inclusion

INCLUSION Project

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Innovation Pilot Lab Cairngorm National Park: implementation and results – Intermediate version

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Abstract	HITRANS is actively and continually looking to develop MaaS opportunities in the Highlands and Islands, with the INCLUSION Pilot Lab targeting Cairngorms National Park (CNP) in particular. The main aim of our Pilot Lab is to improve accessibility to public transport for older persons, young adults, teenagers and tourists in CNP, with e-bikes and car clubs being the main measures to be implemented in INCLUSION to achieve this objective. HITRANS are installing e-bike hubs in Aviemore, Grantown on Spey and Aberlour, with hope of a modal shift from private car to e-bikes and subsequently create a safer travel environment. The learnings gathered from this initial roll-out will inform future plans for further sites. HITRANS are also working with car club operators in the area to encourage moving services into CNP to provide additional more sustainable transport services, with existing car club schemes in close proximity to CNP. The aim is that the e-bike and car club services will complement each other to replace key stages of journeys that are largely completed by private car use at present due to a lack of available services. Complementary to this, HITRANS is also working with MaaS Scotland, Transport Scotland, local stakeholders and experts to assess if Mobility as a Service (MaaS) could work in CNP; particularly for tourists arriving in the area who wish to complete their journeys without the use of private cars. This will form as ongoing research throughout the pilot lab, and evaluated at the end of the project along with the outcomes of our e-bike and car club measures. As a result of this, HITRANS will bring wider research to the INCLUSION project on issues related to governance and mobility management, such as work being conducted through the Cairngorms Connected project, gathering user-centred research on transport needs in CNP to co-create ideas for new mobility services.

Version	Date	Modified by	Comments
0.1	26 February 2019	HITRANS	First draft
0.2	27th March 2019	UNIABDN	Comments from academic partner
0.3	2nd April 2019	HITRANS	Revised version / new additions

0.4	4th April 2019	HITRANS	Final additions
0.5	10th April 2019	HITRANS	Final version following peer review
1.0	18th April 2019	Softeco	Quality review

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1 Introduction

The Highlands and Islands Transport Partnership (HITRANS) is the statutory regional transport partnership covering Eilean Siar (Western Isles), Orkney, Highland, Moray and most of the Argyll and Bute area. HITRANS is one of seven Regional Transport Partnerships in Scotland which were established through the 2005 Transport Scotland Act. The area accounts for around 50% of Scotland's land mass, but is home to less than 10% of Scotland's population. HITRANS work with Councils, the Scottish Government, Transport Scotland, HIE, transport operators and other stakeholders to improve transport services and infrastructure in the north of Scotland and on routes to the Highlands and Islands.

HITRANS is actively and continually looking to develop MaaS opportunities in the Highlands and Islands, with the INCLUSION Pilot Lab targeting Cairngorms National Park (CNP) in particular. The main aim of our Pilot Lab is to improve accessibility to public transport for older persons, young adults, teenagers and tourists in CNP, with e-bikes and car clubs being the main measures to be implemented in INCLUSION to achieve this objective.

To assess this possibility of integrating e-bikes with current public transport offerings in CNP, HITRANS are installing e-bike hubs in Aviemore, Grantown on Spey and Aberlour. HITRANS are hopeful of a modal shift from private car use to e-bikes and subsequently create a safer travel environment. The learnings gathered from this initial roll-out will inform future plans for further sites. HITRANS are also meeting with car club operators in the area to assess if they would be interested in launching their services in the Cairngorms National Park as part of the pilot lab, with existing car club schemes in close proximity to CNP. The aim is that the e-bike and car club services will complement each other to replace key stages of journeys that are largely completed by private car use at present due to a lack of available services.

Complementary to the physical pilot lab measures described above, HITRANS is also working with MaaS Scotland, Transport Scotland, local stakeholders and experts to assess if Mobility as a Service (MaaS) could work in CNP; particularly for tourists arriving in the area who wish to complete their journeys without the use of private cars. This will form as ongoing research throughout the pilot lab, and evaluated at the end of the project along with the outcomes of our e-bike and car club measures.

As a result of this, HITRANS will bring wider research to the INCLUSION project on issues related to governance and mobility management, such as work being conducted through the Cairngorms Connected project. User-centred research is being conducted, gathered and analysed on transport needs in CNP to co-create ideas for new mobility services. Ideas will be collated by the Cairngorms Connected Steering Group and tested against deliverability in line with regulatory conditions and funding constraints. This is key to our pilot lab in INCLUSION, as the research will help to inform our pilot schemes and provide baseline figures on which to base our evaluations on at the end of the project.

2 Site description

Cairngorms National Park (CNP) (http://cairngorms.co.uk/) is one of the most popular tourism destinations in the Scottish Highlands – the most remote region in Scotland – and comprises an area of 4,528 sq km (1,748 sq miles), making it the largest National Park in the UK. Although the local resident base is around 18,000, the area experiences an estimated 1.87 million visitors per year for summer hiking and winter skiing. At 4.2 people per square kilometre, the population density is very low. Major centres of population are Aviemore (3,324), Ballater (1,446), Braemar (808), Grantown-on-Spey (2,484), Kingussie (1,473), Newtonmore (1,114), and Tomintoul (1,164).

Tourism is vital to Cairngorms National Park, accounting for 30% of the economy (GVA) and 43% of employment. Visitors flock to the area to appreciate the outstanding landscapes, wildlife and huge range of activities. Enhanced mobility in CNP has been identified as a means of promoting economic development, better customer service and a better visitor experience and sustaining local populations.

The Park is managed by the Cairngorms National Park Authority (CNPA), and spans five local authority areas – Aberdeenshire, Moray, Highland, Angus, and Perth & Kinross. The green shaded area of the map below highlights the scale of Cairngorms National Park in relation to the rest of Scotland. It is home to one-quarter of Scotland's native forest, one third of the UK land above 600 metres, and a quarter of the rare and endangered species in the UK. Nearly half of the land is considered 'wild land', and 49% of the park has been recognised as being of international importance for nature, and is protected by European Law.

