Plan for the Strategy and Expansion of the EV charging network across North West Scotland:

The Western Isles, Orkney Islands, Shetland Islands and Argyll and Bute

HI TRANS
THE HIGHLANDS AND ISLANDS TRANSPORT PARTNERSHIP

March 2025

Aim

The aim of this document is to foster a shared understanding of the Plan for the Strategy and Expansion of the EV charging network across North West Scotland: The Western Isles, Orkney Islands, Shetland Islands and Argyll and Bute.

Content

Strategic background

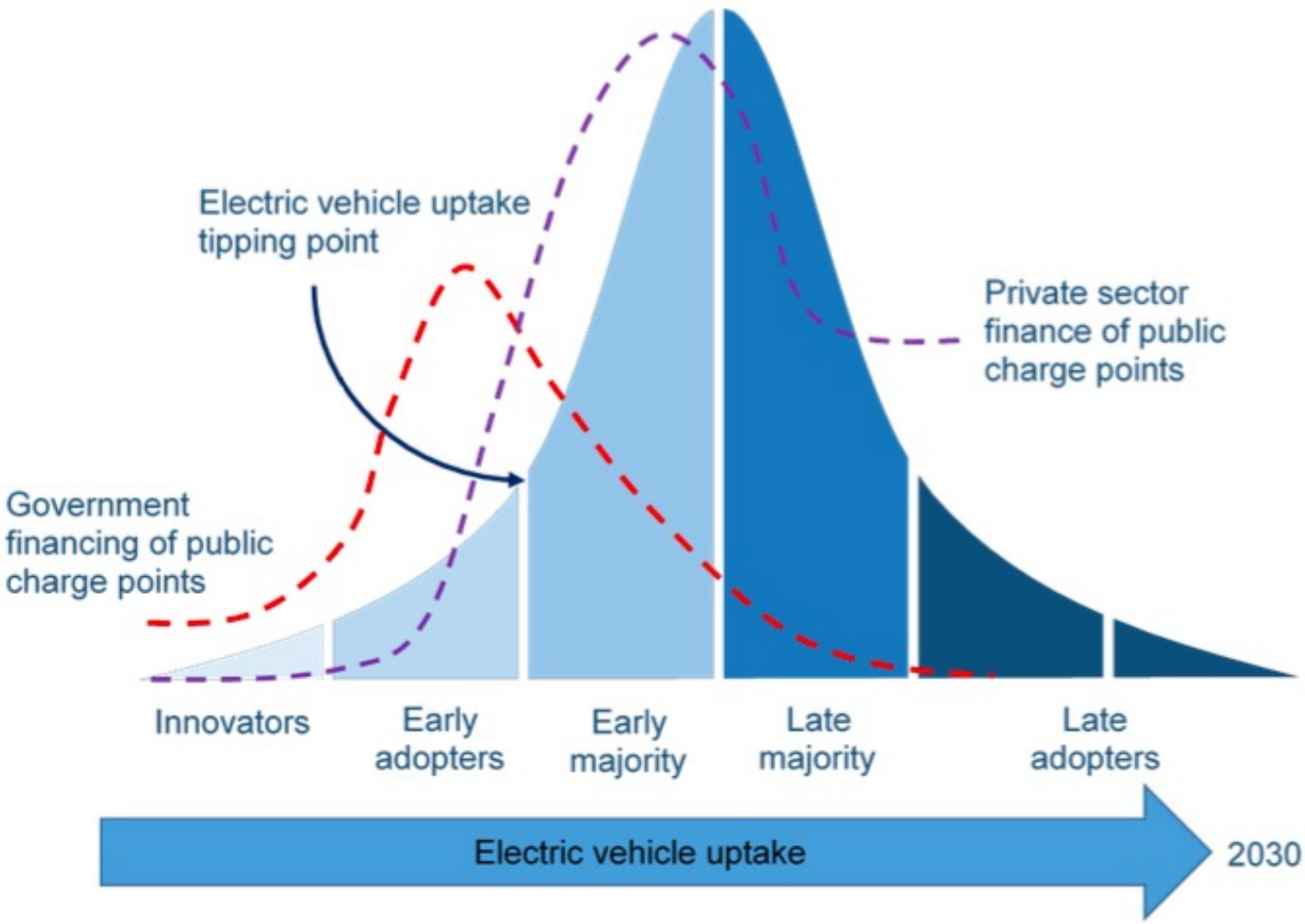
EV Infrastructure Funding (EVIF) Programme

In January 2022 Transport Scotland announced a restructure of their electric vehicle infrastructure funding model, with previous funding having achieved its objective of helping the market to reach tipping point in the table below.

Through the Electric vehicle Infrastructure Funding (EVIF) Programme, Local Authorities are now required to leverage in private sector funding to enable delivery of infrastructure at the pace and scale required to meet demand, and encourage further car users to switch to EV's to support the wider climate change objectives, collaborating regionally where possible.

This structure allows Local Authorities to access £30 million worth of public funding and aims to leverage in a further £30 million of private sector investment, bringing the total investment for Scotland to £60 million. The public funding aims to support Local Authorities in enabling a Just Transition (equitable and fair) where commercial opportunities are challenging.

Changing subsidy landscape



Transport Scotland's Vision

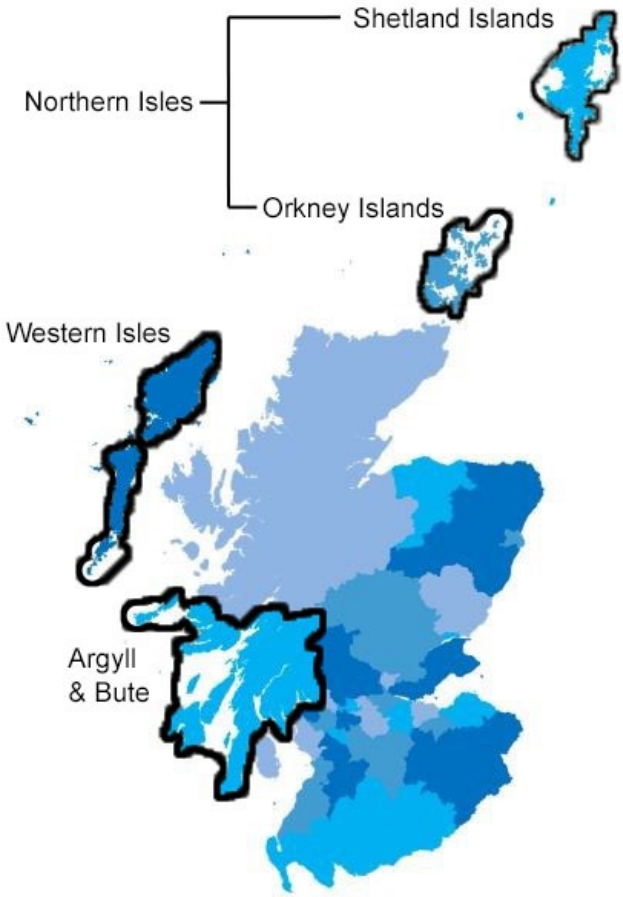
The EVIF programme is underpinned by Transport Scotland's 'A Network Fit For The Future: Vision for Scotland's Public Electric Vehicle Charging Network'. This was published June 2023 and has five key themes, which are to ensure that:

1. Local communities, businesses and visitors have access to a well-designed, comprehensive and convenient network of public charge points, where these are needed.
2. The public electric vehicle charging network works for everyone regardless of age, health, income or other needs.
3. Scotland has attracted private investment to grow and sustain the public electric vehicle charging network.
4. The public charging network is powered by clean, renewable energy and drivers benefit from advancements in energy storage, smart tariffs and network design.
5. People's first choice wherever possible is active travel, shared or public transport with the location of electric vehicle charge points supporting those choices.

