple

routes where it was important to distinguish between services, and were of inconsistent sizes and illumination. A few comments added that it is more beneficial when buses have destination displays located on the side and rear of the vehicle, not only at the front, so the route can be identified from multiple viewing angles. One person commented that certain destination displays can be difficult to read in certain weather conditions, such as bright sunlight. Another noted that school bus signage should be removed from buses when not operating as a dedicated school bus.

A further concern raised in two instances considered the use of a disability access symbol when people were unable to use the vehicle as incorrect; noting that simply being low-floor was not sufficient to ensure a service was accessible. Another person noted that the suspension on buses affected the quality of the journey.

The size of buses was mentioned as being a consideration for its ability to provide good access, or be used in flexible service models. Participants considered smaller buses suited to providing feeder services, or services in low patronage areas, with more flexibility to negotiate narrow streets and stop when required.

Better bus stops

Generally, there was a widespread view among participants that bus stops required additional design improvements and facilities for better access. The level of access provided by a bus stop was noted repeatedly as an important element in the choice of bus stop used, as well as the decision to make a bus journey at all. Poorly designed bus stops impeded use of the bus system or made journeys difficult or unpleasant. Several comments urged increased investment in bus stop upgrades, and specifically prioritised greater uniformity in the level of access provided at bus stops to improve the reliability of bus access at different locations, including reducing the access differential between metropolitan Melbourne and rural and regional locations.

Amenity and facilities

The strongest theme raised in discussion of bus stops was the level of amenity provided by the stop, with shelter, seating, lighting and maintenance all consistently and frequently mentioned.

The provision of shelter at bus stops was considered necessary to support access to buses in variable weather conditions, including providing protection from the wind, rain, dust and hot sun. A number of comments were also made that some bus shelters did not have adequate space for mobility aids, meaning that some people using them could not make use of the shelter and remained exposed to the elements. One discussion group considered the issue of space for waiting infrastructure more generally, specifying that more space at stops was required. People also advised that there are number of potential conflicts in locations with limited space and that amenities can also act as obstacles along pedestrian access paths or in vehicle boarding. A number of comments suggested that priority for shelters should be more consistently associated with bus stops with the highest patronage.

Similarly, the provision of seating at bus stops was repeatedly stressed by participants including that there should be sufficient seating for the number of waiting passengers. The requirement for seating was particularly mentioned as important where waiting times might be longer, as some people had difficulty standing for long periods of time.

The provision of lighting at bus stops was also mentioned many times by different discussion groups and individuals. The provision of lighting was considered particularly important for use of buses at night, with one person noting that general street lighting was insufficient for the purpose. Two distinct reasons for good lighting were given: assisting in ensuring passengers felt safe while waiting; and in ensuring that bus drivers could see a waiting passenger and did not bypass them in a darkened shelter.

A different aspect of the amenity provided by the bus stop was ensuring that the stop was clean and well-maintained. Participants noted that they may avoid using dirty, vandalised or deteriorating stops. Two discussion groups specifically mentioned the problem of broken glass presenting as a hazard, which could, for instance, damage the tyres of mobility aids. Other individual comments included requesting the provision of rubbish bins at stops, ensuring that ‘no smoking’ signs were present and visible, and that more stops should have a nearby payphone.

Supporting boarding and safety

In discussing access from bus stops, a second area of concern was ensuring that the stop allowed safe and easy use, including by providing an appropriate interface with the vehicle; ensuring passengers and drivers could see each other, allowing the bus to stop for all passengers, and supporting safe access, particularly from the threat of motor vehicles.

Ensuring the provision of a 'hardstand'[2] at each stop was considered among the most basic infrastructure needs for access. Not only does the hardstand provide a firm interface with the bus vehicle to assist boarding, but also ensures passengers have "somewhere to stand that is not mud, grass or gravel", especially in rural and regional areas. A number of comments went further, indicating that hardstands should aim to be developed into 'platform stops' akin to those used in the tram system, whereby level access could be achieved without the need to deploy a ramp.

A related concern was the ability of bus stops to be designed to allow the bus sufficient space to manoeuvre for 'docking' to maximise boarding ease and access. A number of different concerns were raised relating to this issue. One comment suggested that stops should have dedicated bus bays so the bus could stop outside the main stream of traffic, which reduced the pressure on drivers to move quickly, including when passengers needed additional time to board and be seated, as well as allowing the bus stop to be located further away from the oncoming traffic. Another discussion group noted that insufficient space meant that buses could not correctly manoeuvre into the bus stop. Two comments suggested that different route services using the same stop should have different dedicated bays to help ensure passengers could identify the correct vehicle. A different comment also noted that bus bays were often blocked by cars unlawfully parking in them, and suggested greater enforcement efforts to prevent this occurring.

The concerns about good design, access and manoeuvrability were replicated with reference to larger bus interchanges, whether solely for buses or at a connecting train station. Individual issues identified included good pedestrian access between bus bays, especially to avoid vehicle hazards or the need to make long detours to make a connection. One comment was concerned that buses do not always use the correct bay at congested interchanges, while another noted that signage and information was often confusing or inadequate. At train stations, one discussion group noted the barrier presented by having to negotiate a car-park in order to make a connection, while another was concerned at overcrowding at train station car-parks.

A major concern about bus stop design and location was ensuring that a stop had good visibility. This included ensuring that pedestrians could easily find a stop and good visibility to be able to tell when the bus is coming, as well as having sufficient warning of one's approaching stop when riding in a vehicle to be able to alert the driver. It was particularly stressed that a seated passenger waiting at a bus stop be able to see an approaching vehicle to ensure the driver's attention can be attracted, and similarly that drivers can identify a seated passenger with sufficient time to stop safely. Particular problems with existing stops included seating that faced away from the direction of the bus's approach,

[2] The 'hardstand' is the concrete slab or kerb extension placed at the boarding point to provide a fixed ledge against which to park the bus for boarding

shelters that occluded the line of vision to the oncoming bus, and environmental features such as vegetation or road curvature blocking the view of an arriving service. Other individual comments included ensuring signage was visible; using colour and luminosity contrasts so that bus stops could be easily identified; and using transparent shelter materials to aid visibility.