Figure 1 - Map of Cairngorms National Park

Source: Google Maps

In the 2014/15 Cairngorms Visitor Survey, results revealed that Transport and Phone & Wifi are the lowest rated facilities in the Park, with 28% stating Phone & Wifi as 'poor' or 'very poor', and 17% of visitors expressing Transport facilities as 'poor' or 'very poor' – an increase from 11% in the 2009/10 visitor survey. Key results from the 2014/15 survey on method of transport are included below.
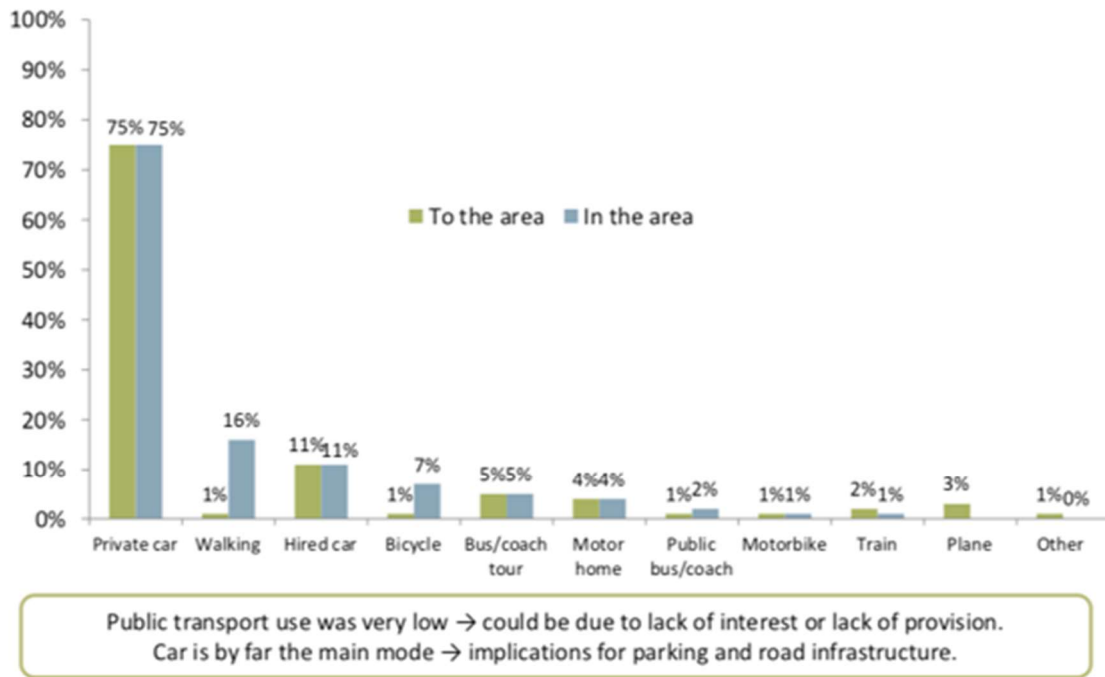
Figure 2 - Method of Transport in CNP

Source: Cairngorms Visitor Survey 2014-15, Full Report, 1st July 2015

The graph above highlights the extremely low uptake of public transport in Cairngorms National Park, both for travel to and within the Park, with only 3% in total using public bus/coach, and only 3% using train services. The graph below also shows a comparison between 2009/10 and 2014/15 results, highlighting the reduction of public transport usage over the five year period.

Method of transport – by year
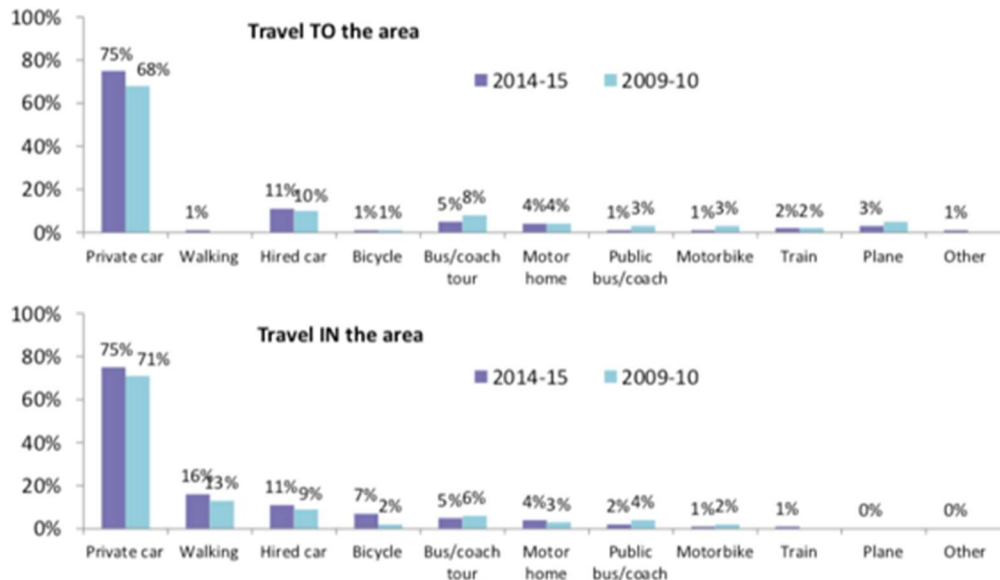
Figure 3 - Method of Transport Comparison 2009/10 vs. 2014/15

Source: Cairngorms Visitor Survey 2014-15, Full Report, 1st July 2015

As highlighted in the graphs above, combining both travel to and within CNP, public bus/coach usage has reduced from a total of 7% in 2009/10 to 3% in 2014/15.

Our Pilot Lab is designed to help increase the uptake of public transport in the area, both for tourists visiting the Park and for residents who will benefit from improved access to public transport services – focusing particularly on the elderly, those of reduced mobility, and the young.

2.1 Key Areas

The key areas within our Pilot Lab are the settlements of Aviemore, Grantown on Spey and Aberlour. More detail on each settlement is provided below.

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This project has received funding from
the European Union's Horizon 2020
research and innovation programme
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2.1.1 Aviemore

Figure 4 - Map of Aviemore in relation to CNP
Source: Google Maps

- The population of Aviemore is 3,324[1], and is the largest settlement in Cairngorms National Park.

- A key landscape priority and opportunity identified is to facilitate access across settlement edges into surrounding landscapes[2], with our pilot lab in INCLUSION aiming to meet this objective.

2.1.2 Grantown on Spey

Figure 5 - Map of Aberlour in relation to CNP
Source: Google Maps

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[1] https://www.highland.gov.uk/info/695/council_information_performance_and_statistics/165/highland_profile_-_key_facts_and_figures/2

[2] https://cairngorms.co.uk/caring-future/cairngorms-landscapes/landscape-areas/?aviemore

- The population of Grantown on Spey is 2,484[3], situated in the centre of the Scottish Highlands, 14 miles from Aviemore, and is often used as base for exploring the Strathspey area.