HITRANS Collaboration

The Electric Vehicle industry is moving at a rapid pace and to date, strategy and delivery has developed at different rates across Local Authorities. Internal resourcing has been fragmented and geographical, social, economic, environmental and technological factors has affected the reliability of emerging infrastructure across the region.

This EVIF programme presented an opportunity to work regionally, identifying and addressing common infrastructure challenges.



HITRANS put in place project management resource on behalf of four local authorities to take forward collaborative planning, procurement and delivery under the Electric Vehicle Infrastructure Fund (EVIF). The four Councils are illustrated on the left, three being in the HITRANS region with the logical collaborative addition of the Shetland Islands. They are collectively referred to as North West Scotland in this document.

These four Councils are committed to the methodology outlined in this application and have signed a Memorandum of Agreement to that effect. Extensive consultancy work has already been undertaken to understand the challenges and opportunities across the region.

Regional context

The table below shows a snapshot of relevant figures across the 4 Local Authorities in the North West Scotland Region

	Western Isles	Orkney Islands	Shetland Islands	Argyll & Bute
Total Population[1]	26,720	22,270	22,900	87,810
Total Area (sq miles)[2]	3,065	990	1,467	6,907
Visitors per year[3]	219,000	192,000	80,000	461,000
Estimated annual spend from tourism[3]	£65m	£67m	£35.8m	£135m
Registered EVs[4]	140	454	198	633
Existing AC chargers[5]	18	20	20	13
Existing DC chargers[5]	13	10	6	23
Total Existing EV chchargers[5]	31	30	26	36

According to the Scottish Government Urban Rural classification there are 7 Very Remote Small Towns in the region, settlements of 3,000 to 9,999 people, and with a drive time of over 60 minutes to a Settlement of 10,000 or more. These are:

- Stornoway
- Kirkwall
- Lerwick
- Oban
- Rothesay
- Dunoon
- Campbeltown

The rest of the North West Scotland region is classed by Scottish Government classification as Very Remote Rural, meaning areas with a low population density (under 3000 people) with a drive time of over 60 minutes to a Settlement of 10,000 or more (there are no settlements of this size in the 4 local authorities in question).

The relatively small and widely distributed population also makes current chargepoint utilisation low, but the network is essential for a fair just transition; a network that works for everyone regardless of age, health, income or other needs. Low utilisation is a challenge to attracting private investment.

However, day to day rural and island journeys can be short, with the vast majority of households having access to off-street parking, other than in the Very Remote Small Towns. This can work in favour of EV use.

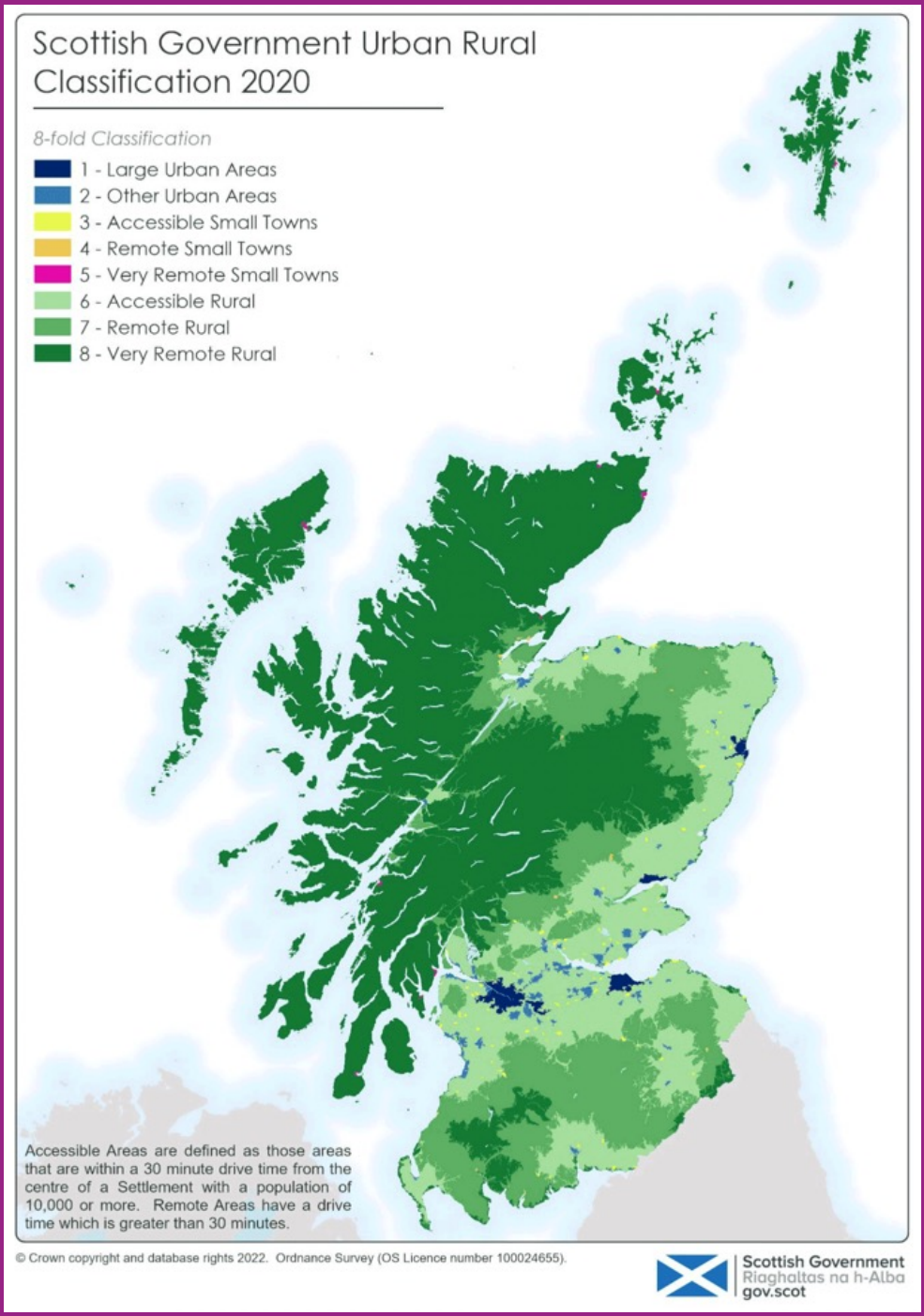
Access routes between the Local Authorities and to the islands have a similar demographic profile, as shown to the right.

