Institute and Faculty of Actuaries

30 January 2026

Transport Committee: Supercharging the EV Transition

The Institute and Faculty of Actuaries (IFoA) is a royal chartered, not-for-profit, professional body. We represent and regulate over 34,000 actuaries worldwide, and oversee their education at all stages of qualification and development throughout their careers. Actuaries are big-picture thinkers who use mathematical and risk analysis, behavioural insight and business acumen to draw insight from complexity. Our rigorous approach and expertise help the organisations, communities and governments we work with to make better-informed decisions. In an increasingly uncertain world, it allows them to act in a way that makes sense of the present and plans for the future.

Key points

The IFoA welcomes the opportunity to respond to the Transport Committee's inquiry into Supercharging the EV Transition.

While several factors continue to slow Electric Vehicle (EV) adoption in the UK, one factor that is often missed by policymakers is **the significantly greater insurance costs for EVs - often worth hundreds or thousands of pounds, in greater annual costs of owning an EV.**

As many surveys have cited, the barriers to EV adoption often fall into the following main categories: purchase price; running costs; range anxiety; depreciation; safety / fire risk. Two of these are inextricably linked to the cost of insurance; safety / fire risk is directly linked to the potential cost of claims, which in turn will affect insurance premiums. Additionally, insurance costs contribute a large part of the overall annual running costs of owning an EV. For many consumers, particularly younger drivers, higher insurance premiums - often over £500 per year - materially increase the potential costs of owning an EV.

EV insurance costs are currently higher than for internal combustion engine (ICE) insurance costs for two main reasons:

(i) **repairs are more complex and costly** - a lack of spare parts and specialised mechanics and components means that even minor accidents often result in the car being 'written off' because the battery is too expensive to assess or replace; and

(ii) **data limitations** - as EVs are relatively new, insurers lack decades of historical data to estimate accurately what costs from car accidents will be. This uncertainty, coupled with the higher repair costs and worse supply chain networks, necessarily leads insurers to price premiums higher until they have more evidence of how these cars perform over the long term.

Emerging evidence shows that EVs may have lower accident frequency going forwards and that repair cost differentials are narrowing over time. However, there is not yet enough data and evidence to demonstrate that EV insurance costs should be similar to ICE insurance costs.

The relatively higher annual cost of EV insurance - especially in a cost of living crisis - means that targeted intervention is needed to accelerate the translation of improving EV risk experience into lower premiums. The following options are worth exploring in this regard:

- **accelerating EV repair training and accreditation** to reduce labour costs and repair times;
- **considering temporary, insurance-specific incentives to bridge the transition period** while data and repair capability mature;
- **improving access to industry-wide claims and exposure data** to support more accurate, competitive pricing.

Addressing insurance costs as part of the EV transition presents an opportunity to remove a tangible financial barrier, better align insurance pricing with underlying risk, and reinforce the environmental benefits of EV adoption.

Transport Committee Inquiry: Supercharging the EV Transition IFoA Response

Introduction

1. The Institute and Faculty of Actuaries (IFoA) welcomes the opportunity to respond to the Transport Committee's inquiry on Supercharging the Electric Vehicles (EV) Transition. While several factors continue to slow EV adoption in the UK, one factor that is often missed by policymakers is the **significantly greater insurance costs for EVs - often worth hundreds or thousands of pounds in greater annual costs of owning an EV**. The primary focus of our response below is on the cost of EV insurance.

2. Our response has been drafted by our Electric Vehicles Working Party. Members of this Working Party are at the forefront of pricing for insurance products in the UK. Given this background, we have deep expertise on the factors affecting insurance premiums, and as a result, we have provided insight on inquiry questions (f) and (i) below.

3. It is important to note that, as for any IFoA response, we have considered the Transport Committee's inquiry from an independent, public interest perspective. In doing so, we have taken a broad perspective on the public interest, including the impact on current and future drivers of EVs, and also on society as a whole.

