

Western Gateway Sub-national Transport Body

Board Meeting

Paper D

Date **7th December 2022**

Title of report: **Alternative Fuels Freight**

Purpose of report: **To report on the findings of the Joint Peninsula and Western Gateway Alternative Fuels for Road Freight Strategy**

Recommendations:

The members of the Board are recommended to:

- I. Approve the report on Alternative Fuels for Freight.
- II. Approve the next step to undertake the shortlisting of potential locations for hydrogen refuelling and electric vehicle charging stations with the work to be undertaken by Midlands Connect STB on behalf of the Department for Transport.
- III. Officers be delegated to take forward the shortlisting of potential locations for hydrogen refuelling and electric vehicle charging stations.

1. Background

1.1 In March 2022 the Peninsula and Western Gateway Sub-national Transport Bodies (STB) commissioned Atkins and their industry partner CENEX to undertake a study examining the opportunities and barriers associated with the transition to alternative fuels for freight vehicles. The study followed on and used the methodology from the successful 2019-2020 study for the Midlands Connect STB that provided guidance on how to best support and influence the uptake of alternative fuels such as hydrogen, gas and electric power within the Midlands.

2. Approach

2.1 The approach taken in the report included:

- Review of national, regional and local policy
- Stakeholder engagement to understand stakeholder knowledge, attitudes and opinions, the appetite and demand for alternative fuels and identify the gaps constraining the take up of alternative fuels.

- Forecasting of future trends, focussing on the supply and uptake of vehicles and infrastructure.
- Identification of refuelling locations, focussing on locations within five kilometres of the Strategic Road Network.
- Recommendations for next steps

3. Key findings

- 3.1 Atkins will attend the Board meeting on 7 December 2022 to talk through the key findings of the Strategy. An outline summary is provided below. Detail can be found in the full report which is attached as Appendix One.

Review of national, regional and local policy

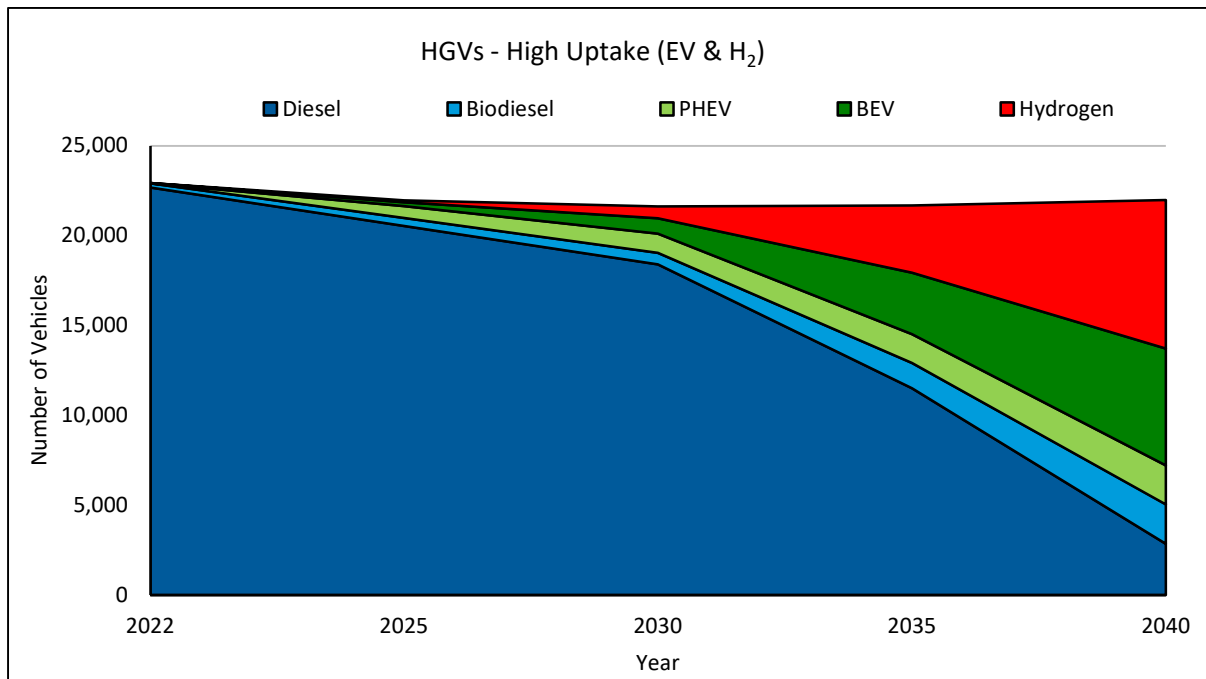
- 3.2 At a national, regional and local level, the electrification and adoption of lower carbon forms of transportation is widely accepted as a solution to the UK's large number of emissions from transport.
- 3.3 At a regional level, Local Authorities and STBs have shown a clear commitment to the development of alternatively fuelled, lower carbon and more efficient freight vehicles. All of the Western Gateway area's local authorities have highlighted extensive decarbonisation plans, net-zero strategies and timed-based objectives that work towards promoting alternatively fuelled freight vehicles.

