Cairngorms National Park Partnership Plan, SEA scoping

Baseline information

Topic 5 – Material assets

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Questions for consultation authorities

1. Is there anything missing from the Topic baseline?

2. Are there any errors in what is presented?

3. Are there any new initiatives, research projects, plans, programmes or strategies or other things that will be reporting / implemented over the next 12-18 months that are relevant to the Topic, which may need to be included as the SEA progresses?

Context

Material assets can include a wide range of apparently disparate interests. In this topic paper, consideration of the baseline has been given to energy, waste, geological materials used as a resource, transport and digital infrastructure.

Other interests that also contribute to material assets but offer wider environmental services, such as water and geodiversity, are considered separately under Topics 3 and 4.

Energy generation

In order to safeguard the special landscape qualities of the Park, the Park Authority has historically implemented restrictive policies on large scale renewable energy development in the Park. As a result, developments of energy generating infrastructure have been relatively minor in scale and number. Figure 1 shows the total kW of renewable energy generation development granted permission in the Park, according to data from planning permissions granted by Park Authority and the five Local Authorities included within the Park. (It should be noted that this may not reflect the amount actually generated, due to some permissions not being implemented and also variations in predicted and actual generation once built.)

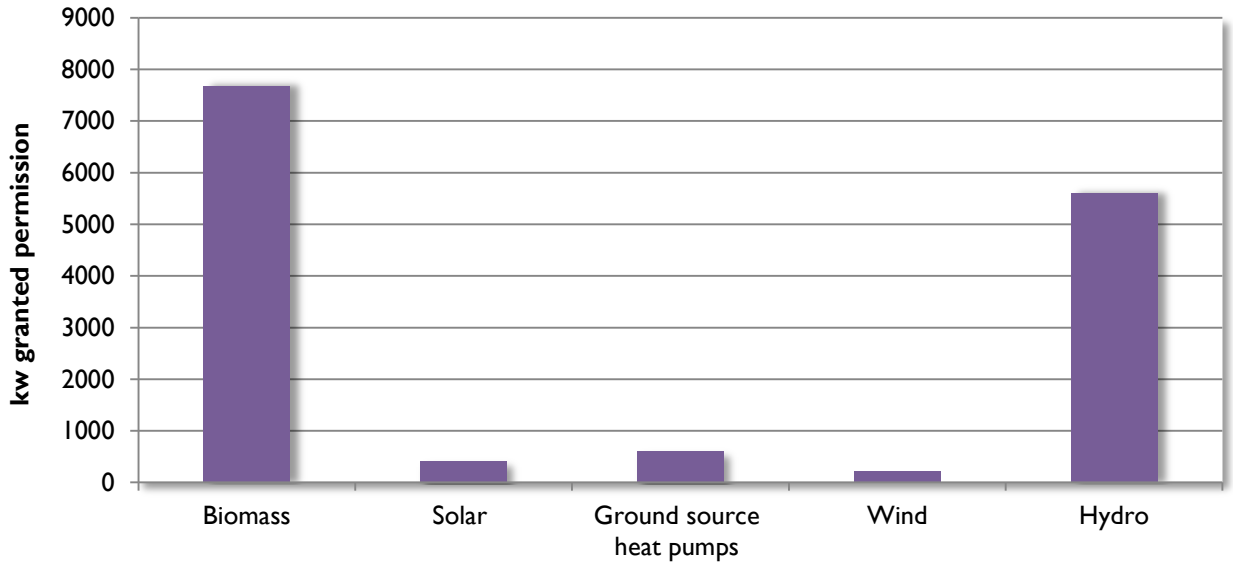

Figure 1 - kW of installed renewable energy generation granted planning permission in the Park since 2005

Installing certain renewable energy technologies, such as solar panels and biomass boilers, is within the permitted development rights of householders and businesses provided certain conditions are met. This means that no data is available on energy generation installed under permitted development rights as it is not recorded officially. Therefore, figure 1 does not offer a comprehensive indication of the amount of energy generated within the Park - the figures are likely to be higher.

