



Review of the Requirements for Urban Buses in New Zealand 2014

Summary of Submissions

NOVEMBER 2020

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Executive summary

The purpose of *the Requirements for Urban Buses in New Zealand 2014 (RUB)* is to standardise urban bus requirements across regional councils and Auckland Transport (AT) to create efficiencies and improve the usability and accessibility of buses for all customers.

National adoption of the RUB, in 2008, has led to improvements in bus fleets that have delivered:

- Newer buses (more new vehicles and a lower average fleet age)
- Significantly improved emissions from urban buses as higher Euro standards are met
- More low-entry floor (and kneeling) buses
- More wheelchair accessible buses.

However, despite some obvious gains, there have been matters raised by stakeholders, industry, and the government, which suggested that a review of the RUB 2014 was timely, including:

- the RUB is not being adhered to nationally – undermining its purpose of achieving national consistency for the usability and accessibility of buses
- concern from Disability groups over the lack of consistency in vehicle and route information accessibility between regions
- concern for the safety of bus drivers while working, and of passengers, during their journey
- the importance of delivering the government's outcomes of reducing emissions, encouraging mode shift away from cars, creating more liveable cities, and increasing access to social and economic opportunities by improving public transport.

Key findings from the submissions include:

- Overall support for the intention of the RUB and most proposed changes.
- Many respondents highlighted the need for compatibility with relevant infrastructure standards and guidelines, and adherence with international technical standards to align with the RUB.
- Operators felt there was a failure to provide standardisation of sizes of buses and placement of doors, to enable national consistency and ease of movement of the fleet.
- There was support by regional councils and the wider public for emerging technologies, including Euro-VIC engines, faster uptake of electric buses, blind spot cyclist monitoring,

and telematics/fatigue management, to be brought forward. However, cost implications and the reliability of these technologies were the main concerns for bus operators.

- Overwhelming support from the disability sector and councils for a second wheelchair space and audible and visual announcements, however, it was noted by operators that another wheelchair space would result in reduced seating capacity and loss of revenue.
- There was still disagreement over some aspects, including the introduction of seat type in the priority seating area; audio recording for complaint purposes; lighting requirements; USB ports; bicycle racks; and the midlife refurbishment of buses.

Introduction

The public consultation process for the *Review of the Requirements for Urban Buses in New Zealand 2014* was held between 25 September and 6 November 2020. The closing date for submissions was 6 November 2020.

The proposed changes to the RUB are expected to:

- **create national consistency and efficiency of the bus fleet**
- **ensure bus standards are up to date in a world of rapidly developing vehicle technology**
- **improve access to social and economic opportunities for the transport disadvantaged.**

The following benefits are anticipated from this review:

Benefit	Measure
Alignment with the objectives of the Public Transport Operating Model and the Agency's focus area around improved customer experiences	Stakeholder satisfaction, efficiency and national consistency.
Ability for regional councils to move buses around the country	National consistency in bus design creates enhanced efficiency and cost savings for councils and a better customer experience of the bus.
Affordable, accessible, safe, attractive and easy to use vehicles	Customer satisfaction surveys Vehicle quality/comfort: <ul style="list-style-type: none">• Increasing proportion of customers who rate PT vehicles as 'very good' or higher
Improved accessibility	<ul style="list-style-type: none">• Increasing proportion of urban bus fleet is low-entry floor.• Increasing proportion of urban bus fleet is wheelchair accessible.

New technology	Faster uptake of electric buses, in line with Government objectives for EVs
Improved emissions	Increasing proportion of urban bus fleet Euro VI-C (or better) and electric-battery buses.

Waka Kotahi New Zealand Transport Agency, “the Transport Agency”, held detailed consultation meetings with regional councils, bus industry builders and operators, and representatives from the Disability Sector to gather feedback and input on the document content. These meetings informed the Transport Agency’s proposed changes to the RUB.

This paper provides an analysis of the submissions. Key findings will contribute to advice to the Transport Agency Board on whether there should be changes to the current RUB requirements, and if so, what these changes should be.

Submissions

A total of 39 submissions were received. Table 1 shows that over a quarter of submissions were received from members of the public (26%), 13 percent from community organisations, 5 percent from private organisations, 15 percent from regional councils, 8 percent from the bus building industry, 20 percent from bus operators, 5 percent were from advocacy groups, 5 percent from government departments, and 3 percent District Health Boards. (See Appendix 1 for a list of submitters).

Table 1: Type of respondents who sent in a submission

Type of respondent	Number	Percentage (%)
Member of public	10	26.0%
Community Organisations	5	13.0%
Private Organisation	2	5.0%
Regional Council	6	15.0%
Bus Industry (Builders)	3	8.0%
Bus Operators	8	20.0%
Advocacy Groups	2	5.0%
Government Department	2	5.0%
District Health Board	1	3.0%
Total	39	100%

Submissions analysis by section of the RUB

The following discussion provides a summary of the key points raised by the submissions. Please note that not every submitter commented on the main issues outlined below.

1.1.1 Purpose of the RUB and 1.1.2 Strategic context

These sections of the draft RUB were commented on by one council, three bus operators, and three advocacy groups.