Stakeholder engagement

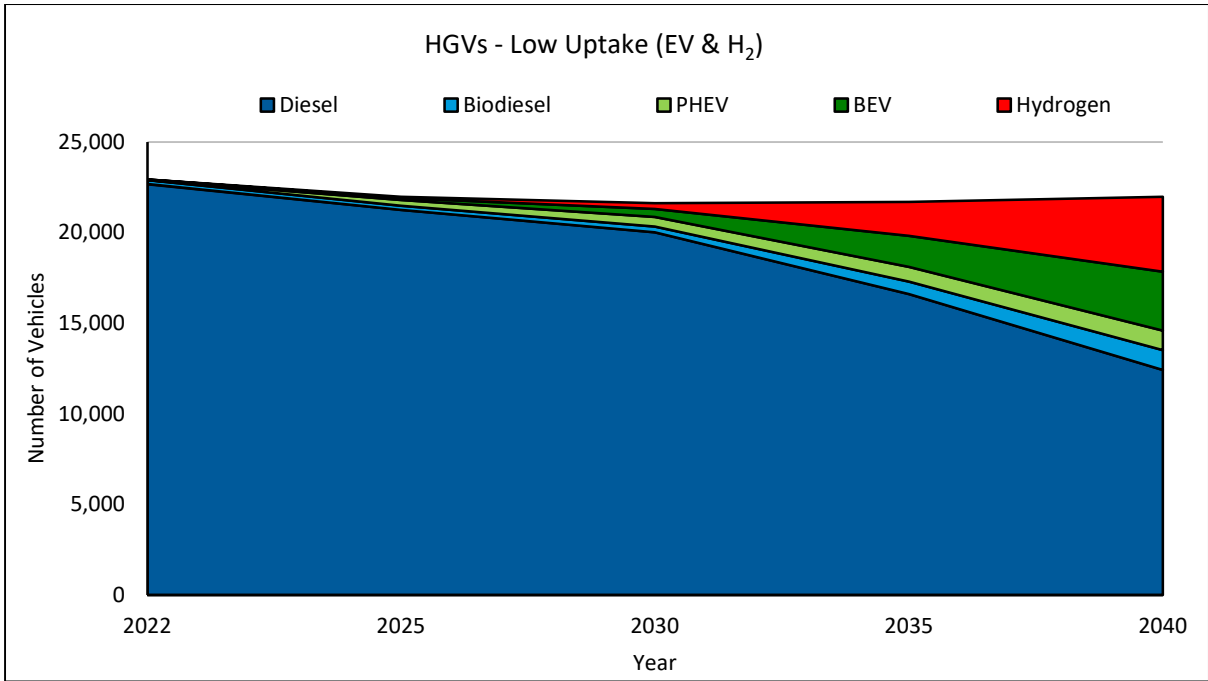
- 3.4 Engagement demonstrated the STBs should consider the interests and needs of the freight and logistics organisations, who will be the end users of new infrastructure for alternative fuels. Key to this will be orienting the installation of planned refuelling/recharging stations to the fuel types and freight fleets expected to be used in the future. Engagement revealed that at the present time, the factor most inhibiting the uptake of alternatively fuelled vehicles by stakeholders is the lack of refuelling infrastructure. This is a significant barrier for those organisations surveyed since 48% of their fleet vehicle refuelling is carried out using public refuelling stations.
- 3.5 Stakeholders expressed confusion and concern that they may make the wrong decisions, investing large sums of money in technology which may become obsolete. Equally ownership of actions around the deployment of refuelling infrastructure were unclear, meaning stakeholders did not have the confidence to progress with their decarbonisation plans at present. Consequently, stakeholders welcomed the development of the Alternative Fuels for Freight strategy, which they hoped would identify a coherent and feasible network of refuelling locations, accessible to all vehicle types, which in time would provide confidence and certainty regarding investment in new zero emission vehicles.