Physical geographical features such as long indented coastlines and many inhabited islands act as barriers to the movement of people and goods. Routes can be slow and / or circuitous, increasing the time and cost of travel, which is particularly challenging for maintenance of vehicles and EV chargepoints.

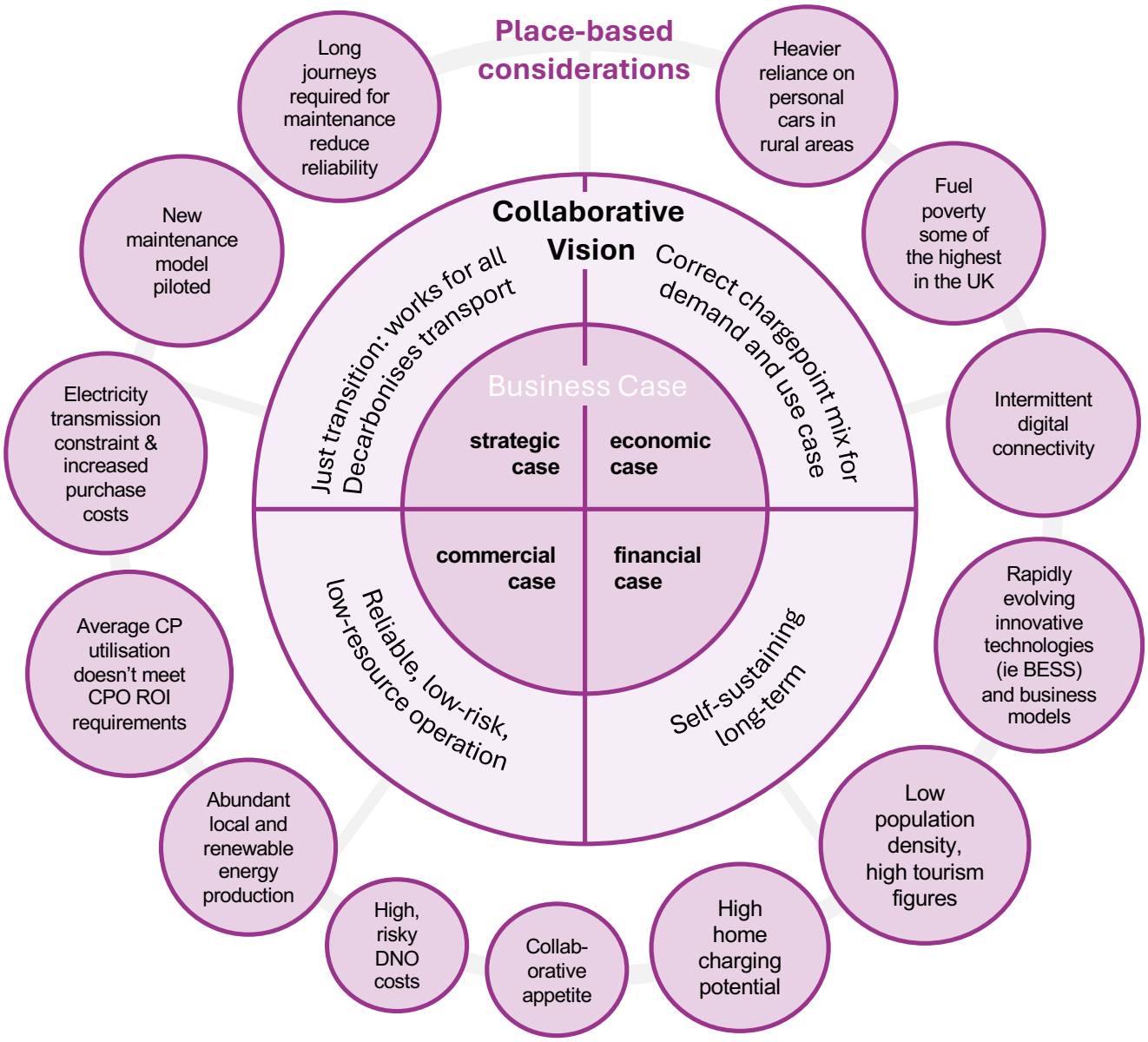
[1]HITRANS RTS local authorities' populations (Source: NRS mid-year population estimates, 2023)
[2]https://en.wikipedia.org/wiki/Subdivisions_of_Scotland
[3]Visit Scotland's Scotland/Island visitor survey tourism info, excl cruise liners
[4]DfT Vehicle licensing statistics data tables - GOV.UK (www.gov.uk)
[5]Council asset registers

The region also has high volumes of inbound seasonal tourism travel, which puts pressure on the limited capacity transport network but offer an opportunity to increase utilisation.

The small scale of our local market means that many businesses have a strong outward focus, selling goods and services outside of the region, ranging from food to textiles. Moreover, our region is well-endowed with natural resources such as timber and renewable energy and has a significant primary sector. This means that transport links with other parts of Scotland and beyond are important, and the movements and charging requirements for fleets are an important consideration in understanding demand.



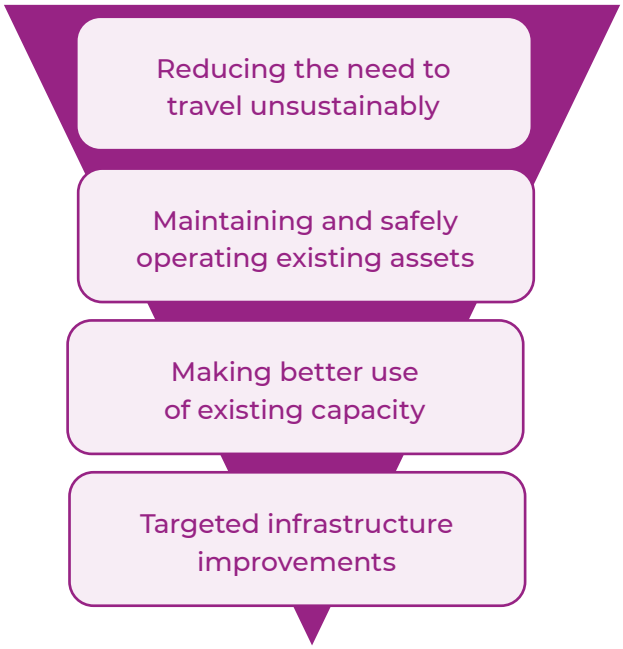
Identifying our approach



Above is an illustration of the network priorities and outcomes we identified and the regional approach we took to planning EV charging expansion through the EVIF programme.