Compatibility with infrastructure standards and guidelines

Go Bus Dunedin signalled strong support for the RUB, stating numerous advantages to standardisation, ranging from interchangeability, interoperability across regions, improved asset management, business agility, asset flexibility, to equipment availability and manufacturing efficiencies.

However, the Bus and Coach Association (BCA) expressed concern that in order for national consistency and efficiencies to occur, the RUB must be compatible with any relevant infrastructure standards and guidelines being developed by either NZTA or any Regional Authorities, for example, the New Zealand Public Transport Design Guidelines, which specifically deals with public transport infrastructure. Go Bus Dunedin also commented on the importance of alignment with the RUB and infrastructure guidelines, citing the inability to move vehicles between Dunedin and Christchurch due to infrastructure incompatibilities, eg rear door positioning and wheelchair requirements.

Proposed changes could impact current legislation

BCA advised that many of the new requirements in the RUB 2020 will add weight to urban buses – this additional weight will potentially impact on current infrastructure and make urban buses more likely to breach the current Vehicle Dimensions and Mass (VDAM) 2016 rule. The RUB document needs to ensure any potential impacts on current infrastructure and legislation are identified and quantified.

Cost implications of proposed changes

Auckland Council noted that while contracting rates will be impacted by some of the changed requirements, leading to more operating costs for Auckland Council and the Transport Agency, it

is vital that continuous improvement is sought to the service provided to customers, and in recognition of government objectives and priorities for the transport system.

Urban bus operators, Ritchies and Pavlovich Coachlines, also commented on the increased cost implications of the proposed changes, citing an increase in contract prices for the Transport Agency and councils. The operators proposed focusing funding on “increasing service and frequency levels to drive patronage growth rather than in higher vehicle quality that has questionable benefit and limited impact on growth”.

Suitability of extending the RUB guidelines for trains and coaches

- Go Bus Dunedin Bus Users Support Group suggested that the RUB guidelines also be used for urban train carriages and other types of urban public transport vehicles, for all features of a vehicle that are common across modes (seating, handrails, lighting, and anything affecting passenger accommodation and accessibility); and
- Dunedin Tramways and Blind Citizens NZ urged the Transport Agency to consider the value in extending the requirements to cover bus and coach operations that fall outside the parameters of public transport, for example, Long Distance Coach services.

1.1.5 Verification of RUB requirements

Dunedin Tramways and Blind Citizens NZ expressed support for incorporating an inspection regime to verify compliance of buses to the RUB requirements. Dunedin Tramways suggested a RUB compliance inspection regime, to be carried out when a Certificate of Fitness (CoF) is performed.

Section 1.3 Bus sizes

AT generally supported the introduction of a new bus size (Very Small Bus), as it gave them more flexibility in using different sized vehicles, especially for seating capacity between 13-25, which aligns with AT's trials of 'On Demand' services.

Zemtec and Ritchies asserted that the changes were unnecessarily complicated and failed to provide the standardisation of sizes required. Additionally, the changes will significantly reduce the number of seats available to passengers, making public transport less attractive, resulting in increased numbers of buses required to deliver contracted services, with added cost for the Transport Agency and councils.

Environment Canterbury (ECan) suggested removing specific references to pax numbers and simplifying the sizes to reflect the buses being built with only minimum seating figures stated for each.

Section 2.2 Maximum vehicle age and fleet average age profile

The draft RUB outlines that the “maximum permitted vehicle age is 20 years from the date of manufacture – this also applies to EV buses. At the ‘midlife’ of a bus (10 years from first entry into urban service in New Zealand) a bus must be refurbished (Refer to section **Error! Reference source not found.**)”.

Blind Citizens NZ was supportive of the above requirement, however, urged the Transport Agency to “require a minimum of 10% of buses in any fleet from the specified date to be modernised. By taking this approach, it will take 10 years to get the service and consistency needed, if only 10% of buses are replaced each year once the RUB takes effect”.

Ritchies commented that the maximum vehicle age should be 20 years from the date of *first registration in NZ or in another territory, not the date of manufacture*. “Most buses are built offshore and it is often many months between the date on which they are manufactured, are shipped to New Zealand and before they are put into service. As with cars and trucks, the age of a vehicle is taken from the date of first registration rather than the date of manufacture. To use

the date of manufacture will further increase operator costs and this will be passed to NZTA and the Council as vehicles will be prematurely withdrawn from service”.

Uzabus suggested that from the first day a vehicle enters the fleet in New Zealand that it remains the same classification, as this enables buses to be moved around the country with ease.

Section 2.3 Performance – safety, fire resistance and suppression

This section sets out, and attempts to future proof the RUB with, technical safety specifications, based on international best practice, for engine compartments, electric vehicle battery packs and Hydrogen Fuel Cell Vehicles.

Hiringa Energy, Auckland Council, and AT supported the introduction of increased non-flammable requirements, including the introduction of fire protection standards for electric and hydrogen buses. BCA again recommends that “where practical, performance standards and accessory specifications should be aligned with a recognised international standard”.