Forecasting of future trends

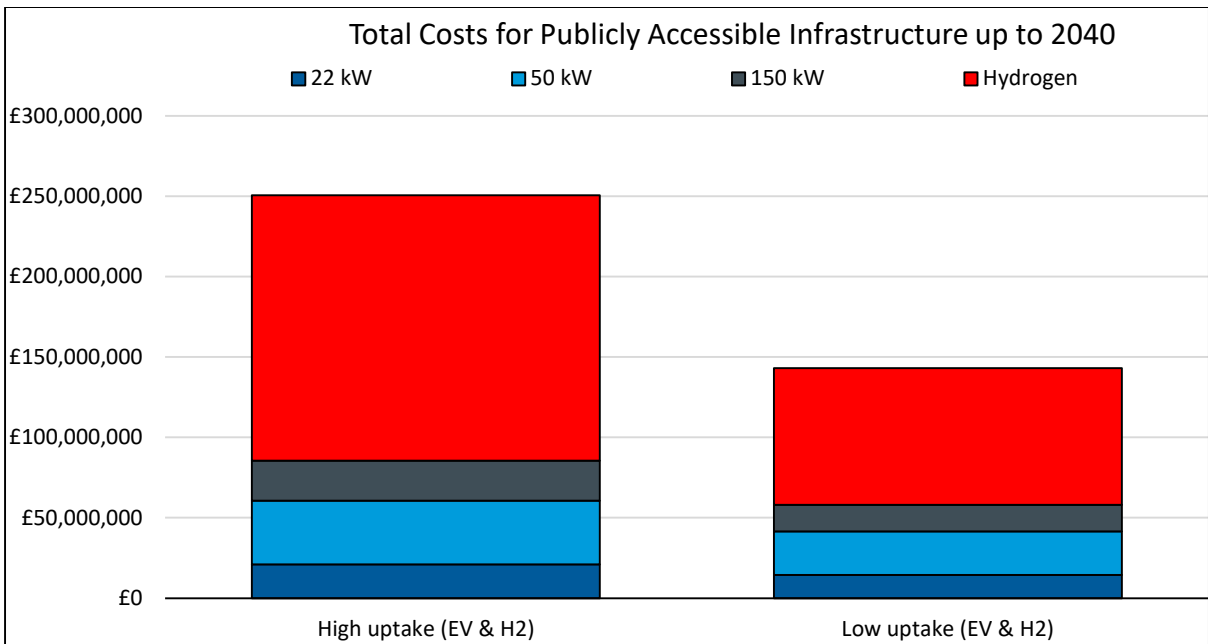
- 3.6 The consultants built a bespoke model to estimate the number of electric charging points and hydrogen refuelling stations required to support a fleet of alternatively fuelled Light Goods Vehicles (LGV) and Heavy Goods Vehicles (HGV) in 2040 across the Peninsula and Western Gateway regions.
- 3.7 High and low uptake of alternative fuel vehicles were modelled. For HGVs the figure below shows that in 2040 the high uptake forecast is for 8,200 hydrogen HGVs, 8,600 Battery Electric Vehicles (BEV) and Plug in Hybrid Vehicles (PHEV) HGVs, 2,200 biodiesel HGVs, and 2,800 diesel HGVs.