It became clear from this exercise that the existing regional network is not operating optimally and needs improving before scaling up, and that it is unlikely to attract private investment from a CPO.

INVESTMENT HIERARCHY



REGIONAL APPROACH

There is a heavier reliance on personal cars and therefore a higher need to **reduce** the emissions from those cars

Phase one focuses on **maintaining** existing assets

Phase Two will explore collaboration to increase chargepoint utilization and **make better use of energy capacity**

Phase Two will develop a strategy for **targeted infrastructure improvements**

In line with the National Transport Strategy's Sustainable Investment Hierarchy, we therefore developed a 2 stage approach to move forwards:

Phase 1 is an operational plan to replace and refresh existing assets and migrate to a new back office to reduce the risk of operating the network for the Councils as current owner operators, and in preparation for attracting private investment in the future.

Phase 2 will see HITRANS collaborate with the 4 Local Authorities to develop a strategy for expansion, building on existing consultation learnings and in line with ABCs published strategy, to attract private investment if possible. HITRANS will liaise with the Councils to ensure they all still want to move in the same direction for phase 2 at that point, particularly with regards to a business model. We will seek committee' approval from each Council for that strategy and there will be a milestone in our grant application requiring Transport Scotland to approve the strategy before commencing delivery.

Phase One - Operational Plan

Phase one has multiple workstreams:

Asset replacement will include assets that:

- Will no longer function when 3G is switched off over the next year
- Operate with OCPP 1.5, which is no longer maintained
- Any 50kW chargers that cannot be retrofitted with contactless payment if not covered by CCG
- Any charger that will be 10 years old by 2028, the start of our delivery schedule

New chargers: Consultancy work to date identified some gaps in provision in Castlebay (Barra) and Tarbet (Harris) on the Western Isles and on the periphery islands in Orkney. Regardless of how the network is operated or expanded in the future, this provision is required to deliver a comprehensive network now, that is available to everyone.

The network refresh will include:

- Maintenance contracts for chargers that do not need replacing but have no maintenance contracts. Regional utilisation has not provided revenue to cover these costs to date.
- Analysis of touch potential risk

Migration will involve transitioning all the chargers onto a new back office, as Charge Place Scotland is due to come to the end of its contract.

The size and scale of phase 1 is shown below:

Project Phase	General Location/ Local Authority Area	Charger Power Output	Type of installation (e.g., hub / on-street)	Comments
Phase 1	CNES, OIC, SIC, ABC	7kW x 14 22kW x 24	Mixed use replacements	
Phase 1	CNES, OIC	6x 7kW 4x 50kW	New chargepoints	7kW Outer Isles, OIC & Tarbert, CNES 50kW Tarbet and Castlebay
Phase 2	All	As per strategy to be developed	As per strategy to be developed	As per strategy to be developed

Phase Two – Strategy and Expansion

The size and scale of the expansion in phase 2 will depend on the strategy developed, the business model chosen and the funding available following delivery of phase 1.

As with phase 1, phase 2 seeks to reduce investment risk, but this time to help attract private investment. We outlined place-based considerations in the approach section above, and we are keen to explore the following opportunities in response, to shape the strategy we develop:

- Energy supply risks
  - DNO costs are particularly high in remote and rural locations, and can fluctuate wildly due to what is found underground. Feasibility studies have been carried out on all proposed sites for 50kW charging supply or above. These can be actioned quickly and if sites are offered as connected sites, may be much more appealing to CPOs. IDNOs and ICPs can significantly reduce costs.
  - Alternative energy opportunities. Locally generated energy is high but also constrained and curtailed at times. The cost to use it is also high due to the structure of the energy systems and the policies that govern them. HITRANS seek to optimise the opportunity to utilise local energy, exploring innovative technologies (battery storage, trickle/ boost chargers, mobile chargers, alternative renewable integration), micro grids and grid management solutions. The region is well placed to lead the market in these areas.
  - Local contractors would be procured, a recommendation by the contractor of the FASTER project, to reduce travel costs, maximise the use of local knowledge and increase scheduling flexibility.
  - A measurable output of the project will be that green renewable energy will be used to power the chargers and there will be evidence that local energy use has been explored

- Low chargepoint utilisation risks
  - Cross sector collaboration is key to the viability and reliability of a sustainable future charging network. Historical data shows utilisation to be well below the rate needed for a Charge Point Operator return on investment. With users and sectors installing infrastructure in silo, utilisation is spread even more thinly. Collaborative engagement with key stakeholders listed later in the document is well underway. The communities and businesses that operate in these regions are used to coming together creatively to make things work, but collaboration will involve change and will therefore take time.
  - Customer-led consultancy support will be sought, focussing on the whole decarbonisation and charging journey with the ultimate view to increase our understanding of, and decrease barriers to, uptake, and increase customer satisfaction and utilisation. Engagement to date suggests an increased need in rural areas for chargepoint signposting, a coordinator needed for smart

meter installations for domestic chargers and manufacturing recalls, consideration of bike charging requirements & information on the effect of payloads and cold weather on EVs.
- A measurable impact of the project will be to monitor the satisfaction of different user groups to ensure collaboration is fulfilling the requirements of each, and evidence continuous corrective action.
- Alternative business models that do not rely so much on utilisation also need to be considered further, such as alternative operators to pure CPOs such as Manx Utilities who operate the Isle of Man network, Norwegian procurement 'challenge-style' pilots that invite private sector solutions & community benefit investment from renewables generation.

- Reliability risk
  - The physical geography of the region means transport links can be busy and/or infrequent, & journey lengths longer with unfamiliar costs to consider. CPOs have mentioned that the Public Charge Point Regulation mandating 99% network reliability is concerning in these circumstances, though there are exclusions that can be justified. From trialed experience with Councils in this partnership, local maintenance means a quicker fault response time is possible, increasing uptime and user confidence, reducing public complaints, supporting local businesses, & saving staff and travel costs for CPOs. However, CPOs have concerns over how it could be implemented with commercial aims and privacy maintained. HITRANS therefore seek to understand the maintenance issues involved as well as possible local maintenance training requirements.
  - The physical geography can also be detrimental to the digital connectivity of the region, HITRANS have commissioned a report into the telecommunication options available in remote and rural areas. A connectivity plan for each site would help identify the most suitable communication for each site, which could reduce fault, help with remote maintenance and improve successful charging sessions.

Argyll and Bute developed their own strategy before joining the HTIRANS partnership with the Western Isles, Orkney islands and Shetland islands. They identified 3 themes to take forward to create an enabling environment to support EV growth and sustainable investment:
- Charging on the move, requiring rapid chargers
- Destination charging, requiring fast chargers
- Community charging, requiring on-street chargers

This strategy will be reviewed within phase 2 in light of the wider regional perspective.

