TECHNOLOGY AND ZEV STUDY
WP07 Technology and ZEV Study Report

2 March 2023

> *Please note that the following recommendation/s is/are subject to consideration and determination by the Board before taking effect.*

RECOMMENDATION

It is recommended that:

(a) The Board approves the Technology and Zero-Emission Vehicle Study report for publication

1. Background/Introduction

The Peninsula Transport STB commissioned a Technology and Zero-Emission Vehicle (ZEV) Study (Work Package 07) in 2021 as one of the supporting work packages to the development of the Peninsula's Transport Strategy.

The main report has been prepared through collaboration with the STB local authorities and co-opted members including the DfT. An earlier, baseline report was issued in December 2021 providing an update on the findings of work at the end of the strategy definition and baselining exercise. The baseline report also described the segmentation approach developed in respect of places, people, transport modes, journey purpose and organisations.

The worked has evolved alongside the development of the Peninsula Transport Vision, which was published in September 2021. The draft Vision is "Transforming transport across the peninsula to enable our society and economy to thrive and our unique and outstanding environment to flourish" and is underpinned by five cross-cutting goals.

The Technology and ZEV Study will be used as part of the evidence and recommendations in the development and publication of a full Peninsula Transport Strategy in 2023.

Work Package 07 has been developed with engagement with Officers and stakeholders from the transport sector.

2. Technology and ZEV Recommendations and Interventions

Three Technology themes have been adopted: 'Energy', 'Digital' and 'Mobility' to simplify and structure the outputs of the study and highlight how technology and ZEVs can impact different and important aspects of the peninsula.

Energy is needed to provide the motive power for all modes of transport, as well as energising the systems which support transport operations;

Digital encapsulates the need for data and information across systems (and the ability to share this between systems) for transport to function effectively;

Mobility covers the transport modes which are supported by technology, recognising that new mobility options are developing.

Two technology imperatives have been identified which are deemed critical to the success of any transport mode, service or solution which utilises technology:
- **Dependable energy supply and distribution network**

- **Robust and all-inclusive digital communications network**

These underpin all activities, and without them all technology interventions will be compromised in some way. These imperatives are perpetual - transport, business and community demands may change over time, but the reliance on energy and communications are unending.

The study makes the following key recommendations for Peninsula Transport:

Energy Supply and Distribution

1. **Peninsula Transport should develop relationships**, with:

    - National Grid (encompassing the previous Western Power Distribution role as the Distribution Network Operator, DNO);

    - UK Power Networks; and

    - Private renewable energy generators and distributers.

2. **Peninsula Transport should collaborate and coordinate planned interventions to balance energy supply and demand**, could offer real benefits across transportation, including:

    - Rail Electrification;

    - Electric Vehicle charging;

    - Industrial decarbonisation; and

    - Hydrogen production, storage and supply.

3. This collaboration should **target the development of an energy supply roadmap for the Peninsula.** Working together to attract inward investment and grant funding would be valuable to help plan and deliver future transport interventions.

4. **Peninsula Transport should promote involvement of public and commercial partners to conduct joint technology pilots and trials** is also a good way to achieve mutually beneficial outcomes, test and evidence what is possible.

5. The Government's requirement for STBs to **produce regional assessments to support energy systems stakeholders and local authorities** for an effective EV charging network will be part of this shared plan.

Digital communications network

6. **Develop relationships** with:

    - Fixed, wired network operators, such as Openreach, Wildanet[1], Wessex internet;

    - Wireless (cellular and satellite) network operators;

    - Major transport providers, including Network Rail, Great Western Railway, Freight and Logistic operators, Airports, Sea ports, National Highways, etc;

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[1] https://wildanet.com/

- Digital enablers, such as *superfast Cornwall*[2] and investment support such as GigabitBroadband[3] and ERDF; and

- Ofcom, not only a regulator but also incentivises digital communications and outreach.

7. This digital collaboration should **target the development of a digital communications roadmap for the Peninsula.** Peninsula Transport should work with these partners to understand how digital communications will need to develop to support the transport system which could include:

- Improvements to Road, Rail, Air and Maritime operations;

- Efficient and sustainable movement of freight and goods;

- Connecting and increasing the connectivity with all people and communities across the peninsula.

Seven specific technology interventions have also been identified, supported by accompanying material which outlines the challenge faced, the potential solution, the likely benefits and evidenced by a peninsula related use case.

Technology Imperative	Technology Sub Theme	Proposed Intervention	Supporting Use Case
Energy	Motive Power	Alternative Fuels - Local Rail services	Electric Agricultural vehicles
Energy	Power Generation	Renewable Power Generation - Wind/solar/tidal/bio/ hydro renewable production	Smart Grid enabled wind turbine
Energy	Power Storage	Energy Storage - Power storage network	Somerset Battery Storage
Digital	Communications	Fibre backbone	NRTS / 5G Pathfinder
ZEV	ZEV	EV Charging Hubs	
ZEV	ZEV	Peninsula Community Centred Charging Network	EV network
CAV	CAV	5G – vital step to autonomy.	C-ITS enablement

Recommendation: The Board approves the Technology and ZEV report and the recommendations and interventions it proposes.

3. Financial Considerations

The costs of drafting the Technology and ZEV Study report are from allocated funds from the Department of Transport (DfT).

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[2] https://www.superfastcornwall.org/

[3] https://www.gov.uk/government/news/rural-areas-in-cornwall-set-for-36-million-broadband-boost

4. Legal Considerations

There are no specific legal considerations.

5. Risk Management Considerations

The Peninsula Transport Programme Management Group reviews risk and assigns the required mitigation actions across the Peninsula Transport work packages on at least a monthly basis. The group reports monthly to the DfT in compliance with the terms of the DfT's funding support letter.

These policy/proposals have been assessed and all necessary safeguards or action have been taken/included to safeguard the STB position.

6. Reasons for Recommendation

The recommendation is proposed to support the completion of the Technology and ZEV Study and the publication of the work package report.

The report has been developed through a robust and formal process: collecting and assessing data; consulting with stakeholders through workshops and providing opportunity for comments / amendments to draft reports.

This process will help meet the DfT requirements to research, develop and publish a transport strategy for the Peninsula Transport STB region