There were several comments that drew attention to the issue of safety and security in using bus stops. A few noted that people often felt vulnerable and exposed while waiting at a bus stop, and people equally mentioned the threat of hazards from motor vehicles at stops that were located very near to the road space.

Pedestrian infrastructure

Every discussion group recorded a comment during the forum regarding the need for good pedestrian infrastructure in order to utilise a bus stop. Most common was the comment that a footpath and/or access path needed to actually exist for some people to be able to use the bus stop, and particular criticism was made of the practice of installing DDA compliant hardstands with no connecting pedestrian infrastructure. Several people also noted that the pedestrian infrastructure needed to be in good condition to be used, with footpaths on occasion cracked or prone to subsidence. Others mentioned that pathways may have obstacles which prevented access, including facilities associated with the bus stop itself such as benches or rubbish bins. One comment noted that some bus stops are near a footpath, but do not have an access path that connects to the hardstand. A few comments pointed to the particular needs of certain geographic areas for pedestrian access, including peri-urban and rural areas.

A second concern about pedestrian infrastructure was the lack of safe pedestrian crossings near bus stops, reflecting the fact that on either the initial or return journey, people usually require the ability to cross the road to use the bus service.

Several groups discussed the use of Tactile Ground Surface Indicators (TGSIs) in relation to bus stops. There was concern that TGSIs were not used consistently at bus stops, for instance, that directional TGSIs did not lead from the boarding point to a safe location on the footpath, that high contrast colours were not used, or that poor materials meant that TGSIs degraded and broke off. One comment also raised the concern that TGSIs can present an obstacle for some mobility aid users.

Stop placement

Participants made a number of comments about the local placement of bus stops among the issues that affected their choice of bus stop (issues related to stop spacing are discussed elsewhere in this report). The strongest response about bus stop location was proximity: that stops should be located to minimise distances between the stop and points of origin and destination.

Proximity was related to the concept of convenience: users were interested in convenient transport options and the distance to the bus stop was a central feature in this decision. Participants equally emphasised proximity to home and proximity to destinations. Destinations mentioned included shops and activity centres, hospitals and medical facilities, entertainment destinations, and railway stations. One comment noted that the topography

of the site should also be a consideration in stop placement – with stops that require steep approaches less desirable.

Other issues with stop placement included discussion of the location of stop 'pairs' – implying an expectation that bus stops for opposite directions on a bus route should be located as closely as possible. Particular concerns were raised about the practice of creating bus routes that do not follow the same streets in both directions, meaning the location of the 'paired' bus stop may be hard to find. Similarly, people noted that in some places bus stops do not have a 'pair' at all.

A few participants also raised concerns about the procedures for stop deletion and relocation, suggesting that these were not always done with broad consultation, or were undertaken at the request of vested interests. Examples were given that, in some cases, changes to stop locations resulted in reduced access, by requiring some users to walk further, or by creating new difficulties imposed by the new location (such as the lack of a pedestrian crossing).

Placement of signage

People discussed the useability of signage placed at the bus stop. While the content and layout of signage is discussed elsewhere in this report, a particular issue at bus stops involved the location and configuration of sign infrastructure. Specifically, a few people mentioned height of signage and timetables, which were often placed too high for people using mobility aids to read. Moreover, because signs were often fixed and double-side, some people faced difficult manoeuvring to see the reverse side, with one person suggesting a 'swivel pole' so that multiple signs could be read without the user being having to move. Two other comments observed poorly located signs, such as one that required the user to travel down a "45º slope" to read it, or another too close to the kerb, preventing access.

The driver relationship

Almost universally, participants stressed the importance of the role of the bus driver in ensuring bus services were accessible, safe and pleasant. Bus users saw the relationship with the bus driver as an intrinsic part of a bus service. Indeed, the close interaction with drivers marked bus transport out from other transport modes where drivers are more remote. A poor interaction with bus drivers, or careless driving, could lead people to view buses as inaccessible regardless of their physical construction or network design. In contrast, even in situations with poor accessibility features, good bus drivers could partially ameliorate access problems with assistance, care and positive relationships, improving access outcomes.

Participants did not view drivers merely as vehicle operators, and identified numerous characteristics of drivers that helped make journeys easier and more accessible. These included the driver's role in customer service, providing a welcoming, courteous and professional demeanour that reassured passengers that their needs would be recognised. Bus users also expected the driver to be able to assist in local navigation by having a good knowledge of local destinations and transport networks. Particular concern was expressed that a driver had the requisite attitude and awareness of the diversity of passengers' requirements and was willing to assist and care about passengers' comfort and access. Safety was also a key feature in discussions, with drivers expected to give due regard to ensuring passengers could complete their journeys safely, without injury or discomfort. Driver training and recruitment were seen as key mechanisms by which the performance of drivers could be improved, with resulting increases in access.

Customer service

Overall, participants highlighted the need for drivers to present as friendly and courteous and willing to care about and respond to customers' needs and concerns. Two comments specifically noted that behaviour perceived as rude or instances of being ignored by drivers left passengers feeling uncomfortable and neglected. A few discussion groups noted the role that drivers play in community connectivity, with some people having regular conversations with familiar drivers, and the contribution to a sense of community that shared bus travel can promote, especially in rural areas.

A few participants noted that driver presentation could influence the attractiveness of bus travel, with well-presented drivers projecting a sense of pride and professionalism. Others noted that good communication skills, including English language skills, assisted in providing good service. Several participants expressed the view that the quality of drivers was variable across the network, with two people commenting that Smartbus drivers seemed to be better than those on local bus services, and others noting particular instances of bad service on particular routes or by particular operators.

Drivers as local guides

Frequently, participants noted the role of drivers as navigation guides, helping them determine which bus to catch, the best place to get off, or how to get to their destination. Regardless of the level of signage and information, being able to ask the bus driver was sometimes seen as the easiest and most convenient way to obtain transport information.