2.1.3 Aberlour

Figure 6 - Map of Aberlour in relation to CNP

Source: Google Maps

- The population of Aberlour is 972 (2011 census).
- Aberlour and Grantown of Spey are both on the Speyside Way[4] – one of four official long distance routes in Scotland, and is managed by the three Access Authorities along the route – Moray Council, The Highland Council, and the Cairngorms National Park Authority.
- Providing Aberlour with e-bikes enables residents and tourists a link on the Speyside Way with larger settlements including Grantown on Spey and Aviemore.
- Aberlour is also the location of our electric bus pilot, testing the technology in a rural setting as part of the Interreg North Sea Region project, G-PaTRA.

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[3] https://www.highland.gov.uk/info/695/council_information_performance_and_statistics/165/highland_profile_-_key_facts_and_figures/2

[4] http://www.speysideway.org

3 Mobility demand

Traffic volumes in Cairngorms National Park peak during school holidays, and seasonal activities such as skiing make small, unclassified roads (traditionally used for cycling and walking routes) busy and dangerous. The traffic has a constant level of HGVs passing through the main corridor through the CNP due to the whisky industry and through connectivity to other parts of Scotland, thus the ability to offer connected mobility will assist the current statistic of 90% of visitors utilising the car to move compared to 3% by public transport and 7% by cycling[5].

The underlying public transport infrastructure is fragile and includes fixed route bus and rail (both privately operated), some open access Demand Responsive Transport (operated by Community Transport and local authorities) and taxis. There are existing shared taxi / car sharing services but the latter of these operates on a closed Membership basis. From a governance perspective the area is very interesting, as it is covers five local authorities and three regional transport partnerships (RTPs).

Access to public transport services in CNP, especially for older people and persons of reduced mobility, need to be addressed. E-bikes can help achieve this aim. It has been proven that e-bikes aid people who are elderly or less physically fit, along with making longer journeys achievable. Furthermore, Halfords acknowledged that people over the age of 55 account for 62% of their total sales of e-bikes, indicating that e-bikes are popular with elderly people and that they are suitable to be used by them[6]. A study carried out by Wheels for Wellbeing[7] disclosed that 18% of cyclists with a disability had acquired an e-bike. This provides evidence that persons of reduced mobility can use e-bikes to travel, rather than relying on alternative means of transport.

This is also relevant to young people living in the area. It has been recognised that young people living in Cairngorms National Park often do not have access to a car. Subsequently, we believe younger people would be eager to use the e-bikes as a means of travel in the absence of alternatives.

Furthermore, a recognised issue is the high fuel costs present in rural areas. As travelling by car represents a significant cost, the implementation of an e-bike scheme provides an opportunity to install e-bikes into an area where people will likely be attracted by the significantly cheaper costs of using an e-bike in comparison to owning a car. The recent introduction of a Nextbike cycling scheme in Stirling provides evidence which highlights the demand among society for the introduction of cycling schemes in their community. For example, since the launch of the Nextbike scheme in Stirling in 2014, 37,000 regular cycle journeys have been totalled.

Moreover, a similar Nextbike scheme which was launched in Glasgow in 2014 has now doubled in size due to the popularity among residents. In addition, Glasgow City Council have reported the number of journeys made by bike have risen by 111% in just under 10 years, with the cheaper usage of bikes and people appreciating the need to improve their health being touted as the main influencers. Consequently, regular cycle use proving to be so popular indicates an e-bike scheme

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[5] *Percentages relate to a sample size of 2,533 respondents to the Visitor Survey*

[6] *https://www.telegraph.co.uk/news/2018/04/02/e-bikes-give-older-cyclists-boost-figures-reveal-battery-power/*

[7] *https://wheelsforwellbeing.org.uk*

would follow suit. Another great incentive for an e-bike network is the potential to link parts of the network with the NCN7 cycle network which was devised by Sustrans[8]. The Cairngorm area is renowned for fantastic scenery and a cycle route which enables the scenery to be experienced could be a great advantage in terms of attracting people to pursue cycling. Furthermore, e-bikes in this scheme would specifically be aimed at relatively short distances (rather than very long distances) which would improve the attraction and use of the NCN7.

The Active Aviemore report[9], completed in 2018 by AECOM, identified that a key aspiration of communities in CNP was to develop an e-bike network and cycle paths to link communities, with views gathered through a Highland Community Planning Partnership Workshop. The workshop also identified key barriers including too many cars and insufficient transport links, and available transport being too expensive.

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[8] *Sustrans is a UK sustainable transport charity setup to improve walking and cycling:* *https://www.sustrans.org.uk*
[9] *https://cairngorms.co.uk/caring-future/developing-park-access/activeaviemore/*

4 Mobility service operated in the site and stakeholders involved

This chapter details the current mobility services operated in the Cairngorms National Park, and the key stakeholders involved. The provides a clearer picture of the current status of transport services in CNP, and how our INCLUSION pilot lab will help to address key gaps in the existing transport offerings.

4.1 Travel Distances to the CNP

Approximate times of travel are provided in the table below.

	Inverness	Aberdeen	Perth	Edinburgh	Glasgow
By Car	30mins	1hr	1hr 30mins	2hrs 30mins	2hrs 45mins
By Bus	1hr 15mins	1hr 15mins	2hrs	2hrs 30mins	3hrs
By Train to Aviemore or Aberdeen			1hr 45mins	2hrs 30mins	2hrs 45mins

Table 1 - Travel distances to CNP

The following mobility services are operated in Cairngorms National Park:

4.2 Bus & Coach

Figure 7 - Example bus shelter in Aviemore

Source: Cairngorms National Park website: https://cairngorms.co.uk/discover-explore/planning-a-visit/getting-here/

There are regular coach services from London, Edinburgh, Glasgow, Aberdeen and Inverness. Local buses connect the towns and villages throughout the Park, including dial-a-bus services and minibus services.

The main provider of public bus services in the area is Stagecoach North Scotland who operate the following bus routes to, from and within the area:

- Service 31 Aviemore Town
- Service 34 Aviemore – Carrbridge
- Service 36 Aviemore – Grantown on Spey
- Service 38 Aviemore – Kingussie
- Service 39 Aviemore – Dalwhinnie
- Service M91 Aviemore – Newtownmore
- Service M91 Aviemore – Inverness

Other important bus services are:

- Megabus.com who operate M90 – Inverness – Aviemore – Perth (for onward travel to Glasgow) – Edinburgh
- Scottish Citylink who operate:
  - Gold Service G10 – Inverness – Aviemore – Glasgow
  - Gold Service G90 – Inverness – Aviemore – Perth – Edinburgh
- Maynes Coaches
- Speyside & Strathdon Dial-A-Bus services
- Where2Today minibus service between Aviemore and Laggan and Aviemore and Nethy Bridge

4.3 Rail

There are railway stations at Dalwhinnie, Newtonmore, Kingussie, Aviemore and Carrbridge. Trains between London's King Cross and Inverness stop off at either Kingussie or Aviemore. Aberdeen is the closest station to the east side of the National Park. The Strathspey Steam Railway runs between Aviemore, Boat of Garten and Broomhill at Nethy Bridge.