Energy infrastructure changes

Scottish and Southern Electricity Networks (SSEN) are responsible for electricity transmission in the Park. There are no major new energy infrastructure projects in the Park, however there is a project to change energy infrastructure between Boat of Garten and Nethy Bridge.

The VISTA (Visual Impact of Scottish Transmission Assets) project in Scotland seeks to mitigate the visual impacts on energy infrastructure on National Parks and National Scenic Areas. In the Park, SSEN are removing 46 pylons and 12 km of overhead power lines between Boat of Garten and Nethy Bridge, relocating the cables underground.

Geological mineral resources

The British Geological Society identifies 4 active quarries operating in the Park (https://www.bgs.ac.uk/GeoIndex/), based on 2014 information. However additional quarries are known to operate or have consent in the Park. For example, Carn Dhomhnuill Bhain quarry near Dalwhinnie and Broomhill quarry near Dulnain Bridge were granted consent to recommence extraction activities in 2018. The quarries in the Park can extract a variety of mineral resources (table 1) mainly used for construction works.

Table 1 –available information for quarries in the Park

Quarry, location	Mineral resource extracted
Alvie, Easter Delfour (near Kincraig)	igneous and metamorphic rock
Alvie, Dalraddy (near Aviemore)	sand and gravel
Brickford quarry (Strathdon)	sand and gravel
Broomhill (near Dulnain Bridge)	unspecified
Carn Dhomhnuill Bhain (near Dalwhinnie)	unspecified aggregate
Granish (near Aviemore)	sand and gravel
Meadowside (near Kincraig)	igneous and metamorphic rock

Waste

Estimates of household waste and recycling between 2011 and 2018 were recorded by SEPA at Local Authority scale, available via https://www.environment.gov.scot/data/data-analysis/household-waste/.

Data at the scale of the Park was not recorded, however it is possible to estimate this using population data.

Mid-year population estimates have been used as a proxy for proportionally attributing the waste produced and recycled for the Local Authority areas within the Park to the Park itself. It is recognised that this is a blunt means of estimation. In the absence of data recorded at a Park scale however, figures 2 and 3 offer an alternative generalised baseline.

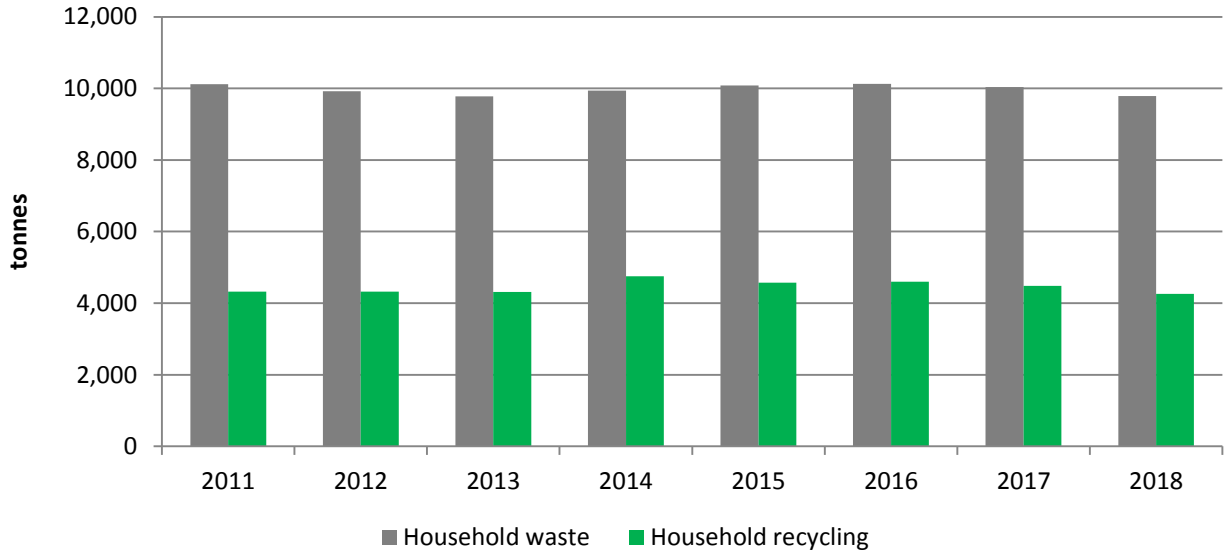

Figure 2 - estimated amount of household waste produced and recycled in the Park during 2011 - 2018

