



## Western Development Commission (WDC) Submission to ZEVI consultation on the Draft National En-Route EV Charging Network Plan

10 November 2023

### Introduction

The Western Development Commission (WDC) is a statutory body with a remit to promote and encourage economic and social development in the Western Region (counties Donegal, Sligo, Leitrim, Mayo, Galway, Roscommon, and Clare). The WDC operates under the aegis of the Department of Rural and Community Development. We welcome the opportunity to make a brief submission on the Draft National En-Route EV Charging Network Plan.

The WDC regards the provision of quality transport infrastructure, and in this case Electric Vehicle (EV) charging infrastructure, as essential to underpinning the economic and social development of the Western Region. Our region is very rural with 63% of the population living outside of towns of 1,500 (compared to 31% in the rest of the state. Nationally 52% live in towns with a population of more than 10,000, but in the Western Region only 22.6% do. Our focus in relation to transport policy is on regional and rural accessibility to opportunities and services, both within our region and beyond, through a variety of transport modes. Thus, in this submission there is an emphasis given to the needs of rural and remoter areas.

The WDC recognises the importance of the low carbon transition and is particularly concerned that the issues for our region are addressed<sup>1</sup>. The development of EV charging is, therefore, a key infrastructural development for our region.

**Question 1:** Does the content and format of the document adequately reflect the intent and purpose of the plan? If not, please highlight the specific areas or sections that may be missing.

Although titled the National En Route EV Charging Network Plan, the Plan focuses only on national roads rather than examining which roads should be prioritised for en route charging. It needs to be clear if this Plan is specifically for charging on the national road network rather than for meeting wider en route charging needs.

In addition, the document notes that it covers the National Road Network, and also highlights the different levels of road network (TEN T Core and Comprehensive, National Primary and National Secondary routes) it is not very clear about the level of priority which will be given to smaller routes (particularly national secondary routes). It appears to be stating that meeting charging standards on, for example, the TEN T core and comprehensive network will be prioritised over poorly served sections of national routes which are not part of the TEN T network.

There needs to be more information about how this strategy will mesh with that for Local Authorities on the provision of charging facilities in their areas. This is particularly important in relation to

---

<sup>1</sup> See here for more on our work on the low carbon transition <https://westerndevelopment.ie/insights/making-the-transition-to-a-low-carbon-society-in-the-western-region-2/>

National Secondary routes which tend to be given lowest priority in the national road network, and yet can be important linking roads within regions. In many parts of our region long journeys can be made on these, with only minor interaction with national primary routes. Likewise regional roads in some counties serve important roles in connecting counties and regions. Therefore, it needs to be clear how charging strategies for these roads link to this one for national roads.

**Question 2:** Chapter 1 presents a list of countries reviewed and key lessons learnt from the international research undertaken that are intended to be applied to this plan. Is there any additional learning or best practice applied internationally that should be included in this list?

The countries reviewed and the key lessons learned were presented in a useful summary form, although more detail (perhaps in a separate document) would have been appreciated. More importantly, while some of the policies and solutions seemed very appropriate, there was no discussion as to whether and how these might be implemented in Ireland. Even if the thinking has not fully developed some indication of options being explored would have been useful.

In addition, while it is useful to have examples from other countries it is essential to address characteristics of Irish driving patterns, types of journeys, road types etc to measure that the appropriate policies are developed.

**Question 3:** Chapter 2 provides an overview of the current electric vehicle market for both vehicles and EV charging infrastructure along national roads. Do you have any comments or observations on the data provided?

While chapter 2 provides a useful overview of the national road network and highlights its importance, a Plan for en route EV charging needs to consider *journeys* rather than *traffic* in order to meet the needs of EV users for en route charging. Although the national road network carried 43% of Ireland's traffic and TEN-T roads carry 19.2% of the traffic kilometres nationally, understanding where on the network this traffic is and what kinds of journeys are being made is important to planning a charging strategy. For example, it is likely that the M50 and motorway routes close to Dublin carry a high proportion of this traffic. Many of the journeys on that part of the network are likely to be commuting and for local travel and hence there might be less requirement for a concentration of charging facilities. On other parts of the network a higher proportion of the traffic might be making longer distance journeys with consequently more need for EV charging facilities. It is unclear whether that type of journey data has been used in the strategy development or indeed in the model discussed below. See Q4 response for more discussion.