Programme schedule

The EVIF funding grant will be available for this collaboration until 2030, and an outline of the main tasks for each phase are scheduled in the summary below.

HITRANS EVIF Shared Service	2025 calendar				2026 calendar				2027 calendar				2028 calendar				2029 calendar				2030 calendar			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Phase 1																								
Phase 2																								
Research																								
Strategy development and approval																								
Procurement																								
Phase 2 strategy delivery																								

Themes

Tariffs

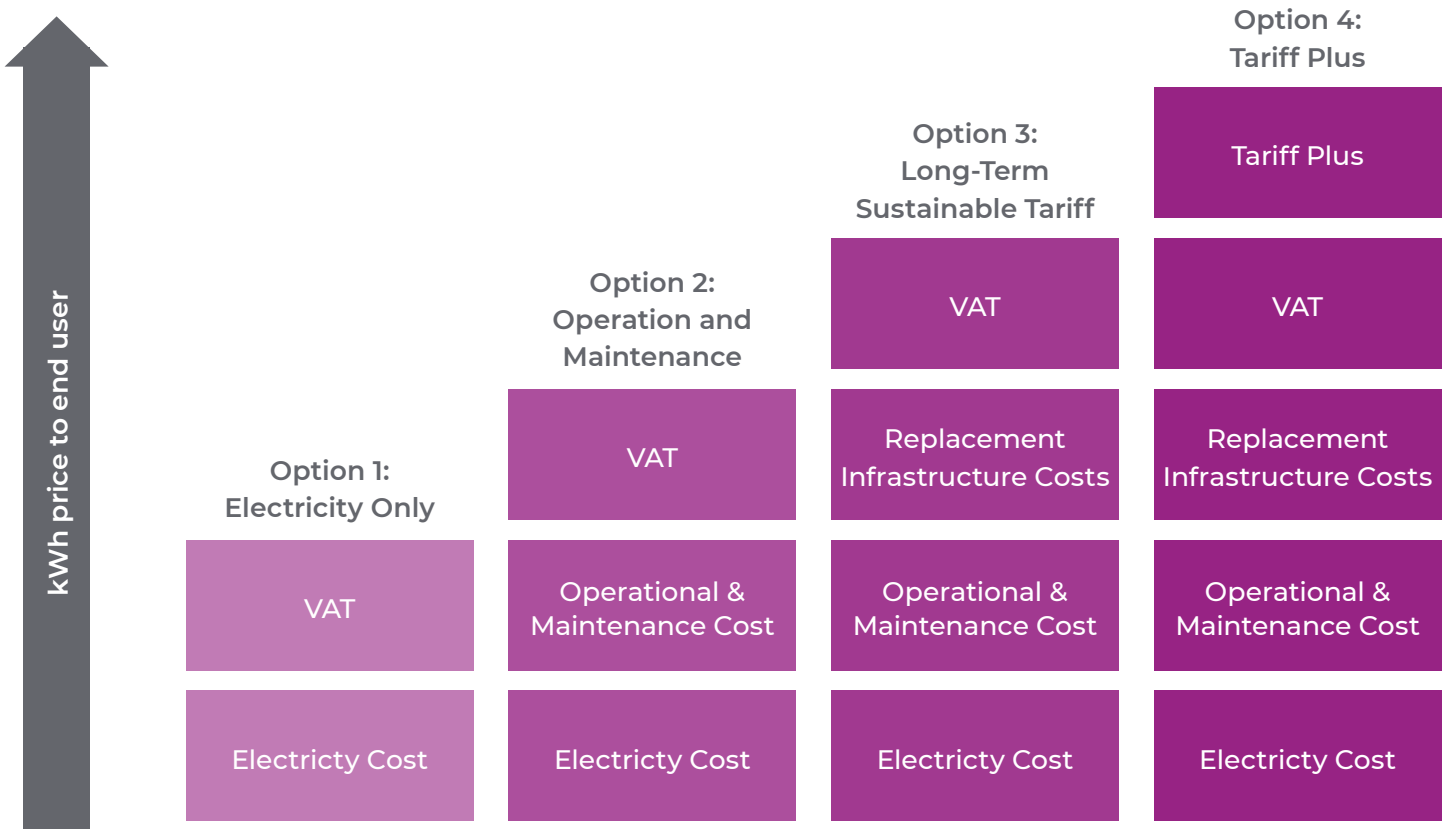
Local Authority EV charging was initially free to kickstart EV uptake, but this became a barrier to private sector investment, because businesses cannot compete against free charging. EVIF funding conditions therefore stipulated that Local Authorities introduce tariffs to enable commercial competition.

Council tariffs has been introduced over recent years anyway to help cover costs, but are still well below commercial rates, meaning surplus funds have not yet been generated to cover replacement, or sometimes even operational, costs. The existing charging network is therefore aging and some chargepoints lack the features and reliability that customers now expect.

	Western Isles	Orkney Islands	Shetland Islands	Argyll & Bute
AC tariff per kWh	45p	30p (49p TBC for 01.06.25+)	49p	45p (70p 0.1.04.25+)
DC tariff per kWh	59p	38p (59p TBC for 01.06.25+)	59p	45p (70p 0.1.04.25+)

Measurable impact or output: Review of the tariff at least annually by each Council to ensure it is transparent to customers, sustainable long term, affordable for all and enabling for commercial investment.

This will be achieved by considering options in the following table, with 'tariff 'plus' being a fully commercial model that allows new streams of re-investment (i.e. growth).



The tariff will also consider commercial tariffs & neighbouring Council tariffs, making user group tariff differentiation possible (i.e. for fleets or locals), & flexible tariffs (smart and dynamic) to maximise grid opportunity and incentivise charger use

These will be weighed up in relation to affordability as a tariff that covers all costs but which is unaffordable will be ineffective.