Rail services to Inverness, Glasgow, Edinburgh, London and intermediate stations serve Aviemore. The operators are:

- ScotRail – www.scotrail.co.uk
- Virgin East Coast – www.virgintrainseastcoast.com
- Caledonian Sleeper – www.sleeper.scot

4.4 Taxi / Private Hire

Main taxi companies include www.taxisaviemore.com and www.aviemoretaxis.com.

A range of other taxi companies and private hire companies operate in the area for pre-booked services, found on the CNPA website : https://visitcairngorms.com/transport

Special services (e.g. for tourists, children etc.): various commercially operated tour services for tourist travel operate from locations outside the CNPA area and encompass the park in the tours offered.

4.5 Flexible Public Transport

Moray Council operate the award winning Dial M for Moray service in neighbouring Moray, with a new service operated by a fully electric bus linking Forres with Aberlour in Speyside. The project is supported through the Interreg North Sea Region G-PaTRA project and is running until June 2021, allowing results and analysis to be captured within INCLUSION – particularly the MaaS aspect of our research on multi-modal journeys using more sustainable transport.

4.6 Bicycle

National Cycle Route 7 runs from Glasgow to Inverness, passing through the west of the Cairngorms National Park. Cycle route 7 is a combination of on and off-road sections and links up the communities of Badenoch & Strathspey.

The Deeside Way runs from Aberdeen on the east coast to Ballater in the east of the Cairngorms National Park. The Deeside Way provides an off-road cycling route linking up Dinnet and Ballater in the Royal Deeside area of the Cairngorms National Park.

Cycle touring on and off-road is a great way to get to and around the National Park. Sections of the Speyside Way and Dava Way are also suitable for cycling. For mountain biking, the four mountain bike centres can be found in Glenlivet, Laggan, the Lecht, and Tarland.

Bikes can be hired from various places across CNP, largely aimed at tourists so are mostly available at shops in Aviemore and at locations such as ski centres, Loch Insh watersports, lodges, and adventure pursuit companies. Aviemore has two specialist shops: Bothy Bikes and Mikes Bikes. A full list is available here: https://visitcairngorms.com/onabike

4.7 Car Sharing

Voluntary car services: the Badenoch and Strathspey Transport Company[10] offer a range of services including a Community Car Scheme. This service is provided by Volunteer drivers using their own vehicles to get people out to vital life and health services, increasing their social interaction.

The Car Scheme is a car sharing scheme with volunteer drivers using their own cars to take clients to and from a destination of their own choice. To become eligible for the scheme, you must have no transport of your own and be unable to access public transport for whatever reason. When a client registers with the scheme, they receive an ID number. Journeys can be anything from visiting a friend, shopping, attending the doctor, to the bus/train station or just going for coffee. Payment is on a

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[10] *www.ct4u.co.uk*

![inclusion logo]

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minimum charge or mileage rate basis. Volunteer Drivers become members of the Protecting Vulnerable Groups (PVG) Scheme, which involves a search of criminal records. They are offered full training to carry out their required duties. Drivers are paid a mileage rate which is non-profit making and under car sharing legislation, so should not affect their car insurance.

Car sharing services have been established by HITRANS and can be accessed at: https://liftshare.com/uk/community/hitravel

4.8 Walking

There are a number of long distance walking routes in the Cairngorms National Park:

- The Deeside Way runs from Aberdeen on the east coast to Ballater in the east of the Cairngorms National Park. The Deeside Way provides an off-road walking route linking up Dinnet and Ballater in the Royal Deeside area of the Cairngorms National Park.
- The Speyside Way runs from Buckie on the Moray Coast to Aviemore in the Cairngorms National Park and links up the communities in the Badenoch & Strathspey area of the Park. A spur of the Speyside Way runs also from Ballindalloch to Glenlivet and Tomintoul.
- The Dava Way runs from Forres near the Moray Coast to Grantown-on-Spey in the Cairngorms National Park.

4.9 Air

The nearest airport to the Cairngorms National Park is Inverness Airport, located approximately a 30 minute drive to the Badenoch and Strathspey area of the National Park, while Aberdeen International Airport is an hours drive away from the Royal Deeside area of the Park.

4.10 Summary

Through the above information, it is clear there are significant gaps in public transport provision across Cairngorms National Park, both for travel to the area and within CNP. Car Clubs are not currently present in CNP, providing INCLUSION with a great opportunity to encourage local car club companies to expand their services (some of which operate in very close proximity to CNP). Car Clubs can enable residents and tourists access to transport 24/7 without having to own a vehicle. Expanding car clubs into CNP also helps strengthen the model of car clubs outside of CNP and into the rest of Scotland/the UK, as having more cars available to book in this method will provide security and assurance of this transport method; encouraging tourists to leave the car at home, and providing assurances to residents that they can either not own a car in CNP or reduce the number of cars owned at their household.

The information above also highlights that bike hire in CNP is largely based around tourists, whereas our pilot lab will address the needs of residents as well as tourists, by providing e-bike hubs at locations that will enable residents to use e-bikes for the first and last mile of journeys to reach further public transport options, or complete their entire journey using an e-bike.

By launching these services in CNP, the hope is to provide more security for residents and tourists that using public transport is a viable option in CNP, providing first and last mile transport and/or completing entire journeys using options other than private car with the aim of improving the statistic of only 3% of visitors to CNP using public transport.

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5 Target groups for Pilot Labs

The target groups we have identified for our Pilot Lab include:

- Elderly

- Reduced mobility

- Tourists

- Young Adults/Teenagers

All target groups identified would benefit from the opportunity of new transport services. Traditional timetables for transport services will often provide links from settlement to main settlement, but these services do not deviate from main routes and rarely offer the full door to door mobility solution that can empower communities and enable people to continue to live in the same place from cradle to grave.

5.1 Target User Groups

The Elderly: Low car ownership levels are evident in the elderly population, which allied with sparse settlement patterns makes it challenging to serve people well in mobility terms. Car clubs will provide the elderly with available vehicles as and when needed rather than having to own a vehicle, and e-bikes have been shown to be successful with the elderly population, as described in Chapter 3.