Hiringa Energy suggested the RUB should balance setting out the requirements for Fuel Cell Electric Vehicle buses in New Zealand while aligning with international best practice to “maximise supply options of imported fully built, Completely Knocked Down and domestically-built buses”.

However, Go Bus Dunedin, Ritchies, and BCA all expressed concern that fire protection systems add cost, weight, and maintenance requirements. They asserted that this should not be a mandatory requirement but be added on a risk assessment basis during tendering of contracts.

Section 2.4 Environmental

Emissions

AT, Auckland Council, and a public submitter strongly supported the requirement for new fleet entries to comply with Euro VI C-stage emission standards, including specific provisions to protect against emission-defeating tampering. However, Auckland Council had concerns that the Euro VI C-stage minimum standard is insufficient in addressing greenhouse gas emissions. They recommended updating the Futures Section of the RUB with the Exhaust Emissions rule to zero tailpipe emissions for public bus operator fleet entries from 2025.

On-road and internal noise

One submitter suggested the RUB aligns with the external noise level requirements, and approved test methods are clearly defined in Land Transport Rule Vehicle Equipment 2004 Rule 32017/2004 - this rule states the noise level for a bus with an engine greater than 150kW must not exceed 88dBA. In relation to external noise, CCS Disability Action questioned whether any consideration has been given to the lower sound emissions of electric vehicles and the impact this will have on the blind and low-vision community.

Section 3.1 Ramp

Feedback from the Disability Sector indicated that the wheelchair ramp gradient was too steep for people in a wheelchair to board the bus, in some areas of the country where the infrastructure is insufficient.

In response to the survey question about whether the bus wheelchair ramps should have a maximum gradient of 12%, feedback indicated that some submitters thought this gradient to be a “good starting point”, however, many submitters still felt this to be far too steep a gradient.

Bus operators commented in general that the proposed gradient of 12%, extended to the road, would create additional complexities with bus design and sourcing products from suppliers, and that this requirement would preclude some bus types, including “Zero Emission Buses based on tyre types for heavier vehicles, standard builds and ride heights”.

Other comments included the need to, again, consider the wider public transport infrastructure, as the ramp needs to have a consistent gradient that is compatible with nationally consistent kerb heights at bus stops.

It was recommended by AT and Auckland Council that the ramp gradient sit at 8.3%, in accordance with the New Zealand Building Code.

Section 3.2 Ticketing/fare collection area

During consultation with the Disability Sector, it was pointed out that the card reader/validator/electronic ticketing sensor is often mounted too low/high for a person in a wheelchair or for someone with a mobility restriction, eg injury or arthritis, to comfortably use. It may also interfere with the entry and exit of a person in a wheelchair if placed too low. The Disability Sector suggested that the height and placement of the electronic ticketing sensor should be specified – at a height range of 900-1000mm, and that it must not impede the drivers’ view or wheelchair access.

There was overwhelming support from the Disability Sector for this height, and consistent placement of the card reader/validator/sensor, as it would create national consistency, especially for those who are blind or have low vision, as they could expect the card reader/validator/electronic ticketing sensor to be in the same location across the country.

There were varying responses to this question from BCA and bus operators, who understood the question was related to the ticket machine directly next to the bus driver, therefore, comments included that on some routes the driver only uses the ticket machine at the beginning and end of the trip; where would this measurement be taken from; and that the maximum height of the ticket machine position is “determined by the ergonomics and field of vision of the driver, not a specific measurement”.

Section 3.3 Doors

Feedback around the number, safety features, placement and measurement of doors on the country's buses proved complex.

Comments centred around the number of doors related to alighting and disembarking during busy times on bus routes, and the safety of doing so. Go Bus Dunedin Bus Users Support Group commented that there should be fewer requirements for urban buses to have rear (as pointed out in some submissions, the ‘rear’ door mentioned in the RUB document is a ‘centre’ door) doors, particularly on routes and networks that are not as busy. Ritchies agreed, stating that “most services, other than those with very high passenger loading such as those requiring double decker, do not require two-door operation”.

Ritchies commented further on the suggestion to move to one door at the front only, citing that due to the fact that almost all passenger boarding accidents occur at the centre door, New Zealand should follow the example of other cities in Australia, the UK and the USA who are moving to front door only operation for safety reasons.

Other comments about door safety included general agreement by operators that all doors should have a safety feature. AT strongly advocates for the use of outward opening plug style doors; however, mentions that the RUB needs to specifically detail which technological option must be used to stop entrapment of individuals. Furthermore, AT's current Vehicle Quality Standards (VQS) guidelines state a “sensitive edge system must be installed on both front and rear doors”. Zemtec recommends referencing Transport for NSW TS155.

There was no consensus on the measurement of doors. The RUB states "the rear door will be located at low floor level at a maximum distance of 6500 mm behind the front door, when measured from the centre of the front door to the rear-most opening of the rear door”.