The overview of the EV market also provides useful background, but it is important to focus on numbers of BEVs rather than including PHEVs in some of the data. These have different charging needs and patterns and are less reliant on en route charging. Thus, it would appear that of the 73,576 EVs mentioned (pg 16) around 39,280 are EVs. Any extrapolation of sales figures should also focus on BEVs.

There is no discussion of development (or lack of development) of second-hand EV market and likely impact of any potential second-hand market on the EV fleet and hence demand for EV charging. Nor is there discussion of possible reductions in battery capacity in older EVs potentially increasing demand for charging in future.

**Question 4:** In Chapter 3, a user needs analysis is presented. Through this analysis, a set of personas have been used as different lenses to assess the main challenges experienced by EV users when charging on national roads, and to identify the potential supports required. In your opinion, are these groups of personas representative enough? If not, please provide which additional group should be included and the reasons.

While the personas are useful in highlighting the perceived needs and concerns of people making different types of journeys, they appear to be very focused on perceptions of needs and concerns. Hard data on actual journeys being made is needed to back up the assumptions. While this user needs analysis is helpful, more detailed data on journeys would be useful in examining exactly what kind of journeys are being made, duration and routes used. This data should be available from Google and Apple etc. and from the mobile phone companies. It is likely to be expensive but if it can provide useful information on journeys, it would make a big difference in planning.

In relation to the personas, we note that only one 'rural' persona is included, and the rest are very strongly urban focused. The rural persona is a 'long distant commuter'. Commuting only accounts for about a third of journey made (the estimates made vary according to definition and methods of data collection). Long distance journeys which may require charging on route are often undertaken in almost exclusively rural areas (see comment under Q1 on national secondary routes). It is important that the needs of rural dwellers are taken into account without assuming that they will only be undertaking local journeys or are commuting to a city. There is good travel to work data from Census 2002 which can provide more information on long distance commuting, but a better understanding of all journeys, including rural ones is important.

We would also have concerns about the assumptions made about the tourists. While it is suggested that 'ideally' they will charge overnight at destinations, this does not take account of those using self-catering etc, or as the number of EVs increases, the probability that hotels etc will not have sufficient charging capacity. Finally, in relation to the journeys taken by tourists (including domestic tourists, international and those who own second homes) it might be assumed that their journeys will start with a full charge. Therefore, it is likely that most of the charging required will be at the farther end of the journey (e.g. away from Dublin, and larger cities and airports). The focus on the Core and Comprehensive Ten T routes mean that the higher provision of charging will be at the beginning or middle of the journey rather than closer to the end of range often in remoter or more rural areas. Again, better data on actual journeys would allow for better prioritisation.

Finally, on the topic of the personas it is not clear how these were selected or what data was used to develop the persona and their concerns. This may have been done for previous work in which case this needs to be clear, and it should be shown how these personas are relevant to en route charging needs. Most of the personas selected do not appear to be significant users of national roads.

**Question 5:** Chapter 3 presents the different modelling methodologies and assumptions that have been used to inform the national EV charging infrastructure network plan. Are there any specific comments or suggestions you have regarding the modelling undertaken for the plan i.e. bottom-up and top-down approaches in the plan? Do you think they accurately reflect the evolving trends and consumer behaviours? If not, please provide details why, and suggest where it could be improved. While we understand that this is a brief overview of the modelling undertaken, as there is very little information about what data was used in the model and what assumptions were included it is very hard to comment on whether the outputs are valid. The concepts of top down and bottom up approaches are useful and the graphics of information included are informative but there needs to

be more information about what the types of journeys people actually make (rather than are assumed to make) in order to ensure that the en route charging network will be fit for purpose (possible data sources and understanding journeys is discussed in more detail in our response to Q2). Our main concern would be that it is not clear if the model is using data on journey and distance to consider charging needs (e.g. how many journeys are being undertaken of more than 100k (or 200km, 300km etc); the route of these journeys; and where are likely to be the places of greatest charging need. For example, if the majority of journey originate in Dublin and it is assumed that most people will start with a full, or almost full charge (again actual data on this would be useful), where will they need to recharge? This would be one method of deciding where to prioritizing charging.