Reduced Mobility: As identified at a workshop organised through the Cairngorms Connected group[11], reduced mobility does not always relate to physical disabilities, but should be considered for all disabilities, including those that might not be visible. Unreliable services can impact passengers who might feel uncomfortable if there is a risk of uncertainty over when/if a service will be available. Those with physical disabilities also noted that due to changing circumstances for drivers/available vehicles, it is not known if a vehicle will meet requirements for wheelchair access, or if the driver will be trained on how to assist those requiring it. It is clear there is a gap that needs addressed for those with reduced mobility to reach suitable public transport options, and e-bikes have been shown to be successful with those with reduced mobility, depending on the situation, as described in Chapter 3. Our wider research through Cairngorms Connected on improving public transport for those in CNP will look to address these issues on vehicle requirements and driver training.

The Young: In the absence of public transport options, young people are reliant on parental lift giving which can place a pressure on the young persons and their guardians in terms of ability to access a range of services that might be available in the main regional centres within the CNP area. The development of a suite of mobility services which could be managed as a set of mobility as a service measures can help develop tailored solutions that address a wide range of needs across demographics and geographies within the CNP.

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[11] *Cairngorms Connected workshop held in Boat of Garten March 2019*

Tourists: In addition, this scheme could also target tourists. It has been estimated that 1.87 million tourists visit the Cairngorms National Park per annum. As noted in section 2, 17% of tourists perceived transport within the region to be "poor" or "very poor". Therefore, the results of the Cairngorm Visitor Survey provide strong support for the implementation of e-bike schemes and car clubs as the statistics gathered imply that public transport services within the region are not sufficient in terms of satisfying tourists. Furthermore, as only 3% of tourists utilise public transport services in CNP, it is the hope that by launching e-bike and car clubs more tourists will make use of the available public transport services, increasing the demand and therefore supporting longevity of the service.

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6 Identification of the Pilot Lab Actions

6.1 Need

The demand for the bike dock project has largely been determined through our Accessing Aviemore work. This report, written by AECOM, led by HITRANS in partnership with The Highland Council and CNPA, was produced to investigate the feasibility and design for urban realm and segregated walking and cycling throughout the main areas in Aviemore. In particular, Grampian Road, while linking onto key routes including the new NHS hospital site, NCN7, the wider industrial estates (Dalfaber), key amenities and housing. A large focus of this was community engagement and outline design, where it was highlighted that e-bikes would be an attractive service.

Additionally, the INCLUSION project focuses on the role of e-bikes / bicycle docks in assisting those utilising public transport, especially the mile to and from close to their house to the transport interchanges.

Engagement efforts with Car Club operators will seek to introduce a small Car Club in Aviemore to meet mobility demand in that area. This is likely to be limited to three cars available to Car Club members.

The Bike Dock Scheme will complement existing services and efforts will be made to integrate these services with the new mobility service being introduced.

The existing bus services will remain unchanged but it is intended that Stagecoach (the main operator) will be a key partner in the INCLUSION Stakeholder Group and this will enable the development of better integration with other mobility services.

Badenoch and Strathspey Community Transport Company (BSCTC) will be engaged in the project. This will allow the Pilot Project partners and stakeholders to understand how mobility service measures can be developed to complement the existing services offered by the BSCTC. This will be an important focus of the pilot and the legacy of this should be a better way of including the services offered by BSCTC in the wider transport system in the pilot area.   The key services that will be considered within the Pilot project are:

- Community Car Scheme - The Car Scheme is a car sharing scheme with volunteer drivers using their own cars to take clients to and from a destination of their own choice. To become eligible for the scheme, you must have no transport of your own and be unable to access public transport for whatever reason. When a client registers with the scheme, they receive an ID number. Journeys can be anything from visiting a friend, shopping, attending the doctor, to the bus/train station or just going for coffee. Payment is on a minimum charge or mileage rate basis. Volunteer Drivers become members of the Protecting Vulnerable Groups (PVG) Scheme, which involves a search of criminal records. They are offered full training to carry out their required duties. Drivers are paid a mileage rate which is non-profit making and under car sharing legislation, so should not affect their car insurance.

- Where2Today Badenoch and Strathspey – Demand Responsive Transport Service that operates across part of the CNPA area on five days per week. Bookings are taken on a first come first served basis and must be made in advance, to ensure you reach the destination of your choice at a time that suits. Vehicles are suitable for all abilities, with accessible lifts or ramps for those who cannot manage the steps. The service offers a door to door service and aims to meet the individual needs of people who cannot get out and about easily without assistance. The transport routes pass many of the area's superb visitor attractions, such as The Highland Wildlife Park, Strathspey Steam Railway, Grantown Museum, RSPB Osprey Hide at Loch Garten, Landmark Adventure Park, Highland Folk Park and the Cairngorms Funicular Railway, to name a few.

Furthermore, Active Aviemore used various methods of engagement to connect to a wide range of residents and businesses in the Aviemore area, including an online placecheck tool, stakeholder engagement workshops and a public engagement event which was held at Aviemore Community and Leisure Centre.

The report highlights key aspirations for communities in the Badenoch & Strathspey area (which includes Grantown on Spey), including the development of an e-bike network and cycle paths to link communities. The report also highlights a survey conducted in 2017 on views of local residents and businesses to identify areas requiring significant improvement within Aviemore. 387 responses were received, and transport emerged as one of the five key themes requiring attention. Consequently, a clear need has been identified for transport improvements to support social and work use as well as at evenings and weekends.

6.2 Stakeholder Liaison

HITRANS, The Highland Council, Cairngorm National Park Authority, Badenoch and Strathspey Community Transport Company and other key stakeholders, including the NHS, are all on board with the opportunity to use e-bikes / bike docks within the Aviemore area. Partnerships such as those with PhD student Jenny Milne, focussing on MaaS, and others within INCLUSION are on board to help develop the scheme.

Discussions are also being held with car club operators to determine their level of involvement and expand services into CNP. There are also existing bike hire providers for tourism, such as 'In your Element' and 'Mikes Bikes', both of whom are local bike hire companies who will be engaged with to ensure that the rate of the public facing e-bike scheme doesn't diminish their local demand.

Furthermore, HITRANS have extensive experience of working with communities to develop and implement transport solutions. Stakeholder needs and demands will be considered, with outcomes presented to stakeholders and industry to begin planning for future challenges and opportunities for enhanced mobility amongst prioritised groups. Stakeholders include: main partners, associate partners, RTPs, local councils, HIE, Forestry Commission, VisitScotland, Scottish Natural Heritage, UHI, Scottish Enterprise, local businesses & community groups, land management & conservation groups, and other relevant/interested parties in the target area. Target groups and stakeholders are being consulted to optimise outcomes through the Cairngorms Connected research.