ECan explains that this measurement is critical because “beyond the 6500mm, the rear door of the bus does not align with the rear entrance door into the [newly built, Crown-funded Christchurch Bus Interchange] facility and means customers would be stepping off the bus directly into the operational area. This is a significant H&S issue and therefore can’t be allowed to happen. The distance measurement can be *less than 6500mm* as this still allows customers to safely alight within the confines of the bus bay”. ECan point out that the current fleet would not be permitted to be used in Christchurch, but that in order for buses to be moved from other areas to Christchurch, this measurement needs to be consistent.

Zemtec and BCA argued that if the specified 6500mm measurement is a mandated, that this would exclude a vast number of existing urban buses in the national fleet from operating in Christchurch because they would fail to meet the measurement.

Zemtec mentions many factors that need to be considered when building a bus - “seat layout, floor design, structural strength, and window layout are considered by manufacturers when determining the position of rear doors” and BCA argues that this required measurement would mean that there would be design changes for future builds which would result in inefficiencies in the build process. Additionally, “mandating this measurement in the RUB may also influence future bus terminal designs, meaning a large number of current late model fleet in NZ may not meet this requirement”.

It was suggested by BCA and Alexander-Dennis that this measurement be amended to include older buses in the fleet. Alexander-Dennis suggested a “dimension relative to the overall length of vehicle would make more sense (eg. 40% as per UN ECE R107)”. Uzabus recommended changing the measurement to 6800mm.

Section 3.4 Step height/depths

Within this section, there is a requirement that “kneeling capability is a requirement of all buses” and that “a sign/sticker stating “This bus kneels on request” must be provided on the exterior of the bus”.

Feedback from Blind Citizens NZ points out that there are many older buses in the fleet which do not have kneeling capability, however, they acknowledge that with newer buses entering the fleet that this will change. It is important to note that a blind or vision-impaired passenger cannot see this signage, which impacts on the person’s independence as they must rely on the driver or someone else to inform them if the bus can kneel.

Section 4.3 Priority seating area

Addition of a second wheelchair space on single-deck buses

Feedback from consultation with the Disability Sector indicated that people in a wheelchair who are travelling with a companion, who is also in a wheelchair, have had to catch separate buses due to a lack of a second wheelchair space. During public consultation the Transport Agency proposed that for single-deck urban buses, an additional multi-use/wheelchair space that will accommodate one wheelchair and user, or pram user, on the far side of the vehicle, be incorporated.

There was overwhelming support from disability advocacy groups, one private organisation, public submitters, regional councils, and AT, for this addition to single-deck buses. Many submissions stated that this is a significant step forward in the provision of accessibility to public transport and flexibility and choice in a person's journey.

The main feedback from four bus operators predominantly mentioned the erosion of seating capacity on urban buses and associated lowered revenue, with the introduction of a second wheelchair space; and potential safety issues of having a greater number of standees. NZ Bus estimated the overall capacity of the vehicle and urban fleet would be reduced by 5-10%, which would have flow-on effects of having to increase the number of urban buses to carry passengers during demand peak periods.

BCA and Alexander-Dennis did not oppose the proposal, however, BCA questioned how much space was needed to enable the wheelchair passenger to turn around to disembark the vehicle, and recommended that further investigation is carried out, including into international practices. Alexander-Dennis welcomed more clarity around available aisle width when the two spaces were occupied.

Side-ways folding seats in the priority area

Feedback from regional councils showed that some passengers seated in the two, current, forward-facing, fold up seats on the far side of the bus have sustained head injuries on the wheel arch, in the event of harsh braking or an accident. Additionally, feedback has also indicated that passengers seated in the two side-ways facing seats on the nearside are too closely spaced, resulting in head-strike incidences. There is also no handrail to hold onto in an emergency.

This feedback was the rationale to have one side-ways facing, folding seat to be located immediately behind each wheel arch, was to facilitate wheelchair access and stowage. The addition of a horizontal handhold for occupants of side-ways facing seats is a safety mitigation.

Three public submitters, two councils, and a bus-users support group all supported the proposal, citing room for a carer accompanying a wheelchair user and the seats can be folded away when not in use, allowing for more space for wheelchair users to manoeuvre, or for passengers to stand when the bus is full.

Four bus operators, two disability advocacy groups, one public submitter, and one bus builder opposed the proposal.

Operators cited many of the same reasons for opposing the second wheelchair space, in particular, that the seats significantly reduce carrying capacity and safety concerns. NZ Bus argued that from their “records of incidents, we would suggest the number of instances of head clash or strike in instances of harsh braking would be very minor/rare and would not justify reducing the passenger carrying capacity of the urban vehicles by 5-10%”.

The Disabled Persons Assembly (DPA) opposed the proposal, arguing that side-ways facing seats can pose problems for people with “who have muscle weakness and/or are unstable on their feet resulting in them facing difficulties in being able to fold the seats down independently, which cuts across the purpose of a priority seating area. The provision of a horizontal handhold for occupants of side-ways facing seats is supported as it will mitigate this”.

Mobility devices on buses

Another survey question asked during public consultation was whether different types of mobility devices should be allowed on buses, if they adhere to specific maximum measurements.