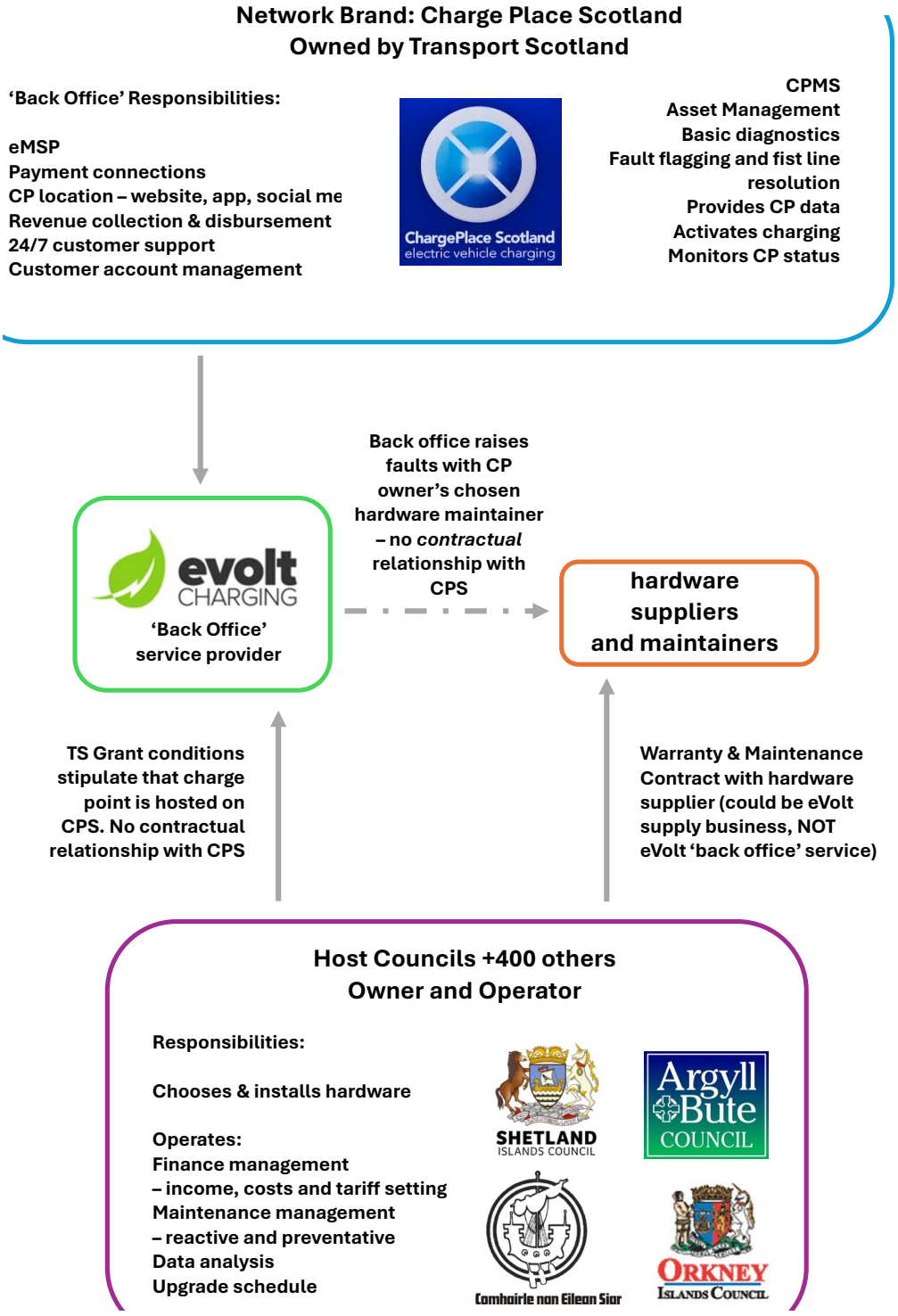
CPS Transition

Charge Place Scotland is due to end in 2027, with a preferred migration date of the end of 2025, but a possible extension for 4-6months into 2026. The grant of this extension depends on its interaction with the EVIF delivery schedule, aims and objectives.

This image shows the roles and responsibilities of the current own and operate business model, with Local Authorities using Charge Place Scotland as the back office.

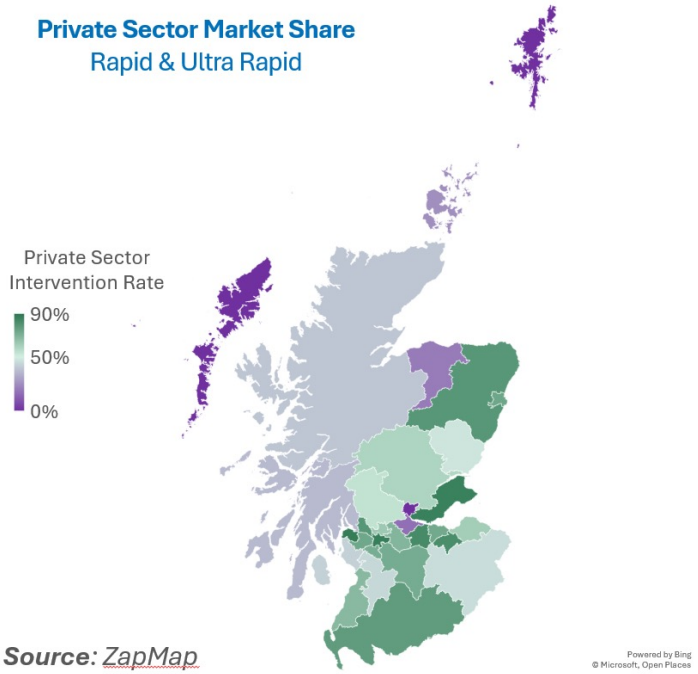
Operational risks and responsibilities currently lie with the Local Authorities, which they may choose to retain in the future or they may want to transfer, depending on the business model chosen in phase 2. The back office migration in phase 1 therefore needs to have the flexibility to allow this.

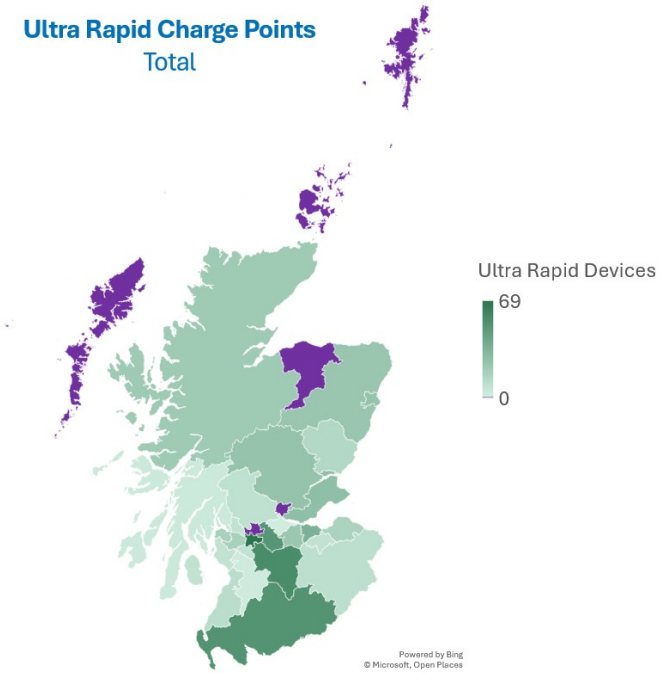
Learnings from research into alternative back offices by HITRANS will be made available for dissemination by the Councils to other CPS chargepoint owners in the local authority e.g. schools, doctors surgeries.



Attracting Private Investment

The diagram below reflects the commercial challenge in remote, rural and island communities; private investment to date in EV infrastructure lags behind the rest of the nation and is one of the prime reasons for the 2 phased approach in this region.