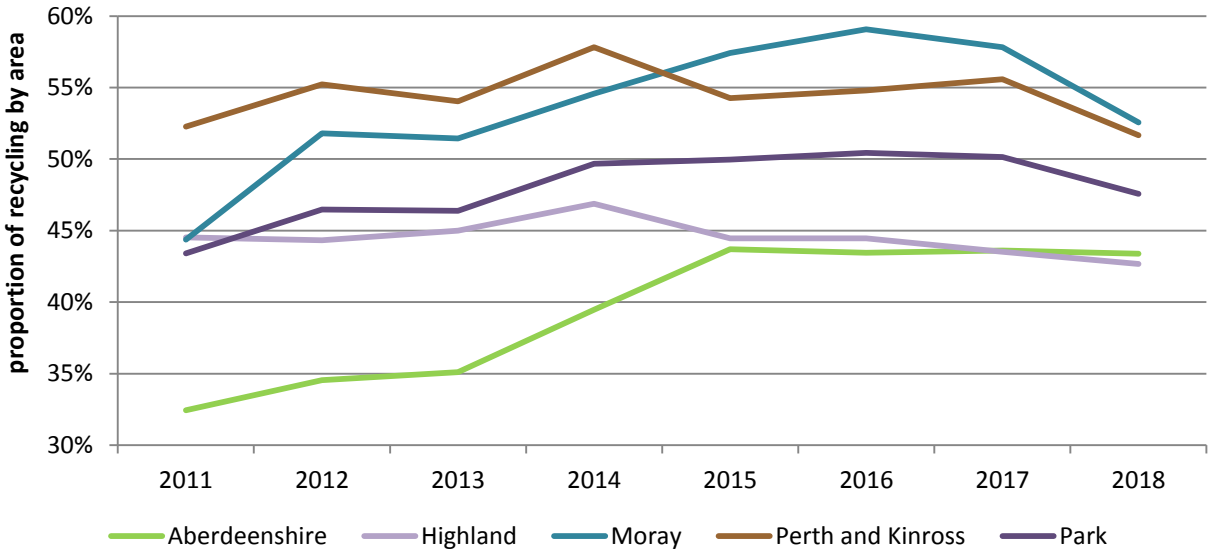

Figure 3 - estimated recycling rates by Local Authority area in the Park during 2011 to 2018, compared to the Park average

Household waste per person produced in the Park is higher than the Scottish average, which for 2018 was 440 kg per person (compared to Park average of 526kg). The recycling rate is slightly lower but comparable to the Scottish average, which in 2018 was 44.7% for Scotland compared to 43.6% in the Park.

Transport infrastructure

The Park benefits from relatively good major transport infrastructure links compared to many other rural areas in Scotland. A mainline railway between Perth and Inverness and four A Class roads (A9, A93, A95 and A86) connect the area with Highland, Moray, Aberdeenshire, Perth and Kinross and the west of Scotland (figure 4). Of the A roads, one is subject to a current improvement project. The A9 Dualling Strategy aims to link existing sections of dual carriageway to create a continuous dual carriageway between Inverness and Perth by 2025. It is partially underway, however all major transport projects are currently (2019) subject to consideration under the Strategic Transport Projects Review by Transport Scotland.