AT, Ritchies, NZ Bus, Go Bus Dunedin Bus Users Support Group, seven public submitters and the DPA all supported this proposal. The main feedback was that this would enable a greater number of people with a disability, who do not use a wheelchair, to access public transport, thereby improving their wellbeing and access to social, educational, and employment opportunities. DPA and CCs Disability Action agreed that there must be specific measurements, but that they must be adhered to across the country, as currently there are vast differences between regions and no national consistency. NZ Bus recommended that devices be certified to a standard, including weight, height, width, and braking. AT also mentioned the potential for NZTA to issue a sticker to be placed on the mobility scooter, which would allow it on public transport.

However, BCA, Bay of Plenty Regional Council, Go Bus Dunedin, and Pavlovich Coachlines pointed out that this puts pressure on bus drivers to assess a mobility device and would “make it difficult for drivers in making assessments for compliance, would compromise passenger safety and could lead to internal vehicle damage”.

Age Concern felt that they needed more information provided to make a fully informed decision – questioning whether this meant that people without a disability would be able to take a mobility device onboard and that this could cause a potential safety hazard for more vulnerable passengers, who would have to move their way around these devices.

Section 4.10 Internal lighting

It was stipulated in the RUB that interior lighting should be:

- energy efficient and substantially white;
- ≥ 65 lux - extinguished on door closure and prior to moving off;
- the light should be directed away from the driver in the fare-paying area;
- light levels in the general saloon area (including top deck), from immediately behind the driver's modesty panel, should be adjustable by the workshop. From a minimum of 20 lux to a maximum of 100 lux; and
- must be fitted with automatic sensors to ensure the interior lighting is automatically switched on/off to maintain the minimum requirements.

The lighting system must not be controlled from the driver's position or connected to the exterior lighting system. Lights to increase in general saloon to ≥ 65 lux when doors open to allow passengers to easily locate their seats and dim again once doors are closed with a 5-second delay.

One bus user advocacy group and one union, two disability advocacy groups, three bus operators, and one private organisation responded to this section.

Some submitters were very opposed to the use of substantially white light. Dunedin Tramways were against the "compulsory use of bright lighting in buses, at all times at night". Ritchies echoed this sentiment, strongly urging the requirement for white lighting in New Zealand to be removed. However, Tramways and Go Bus Dunedin Bus Users Support Group both supported a lower, dimmed style of lighting while the bus is under way at night to allow a less bright interior and good visibility to outdoors.

However, Blind Citizens NZ commented that feedback from their clients with residual vision was that the lighting is set too low, especially in the priority seating area, and that "passengers of all ages and mobility often struggle with the >20 lux". CCS Disability Action agreed with this position. However, Tranzurban made the point that even though the lighting is lower and directed away from the driver, that there is still glare on the windscreen.

Several submitters were opposed to the driver not having control of the lighting. BCA, Ritchies, Tranzurban, Zemtec, and Go Bus Dunedin argued that it would pose a health and safety risk for if drivers did not have this control. For example, Tranzurban mentioned a lack of control over lighting, especially in unlit, darker areas, but that one exception to driver control could be the upper saloon of double decker buses. Dunedin Tramways argued that “bright lighting makes it harder for drivers to see the road and can cause driver fatigue, both affecting driver and passenger safety. Lights should be able to be set by the driver to brighten up when approaching stops (perhaps the bell being run would dim-up the lights automatically then they would dim down a few seconds after the doors close). We agree that lights should be at their brightest when loading and unloading, and for cleaning and maintenance”.

Section 4.11 Security and safety - CCTV

This section deals with the technical requirements for the installation of Closed Camera Televisions (CCTV), their placement and the areas they cover, and guidelines on storing recorded data.

Two regional councils, one bus operator, one bus builder, and one private organisation responded to this section.

Councils were supportive of the CCTV as these frequently form part of evidence when a complaint is made. AT and GW preferred clearer guidelines regarding the areas of the bus which need to be recorded by CCTV, rather than an exact number of cameras.

Ritchies, however, argued that it was unfair and stressful on the bus driver to have to monitor a light telling the driver the CCTV was on and to watch multiple screens while driving. Ritchies suggested having a light that showed when the CCTV was *not* on, rather than on. Additionally, they commented that the exterior CCTV views required are already provided by the rear-view mirrors, and that there were too many monitors to watch, so the suggestion was to have one screen to look at while driving, so they could focus on the road. Zemtec concurred with this view, stating that “the number of images to be displayed on the driver’s monitor will detract from what are the key safety areas being, rear door and DD stairwells”.

Section 4.11 Security and safety – audio recordings

The requirement is for a microphone to be installed in the vicinity of the driver’s cab and connected to the audio input of the DVR, to record within 2 metres of the driving seat. One bus users group and one union responded to this section.

Go Bus Dunedin Bus Users Support Group and Dunedin Tramways were both opposed to the use of microphones, unless their presence is to be widely advertised, for example, "this conversation may be recorded for quality and training purposes". Their argument against recording was that it would be in breach of driver privacy. Blind Citizens made the valid point that their clients would not be able to see any signage and suggested that there is an audio announcement from time to time, to alert all passengers of the presence of such technology.