4. As many surveys have cited, the barriers to EV adoption often fall into the following main categories:

    - purchase price;
    - running costs;
    - battery range anxiety;
    - depreciation;
    - safety/ fire risk.

5. Two of these factors (safety / fire risk and running costs) are inextricably linked to the cost of insurance. Safety / fire risk is directly linked to the potential cost of claims, which in turn will affect insurance premium. Additionally, insurance costs contribute a large part of the overall annual running costs of owning an EV.

6. Addressing insurance costs as part of the EV transition presents an opportunity to remove a tangible financial barrier, better align insurance pricing with underlying risk, and reinforce the environmental benefits of EV adoption.

7. Given our members' expertise mentioned above, we believe that the IFoA has an important role to play in the debate on developing the take-up of EVs in the UK. We hope the Transport Committee finds our response to this inquiry helpful and constructive. **As the President of the IFoA and Chair of the IFoA Electric Vehicles Working Party, we would be delighted to meet with you to discuss the issues raised in our inquiry response further.**

Transport Committee Questions

Question f: What are the most significant factors affecting consumer confidence in EVs, including purchase and running costs, chargepoint availability, concerns about battery longevity, safety and fire risk, and what are the best steps Government and the sector could take to address them?

Insurance Costs: A Major Hidden Barrier

8. Insurance represents a substantial and often underestimated cost barrier to EV adoption in the UK.

The Current Situation

9. In 2024 there were headlines in the UK suggesting that EVs cost around twice as much to insure as Internal Combustion Engine (ICE) vehicles. This could add an average of £500 to the annual running cost for a typical driver and often many thousands for a young driver.

10. In late 2025, we generated insurance quotes across a range of characteristics for both EVs and their ICE equivalents, which are shown as dots in the graph below. This demonstrated that the gap may have narrowed, however many insurers are still charging a significant additional premium to insure an EV versus the ICE equivalent.

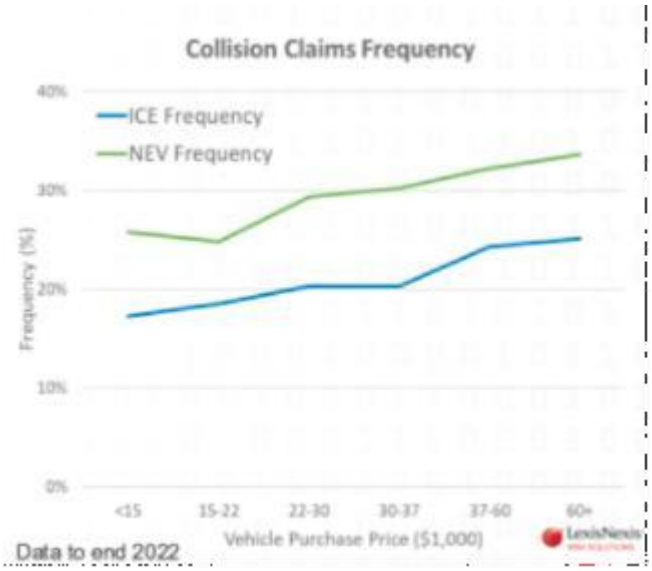
Graph 1: Comparison of EV versus ICE/ Hybrid Insurance Costs

Why is EV Insurance More Expensive?

11. A motor insurance premium is driven by a combination of the likely frequency and severity of accidents (as well as any allowance for expenses and profit margin).