- 3.8 In the low uptake forecast shown in the diagram below the forecast is for 4,100 hydrogen HGVs, 4,300 BEV and PHEV HGVs, 1,100 biodiesel HGVs, and 12,400 diesel HGVs.



3.9 Alongside these forecasts a high level estimate of the of the publicly accessible infrastructure costs up to 2040 was produced. Publicly accessible infrastructure is equivalent to today's petrol and diesel forecourts. Broad costs for the High and Low uptake forecasts is shown in the diagram below. Private industry investment likely to provide a large proportion of the funding.



3.10 The above provides selected findings from the work undertaken by the consultants. More detailed results are in the full report.

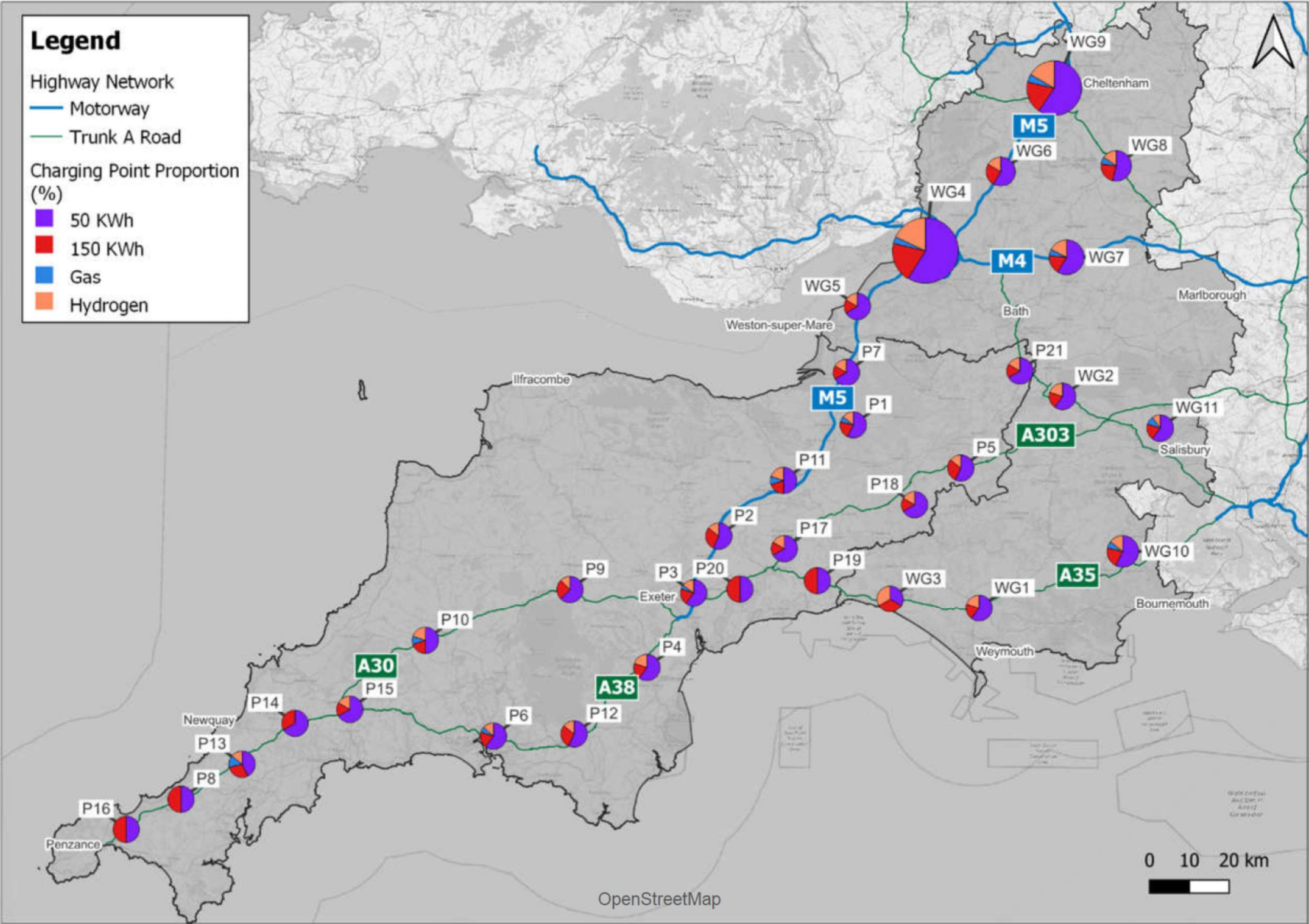
Identification of refuelling locations

3.11 The table below proposes potential site types for electric charging and hydrogen refuelling infrastructure. This list is not exhaustive. It is there to provide examples of potential sites which could form part of a network for electric charging and hydrogen refuelling stations.

Vehicle type	Site Type	Charging Rate or Fuel Type
HGVs	Industrial estates	50kW and 150kW chargepoints, hydrogen
	Business parks	
	Motorway network service stations	
	Strategic road network service stations	
	Freight consolidation / distribution centres	
	Rail-road freight interchanges	

3.12 The assessment has focused on locations suitable for HGVs, existing freight and logistics clusters, lorry parking and sites within five kilometre of the Strategic Road Network (SRN) as this is widely seen as the distance drivers are willing to deviate from their route to access refuelling facilities. Together with the forecasting of likely demand up to 2040, 21 potential locations for refuelling infrastructure in the Peninsula Transport area, and 11 potential locations within the Western Gateway area have been identified as shown in Figure 16-1 below. To note this is a long list of locations and should be used as a broad indicator of where infrastructure is required rather than specific sites. The Strategy also highlights the need to investigate potential sites for locations where low demand, a lack of data or a lack of existing freight and logistics facilities has to date prevented their identification.