Section 4.11 Security and safety - telematics

This section of the RUB deals with telematics and fatigue management systems. "Telematics will be set up to give the driver real-time and enable incidents to be recorded and traceable to a particular driver. Fatigue/distraction detection and driver alert system must be installed and actively monitored".

One approved organisation, three bus operators, and two advocacy groups responded to this section.

AT was supportive of the requirement for bus telematics and a driver fatigue system. AT has completed a trial, which has shown 10 verified instances where drivers experienced fatigue (including multiple instances where the driver fell asleep or experienced micro-sleeping), and 29 verified instances when the driver was distracted. The trial occurred on 13 buses, from 21/06/2020 to 20/07/2020. However, drivers have been seen to cover the cameras, so the trial averaging returns from about four buses. Based on this trial, bus driver fatigue events occur at 10x the rate compared to long-haul trucking in NZ. The risk to the bus industry has therefore been determined to be significant. The system has proven reliable, as the instances have been reviewed and verified. AT strongly recommends the driver fatigue system is implemented in this version of the RUB. AT also argues that the management system will improve bus driver safety and training.

Conversely, Tranzurban disagreed with the introduction of fatigue/distraction detection and driver alert systems because they argue they are more suited to "long distance trucking operations or inter-regional passenger services where a driver is in the seat for prolonged periods without regular interaction with passengers and with infrequent breaks". Additionally, Tranzurban mentioned the fact that drivers could become accustomed to the use of the systems, rather than taking appropriate rest breaks and adhering to work time rules.

Ritchies concurred with Tranzurban, commenting that these types of systems are already fitted to their long-distance express coach fleet for improved safety, especially at night. Ritchies also argued that these systems are not well suited to urban areas because the urban environment has so many more obstacles, which continually distract the driver.

Cost

BCA suggested that the technology was still not refined enough to be used in urban environments and should sit in Section 8.1 Future Technologies. Tranzurban agreed, mentioning that these technologies are expensive, “prone to failure and the ongoing cost and time of maintenance of such systems detracts from focusing on real value-add initiatives elsewhere within an operation”.

Section 4.11 Reverse monitoring system

Go Bus Dunedin Bus Users Support Group and Dunedin Tramways support the use of cameras for monitoring traffic around the bus and for them to be used after traffic accidents to establish cause, thereby preventing future crashes – hence, they disagree with reversing cameras not being recorded.

Section 4.11 Upper body protection – tree guard

Ritchies disagreed with the installation of tree guards on either side of the bus because they cause an increase in weight and it is prohibitively more expensive to repair the pillar of the vehicle, once hit.

Section 4.12 Heating, ventilation, and air conditioning

Three submitters commented on this section – AT, two advocacy groups, and one private organisation.

- The set-point of the temperature within the saloon areas is to be maintained at a temperature of **20°C +/- 2°C**, when the bus is operating in an environment from 0°C to 30°C.

The above was agreed upon during consultation with bus industry, councils and operators, yet feedback mentioned that having a fixed temperature is not energy efficient, nor conducive to passenger comfort. Zemtec suggested “the saloon temperature should be scaled in line with varying ambient conditions”.

Go Bus Dunedin Bus Users Support Group and Dunedin Tramways felt the temperature setting was too strict and that drivers should have control of the settings, being able to adjust between 18°C and 22°C.

Section 4.14 USB power ports

Three bus operators, three advocacy groups, one public submitter, and one private organisation commented on this section.

Blind Citizens, Go Bus Dunedin, and Dunedin Tramways were supportive of the introduction of USB Power Ports. The overall view of fitment was that the ports should be easily accessible and viewable in contrasting colours. However, Go Bus Dunedin, while supportive overall, did not agree with individual ports for each passenger, citing cost. Dunedin Tramways argued that it is important for drivers to have ports fitted in their cab as ensuring mobile phones are always charged is viewed as a safety tool.

Tranzurban, Zemtec, BCA, and Ritchies all had the same view, that while USB ports are relatively inexpensive to fit, it was suggested they would often be vandalised; would require maintenance; and ports would become outdated due to advances in technology. It was suggested by BCA to fit the ports on every second seat, rather than every pair of seats.

Section 5.1 Communication requirements

On-board announcement systems

Go Bus Dunedin Bus Users Support Group and Blind Citizens were supportive of on-board announcement systems, however, Go Bus Dunedin Bus Users Support Group stated that the systems should be able to be controlled by the driver, as constant exposure to repeated route information would cause unnecessary annoyance to passengers and fatigue to drivers.

Section 5.2 “Bus stopping” electronic signs and buttons

AT and CCS Disability Action both mentioned that the minimum height of the bus stopping button on a stanchion is reduced from 1300mm to 1100mm, as it is more easily reachable by someone in a wheelchair or unsteady on their feet. Blind Citizens acknowledged that bus stop buttons and acknowledgement display devices, especially in the priority seating area, must have a high colour contrast and there needs to be more thought put into the range of tones utilised by buses, such as when indicating, stopping, and when doors are opening or closing.