Crucial to this role was the driver's level of local knowledge of their bus route. Being able to identify local destinations and landmarks, as well as know the layout of local roads and give

useful directions aided in this role, was seen as 'invaluable' in providing a useful service. This included knowledge of other transport services, such as the destinations available from local train stations, the correct bus to catch to reach destinations, and local transport alternatives such as taxi ranks. Trusting that the bus driver will be able to give useful and correct directions to destination makes bus use more desirable, particularly for unfamiliar trips.

Similarly, providing travel information during the journey was also mentioned as important by a number of discussion groups. The particular example mentioned live bus stops announcements by drivers for people with vision impairments, or anyone who was simply unfamiliar with the route. One group mentioned the fear of some passengers that the driver will forget to alert a passenger to their stop. Another group also suggested that an interim system could be implemented where people could give pre-prepared 'stop reminder' stickers to help the driver remember to announce the stop.

Care and assistance

Most discussion groups include some reference to the role of the driver in being aware of the diversity of users' needs and taking action to provide assistance to enable people to use the service. Participants identified attitudinal aspects of driver behaviour as important, where drivers see being helpful and caring about the well-being of passengers was part of their professional role and an intrinsic part of the bus service. Attitudinal identifiers mentioned included: caring, helpful, sensitive, aware, informed, patient, using commonsense and showing understanding. One comment suggested that ideally drivers should see their role as a "vocation not just a pay packet", and that driver should "like what they do". Common assistance required included ramp deployment, full use of kneeling functions and assistance with seating.

A common theme was drivers' awareness of the range of user requirements and appropriate responses. The most frequent comment was that drivers required 'sensitivity awareness', with awareness about cultural difference, disability, seniors, and women being specifically identified. One comment noted that disability awareness extended beyond 'visible' disabilities, and included disabilities that may not be immediately obvious. One example of a lack of awareness was a driver who used gestures to communicate with a person with a guide dog (it was noted that the operator dealt with this complaint appropriately).

Similarly, a common descriptor used by participants was 'helpful', with a range of comments about the provision of assistance to support passengers' access and comfort. Prime concerns were appropriate use of ramps and the vehicle's kneeling function. Several participants noted instances where drivers failed to deploy ramps. One comment added that ramps should be deployed on request, noting that it was not only people with mobility aids who may require ramp access, while another noted that drivers did not always make use of safe ramp deployment equipment available in some vehicles. Participants also commented on inconsistent use of the kneeling function of vehicles, where it was not lowered for some passengers, or it was believed to have not been used 'all the way'. One group reported an instance where a passenger had slipped and been injured due to the difficulty associated with negotiating boarding.

Other examples of assistance included that drivers aided with luggage, assisted in lifting/lowering flip seats to enable access, and helped ensure other passengers vacated allocated spaces when necessary. Instances of good assistance were also recorded, for

example, a driver who assisted a person to cross the road before boarding the bus. Conversely, one comment drew attention to the fact that drivers were subject to occupational health and safety or other safety standards that may limit their ability to assist passengers.

A particular concern was that drivers could be impatient, an attitude exaggerated by the desire to meet inflexible scheduling. This 'time pressure' induced anxiety in passengers, who felt uncomfortable if they were regarded as being too slow or holding up the bus. Examples of a lack of patience included that drivers 'took off' too quickly, without leaving sufficient time for people to be seated, or ensuring that mobility aids were correctly 'parked' in allocated spaces. A related concern was that time pressured drivers may fail to pick up passengers, especially if a person is not able to stand and 'hail' a bus at the kerbside.

Safety

The most common safety concern for participants was the quality of the ride, including that drivers understood that their driving skills impacted the safety of passengers. A second frequent issue was ensuring that the vehicle stopped in the appropriate location, minimising boarding gaps. Other safety issues raised included passenger conflict and security features.

A smooth and stable ride was identified as an important element of safety for passengers, to minimise the possibility of injury through trips, falls or unstable mobility aids. Participants noted that sudden acceleration and braking, travelling at speed, and negotiating corners all affected the smoothness of the journey. Individual comments noted the particular issues of ensuring that the speed and acceleration was appropriate for traffic conditions and weather, as well as following 'predictable' patterns of movement that did not catch passengers off guard.

Minimising the distance between the vehicle and the kerb was repeatedly mentioned as an important skill for drivers. The boarding gap could be particularly difficult for passengers to negotiate, and this is exacerbated if the vehicle stops at a distance from the kerb, meaning passengers must step down into the road-space, and then up a much larger vertical gap. Similarly, buses do not always stop at the location designated by TGSI or signage, meaning that locating the bus entrance can be more difficult. Finally, stopping locations must enable to driver to safely deploy a ramp.

Passenger conflict was mentioned as a potential safety concern, particularly passengers under the influence of alcohol or other drugs. One comment suggested greater promotion of appropriate behaviour in shared spaces, while another noted discomfort caused by noisy passengers. A few mentions were made that the proximity of the driver and other passengers assisted in bus safety, although two discussion groups suggested that additional staff may assist in security, such as the introduction of bus conductors.

Driver training and recruitment

Many of the aspects of drivers' attitudes and skills were viewed as amenable to change by appropriate training and recruitment strategies by bus operators. Training in customer service, sensitivity awareness, local knowledge, duties of care and safety were all mentioned as components of an appropriate mandatory training regime.

Individual comments also attended to how training may be framed and delivered. Suggestions included that: training be extended to all bus service staff, not only drivers; that the focus be upon the needs of passengers rather than drivers/operators; that training involved people with disabilities and external organisations; that experiential training be included ("put in people with disabilities' shoes for a day"); that clear statements of responsibility for both drivers and passengers should be established; and that training be ongoing, not merely confined to a single episode. One comment suggested that recognition of excellence in driving should be encouraged, for instance by nominating high standards of service by individuals and companies for awards.

Navigating the bus network

Improving knowledge of the system

An overarching theme explored in this section is improving the ability of consumers to have access to the information they need to be able to navigate the bus system easily and effectively. Forum participants identified the need for good communication and access to information as a general requirement to be able to improve access to the bus system.

Participants identified that some people do not have good knowledge of how to obtain information about the bus system in the first instance, including basic information about how to catch a bus, how to purchase a ticket, or how to find out when and where buses go. For instance, two discussion groups noted that some people do not know about Metlink, or the services it provides. One group summarised the provision of information as being essential to help ensure that people had full confidence that they would be able to complete a journey.

