

# Electric Bus Reliability Study 2025

## Project Proposal

For Discussion

### Introduction

The number of EV buses across the UK is rapidly increasing, with over 5,500 expected to be in service by the end of 2025 (representing approximately 15% of the fleet). Bus operators and public transport authorities have learnt a lot regarding the implementation and operation of electric buses and given the quantity now in service it is considered an appropriate time to review and benchmark the reliability of electric buses.

[Translink](#), the public transport operator in Northern Ireland, in conjunction with [Zemo Partnership](#), are seeking to commission a study to benchmark EV bus reliability between UK operators and public transport authorities.

The aim of the study is to give participating member organisations an overview of their EV performance compared with their peer group and to identify the most critical issues affecting EV reliability; including challenges and lessons learnt from the roll-out to date. This assurance process will help operators and public transport authorities understand how their organisation is performing against their peer group.

### Proposal

It is envisaged that sponsoring participants will be asked to complete a questionnaire regarding the EV bus & charger performance including the provision of some high-level statistics covering KPI's such as lost mileage, % VOR, number and type of defects etc. Zemo will

then facilitate a series of bilateral follow-up discussions to ensure data is fully understood and compatible, prior to overall analysis.

The analysis will examine performance by broad vehicle and charger type (midi, single deck, double deck, AC, DC, Pantograph etc) but will consider what data can be collected by manufacturer/OEM being mindful of the more sensitive nature of this data. The study will also consider charger reliability.

### **Out of Scope**

The study will exclude hydrogen fuel cell buses and associated infrastructure, as the quantity of these in service is much smaller and still in the early deployment phase.

The study will not consider coaches, minibuses or repowered buses.

### **Round Table Discussion**

An initial phase of the project will be a roundtable discussion for the participants to agree the main data to be collected with a view to ensuring that the questionnaire is relatively straightforward to complete and doesn't involve organisations in too much additional analysis or data collection. This session will also agree the approach in terms of the dissemination of the data and information.

### **Potential KPI's, Lessons Learnt & Issues**

Whilst the round table discussion would agree the actual KPI's collected the following are examples of the type of data it's envisaged the study could collect:

#### KPI's

- % VOR
- Analysis of service impacts defects by vehicle type by key defect categories
- Defects per vehicles
- Charger reliability/downtime

#### Lessons Learnt

- Analysis of key reliability issues/risks & challenges
- Time to fix/resolve problems and parts availability
- Staff Training
- Overall experience compared with diesel fleet

Case studies on good practice may also be included in the final report.

### **Dissemination of Results**

A PowerPoint slide deck will be produced summarising the results of the study. All data will be anonymised with individual operators/transport authorities being able to see their position in the league tables but not be able to identify the position of the other study participants.

Other Zemo members will have access to an Executive Summary report.

### **Study Personnel**

Zemo will lead the study using Zemo Associate Consultants Andy Eastlake and Mike Weston, providing technical support and advice to deliver the study. (Both are well known to the Partnership: Andy as the

previous Chief Executive and Mike as the Chair of the Bus Working Group for several years.)

David Barnett, Head of Engineering, Translink and a Zemo Board Director has agreed to be the lead project sponsor and provide independent oversight of the project including ensuring confidential requirements are maintained. The project will also ensure appropriate confidentiality agreements are put in place.

### **Cost of Study & Timescales**

We envisage the study will cost between £20,000–£30,000 and we are seeking enough participants in order that the maximum contribution will be approximately £2,500 per participant.

It is expected that the project will kick-off during May 2025 with an intention that the summary report (in the form of a PowerPoint pack) will be available by September 2025.

### **Next Steps**

The proposed study will be included on the agenda of the Bus Working Group planned for Tuesday 29th April [[Registration Link](#)] so initial discussion on the proposed approach can take place.

In the meantime, if you are interested in participating in the study, please email [Andy.Eastlake@zemo.org.uk](mailto:Andy.Eastlake@zemo.org.uk)