



## **Comments from Imtac about the proposed design of zero emission buses**

**(December 2020)**

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## **Making our information accessible**

As an organisation of and for Deaf people, disabled people and older people Imtac recognises that the way information is provided can be a barrier to accessing services and participation in public life. We are committed to providing information about our work in formats that best suit the needs of individuals.

All our documents are available in hard copy in 14pt type size as standard. We also provide word and pdf versions of our documents on our website – [www.imtac.org.uk](http://www.imtac.org.uk). In addition we will provide information in a range of other formats. These formats include:

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## **About Imtac**

The Inclusive Mobility and Transport Advisory Committee (Imtac) is a committee of disabled people and older people as well as others including carers and key transport professionals. Its role is to advise Government and others in Northern Ireland on issues that affect the mobility of Deaf people, disabled people and older people.

The aim of Imtac is to ensure that Deaf people, disabled people and older people have the same opportunities as everyone else to travel when and where they want.

Imtac receives support from the Department for Infrastructure (herein after referred to as the Department).

## **Background**

Following a recent announcement by Minister Mallon, members of Imtac's Translink Accessibility Working Group met using Microsoft Teams with Translink representatives to discuss the proposed design of two zero emission vehicles. The first was the design for a Battery Electric Vehicle of which there are 80 on order. The second was the design for a Hydrogen Fuel Cell Electric Vehicle of which there are 20 on order.

Imtac welcomes and supports investment in zero emission vehicles as a necessary part of responding to the urgency of the climate emergency. The Committee's primary focus, however, remains on the accessibility and usability of any vehicle purchase. As with other vehicle procurement the Committee measures vehicle design against previously published<sup>1</sup> universal inclusive design principles. As these buses are quiet vehicles comments also reflect proposals to add artificial noise.

## **The move to dual door vehicles**

Before commenting on each vehicle design Imtac believes that it should comment on the decision to move to a dual rather than single door design on the two vehicles. The rationale for this decision is to reduce dwell times at bus stops by speeding up boarding and alighting and is based on the success of the Glider service in this regard.

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<sup>1</sup> <https://www.imtac.org.uk/publications/recommendations-imtac-future-translink-bus-procurement>

While Imtac concurs with reducing dwell times, it has major reservations as dual door provision has significant implications for the accessibility and usability of vehicles both from a positive and negative perspective. On the positive side it potentially could make access easier for wheelchair users if ramped access is provided at the secondary door with direct access into the priority wheelchair user space. It also potentially makes it easier to provide two wheelchair user spaces on vehicles. On the negative side the secondary doors significantly reduce the space in the low-floor area of the vehicle, reducing flexibility in design. Some of the implications include:

- Reduced numbers of low-level seating generally
- Restrictions on the ability to provide flexible space suitable for people travelling with buggies and prams, assistance dog users and people with bulky mobility equipment
- Increasing the distance ambulant disabled people must travel up the bus to access priority seating

The Committee also questions the rationale for moving to a dual door provision without a commitment to providing appropriate infrastructure at stops. The Glider service has been successful because the bus stop infrastructure has been designed to compliment the vehicle design. Current wider bus stop infrastructure is based around design standards<sup>2</sup> predicated on the operation of single entrance / exit vehicles. In many locations across Belfast and Derry the secondary door will not be able to access a kerb, essential for ease of access / egress for disabled people, older people and others.

The lack of suitable bus stop infrastructure has significant implications for the accessibility and usability of the buses with passengers being required to alight onto the carriageway, with a significant step down and potentially no step free access onto the footway. This potentially has health and safety implications for passengers and for older people and disabled people in particular, increasing risks of falls and passengers having to travel a distance on busy carriageways to access the footway. In reality many older and disabled passengers will make the decision not use the secondary doors, preferring the safety of the front door with access to a footway. This has the potential to negate any reductions in dwell times at bus stops.