Similarly, participants expressed difficulty in finding the information they were looking for. For instance, one person recorded that they spent "lots of time chasing up details", as the level of information provided did not explain or identify all of their travel requirements. More generally, people expressed the desire both to be able to access full information before they commenced a journey, as well as being able to rely on information provided during the journey to have full confidence in travelling well. Several individuals believed that the DOT should undertake a 'best practice' review of transport information services, and draw on international experience and standards to improve the quality of transport information.

Legibility and clarity

Overall, people emphasised the need to provide information in a variety of formats to ensure it was accessible for everybody. Most commonly, people emphasised legible lettering in signage and printed material, use of Braille, and use of audible and visual displays. This report will discuss different locations and media for information in a later section, concentrating here on the legibility and presentation of information.

By far the most common complaint about written information, including on signage, hardcopy information, and visual display units (including vehicle destination displays) is the poor legibility of the lettering. Large lettering, good contrast and sufficient lighting were considered essential to people being able to decipher writing, including from different angles, at different times of day, in different weather conditions, from different distances and for people with vision impairments. This was especially the case for bus stop timetables, for example, one person specifically mentioned that they compared poorly with train station timetables, which were larger and easier to read. A few participants also noted that Braille alternatives would be beneficial.

In addition, several individuals commented on the difficulties involved in using visual information because it lacked clarity, with signage and timetables being too cluttered, complex, 'busy', or tried to cram too much information into a very small space. A few people specifically commented on the difficulty of reading timetables where several buses used the same stop. Similarly, one person said that people have difficulty reading route maps, suggesting larger, clearer maps would be more useful. Other comments also noted the need to be able to provide information in plain English and languages other than English.

Issues of clarity are not limited to symbols and writing, the clarity of audible information is also important. While the general comment was frequently made that the availability of audible information was important for accessibility, the verbal word choice and functionality of audio systems themselves was essential for these features to be useful. In particular, participants reported instances of audio announcement systems appearing to be turned off or not working, hard to hear because the volume was too low, or that the announcements were unclear due to poor speaker quality.

Content

It is not only the clarity of information that is important for access, but also ensuring the content provides the appropriate information for people to navigate the transport system. Participants most frequently discussed the content of timetables and maps, and also mentioned concerns regarding information about accessibility, journey planning, and knowing about changes or disruptions to services.

When asked to discuss what information people needed in order to use a bus service, forum participants most often discussed timetables and maps. In addition to legibility concerns discussed above, participants wanted timetables that were localised and accurate. Several people wanted to be confident that low-floor services could be identified correctly in the timetable and in information services more generally. A number of groups discussed concerns about the accuracy of timetables, particularly when buses appeared to be regularly early or late, or when timetables appeared not to have been updated for many years, and increased congestion or patronage meant the route was slower than in the past. One person specifically requested stop-specific information on timetables – not timing points – including in rural and regional areas.

Participants expressed a number of frustrations with route maps, finding that they often contained too little information to be useful in practice, especially in an unfamiliar area. A number of participants noted they needed to combine bus maps with another source, such as Melways or Google maps, in order to work out which bus to catch, or the stop at which to disembark. Particular concerns included: that the locations of bus stops were not located on map; that maps should represent the geography of routes – not simply a list of street names; that accessible bus stops should be represented on maps and that amenities, local landmarks and destinations should be shown.

Several groups also discussed area or regional bus maps. Comments included that area maps be displayed at key locations, such as train stations or cultural and sporting facilities; and that 'civic' maps show bus routes and stops for local navigation. One group suggested the production of a Metropolitan bus map, with one suggestion of the Tuscon, Arizonia (U.S.) 'Ride Guide' as an example of a more complete bus information guide.

While maps and timetables were frequently mentioned, other information was required in order to navigate the bus system. Examples included: information about fares and ticketing; information on the location of accessibility features; determining the correct service to catch in the correct direction; knowing how long the journey may take; and how to know when to disembark or make a connection.

More comprehensively, a number of groups explained that they wanted simple and easy support in undertaking journey planning, and to be informed of the possible options that

were available to them, including for accessible journeys. The message was that, if they could not identify where accessibility features were, or did not trust the information, they may decide against using buses, especially in unfamiliar areas. Metlink's 'Journey Planner' function was appreciated by some users, but several people reported that it sometimes gave incorrect information, or was difficult to use.

A few groups discussed the difficulty of knowing when service changes occurred, including the introduction of new services, periodic timetable changes, planned disruptions, or when services were cancelled or failed at short notice. In particular, one person reported that drivers on train replacement buses gave passengers incorrect information, while another noted the necessity of having a 'back-up plan' in case the journey could not be completed. A further example was unannounced route changes, which can affect a person's ability to board or alight at the required stop. It may also interfere with a person's understanding of where the bus is: for instance, blind passengers on known bus routes may detect their location on the journey by learning the movement patterns of the bus (e.g. "right – straight down – right again"), and sudden deviations from the route may disrupt their orientation.

Medium and location

At the bus stop

Participants identified a range of information sources that would be useful to have at the bus stop to improve the use and accessibility of the bus system. These included: improved signage, maps and timetables, real-time information displays; audible timetables; a system of bus stop numbering; and improved means of knowing the correct vehicle to board.

Clear signage at bus stops was a repeated message for improving bus stops. Being able to identify the stop, determine whether it is worth waiting for the next service, and being able to tell where the bus goes were associated with the need to improve signage. Lack of maps and timetables were also frequently mentioned, including in rural and regional areas. Improved information at bus interchanges and train stations was also required, including route maps, timetables and way-finding signage to support connections.

Passenger Information Displays (PIDs) and audible timetables were also strongly supported for improving information access at bus stops. There was recognition that the introduction of 'Smartbus' PIDs with audible timetable information had been useful, although they were not available at all stops. In particular, the 'real-time' aspect of the data was useful, as people had limited trust in the accuracy of scheduled timetables. Additional comments included PIDs incorporated at destinations (such as in the food courts of shopping complexes), and more extensive use of real-time information services beyond the Smartbus routes. Regarding audible timetables, one person expressed similar frustration that only Smartbus services had this facility – not even other services that use the same stop could be announced; while another was concerned that the facility was not operational at many of its installed locations on Smartbus routes.