6.3 Scheme Procurement

The proposal is based on a Bewegen supply, install and managed service. This includes an annual management fee of £18,000 (excl VAT). Bewegen have noted that this management fee would not increase proportionately if we were to add additional bike dock sites within the local area, which means better value will be offered if the scheme is to extend incrementally in future years and funding rounds. The system will rely on tried and tested equipment solutions. The equipment would be the same in terms of e-bikes and bike docks as that being used in other Scottish public facing bike dock systems. One dock in each of Aviemore and Grantown on Spey is planned.

While a contract to supply equipment and operationally manage the project has been priced this will be subject of a more rigorous procurement process as it might be feasible to increase e-bike numbers and reduce operational management costs through the use of separate suppliers with a separate contract with local delivery partners for the operational and management contract. In earlier projects, HITRANS has worked with Moray Car Share on a scheme that supported the delivery of e-bikes at locations in Moray and with local bike shops to provide this function in our e-bike systems established at Oban Airport, Barra Airport and Castlebay.

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7 Design of the Pilot Lab

Our Pilot Lab for the bike dock measure is based on a fully managed service where a single supplier would provide the following items:

- 16 electric-assist bicycles

- 25 standard dock bicycles

- 16 recharging docking points

- 2 or 3 stations

- Virtual stations (as many as needed)

- Complete Back Office and IT infrastructure (mobile app, website)

- Bike share operations and management

These services will be provided at Aviemore, Aberlour and Grantown on Spey, as described in more detail in Chapter 2.

At the final procurement stage the market will be tested on whether separate contracts for equipment (e-bikes, docks, shelters), ICT (App, back office booking system, ebike tracking and maintenance/operations) offer the best value route to delivery, as described in Chapter 6. All timeframes are included in Section 9.

HITRANS recognises the importance of collecting baseline data on cycle usage. By doing so, a comparison between cycle usage from before and after the project will allow conclusions to be made as to whether the implementation of an e-bike scheme has resulted in increased active travel in the Cairngorms National Park, and increased public transport usage. Gathering this baseline data then shows if this project would prove to be worthwhile beyond the initial funding period.

HITRANS believe the impact of this project can be recognised over a prolonged period by targeting local habitants and tourists who do not use bikes. HITRANS are confident this project could be a success due to the large number of people who have expressed their dissatisfaction at the state of public transport in the area, the infeasibility and costs of car ownership, and the desire for more cycling options. A key area HITRANS has distinguished is ensuring people understand the types of journeys which e-bikes are suited.

Moreover, HITRANS are completely aware of the costs of e-bikes and therefore appreciate the significance of ensuring long-term utilisation. HITRANS believes this commitment to e-bike maintenance will improve the efficiency and satisfaction among users of the network, and may help to attract more people to participate if the scheme has a positive reputation as external perceptions will be improved.

HITRANS also acknowledge the importance of business sustainability in Aviemore. HITRANS will ensure that the e-bike scheme will not have an adverse effect on the existing bike shops in the pilot

lab area. Subsequently, HITRANS plan to work in partnership with these businesses to achieve sustainability and avoid competition.

To measure the success of our pilot lab, HITRANS has devised several output indicators on which the pilot lab will be evaluated on, with the baseline survey largely assisting with the evaluations.

Regarding performance indicators, HITRANS are confident data can be collected. For example, data is available through existing sources such as Cairngorms National Park visitor surveys and HITRANS Active Aviemore work. Also, there is the opportunity to make adaptions to existing data collection methods such as the Cairngorms National Park visitor survey, where HITRANS measures could be added if the timings are matched with the pilot lab (with the next visitor survey expected to cover 2019/20). Additionally, HITRANS recognise before and after surveys will be required to assess certain measures. Work is ongoing through the Cairngorms Connected group, being gathered through workshops, surveys and interviews to assess rural transport needs in CNP, and the learning informing the design of our Pilot Lab as we go.

8 Actors to be involved in the Pilot Labs, roles and responsibilities

Actors Involved in Pilot Lab	Roles	Responsibilities
HITRANS	Overall management of pilot lab	Liaison with all involved
Target user groups	Involvement in the scheme	Completing surveys
External consultants	Marketing & surveys	Marketing of the scheme, organising post-pilot lab surveys
Cairngorms Connected	Wider research on user transport needs	Involved in meetings/workshops; gathering, collating & analysing data on rural transport needs
Cairngorm National Park Authority	Ensure the National Park aims are collectively achieved	Involved in meetings, workshops
Partner Councils	The five councils covering the CNP area	Meetings, workshops
Bike scheme operator	Operate the Bike scheme	Operating the Bike scheme, data gathering, assistance with marketing/engagement
Car Clubs (Moray Carshare, Enterprise)	Expand car club services into CNP	Engagement with local areas in CNP to market services
Public Transport Operators	Providing public transport in CNP	Meetings, workshops, engagement with communities

Table 2 - Actors Involved in Pilot Lab

9 Timeplan for the demo operation (M19-M34)

	Nov 18	Dec 18	Jan 19	Feb 19	March 19	April 19	May 19	June 19	July 19	Aug 19	Sept 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	April 20	May 20	June 20	July 20	Aug 20
Procurement of bikes							M1															
Tender evaluation and selection								M2														
Car Club operations									M3													
Pilot lab commencement										M4												

Description of the Milestones

M1: Procurement of bikes and associated equipment: invitation to be launched on PCS in month 19

M2: tenders are evaluated and chosen supplier selected

M3: final agreement with car club operators and involvement

M4: commencement of pilot lab

Table 3 - Timeplan for Pilot Lab

10 Risk assessment

As mentioned in section 6, HITRANS has identified potential risks which may arise from the scheme and has devised solutions that could be implemented to address these issues if they are encountered. These are discussed below:

Limited marketing budget

HITRANS appreciate the hubs are a new concept in the Cairngorms National Park, and a limited marketing budget could negatively impact on the uptake of the e-bikes and car club usage, and consequently limit the potential for behaviour change in the area. HITRANS Active Travel Officer and Projects & Policy Officer will be responsible for ensuring the project scope is delivered and that the project performs to a high standard. Further funding has also been secured from Smarter Choices Smarter Places for marketing of the scheme.