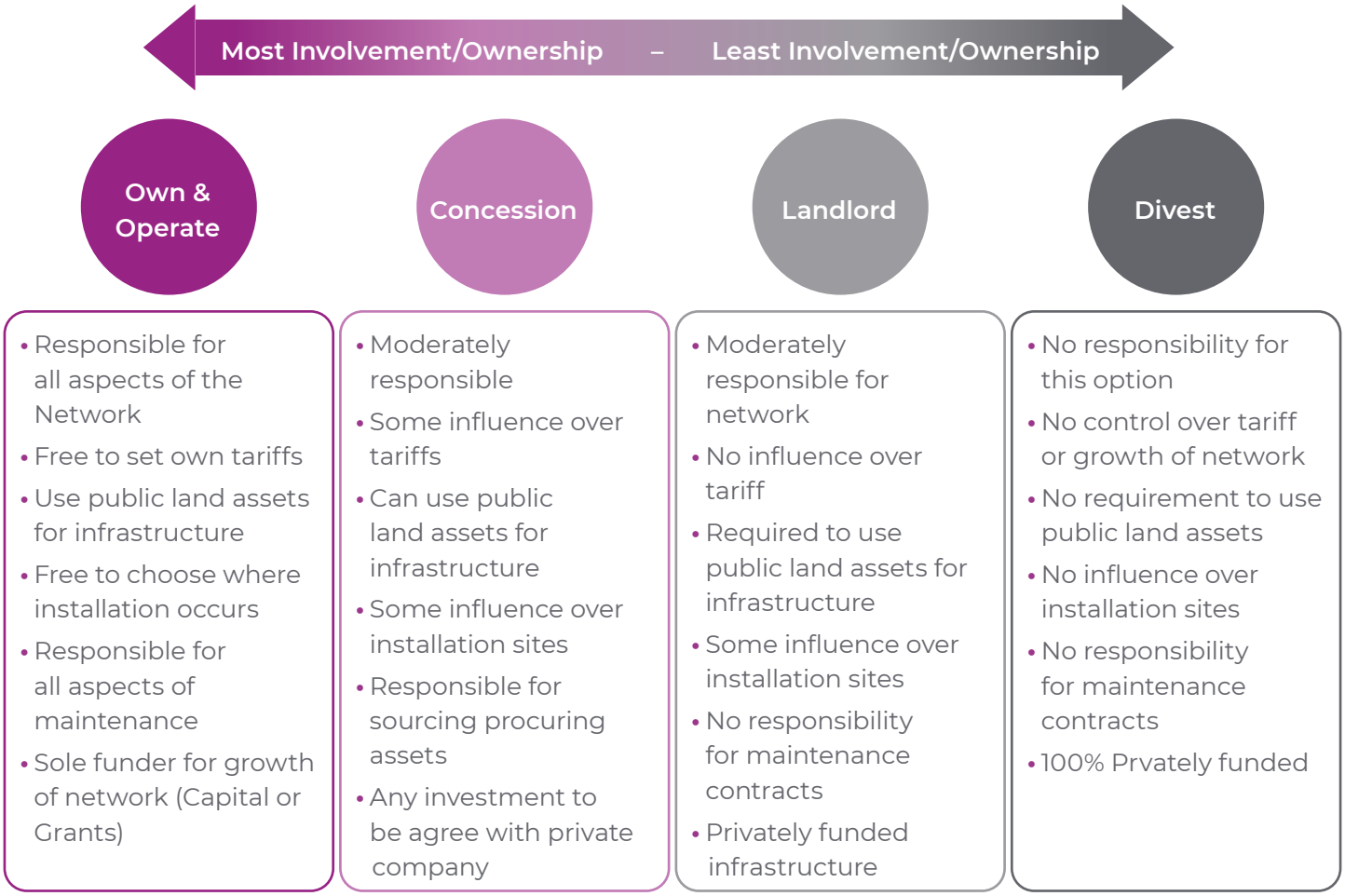


Source: *ZapMap*

After looking into the ideas outlined above for phase 2, HITRANS and the Local Authorities will consider the business models below and choose which one ideally attracts private investment and is a model they want to pursue.

Key Areas to consider moving forward

Commercial Models



Communications/engagement

Market engagement for both phases is already underway and ongoing.

Stakeholders include:

- Consumers
- Charge Point Operators
- Charge Point Management System providers
- Fleet managers (public and private)
- Community transport providers
- Energy stakeholders including REA, Scottish renewables, Community Energy Scotland & battery/energy consultants
- Cross Sector workers such as Net Zero project and Energy Savings Trust
- Scottish Futures Trust
- Transport Scotland
- Highland and Islands Enterprise
- Financial, procurement, legal, accessibility and EV business consultancies
- Community Car Clubs
- Council staff involved in regionally significant EV charging projects
- Existing businesses with an interest in transitioning to EV charging provision ie petrol stations, tourist destinations

A detailed communications plan will form part of the phase 2 strategy.

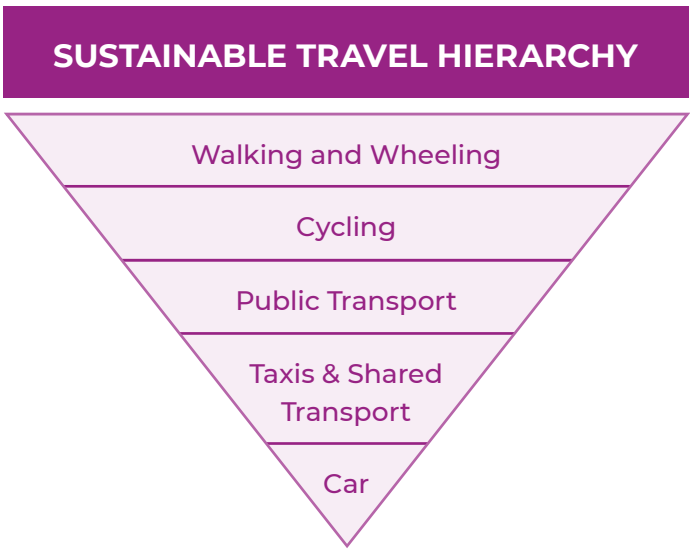
Supporting the Integration of Sustainable and Active Transport Modes

Alignment with the Nation Transport Strategy's Sustainable Travel Hierarchy

Providing public transport is challenging and limited in rural and remote locations so there is a heavier reliance on personal cars and therefore a higher need to reduce the emissions from those cars (HITRANS EV Strategy)

Supporting EV uptake and transport decarbonisation will reduce emissions generated by the transport system to mitigate climate change and improve air quality

A shared E-car club model is acknowledged to be a key opportunity to facilitate EV uptake and provide a guaranteed baseline of utilisation for rural/remote EVC infrastructure, which in turn supports the business case for private investment. Integration with existing/new community car club schemes will be further explored in Phase 2.