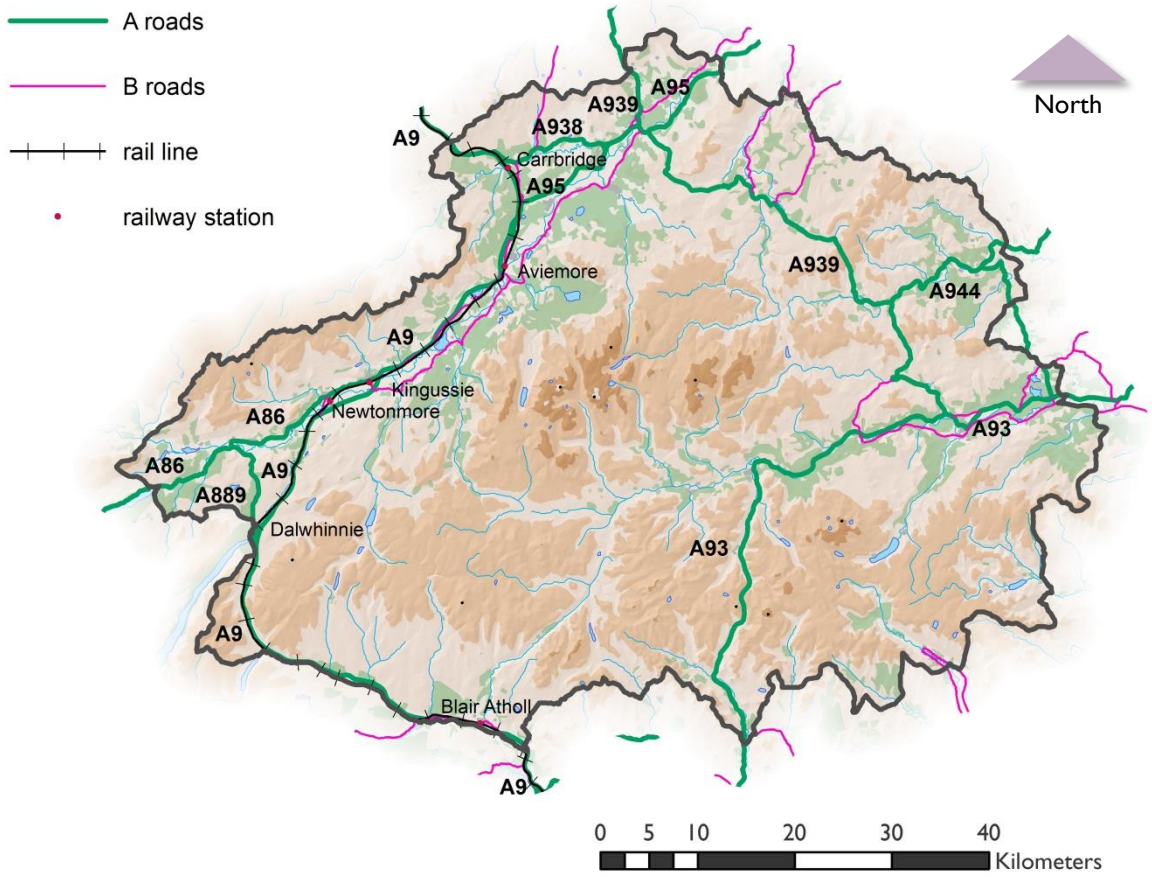

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Figure 4 - major road and rail links outwith/into the Park

The geography of the Park means that links between certain parts of the Park are relatively poor due to topography and climate affecting their travel times and passability in poor weather.

Networks of other A, B, C and unclassified roads provide access to other parts of the Park, although many are narrow and twisty, increasing journey times. The travel times have an effect on access to services for residents and visitors.

The Scottish Index of Multiple Deprivation (SIMD) gives an indication some of the accessibility issues faced by certain parts of the Park, with 11 of the 24 data zones used to define the Park falling within the most deprived 10% of the Index in terms of geographic access to services (figures 5 - 9). However such a situation is not unexpected for such a rural area, and none of the data zones in the Park rank highly in terms of overall deprivation.