12. Historic analysis (by LexisNexis in China) of claims frequency and severity from pre 2022, when EVs were still in their infancy, showed that both claims frequency and severity tended to be higher for EVs:

Graph 2: Comparison Collision Claims Frequency

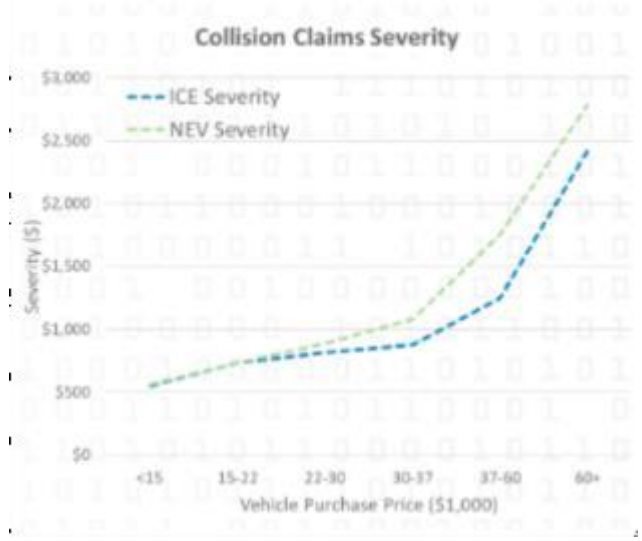


Source: Lexis Nexis

Note that in the graphs above and below, the acronym NEV stands for New Energy Vehicle, which includes fully electric and also hybrid vehicles.

Additionally, note that the absolute frequency of collisions in the Chinese market is higher than we would expect for the UK market, however we believe the relativity remains relevant.

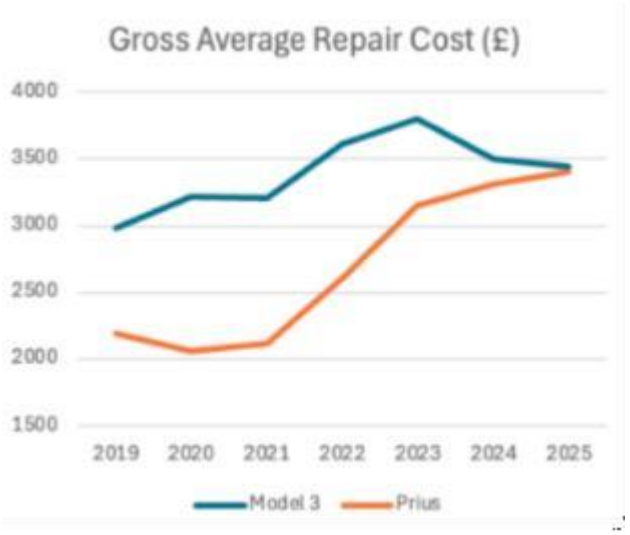
Graph 3: Comparison Collision Claims Severity



Source: Gecko

13. However, more recent analysis has shown that the average repair cost gap has narrowed in the last few years, and that the frequency of accidents[1] when reviewed on a corrected exposure basis (per kilometre) also dropped significantly and is now 25% lower than the ICE equivalent.

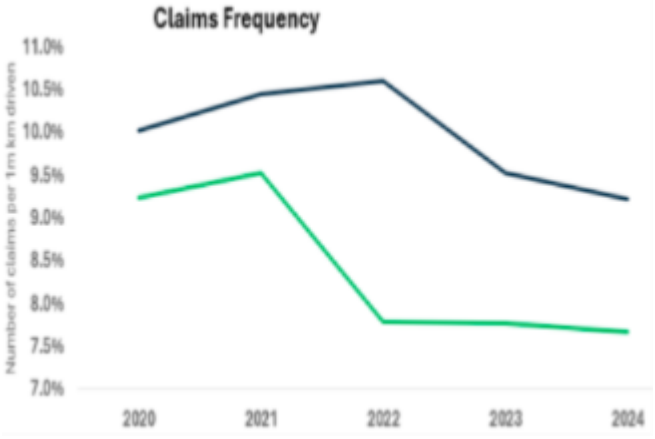
Graph 4: Comparison of Gross Average Repair Cost



Source: Gecko

Note that in Graph 4, model 3 is an EV (Tesla model 3) and the Prius is a hybrid petrol Toyota Prius vehicle.

Graph 5: Comparison of Claims Frequency



Source: *Guy Carpenter, Analysis of claims frequency from vehicle accident data in Norway.*

Note that in Graph 5 the blue line relates to ICE vehicles; the green line relates to EVs.