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<sup>2</sup> <https://www.infrastructure-ni.gov.uk/publications/bus-stop-design-guide-october-2005-id-017>

Imtac is concerned that a decision has been taken to change the design of buses without fully considering the accessibility and usability of current bus stop infrastructure. The Committee is also concerned that health and safety issues implications for passengers appear not have been fully considered. It recommends that the decision be reviewed to consider these issues and to allow an equality impact screening process to take place. On the basis that it may be desirable to move to dual door provision Imtac also recommends an urgent review and update of current bus stop design standards, reflecting standards developed in London<sup>3</sup> and elsewhere where dual door provision is commonplace.

### **Comments on the Battery Electric Vehicle**

At the meeting with Translink members were shown a range of design layouts, some of which include vehicles without the provision a flexible area suitable people travelling with buggies and plans. Imtac views this type of provision as essential in reducing conflict between passengers competing for the legally required priority wheelchair user space. In line with its published guidance the Committee recommends in the strongest terms that vehicle designs that do not have flexible space are not used.

Based on discussions the Committee recommends a variation on vehicle design CUS–03983-1 as the most appropriate design. The following are recommended changes to the proposed vehicle design:

1. To future proof vehicles and to enable easy access for wheelchair users where infrastructure allows the Committee recommends that an automated boarding ramp be provided at the secondary doors in addition to retaining the provision of a manual ramp at the front door
2. In line with Imtac guidance, the Committee recommends that the proposed flexible space on the design be reworked to be a space that could also be used by a second wheelchair user similar to layouts used by other operators including Reading Buses
3. In line with PSVAR requirements the final design of the vehicle must include four forward priority seats for the use of disabled people

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<sup>3</sup> <http://content.tfl.gov.uk/bus-stop-design-guidance.pdf>

The main drawback of the vehicle design is the distance ambulant disabled people must travel to access priority seating. Potentially use of the secondary doors to enable ambulant disabled passengers to board, if possible, would significantly reduce the impact of walking distances. If in reality this is not practical drivers must allow additional time for passengers to get seated before moving off.

### **Comments on the Hydrogen Fuel Cell Electric Vehicle**

Members were shown only one design for the Hydrogen Fuel Cell Electric Vehicle. This is largely due to restrictions on low-floor space on the vehicle due to hydrogen storage requirements.

From the Committee's perspective the Hydrogen vehicle demonstrates most clearly the limitations placed on inclusive design with the inclusion of dual doors. The space simply does exist to allow the type of essential provision recommended by Imtac.

Due to space restrictions the Committee cannot identify any useful recommendations for internal changes to the vehicle. The proposed design meets only the minimum accessibility requirements, providing the 4 required forward facing priority seats and single priority wheelchair user space. Most disappointingly the vehicle does not provide alternative flexible space that could be used by amongst others, people with prams and buggies. This is a retrograde step in terms of current Metro and Foyle Metro provision and will certainly result in greater conflict between passengers and as a result place drivers in an impossible position. Given the limitations the only recommendation the Committee can make is to remove the secondary doors from the design and utilise the additional space to provide flexible seating / a second wheelchair user space.

### **Provision of Acoustic Vehicle Alerting System (AVAS)**

The Committee welcomes the proposal to include AVAS on the new buses given the lack of engine noise and the potential hazard this creates for all pedestrians. Members have reviewed video footage of the system developed by TfL for operation on electric vehicles in London. Feedback has been mixed with the main concern being the unfamiliarity of the noise used in the London pilot. While welcoming the provision of AVAS the Committee recommends that Translink undertake a trial following the introduction of buses involving a range of stakeholders including people with visual impairment, people with learning difficulties

and people with dementia before making final decisions. Imtac is happy to work with Translink to facilitate this engagement.

## **Conclusion**

Vehicle design is a challenge. With space finite the scope to make significant change is limited and finding a perfect solution is impossible. As indicated the current design proposals for the zero emission vehicles create additional challenges due to the decision to install secondary doors and, in the case of hydrogen vehicles, the fuel storage requirements. Although in some ways these restrictions can be worked around with the Battery Electric vehicle this is not possible with the Hydrogen Fuel Cell Electric vehicle. For this reason, and because of concerns about incompatibility with current infrastructure provision at stops, the Committee recommends that the decision to use secondary doors be reviewed.