Is data from current charging facilities being used? Do we understand charging patterns from that (day of week, time of day, level of demand, waiting periods etc)? It is not clear if this data was used in the model.

**Question 6:** Based on the analyses, targets for passenger vehicles/LDVs infrastructure were presented in three alternatives based on different levels of EV charging infrastructure deployment. These are outlined in Section 3.3.1 and 3.3.2 Do you think that the three alternatives presented are the right scale and at the right distance intervals for meeting the future en-route demand of electric passenger and light duty vehicles?

If achieved the alternatives outlined in 3.3.1 would make an excellent start. Alternative 3 in particular would provide good coverage in most areas, but is unlikely that either Alternative 2 or 3 can be achieved by 2025 give that this is only 2 years away. It is therefore important that there is prioritisation, but that this is not based just on traffic counts (as stated elsewhere the types of journeys are more important). Likewise, equality of access is essential.

Again, if the Alternative targets for 2030 can be achieved they should provide good coverage but the way the targets are met and the prioritization will affect the equity of this transition.

**Question 7:** Section 3.3.3. outlines the proposed EV charging infrastructure for Heavy Duty Vehicles (HDV), which will be based on the Alternative Fuel Regulation requirements and ZEV propose to avail of the potential derogations listed.

While this Plan is focused on charging for EVs, we do not know which renewable fuel is most likely to be used by HDVs in the future. It would therefore be useful to consider siting EV charging for this category alongside other refuelling options (CNG/biogas/liquid biofuels/green hydrogen etc.). It is not clear how this plan integrates with other plans for renewable transport fuels.

**Question 8:** As part of chapter 4, a set of guiding principles have been identified to determine possible public interventions. Are you satisfied with the proposed principles, or do you feel that anything is missing? If so, please provide details.

The principles of intervention cover the important areas, but it is unclear if each of the principles is of equal priority or whether some will be more important than others (e.g. how will the prioritisation of private sector participation be weighed against customer equity?). How will choices be made about priorities and where resources should be allocated?

Later in this chapter there is a clear prioritisation of the core and comprehensive network but the consideration of geographical reach must be clearer. At present there is no strong emphasis on prioritizing remoter areas.

Indeed in Section 5.2.2 it is clearly stated that TEN T single carriageway and national routes which are not part of the TEN T network will only be considered *after* the other categories of roads. We are very concerned that this will unfairly impact the West and Northwest where there is very little dual carriageway and no motorway north of Galway/Tuam. We believe that the prioritisation of the development of charging infrastructure should be based on gaps in provision and journey type and distance.

**Question 11: How do constraints for en-route charging vary across Ireland? Are there any locations on the National Road Network that require urgent intervention?**

We would like a clearer focus on the specific needs of rural areas in the en route EV charging plan. Under the draft Plan priority is being given to the Core and Comprehensive TNT-T network but, as noted above, other national routes, including national secondary routes, as well as some regional routes are also important constituents of longer journeys. It is also essential that, in the context of rural areas, the needs of those travelling to rural areas are considered. Many rural journeys are made by tourists, those travelling for work, enterprise and leisure. The WDC is concerned that EV drivers should not be deterred from visiting the more rural parts of our region because of actual, or perceived, lack of EV charging opportunities. While many rural residents can charge at home, overnight and day visitors may have fewer opportunities. This category needs more consideration, especially as tourists and other visitors are likely to be concentrated at particular times (summer, weekends and other holiday periods). Visitor numbers can easily exceed those of the local population, their demand for charging infrastructure is likely to occur at particular peaks. Addressing their needs, in the context of rural EV charging infrastructure is important. When considering tourists it is important to have a broader focus than tourist hotspots so that less visited places do not have any disadvantages compounded.