Longevity of organisations involved, e.g. car clubs

The car club involvement could be a risk as it is dependent on the longevity of the car clubs rather than a direct responsibility of HITRANS. However, it is deemed a low-medium risk as the car clubs in mind are well established and support should be available if required. Also, HITRANS has the ability to liaise with car clubs on a regular basis and take actions if needed throughout the pilot lab to prevent pull-out from car clubs, such as the exploration of additional funding routes.

Climate

The unpredictability of the weather in Cairngorms National Park could impact on the success of the scheme. However, in the procurement process, HITRANS will examine options such as weather resistant storage, types of e-bikes and their performance in different weather conditions.

Transport services

There is a low to medium risk of transport operators in the area changing services due to economic performance or cuts in subsidies. However, HITRANS can liaise with transport operators throughout the project due to existing relationships with organisations such as Stagecoach and ScotRail. In addition, HITRANS can undertake wider engagement with other transport modes such as community transport, and therefore take steps to mitigate the impact on the pilot lab.

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11 INCLUSION consortium

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Annex A: Cairngorm National Park Local Pilot Action Plan

1. Object of the Pilot Lab		
1.1	Actions (to be) demonstrated in the Pilot Lab - Overview	The following actions are to be demonstrated and undertaken in the Cairngorms Pilot Lab: 1. **Integration of an e-bike scheme and car clubs with public transport:** To assess the possible integration of e-bikes and car clubs with current public transport offerings in the CNP area, HITRANS will install e-bike hubs across Cairngorm National Park, with locations identified as Aviemore, Grantown on Spey and Aberlour. HITRANS are hopeful of a modal shift from private car use to e-bikes and create a safer travel environment. The learnings gathered from this initial roll-out will inform future plans for further sites. HITRANS are also meeting with car club operators in the area to assess if they would be interested in launching their services in CNP as part of the pilot lab. The two services would complement each other to replace key stages of journeys that are largely completed by private car use at present due to a lack of available services. 2. **Experimentation of Mobility as a Service:** Through the launch of e-bikes and car clubs in CNP, HITRANS will work with MaaS Scotland, Transport Scotland, local

		stakeholders and experts to assess whether Mobility as a Service could work in CNP, particularly for tourists arriving in the area who wish to complete their journeys without the use of private cars. This will form as ongoing research throughout the operation of the e-bikes and car club schemes, and evaluated at the end of the project. 3. **Investigate and address governance issues related to mobility management:** HITRANS will bring wider research to the INCLUSION project on issues related to mobility management, e.g. work being conducted through Cairngorms Connected project, with the aim to conduct user-centred research with rural users to understand their transport needs and co-create ideas for new mobility services. This will then allow ideas to be collated by the Cairngorms Connected Steering Group and tested against deliverability in line with regulatory conditions and funding constraints. 4. **If feasibility is established it is intended to introduce Cairngorms Connected as the MaaS brand and aggregator of mobility services within the CNPA area.** The target users for the Cairngorms Pilot Lab are both residents and tourists, and several key target groups have been identified: elderly people/persons of reduced mobility, residents who suffer from fuel poverty due to high rural fuel costs, young people who face the

		challenge of not having access to their own mobility solution, and inhabitants in dispersed settlements.
1.2	What will be demonstrated in the Pilot Lab?	☒ **Improvement of mobility services** ☒ **Provision of new "customers oriented" services** ☒ **Optimization of internal processes from Transport Operator's side** ☒ **Other** (please specify) how to increase public transport use by using e-bikes for the first and last mile to ensure linkages between remote settlements and villages to mainstream public transport.
1.3 (a)	In case the answer to 1.1) is "improvement of mobility services", please detail which is the change involved in the mobility offer	☒ **Launch of a new mobility service** ☐ Opening a restricted service to target groups ☐ Opening a restricted service to the general public ☒ **Other** (please specify) launching a new service that is open to all but targeted at enhancing social inclusion…………………… ☐ Enhancement of a mobility service already operated ☐ Extension in terms of covered area ☐ Extension in terms of covered time ☐ Enforcement of vehicles/fleet (number, typology, performance/quality) ☐ Other (please specify)…………………… ☐ **Integration of mobility services already operated**

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		☐ Coordination of services among multiple service providers or funding agencies ☐ Integration of services targeted to specific target users with general public transport ☒ **Integration of sustainable modes with general public transport** ☒ **Integration of ride/(asset) sharing services with general public transport** ☐ Optimization of scheduling/timetable ☐ Enhancement of interchange points ☐ Other (please specify)…………………… ☐ Other (please specify)……………………
1.3 (b)	In case the answer to 1.1) is "Provision of new "customers oriented" services", please detail which is the new/enhanced service offered	☒ New or enhanced access modalities to services (i.e. service registration/membership, booking, etc.) ☐ New or enhanced payment methods ☐ New or enhanced passenger information services ☐ New or enhanced customer handling and support ☐ Other (please specify)……………………
1.3 (c)	In case the answer to 1.1) is "optimization of internal processes", please detail which are the processes involved	☐ Service planning ☐ Service operation/control ☐ Assessment of quality performance/service reporting ☐ Relationship with the funding agencies/authorities ☒ **Marketing**

		☐ Customers satisfaction analysis
		☐ Customers needs analysis
		☐ Training/improved skills of the internal staff
		☐ Other (please specify)..........................

2. Pre-feasibility analysis

2.1	Please describe the current status of needs analysis and the actions already carried out for the identification of requirements the demo actions will comply with. Is the analysis of the requirements completed?	Some analysis has already been carried out through the Active Aviemore Feasibility Report produced in 2018, commissioned by HITRANS in partnership with The Highland Council and CNPA. The report highlighted aspirations for communities in the area, including the development of an e-bike network and cycle paths for communities.

Also, the most recent Cairngorm Visitor Survey highlighted that 17% of visitors expressed transport facilities as 'poor' or 'very poor', with only 3% of visitors using public transport as a method of getting about.

Some analysis of requirements are still to be determined, such as the number of e-bikes at each location and specifications for operation and maintenance – whether it is under one contract with one supplier for all aspects of the e-bikes project, or working directly with local suppliers on delivery and operational aspects. HITRANS has experience in these areas and all aspects will be finalised at the procurement stage with value for money considered.