14. So why are insurance costs for EVs higher than for ICE vehicles? This can be understood if we look at specific EV factors that increase the costs of repairing vehicles which in turn leads to higher insurance premiums:

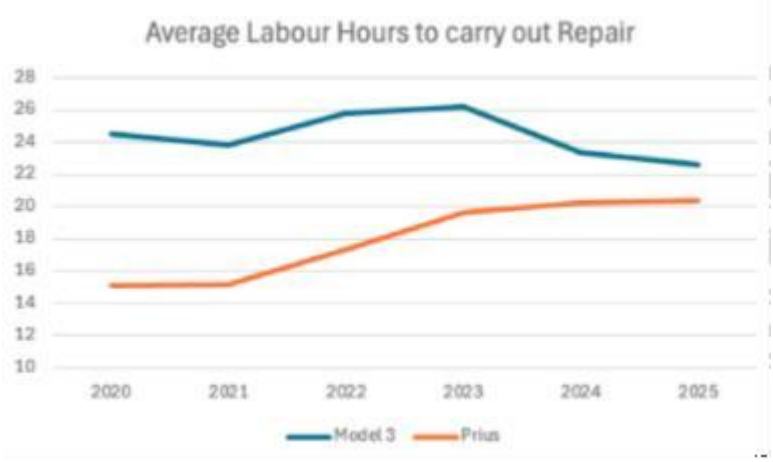
[1] From Guy Carpenter analysis of Norwegian data - more detail is included on this analysis in response to question (i) below.

- **Battery replacement costs:** the battery is the most valuable part of an EV and can cost thousands of pounds to repair (J.D. Power), with replacement costs running from £10,000 to over £20,000 (IEEE Spectrum);
- **Specialist repair requirements:** EVs need trained technicians and specialist equipment, and there is currently a shortage of EV-qualified mechanics, which pushes up repair costs and waiting times (J.D. Power);
- **Battery damage assessment challenges:** it can be difficult to assess battery damage after accidents, leading some EVs to be written off even after relatively minor crashes due to safety concerns;
- **Higher vehicle values:** EVs typically have higher purchase prices than comparable petrol/ diesel models;
- **Limited claims data:** insurers lack decades of historical data to accurately price risk**.**

15. As repair shops gain experience in working with EVs and more data becomes available to insurers, we would expect some of these premium gap issues to reduce. In particular, we have noted that over the last few years the labour costs of repairing EVs versus hybrid vehicles has narrowed significantly.

16. Since COVID, there has been a significant increase in the cost of repairing all vehicles driven by higher costs of car parts globally, and higher car repair labour rates. Despite this, the average UK cost of repairing a Tesla Model 3 has managed to remain stable and the person-hours required to carry out an average repair has actually reduced and narrowed compared to the person-hours required to carry out an average repair on the Toyota Prius (a very popular hybrid petrol car in the UK). Interestingly over the same period, the average repair time for the Toyota Prius has increased.

Graph 6: Comparison of Average Repair Labour Hours



Source: Gecko

Note that in Graph 6, model 3 is again an EV (Tesla model 3) and the Prius is a hybrid petrol Toyota Prius vehicle.

17. We would expect these changes to continue as more data becomes available. It is perhaps unsurprising that the insurers with the most equivalent pricing for EV versus ICE vehicles are also the biggest, since they have more data to rely on.

18. In theory this suggests that insurance for EVs will eventually be similar to, or potentially even cheaper than that for ICE vehicles. However this is reliant on vehicle repair work practices, EV-specific parts standardisation and supply chain improvements leading to cheaper EV-specific car parts; in turn this

should lead to better insurance claims experience which would then feed into lower EV insurance premiums.

Recommended Solutions

19. The relatively higher annual cost of EV insurance - especially in a cost of living crisis - means that targeted intervention is needed to accelerate the translation of improving EV risk experience into lower premiums.