Figure 16-1 – Summary of proposed refuelling facilities at each site cluster



4. Next Steps

- 4.1 The next step is to undertake the shortlisting of potential locations shown in Figure 15-1 for hydrogen refuelling and electric vehicle charging stations. This work will be undertaken by the Midlands Connect STB. The Department for Transport has provided additional capacity and capability funding for Midlands Connect to undertake this work for all the STBs.
- 4.2 The shortlisting work will start in early 2023. It will use a site ranking tool as already used by Midlands Connect based around fuel suitability, freight flows and the strategic strength of locations. One of the key outcomes of the shortlisting will be to establish the opportunities for developing the infrastructure required to provide a network of electric vehicle and hydrogen refuelling stations and build the case for where funding support is needed. The work is expected to be completed by Midlands Connect by the end of March 2023 and will be reported to the Board.

5. Consultation, communication and engagement

- 5.1 Officers from the Western Gateway's constituent authorities have been consulted on the Alternative Fuels for Freight report, engaged in workshop session and their comments incorporated.

6. Equalities Implications

- 6.1 No adverse impact on any protected groups is expected.

7. Legal Considerations

- 7.1 The Western Gateway STB remains an informal non-statutory partnership.

8. Financial considerations

- 8.1 Funding for the Alternative Fuels for Freight Strategy was provided jointly by the Western Gateway and Peninsula STBs from their 2021/22 budgets. The Western Gateway's contribution is £42,000. The shortlisting of the long list of sites will be undertaken by the Midlands Connect STB with Department for Transport funding. There is no cost to the Western Gateway.

9. Conclusion

- 9.1 The Board is asked to agree the recommendations set out at the beginning of this report.

Appendix One

Alternative Fuels for Freight Strategy for Western Gateway and Peninsula Transport, Atkins and Cennex, November 2022

Contact Officer

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