Regarding the survey question which asked whether a specific stop button should be provided for wheelchair users in the priority seating area, this received large support from the public submitters, Disability Advocate Groups, councils, and some operators. The main reasons provided were that this increases the independence of wheelchair users to travel on buses;

improves driver awareness of when a wheelchair user wants to disembark; and provides time for the driver to prepare.

Three bus operators were not supportive of a separate bus stop button for wheelchair users, stating that it would be difficult to stop people who are not in a wheelchair from using the buttons; drivers are already aware of when a person in a wheelchair enters the bus and that the current system functions well.

Section 5.3 External destination display

Three advocacy groups, one regional council, one public submitter, and one bus operator provided comments on this section.

Text on signs

Go Bus Dunedin Bus Users Support Group and Blind Citizens commented on the need to specify consistent presentation and accessibility of route information.

One suggestion was to have route numbers on the kerb side of the sign, so that the number can be viewed by passengers approaching the bus from behind. Tranzurban also suggested changing the minimum size requirements to a smaller destination sign capable of three letters/digits, positioned on the left or right side of the bus – “1500mm takes up significant space on the rear of the bus and removes the option for rear pantograph charging (important for double deck buses due to height) as the pantograph cannot be fixed over the destination sign. It also hinders bus back advertising”. BCA agreed with Tranzurban’s comment. The Ministry of Education commented that the destination sign should not be used for school buses, but rather that a separate sign should be put at the front of the bus.

Audible announcements outside the bus

One public submitter, who is sight impaired, and Blind Citizens NZ, expressed concern that buses do not have audible announcements. It is very difficult for sight impaired or blind people to know which bus is arriving as the bus pulls into a stop – this will benefit all passengers to have this technology. “For example, the announcement would come from outside the bus – the speaker might be positioned by the front left wheel casing, or in the proximity of the front left headlight etc. While it may not be possible to include a requirement such as this for this RUB review, we urge Waka Kotahi to recognise the benefits of this approach, and to plan for this as a requirement in the next review of the RUB”.

Section 5.4 Exterior promotional area

This section deals with the exterior promotional area on the rear of the bus.

Ritchies and Tranzurban were opposed to ventilation grills on the rear of bus being designed to not disturb any advertising image when viewed. Ritchies stated that “the advertising image must be designed to not disturb the ventilation grills. The ventilation grills are a critical part of the vehicle’s design which ensures appropriate air follow to the engine to enable cooling to prevent fires and allow the engine to operate efficiently which reduces vehicle emissions. We strongly recommend this requirement be withdrawn”.

Section 5.5 Internal information

Four advocacy groups, one District Health Board, and one bus operator provided comments on this section of the RUB.

Blind Citizens NZ, Go Bus Dunedin Bus Users Support Group, Nelson Marlborough DHB, DPA, and Age Concern New Zealand strongly support the use of internal route information on electronic information displays and audio announcements. Reasons provided were that this is already common practice in other jurisdictions and improves passenger experience for all passengers, including migrant speakers of other languages, visitors, older people and those with visual impairments. DPA pointed out that announcements enhance the independence and safety for people with visual or auditory impairments. Additionally, DPA noted that the three main councils, Auckland, Greater Wellington, and Environment Canterbury are trialing audio and visual information on buses and urge the findings from these trials to be incorporated into the RUB at the earliest possible opportunity.

Tranzurban and Dunedin Tramways were not opposed to the display of internal information, however, did not agree to audio announcements being part of this information, citing constant audio announcements as a ‘nuisance’ for passengers and drivers alike. Ritchies expressed concern that they were left with over 70 screens that were “purchased but not been fitted with no prospect of them being used in the foreseeable future and are now old technology”. Ritchies also commented that most people have mobile phones, so can use their phones for route information. They recommend “NZTA review this requirement as this functionality can be delivered at a significantly reduced cost without the need to fit every vehicle with multiple screens which increases capital cost and operational cost due to increased vehicle weight”.

Section 6.3 Midlife refurbishment requirements

This section was commented on by five advocacy groups, AT, and Auckland Council, and five bus operators.

Support for midlife refurbishment requirements

Those submitters who supported the midlife refurbishment requirements included Blind Citizens NZ, Go Bus Dunedin Bus Users Support Group, Auckland Transport, and Auckland council.

Blind Citizens NZ supported “Waka Kotahi’s approach towards encouraging operators to speed up the replacement of older, less user or environmentally friendly buses / vehicles. That is, where buses cannot be quickly replaced, to retrofit them with as many of the features as set out in this edition of the RUB”. DPA recommended stating a set date by which non-compliant buses will not be permitted to operate. CCS Disability Action suggested including audio-visual information is included into the midlife requirements.

Go Bus Dunedin Bus Users Support Group echoed that sentiment too, mentioning the re-use and adaptation of existing buses is a positive, cost-saving measure. The Group ask for lower tyres and adjusted suspension to improve accessibility to buses. AT also discussed the fact that the enhanced requirements will greatly advance the accessibility, comfort, and safety of public transport. AT suggested that all of the listed requirements are undertaken at mid-life, allowing standardisation across regional councils and AT.