20. We recommend the following solutions:

    - **(i) support specialist training programmes**: there should be funding for accelerating EV repair training and accreditation to reduce labour costs and repair times, and to incentivise more garages to install specialised equipment to service and repair EVs.

      It should be noted that servicing costs are a significant component of annual vehicle running costs, so interventions to reduce repair costs (and hence insurance premiums) would also reduce these annual servicing costs;

    - **(ii) encourage standardisation**: work with manufacturers to develop standardised battery modules and repair protocols that could reduce replacement costs, and introduce standardised battery health testing and certification frameworks;

    - **(iii) consider insurance-specific incentives:** temporary subsidies or tax relief on insurance premium tax could be introduced - this is currently 12% on motor vehicles - specifically targeting EV insurance premiums during the transition period (whilst data is gathered);

    - **(iv) improve risk assessment**: incentivise the collating of industry-wide claims and exposure data to facilitate a wider understanding of the insurance risks of EVs to enable more accurate, competitive pricing rather than cautious overpricing. This could be co-ordinated by an independent or industry body such as the IFoA, the Association of British Insurers or Thatcham;

    - **(v) support telematics programmes:** telematics insurance is a technology-led approach where premiums are calculated based on an individual's personal driving data rather than broad demographic averages. By using on-board devices to monitor speed, braking, and usage patterns, it rewards safe drivers with lower costs;

        - there is evidence that EVs perform better than ICE vehicles on telematics, driven by smoother and regenerative braking, and more predictable drive patterns;

        - with current UK telematics take-up at around 15-20%, greater take-up of EVs in the public domain combined with their inherent telematics advantages could support more personalised and potentially lower premiums based on driving behaviour;

        - Government could encourage this by incentivising insurers to offer such schemes;

    - **(vi) accelerate and widen the Autonomous Vehicles Act**: many EVs come equipped with additional autonomous driver aids that could assist driving down claims frequency if they were fully implemented.

21. Insurance costs represent a real and immediate financial barrier that deserves equal attention alongside charging infrastructure and purchase price in any comprehensive strategy to accelerate EV adoption.

22. The recommended solutions listed above are in line with actions and recommendations highlighted in the recently published findings from both the Road Safety Strategy and Motor Insurance Taskforce.

Question i: What lessons should be learned from other countries' successes or setbacks?

23. Two members of the IFoA EV Working Party have done significant research using extensive insurance claims accident data from Norway, safety data from the United States and claim data from the UK to

analyse frequency and severity differences between EVs and ICE vehicles. As the Transport Committee may be aware, Norway has introduced several incentives and commitments to net zero and EVs and as a result, has more EVs on the road than petrol cars.

24. The full paper is found here:

Examination of factors influencing accident frequency and severity of Electric Vehicles (EVs) vs Internal Combustion Engine Vehicles (ICEV) | British Actuarial Journal | Cambridge Core.

25. This research found that EVs generally have lower accident frequency partly due to the improved safety technology and usage patterns. It has been shown that EV adoption not only for environmental reasons but for public safety improvements has been effective.

26. However, the research found that when an accident occurred, the average cost to repair the EV vehicle tended to be greater. This is due to the need for skilled labour and more expensive bespoke parts costs. The research also found that there was evidence to show that the differential has been reducing over time as EVs become more mainstream.

27. When there were accidents that resulted in injuries to the driver and passengers, the research found that these were generally less severe (and therefore less costly to treat) compared to ICE vehicles due to the Advanced Driver Assistance technology, crumple zones and sizes of EVs.

28. If these frequency and average cost experiences were similar in the UK, these factors would have implications for insurance pricing and specific EV-characteristics pricing.

Should you want to discuss any of the points raised please contact Steven Graham, Technical Policy Manager (steven.graham@actuaries.org.uk) in the first instance.

Yours Sincerely,

Paul Sweeting

President, Institute and Faculty of Actuaries

Mohammad Khan

Chair, IFoA Electric Vehicles Working Party