One repeated suggestion was that bus stops should have a numbering system to help identify unique stops. People did not consider the current 'bus stop ID' system as useful as the ID numbers were too long to be remembered and were not visible from the vehicle (i.e. people could not 'count stops' in order to disembark at the correct place). Bus stop numbering was noted as especially useful for routes in rural and regional Victoria. In contrast,

one discussion group noted that bus stop numbering was only useful if a person knew the number.

A particular navigation problem at bus stops was being able to determine the correct vehicle to board. This was especially the case where buses did not have designated bays for different services and more than one service used the stop. Suggestions to assist this problem included that all buses should stop at the 'front' position to ensure everyone has a chance to board.

Onboard vehicles

Participants also identified that the vehicle itself is an important place to find and receive information about bus services. Most frequently, participants stated that fitting buses with audible announcements and visual displays was an important accessibility feature, particularly automated announcements, but also considered the ability for drivers to make manual announcements a useful advance. This principally enhanced people's knowledge of where they were on the bus journey, allowing them to know how far they had travelled, and notified them of the correct place to disembark the vehicle. Similarly, people were reassured they would be boarding the correct vehicle by including 'external announcements' on buses, as is currently the case with Smartbuses.

In addition, having information available on the bus would be of assistance, such as hardcopy brochures with routes, maps and timetables; and having local area maps displayed in the vehicle.

Information and communications technologies (ICT)

In response to discussion questions asking how people obtained transport information, forum participants frequently mentioned ICT services, principally traditional telephony services and the internet, with some mention of mobile applications. People encouraged easier and more widespread use of ICT to enable access to transport information, with the proviso that more traditional methods were not compromised and that people were not corralled into using a particular medium for information, which may not be appropriate for their needs.

Telephone services were often an essential means of obtaining information, especially for details that were not easily obtained by other means. However, some people reported they were not aware of a central telephone service that could reliably inform them of information, particularly for accessibility features, including when low-floor buses were scheduled. Others found the complexity of negotiating Metlink, local information services and bus operators as confusing and lacking clarity about where appropriate responsibility for information lay. One person applauded Metlink's call service as being useful and valuable, while, alternatively, another regarded Metlink as having poor knowledge of rural and regional services and local geography. One person reported responses lacking courtesy when trying to obtain low-floor bus information. In addition, one comment indicated a desire to be able to use SMS to receive information.

Several groups noted that a significant difference in using phone services was that people had to pay for the cost of the call, effectively meaning they had to pay for information that could often be provided to others for free. For instance, the lack of audible information at bus stops means that some users needed to incur a charge to find out service information

that was otherwise freely available at the stop. It was suggested that providing a free-call number would reduce this barrier.

While some groups and a number of individual comments noted that the Metlink website was a useful place to find information, there was little elaboration on its use, other than the issues with the 'Journey Planner' tool previously mentioned.

Several people suggested that a 'BusTracker' tool be implemented, building upon the model used by Yarra Trams 'TramTracker' (although some people appeared to use the term to refer to the Passenger Information Displays (PIDs) at tram stops). A few people expanded upon the idea, including suggesting a combined 'PT-tracker' that incorporated all public transport modes, or a more advanced GPS system that could relate a person's individual location with nearby services. A number of groups also cautioned against over-reliance on new technology, noting that many people did not have internet access or internet capable phones, were unable to use them, or did not have good service (e.g. slow internet speeds or patchy mobile phone coverage).

Marketing and public awareness

Participants identified a broader range of information initiatives beyond those that were initiated by the user and focused on an immediate transport concern. By adopting a more integrated approach: ensuring that information was distributed to a range of other agencies; adopting active promotion through marketing strategies and advertising; and raising broader awareness of how to use the public transport system generally and accessibility in particular.

For instance, people identified a range of services that they approached for information about using buses, including local government offices and specific programs (such as Transport Connections), local community and tourist information bureaus, travel agents, and local bus interchanges and train stations. By identifying these information providers, and ensuring they have accurate information and resources to provide to users, information can be made more widely and reliably available. Two discussion groups supported a 'single bus brand' which could create a cohesive brand identity around which marketing could revolve.

At the same time, a broader educative focus for information provision was suggested. Ideas included information on how public transport worked, what destinations might be served, and guidance on navigation tasks. Examples included: making connections; the fact that buses were free with a V/Line ticket; information and services that were available from Metlink; and how to use buses safely and with respect for other passengers in a shared space. Several people emphasised local media as suitable vehicles for information, including local newspapers and television stations. One person also suggested that call centres be hosted locally, rather than requiring rural and regional customers to contact metropolitan-based services which had little knowledge of other regions.

Several participants emphasised the need for accessible route and local areas guides available in hardcopy format, which could be distributed onboard vehicles and in local information centres and bus interchanges. One person suggested that the bus route could be marked by a 'line on the road', creating an observable route for each path analogous to tram tracks.

Travelling trials and support

Beyond the provision of mere information, many discussion groups reported a need to provide more intensive support in assisting people to use buses. This included the availability of 'travel trials', where people could experience and practise using a vehicle while it was not in service, perhaps through regular 'come and try' events hosted in local communities. More intensive 'travel training' should also be made available, to provide direct instruction to people who required more intensive assistance in learning how to use buses. Information about these services could be distributed through marketing activities. The provision of additional information about the service provided by assistance agencies such as Travellers Aid Australia was also listed by one group.

Social and tacit knowledge

Forum participants also identified informal mechanisms of obtaining information about the transport system that did not involve formal services or staff. For instance, people might utilise their social networks to glean information, such as by asking family and friends. Alternatively, people talk to other passengers to gain knowledge of the transport system, and assist in navigation and their whereabouts on a journey.

Similarly, a number of participants included the role of personal experience in knowing how to use the bus system. This tacit knowledge of how bus services function included the ability to apply prior knowledge and learning, 'get used to' buses, and undertake 'reconnaissance' activities to promote confidence in the level of access provided on a given journey.