Cost implications of midlife refurbishment

BCA, Tranzurban, Go Bus, Ritchies, and Mana Coach Services Limited mentioned cost implications for operators in their submissions. BCA argued that bus operators and manufacturers “cannot and should not be required to include future unspecified midlife refurbishment costs in tender prices”. BCA suggested that the RUB document must plainly outline that all funding of mid-life refurbishments lies with Regional Authorities, not operators, without forming clear requirements of a new or existing contract. They also pointed out that smaller regional councils have restrictions on funding and that levels of patronage and general ‘wear and tear’ on buses is far less than in larger areas.

Mana Coach Services Limited questioned the length of time a bus would be out of service due to refurbishment, and that if it was not possible for an operator to refurbish to these requirements, would the Transport Agency compensate them. Go Bus recommended clearly stating the number of years that a refurbishment must occur, as opposed to a guide range of years, as this will help to provide more predictable refurbishment plans and tender assumptions. Ritchies

suggested “to make changes to existing vehicles would need to be agreed between the Operator and the Council at the time the changes are proposed and appropriate funding be made available to the Operator to enable the desired changes to be made”.

AT stated that there will be higher cost involved in contract rates, due to the improvement of the midlife refurbishment requirements not being included in existing contracts.

Requirements vs options at council's discretion

- Go Bus argued that the refurbishment requirements must be focused on extension of the life of the bus; not focused on rebuilding the bus entirely to current standards. They also mentioned the issue around councils requiring optional requirements, which will undermine standardisation if not all councils follow suit.
- Ritchies also asserted that it must be the RUB that is in place at the time a bus enters service that should apply throughout the life of the bus. It was pointed out that technology is constantly changing, and it is not always possible to alter many bus design features.

Section 7.3 Bicycle racks

Nelson Marlborough District Health Board was supportive of the inclusion of bicycle racks on buses, stating that racks should be a requirement for all new urban buses, to ensure that the RUB is better aligned with the Strategic Priorities of the Government Policy Statement (GPS) - Better Travel Choice” which ‘requires all parts of the transport system, be it roads, rail, PT, and walking and cycling routes, to work together’.

Go Bus suggested that electric bicycles should be added to the list of exclusions. Zemtec commented on the difficulty of complying with various Land Transport Rules because:

- the ‘load’ of the bicycle cannot be determined – “design, condition, and number of the bikes on the rack will directly impact on compliance”;
- and the fact that carrying bicycles might mean the bus does not comply with other Land Transport Rules, including the Vehicle Dimensions and Mass, External Projections 2001 Rule 32008/2001, and Land Transport Rule Vehicle Lighting 2004.

Section 7.5 Process for seeking a variation to these requirements

Blind Citizens NZ congratulated the Transport Agency for moving towards enforcement of the RUB through the Procurement Manual, as this is in alignment with the Accessibility Charter. Go Bus Dunedin Bus Users Support Group agreed with this statement, adding that variations to the

requirements must not make bus services less accessible, as this would be in breach of the Human Rights Act 1993,

Go Bus and BCA both expressed a need for the variation process to be strictly controlled and enforced. While there may be specific requirements around special requirements, as detailed in Appendix 7.5, para 7.5.2, however, this must be the exception and not the norm. If this process is not adhered to, this threatens the very purpose of the RUB, which is to create national standardisation and efficiencies. It was suggested by Go Bus, that “the requirement requires application to the Waka Kotahi Public Transport Manager, involvement of the RUB industry Working Group, and a public record of all approved changes. Go Bus is supportive of this process; however, it must be followed to maintain the integrity of the bus fleet and associated infrastructure”.

Section 8.1 Future intention

Nelson Marlborough District Health Board supported the inclusion of future technologies such as cyclist detection systems and acoustic vehicle altering systems on electric buses, as these were noted to reduce accidents between vulnerable road users and buses. Auckland Council reiterated their intention and commitment to reducing emissions from transport and recommended that there be an update to the Exhaust Emissions Rule to zero tailpipe emissions for public bus operator fleet entries from 2025. While BCA cited various operational and financial risks concerning the introduction of technologies that have not yet been sufficiently tested in the field. BCA, therefore, recommends a “thorough analysis of each new technology to verify that investment is worthwhile”.

Appendix 1: List of Submitters

Note: (10 submissions were received from members of the public. They are not included in this list to protect their identity).

Age Concern New Zealand
Alexander-Dennis
Association of Blind Citizens
Auckland Council
Auckland Transport
Bay of Plenty Regional Council
Bus and Coach Association
CCS Disability Action Disabled People's Assembly NZ
Dunedin Tramways
Environment Canterbury
Global Bus Ventures (NZ)
Go Bus
Go Bus Dunedin Bus Users Support Group
Greater Wellington Regional Council
Grey Power Otago
Hiringa Energy
Mana Coach Services Limited
Nelson Marlborough DHB
NZ Bus
Pavlovich Coachlines
Ritchies
Tranzurban
Uzabus
Waka Kotahi New Zealand Transport Agency

Yutong

Zemtec – Zero Emission Technologies