Discussions are also to be held with car club operators to determine their level of involvement, which is also dependent |

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		on the match funding outcome as described below.
2.2	Please resume the main results of the requirements analysis	The reports highlight that the uptake for public transport is extremely low in the area, and there are clear gaps to interlink public transport which operates on trunk roads to surrounding settlements and villages. The research also notes aspirations for communities in the area, including the development of an e-bike network and cycle paths for communities. More results will be available by the end of March 2019 after research has been completed by Cairngorms Connected.
2.3	Please describe the actions to be carried out in the future to complete the requirements analysis and the milestones	On-going actions to be completed for completing the pre-feasibility analysis and requirement analysis include: - Assessing the number of e-bikes required at each location and specifications of the hubs - Liaising with local bike suppliers on maintenance etc. - Liaising with car club operators - Review research findings by Cairngorms Connected to further inform our pilot lab
3. Design of Pilot Lab		
3.1	Please describe the current status of design activities of Pilot Lab actions. Is the design completed?	No, the design has still to be carried out. Potential e-bike hub locations have been identified. The hubs will act as dedicated zones for hiring e-bikes and accessing information on public

			transport in the area and e-bike availability. It is likely the hubs will also be the location for car club operations, but the design of the hubs will be dependent on the availability of match funding and outcomes from discussions with local car club groups. An application for national funding has been submitted to match against INCLUSION to widen the scheme, and this will help inform the design of the pilot labs once the outcome is known, expected by early February 2019.
3.2	Please resume the main results of the design of the Pilot Lab		TBC – please see above.
			3.2.1 Design of new mobility services/ Definition of improvements to a mobility service already under operation / Service integration
			Access modalities:.....
			Service model: covered area, opening time, service scheme, routing, scheduling, pick up-drop off points, interchange points, etc.
			Fleet/vehicle description: ....
			Booking procedure:........
			Payment modalities:........
			Integration within mobility offer: ....
			Institutional/regulatory issues:..........
			Actors involved, role and responsibilities:......................................
			Other (please specify)........................
			3.2.2 Design of new customers services

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		Service specifications:……….
		Management procedure for the operation of the service:……………
		Data/resources required:………….
		Institutional/regulatory issues:……….
		Actors involved, role and responsibilities:………………………………
		Other (please specify)………………………
		3.2.3 Specifications of new internal processes
		Description of the processes:…………………
		Resources required/involved:…………………
		Supporting data/tools/material:………………
		Allocation of responsibilities……………………
		Other (please specify)………………………
		3.2.4 Definition of ITS specifications
		System Architecture: ……….
		Technical specifications: ……
		Functional specifications:……
		Operative specifications:……..
		3.2.5 Definition of new funding/business models/commercial agreements
		Target clients:……………
		Involved actors:……………

		Value proposition:..........
		Sustained costs:...............
		Funding/ Revenues: ....
		Commercial agreements with mobility operators:.........................
		Commercial agreements with other (no transport) organizations: ....
		Other (please specify)........................
3.3	Please describe the actions to be carried out in the future to complete the design of the Pilot Lab and the milestones	Same as above.

4. Implementation Plan of the Pilot Lab

4.1	Please fill in the following GANTT with the main actions occurring in the future months for the finalization of requirements analysis and design of the Pilot Lab. Please highlight the milestone to be achieved up to the end of the design phase. In case you have indicated that this phase is already completed in section 2, go to 4.2

	M13 Nov 18	M14 Dec 18	M15 Jan 19	M16 Feb 19	M17 Mar 19	M18 Apr 19
Preparation and planning of pilot labs				M1		
Discussions with car club operators ahead of pilot lab				M2		
Design of the e-bike hubs						M3
Specification for e-bike procurement						M4
....						
....						

Description of the Milestones

M1: the main characteristics of the e-bike hubs are defined following discussions with local stakeholders and match funding availability is known

M2: agreement on involvement of car clubs in the pilot lab area

M3: the main characteristics of the e-bike hubs (typology, costs, etc) are defined

M4: the procurement of e-bikes and associated equipment is ready to be launched

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	4.2	Please fill in the following GANTT with the main actions occurring in the demo months for the setup of demo actions included in the Pilot Lab, the implementation of the preparatory activities and the operation. Please highlight the milestone to be achieved up to the launch of Pilot Lab and during the operation of the demo.

	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34
Procurement of e-bikes							M1															
Tender evaluation and selection								M2														
Car Club operations									M3													
Pilot lab commencement										M4												

Description of the Milestones

M1: Procurement of e-bikes and associated equipment: invitation launched on PCS in month 19

M2: tenders are evaluated and chosen supplier selected

M3: final agreement with car club operators and involvement

M4: commencement of pilot labs

5. Local stakeholders and partnership (to be) involved during the Pilot Lab design, implementation and operation		
Name	Typology *(e.g. Transport/Mobility Operators, Local Authorities, Service Contracting Authority, Funding Agencies/Bodies, Citizen associations...)*	Role
Cairngorm National Park Authority	*Public body*	*Stakeholder*
The Highland Council	*Public body*	*Stakeholder*

Transport Scotland	*Public body*	*Stakeholder*
Stagecoach	*Public transport operator*	*Stakeholder*
ScotRail	*Public transport operator*	*Stakeholder*
Nestrans & Tactran	*Other RTPs*	*Stakeholder*
Moray CarShare	*Car Club*	*Stakeholder / potential role in pilot lab*
Enterprise	*Car Club*	*Stakeholder / potential role in pilot lab*
6. Contingency plan		
Please list the risk that you envisaged in the implementation/operation of the Pilot Lab	Please indicate the likelihood the risk indicated will occur	Please indicate mitigation measures that you have plan for the risk indicated
Limited marketing budget	High risk: The hubs are a new concept for the area, and a limited marketing budget could negatively impact on the uptake of the e-bikes and car club usage, and limit the potential for behaviour change in the area.	HITRANS have an Active Travel Officer and Strategic Projects Officer who will be responsible for ensuring the project scope is delivered and that the project performs to a high standard. Options for further funding will be explored such as Smarter Choices Smarter Places for marketing of the scheme.
Longevity of organisations involved e.g. car clubs	Low-medium risk: The car club involvement could be a risk as it is dependent on the longevity of the car clubs rather than a direct responsibility of HITRANS. However, it is deemed as a low-medium risk as the car clubs in mind are well established and support should be available if required.	Liaise with car clubs on a regular basis and take actions if needed throughout the pilot lab to prevent pull-out from car clubs, such as additional funding routes explored.

Climate	Medium risk: Unpredictability of the weather in Cairngorms National Park could impact on the success of the scheme.	In the procurement process, look at options such as weather resistant storage, types of e-bikes and their performance in different weather conditions.
Transport services	Low-medium risk: Risk of transport operators in the area changing services due to economic performance or cuts in subsidies.	Liaise with transport operators throughout the project, wider engagement with other transport modes such as community transport, and take steps to mitigate the impact on the pilot lab.