Route scheduling and network design

Among the discussion questions was a section that explored people's understanding of "what makes a good bus route". These discussions covered a wide range of elements of bus route planning and scheduling, spanning the timing aspects of scheduling and connecting bus services, as well as the geographic layout and connectivity of bus routes.

Timing bus services

A significant proportion of participants' comments related to the timing of bus services, covering issues of frequency, the span of operating hours, punctuality and the appropriate time to schedule services.

Frequency

Generally forum participants identified the frequency of bus services as important to a good bus route, with this need receiving a very large proportion of comments. The support for increased frequencies was represented by virtually every discussion group. However, there was a range of views about how frequent a bus should be. A number of people expressed satisfaction with the 15 minute Smartbus frequencies. A number of instances in metropolitan areas where frequencies were at half hour or longer intervals were noted by some as inadequate. However, in rural areas, people measured frequencies in the number of services per day or per week. One discussion group simply noted that services should run 'as often as possible'.

More illustrative of people's ideas about appropriate frequencies were the purposes they thought increased frequency would serve. Several discussions noted that good frequencies meant people did not need a timetable in order to use a bus service, improving the flexibility and reliability of the service. A related point was that frequent services made making connections easier, as it reduced the need to determine connection times. Similarly, reference was made to matching frequencies to facilitate connections with other modes by ensuring headways matched, especially between trains and buses. A related point made by one person was that good frequencies provided a realistic alternative to cars, especially for older people. Several groups suggested that peak use periods are especially in need of higher frequencies.

Span of hours

A number of participants also called for increases in the span of operating hours of bus services, including in both metropolitan areas and regional cities. Central to these calls was the view that the bus should 'go when you want to go', rather than confining people to constrained times of use. One comment specified that all routes should meet minimum service standards so it was clear when the first and last services occurred, while another focused on assisting seniors to have a choice to step down from driving.

A range of times were also recorded where the span of hours should be improved. Several participants argued that services should run into the evening and late at night, while a few recommended an expansion of 'nightrider' services. One person thought evening services should be particularly extended in the summer, when daylight savings and longer days extended the amount of time available for daylight travel. A few people also regarded some services as commencing too late in the morning, with earlier starting times allowing better options for travel.

A related concern was that bus services were sometimes not available in peak periods, particularly on rural and regional routes. For instance, one person reported an instance where the bus did not commence until 8:45am, which meant that person was unable to use it to get to work. Another suggestion was the introduction of 'express' services in peak periods, which could improve travelling times when there was a larger number of passengers.

A further extension of the span of hours was also recommended for weekends and public holidays, when some services did not run at all, or ran for only a short period of the day.

Punctuality

Another issue regarding the timing of bus services was the reliability and punctuality of the service. Participants gave examples of instances where they believed that buses consistently ran early or late compared with the scheduled timetable. More generally, people mentioned that punctuality was a feature of a good bus service, especially where there were long waits between services.

Specific comments relating to punctuality included that the issue was particularly pertinent in rural areas, where missing a bus service may strand a person for a long period of time. One discussion group noted that early running buses were a worse outcome than lateness. One person believed that if buses did not run on time, people should be provided with an alternate transport option. Another added that using a 'clockface' timetable would improve the reliability of services and ability to memorise the timetable for easier use.

A related issue mentioned in a few comments was concern about reliance on 'timing points' to determine performance and inform the public of the scheduled timetable. One comment noted that timing points 'are for operators not the travelling public', and stop-specific scheduling and reliability was a better measure of service reliability. Another comment noted the practice of buses waiting at timing points for extended periods of time, potentially inconveniencing or frustrating passengers.

Scheduling

Forum participants expressed their understanding that the scheduling of bus services should meet the needs of the community and represent journeys that are appropriate and easy to use. Among the diversity of issues, three were most often mentioned: the scheduling of low-floor buses; ensuring their schedules reflect the need of some passengers for additional time to board and be seated; and providing sufficient capacity to reduce overcrowding on vehicles.

The deployment of low floor buses was a key concern raised by a number of participants. Particular comments included: increasing the proportion of scheduled services using low-floor vehicles, including on weekdays; ensuring best use of low-floor vehicles; and providing low floor services on demand. For instance, one person was concerned that low-floor buses were being used for school services when some route services did not deploy any low-floor vehicles.

A number of people were frustrated by their perception that many drivers were under pressure to meet schedules that did not incorporate time for everyone to board the vehicle. This 'time pressure' on drivers lead some participants to believe the quality of service was diminished, with drivers being reluctant to allow sufficient time for people who required more

time to board and be seated safely, making passengers feel 'rushed' in the process, thus making the service less accessible.

Participants commented that crowding on bus services inhibited the accessibility of the services. Particularly in peak hour services, the lack of service capacity means that people are unable to use the bus system for journeys at that time. A number of people reported specifically avoiding peak periods for this reason. One person questioned the mechanisms by which crowding was monitored to ensure additional services could be added to relieve crowding.

Other scheduling issues were also raised. A few people were concerned that where several buses routes overlapped for part of their journey, care was taken with scheduling to prevent 'bunching' of services and to maintain reasonable headways across multiple routes. This would avoid the situation where a stop had large time gaps between bus services, punctuated by several services all arriving close together.

Two groups discussed the provision of transport services in new 'greenfield' developments, with one group stating that just as a new development must have roads before residents move in, it should also have a functioning bus service. Another group noted the lack of footpaths in new developments, hindering access to bus services.

A number of issues particular to rural and regional services were also discussed, especially where services were very limited. One person suggested that services should always be scheduled to allow same-day return services, noting that many routes did not. Where this did occur, one participant observed that people were often required to spend a very long time at their destination; for instance, one example where people wishing to travel between a significant town and the regional centre are forced to stay for 10 hours before they can return. The same person also noted that scheduling that prioritised travel to Melbourne by making a connection with early V/Line trains often did not service local needs. The example given was a circumstance where students travelling to study in a regional centre needed to leave at 4am, as the next available service did not leave until 9:30am.