In planning for EV charging infrastructure in rural areas, it should be remembered that while the range of EVs has increased significantly in recent years, maximum range is often not achievable. Drivers may not always anticipate the impact cold weather, rain, wind, darkness or undulating terrain can have on their range. Likewise, there is often occasion for unplanned or unexpected diversions including getting lost. These all influence the need for widespread EV charging infrastructure in rural areas available to those who are not resident.

Although the widespread provision of EV charging is important, it must be recognised that demand for chargers will not be consistent. Nonetheless they are serving an important back up function. They are not likely to be commercially viable and will require public support in recognition of the wider benefits they provide to the rural areas. Likewise, the provision of high-powered fast charging is important. En route charging should be fast, and given the long distances often travelled in rural areas this should be prioritised. If better data on journeys made can be used (see above) then the priority locations for such chargers can be established.

In more specific terms, there needs to be a particular focus on dedicated tourist routes (such as the Wild Atlantic Way). Charging availability is currently poor, particularly for faster charging facilities. This is specifically en route charging rather than that which might come under the local authority plan. In addition to benefitting tourists, the development of the charging network will be important for those who are coming to remoter areas for work purposes or leisure activities (often over 24 hours). Along the Wild Atlantic Way places such as Belmullet, which is currently poorly served, and the Inishowen peninsula are example of places that need priority. Likewise, north south travel

through the midlands may take place away from the primary road network (e.g. Carrick on Shannon to Cork) and it would not make sense to redirect such traffic to the M50 and on to Cork. Such an increase in vehicle kilometres would be inefficient.

These are examples of the types of routes and places that need consideration rather than a definitive list of priorities. Better journey data would be required for that.

**Question 16:** Chapter 5, section 5.5 outlines the risks and mitigation measures associated with the delivery of this plan.

There is a lack of focus on geographical spread of charging requirements and a focus on the most densely used parts of the network, without clear information on what types of journeys are being undertaken on these networks and whether these journeys are the most likely to require charging. Clearly meeting the AFIR is required, but aside from that it is important to have a better geographical balance and recognise that more peripheral areas are likely to be closer to the end of journey and therefore end of vehicle range and so there may be relatively greater demand, despite the lower road usage.

Without good data on where the longest journeys take place there is a risk that there will be over prioritisation of some parts of the road network. For example, although it is noted that the national primary network accounts for 43% of road traffic in the country, as discussed elsewhere the type of journeys being undertaken is a more important criterion for prioritising the charging network.

As noted above in relation to Q8, the current system of prioritisation will disadvantage significant part of the west and northwest where there is no motorway north of Tuam and very little dual carriageway and yet distances travelled are likely to be longer. While commuting data shows this to be the case, it is important to use more comprehensive data showing all types of journeys to inform prioritisation decisions.

## Conclusion

It is important that there is a consistent standard of availability so that EV users, as discussed above, can confidently rely on charging availability. Likewise, it is important that more rural and remoter regions are considered specifically in the charging plan, and that the prioritisation of the charging network is not just on road type (where the west and northwest is already disadvantaged) but is based on need and gaps in the network and a recognition that lack of such infrastructure will impact the economic and social development of remoter and more rural regions.

The WDC recently developed a Sustainable Mobility Index (SMI) for 35 small towns in our region (population 1,500-10,000 in Census of Population 2016). One of the indicators used to create this composite index measures the number and type of EV charging facilities currently available in each of these towns. In collecting the data (June 2022), we noticed significant variation in charging availability and type among the towns across the region. The attached page provides a summary of the EV charger scores, and more detail on the SMI and the collection of charging data is available in the report on the SMI<sup>2</sup>.

We welcome the opportunity to make a submission to the consultation on the National EN Route EV Charging Network Plan

If you would like any more information or to discuss our submission further, please get in touch with me.

**Dr Helen McHenry,**

Policy Analyst, Western Development Commission  
086 605 3264 or helenmchenry@wdc.ie

---

<sup>2</sup> <https://westerndevelopment.ie/policy/publications/a-sustainable-mobility-index/>

Appendix 1.