Multi-Modal Regional Transport Options

Multi-modal low carbon transition options support the Scottish Islands Plan (2019) 'importance of adequate infrastructure & quality transport networks'

The North West Scotland region also has a reliance on ferry and air services to reach more remote parts of the region and less direct rail and air services to other parts of Scotland, the UK, and Europe, so there is an increased reliance on multi-modal trips, particularly when undertaking longer journeys.
(HITRANS EV Strategy)

By strategically placing EV charging provision at locations that promote onward journeys, such as ferry terminals and key population centres, this provides greater opportunity for that choice to be more sustainable, including EV.

HITRANS is involved across multi-modal project across the region including:

- Air: SATE – Sustainable Aviation Test Environment
- Ferry: Small Vessel Replacement Programme (SVRP) - 7 new electric ferries
- Demand Responsive Travel
- Active Travel development

Links to the HITRANS Regional Transport Strategy

Programme links to the Regional Transport Strategy are highlighted in purple below:

Regional Transport Strategy Vision

Our transport networks and services will act to realise the economic potential of our region through reducing the actual and perceived impacts of distance, poor resilience and low population density. By doing this, they will facilitate economically and socially valuable activities for all, provide equality of opportunity, enable people to live active and healthy lives and allow our region to contribute fully to the national net zero emissions target.

Strategy Objectives

SO1: To make a just transition to a post-carbon and more environmentally sustainable transport network

SO2: To transform and provide safe and accessible connections between and within our city, towns and villages, to enable walking, wheeling and cycling for all

SO3: To widen access to public and shared transport and improve connectivity within the region

SO4: To improve the quality and integration of public and shared transport within and from/to the region

SO5: To ensure reliable, resilient, affordable and sustainable connectivity for all from/to our island, peninsular and remote communities

SO6: To improve the efficiency, safety and resilience of our transport networks for people and freight and adapt to the impacts of climate change

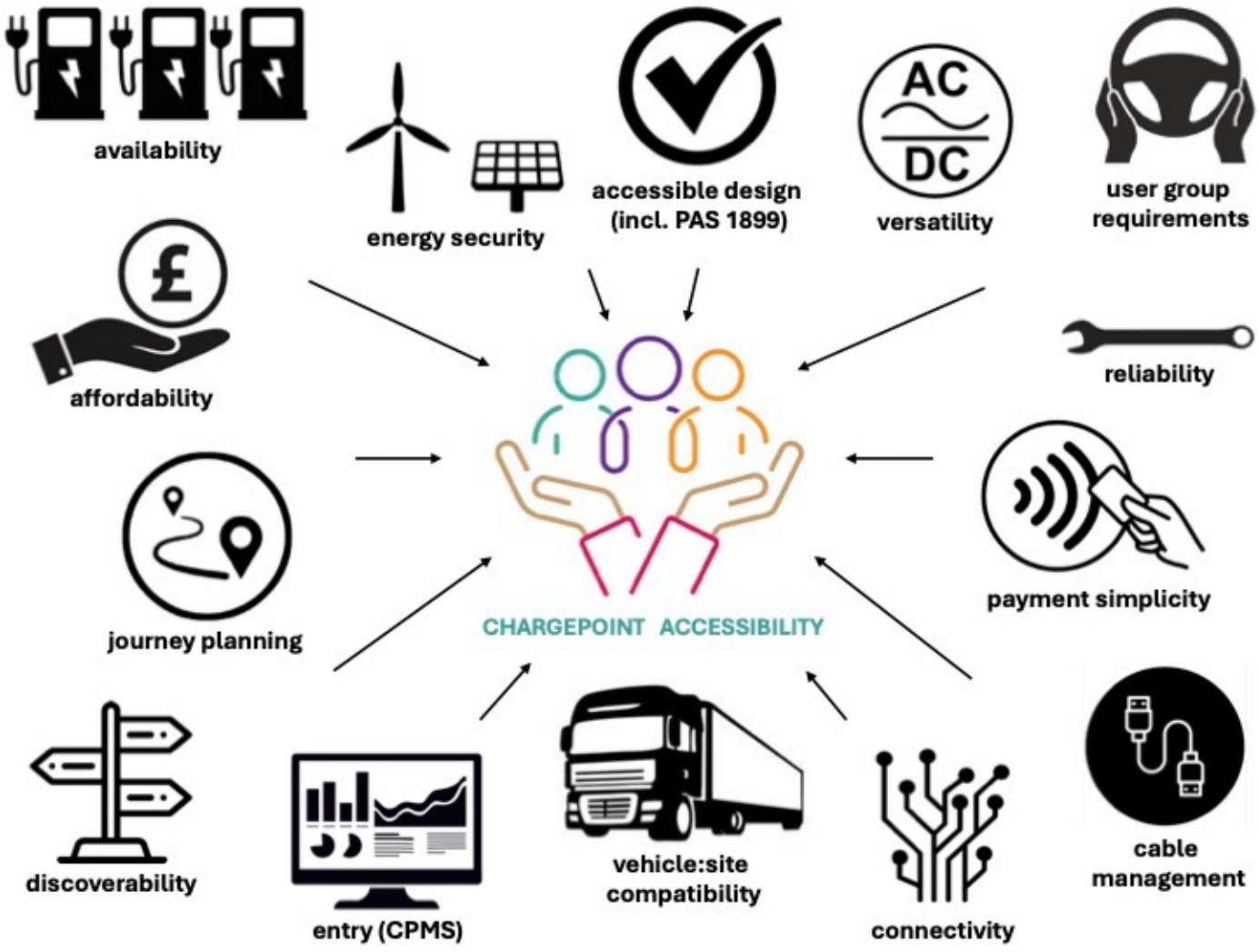
Strategy Themes

1. Transforming our communities and reducing the impact of transport upon them
2. Connecting our communities
3. Enhancing public transport connectivity to / from: (i) Inverness; (ii) our sub-regional centres; and (iii) Scotland's other cities and beyond
4. Improving the integration, quality of and access to public and shared transport
5. Providing connectivity that supports our island and peninsular communities
6. Improving the efficiency of transport networks and supply-chains and reducing their impact on our communities
7. Improving the safety, reliability and resilience of our road and rail networks
8. Facilitating sustainable visitor travel demand
9. Decarbonising our transport, mitigating the effects of climate change
10. Embracing new technologies
11. Reducing the cost of travel, particularly for those most in need

Commitment to accessibility

HITRANS gained a thorough understanding of accessible design through the FASTER project. This was pre-PAS1899 and HITRANS engaged with the organisations developing the PAS guidance to understand how we could better design the spatial aspects of accessibility, and how we could procure for more accessible hardware.

The concept has grown since then to include all the accessibility factors below, which we would consider through the market engagement during the development of our expansion strategy (phase 2).



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