One comment also considered that 'dead running' trips could be better utilised in bus schedules.

Co-ordinating connection times

Participants identified the need to ensure that the timing of bus services was co-ordinated with other transport services. In general, participants observed that current scheduling meant that some connections were difficult, especially where services were infrequent. Specifically, participants wanted short wait times for connections, which reduced the overall journey time. At the same time, comments were also made that connections be not so tight that people who could only move slowly or needed additional time to change services had sufficient time to move from one service to the other. In addition, people were concerned about the impact of poor punctuality on the ability to make connections, with late running services meaning that subsequent services could be missed. In regional areas, where there may be limited service, participants wanted a guarantee of connections, as missing a connection could leave people stranded with few, if any, alternatives.

Network Design

Route layout

A significant proportion of the Bus Access Forum was dedicated to discussing the elements of a useful bus route. The most commonly mentioned requirement was that it provided a good connection to useful destinations, satisfying the central purpose that it 'goes where people need to'. Specific destinations included activity centres and shopping districts, hospitals and medical centres, tourist sites and community facilities. One group particularly noted that bus routes need not only to cater for employment and education purposes, but also for social needs.

Participants also discussed a number of elements of bus route design, mentioning both the directness of the route as a factor in providing a good service, as well as emphasising the role of buses in providing public transport coverage beyond the rail network, including in rural and regional Victoria. Several participants expressed dislike for circuitous routes, which added additional time to the journey. One person noted a particular difficulty with 'turning loops', where buses travelling in opposite directions shared a stop. In these locations, buses travelling in either direction boarded at the same stop, making it difficult for people to determine which direction a route bus would be travelling.

Stop spacing

Several discussion groups considered the issue of stop spacing, although no clear consensus emerged on appropriate distances between stops. Some people emphasised the need to have reasonably close stop spacing, to ensure that it was easy to walk to the nearest stop, and that the bus was able to let passengers disembark close to their destination. Several people reported instances where stops were placed very far apart, with distances well over 1km, and considered this unacceptable. One person noted that terrain was an important consideration in stop spacing, as "sometimes 50 metres feels like 400"; for instance, if passengers needed to go up a steep slope. In contrast, other comments supported wider stop spacing, noting the impact on journey times and that "starting and stopping feels unsafe". A few groups put a numeric figure on stop spacing, ranging from 200 metres to 500 metres.

Balancing frequency and coverage

A number of groups discussed the issue of how to balance the goals of frequency and coverage in the bus network. Several groups suggested that route planners needed to distinguish between frequent, direct routes and less frequent routes that primarily expanded the coverage of the public transport network. This idea was expressed in a number of different ways including: making an analogy to train 'express' versus 'stopping all stations' services; direct services for commuters versus better coverage to meet social transit needs; 'feeder' and 'trunk' routes; and direct services for longer trips compared with more indirect routes for local access. The implication was that both frequency and coverage goals can be maximised by a balance of the two types of service. One group recorded that the government should "upgrade the whole bus network to be like Smartbus".

A number of discussions also noted that, for some users, there was a 'trade-off' between distance and frequency, meaning that people are willing to travel further for a fast and

frequent bus service than a slow and meandering route. The exception for this was people who had difficulty walking, who still needed to be catered for.

Connectivity

A significant number of comments noted that providing good connections from the bus network was an important feature of a good bus route, with one discussion group noting that convoluted routes and infrequent services made interchanging difficult. The incorporation of multiple connecting services along a bus route made them more useful. A couple of comments noted that individuals were uncomfortable making connections, and that getting information about connecting services was a barrier to utilising them.

Specifically, there were many comments about designing bus routes that intersected with other transport services so that the bus service was more attractive to use. This included reports, for instance, of bus services that served shopping centres but did not continue to the nearby train station. Apart from timing issues discussed previously, people considered the proximity of connections and having good connecting infrastructure important to supporting the use of connections. This meant, for instance, having bus stops serving train stations located near the platform, and having a clear, logical and accessible pathway between them.

Street layout and design

A few groups commented on the design of the road-space, the need to prioritise buses in traffic management, and about particular streets chosen for bus services. Two groups made the comment that new developments were neglecting to design streets for good bus use, including provision of stops, pedestrian pathways and sufficient space in convenient locations for buses to stop and manoeuvre. One person commented that platform tram stops made negotiating city streets difficult for buses, while another comment suggested designing for 'bus-friendly' streets without obstacles such as roundabouts or speed bumps that made the journey uncomfortable. Similarly, two groups suggested that attention to street design should be a consideration for route planning, reducing the instances where buses were routed down narrow or steep streets which had little room for boarding. In regional areas, one person noted that an improved road surface would help increase the comfort of the trip. A few people welcomed the introduction of dedicated bus lanes and other means of supporting bus priority, and supported their expansion.

A system that supports bus access

Bus Forum participants made a number of comments of a systemic nature that considered the broader issues and institutional arrangements that supported good bus services and transport access more generally.

Incorporating social and environmental goals

A number of participants alluded to the broader benefits of bus access, beyond economic and transport outcomes alone. Two people required greater recognition of transport as a social service. Another comment drew attention to the social connectivity that can be produced by travelling together, with people in small communities getting to know one another and engaging in conversation on shared journeys.

A few comments also noted environmental outcomes of public transport, stating that improved bus services would result in fewer cars on the road. Others suggested that more environmentally sensitive designs might be incorporated to reduce noise and fumes from buses, or trialling gas or electric buses.

Community engagement and feedback

A number of participants highlighted the need for community consultation in making decisions about bus access, and responsive feedback systems to be able to address community concerns. One noted that a range of people had a stake in transport decisions, and should be engaged in the decision-making process, including users and local government. Several people discussed inadequacies in feedback mechanisms, reporting that they had limited information on complaints processes, and did not know what to do when a problem occurred. One person noted that complaints did not seem to resolve the issue, noting that "it was easy to say sorry, but it does not fix the problem".

Co-ordination, funding and operations

Participants discussed a number of issues about how the transport system could better function, including: greater co-operation between transport operators and decision-makers, improved resources and faster implementation of new services; management of bus replacement services; and vehicle replacement program and bus maintenance issues.

Several comments urged greater co-operation between transport decision-makers, including local government, bus operators, VicRoads, and the DOT to produce a more co-ordinated approach to improving bus accessibility and bus services generally. One person suggested that best practice models based on international experience be utilised to improve co-ordination of the system. Particular issues included relationships between the Department of Transport and local government in improving bus stops and connecting pedestrian infrastructure, and between different transport modes to produce better connections and interchanges. One person added that closer monitoring of bus vehicle delivery should be undertaken to ensure good accessibility. A few instances were recorded of people noting accessibility problems with buses outside of the public transport system, including Skybus, shuttle and courtesy bus services, and community transport.

Many comments related to increasing resources to more quickly implement accessibility improvements and expanding bus services more generally. This included improvements to infrastructure as well as speeding up the vehicle replacement program to expand the

number of low-floor buses more quickly. One comment suggested that the 18-year bus contract should be reviewed, to hasten the removal of old buses from the network. One person deplored the disparity in funding between metropolitan public transport and rural areas, while another noted the possible removal of rural bus services due to the cessation of the Transport Connections Flexible Fund.

Several people noted that one advantage of buses over other forms of public transport included that buses tend not to get 'stuck' and block other vehicles, unlike rail networks, and can be relatively easily replaced at short notice. Two groups also advocated that low-floor vehicles should always be used for train replacement services. A few people noted that bus maintenance should ensure that all accessibility features of the vehicle are always working and that the vehicle is kept clean and free of graffiti.

Planning for rural transport

A reasonable proportion of participants at the Forum were from rural and regional Victoria, and many sought to emphasise the very different experience of bus services outside of metropolitan Melbourne. For instance, small rural communities have experienced demographic ageing at the same time that local services, such as grocery shops and financial services, have been removed. This has left many people reliant on bus services to access basic necessities; without them people were at risk of social isolation and poor health. Similarly, opportunities for young people were often reliant on transport services, including for education and employment. A few comments noted that the DOT appeared to give little attention to public transport needs outside of metropolitan Melbourne.

Participants noted that, in some communities, there were no public transport services at all, or services were very infrequent. It was pointed out that planning for rural bus services appears to be premised on funnelling people to Melbourne, rather than focusing on local needs. For example, people discussed instances where links to the next community did not exist, with all services running towards the regional rail 'spine'. Similarly, people were concerned that the timing of services often did not meet the needs of the community, with 'peak' services unavailable for people trying to access education or employment.

Several people were concerned that accessibility improvements did not seem to reach rural bus services, despite the fact these often served populations with reduced mobility. Participants urged more attention to accessibility with rural bus services. Two people noted that low-floor buses may cause problems on rural roads, including additional discomfort, although one noted that other options might be considered, such as a hydraulic mechanism. Several participants expressed their concern about the use of 'lift' or 'hoist' solutions, especially on V/Line coaches, reporting that the mechanism provoked distress. Two discussion groups mentioned that this method of access should not be used, with a preference expressed for ramp access.

A great deal of discussion revolved around the use, access to, and appropriateness of the school bus system. People noted that school buses are often the only vehicle available for use in rural areas, but may not be appropriate for the task. Reasons for this included that they were not low-floor, were often too big for other purposes, were unavailable during peak periods, and there were restrictions on other members of the community using school services. As a result, the vehicles were often underutilised. Suggestions to help remedy this

situation included turning school bus routes into public route services, removing the exemption for school buses in the DDA, and purchasing smaller buses for use in rural areas.

Flexible and innovative bus services

Many discussions included the observation that alternatives to the traditional scheduled route bus should be considered in order to provide alternatives for better access. Use of community transport, and adoption of flexible service models were the main suggestions.

A number of participants noted the role of the community transport system, observing that community transport provided better access in some instances than the route bus system. However, one person related the perception that community transport was left to 'pick up the slack' for inadequate public transport services. Another suggested that community transport could provide a useful alternative in some areas if the DOT had closer engagement with local government and communities.

The use of alternative service models was suggested for under-serviced areas. This included flexible service models where buses could deviate from fixed routes, 'hail and ride' services that did not require scheduled stops, or demand responsive services that could pick up passengers on request. Examples of these services included community transport, Telebus services, and the Gisbus service. Another model which may be useful in some circumstances was pre-paid shuttle bus services, such as the 401 between North Melbourne Station and Melbourne University. Two people noted that the benefits of flexible bus use included that services could adapt more quickly to community needs, and can 'grow with communities'.

Appendix 1: Discussion points

The following questions were posed to participants at the Bus Access Forum. A list of the questions was also handed out to participants, with the option of making individual comments for inclusion in this report.

Part A: Introductions and the 'one big thing'

- What is the 'one big thing' you would like to say about bus access?

Part B: How accessible are our buses in general?

- In terms of accessibility, what makes buses different to other types of public transport, such as trains?
- What would encourage you to use buses more often (or at all)?
- What makes using buses feel safe and comfortable?
- What makes a good bus driver?

Part C: What makes a good bus route?

- What qualities does a good bus route have?
- How do you feel about taking journeys which involve connecting to another bus service or to a tram or train? Would anything make this easier?
- What makes a bus service reliable? Would anything make them more reliable, or improve the situation if something goes wrong?

Part D: What makes a low-floor bus easy to use?

- Are there any ways in which getting on and off a low-floor bus could be made easier?
- What type of layout or other features would make low-floor buses easy to use?

Part E: What makes a bus stop accessible?

- What affects your choice to use a certain bus stop?
- What features make a bus stop easier to use?
- How could bus stops be improved to make them work better?
- Does your regular bus stop have information about the bus route and when the bus is scheduled to arrive? How useful do you find this information?

Part F: How do you get to know about bus services?

- How do you tell which buses are public buses?

- What information do you need to be able to use a bus service properly?
- What would improve your knowledge of when and where the buses go, and that you are catching the right one?
- How do you know when to get off and how to find your destination afterwards? Could anything make this easier?
- How would you go about finding the information you needed to use a new or unfamiliar bus route?

Part G: Anything else?

Part H: What are the 'Top 3' things for better bus access?