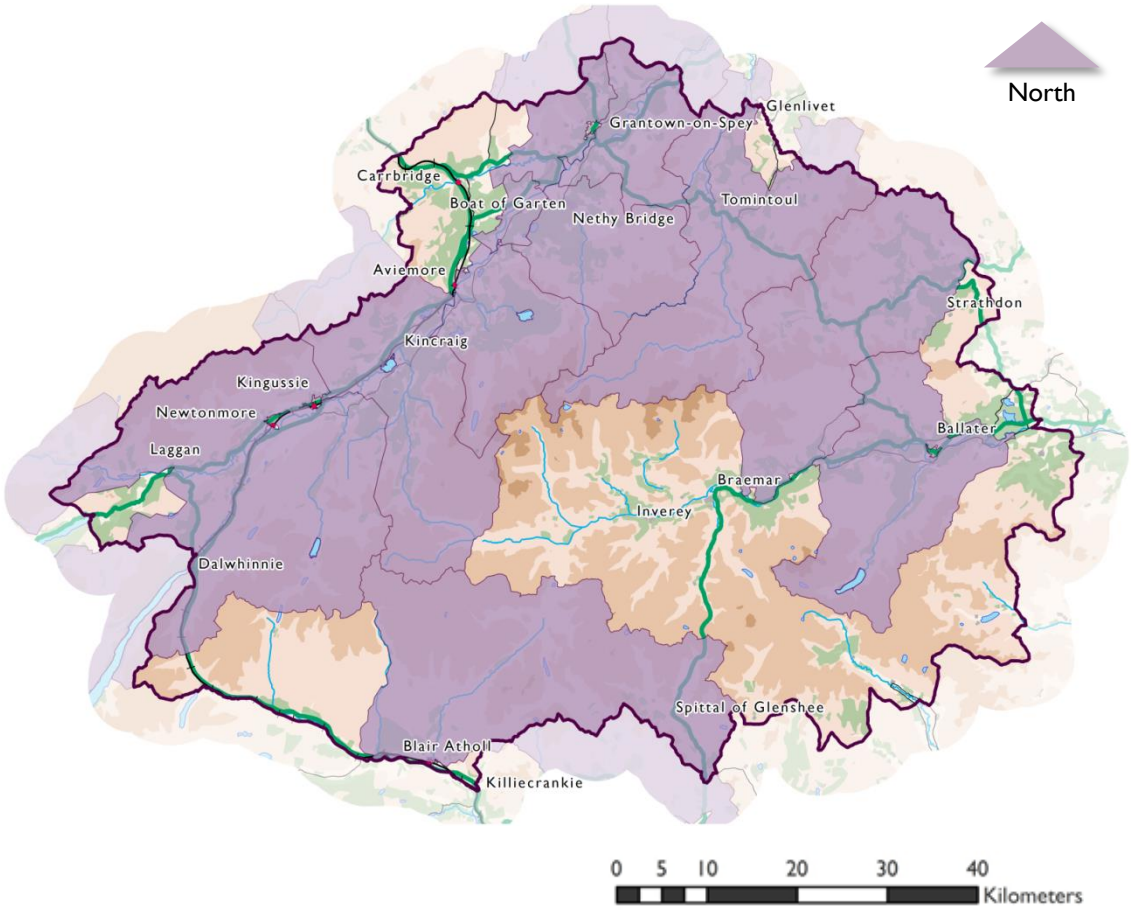

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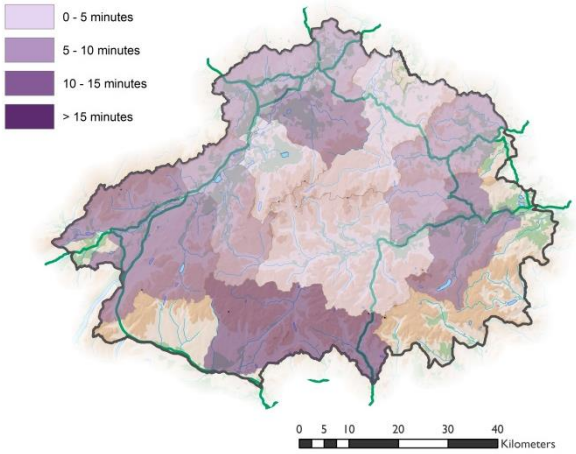
Figure 5 - SIMD 2016 data zones ranked within the 10% most deprived according to drive times to services



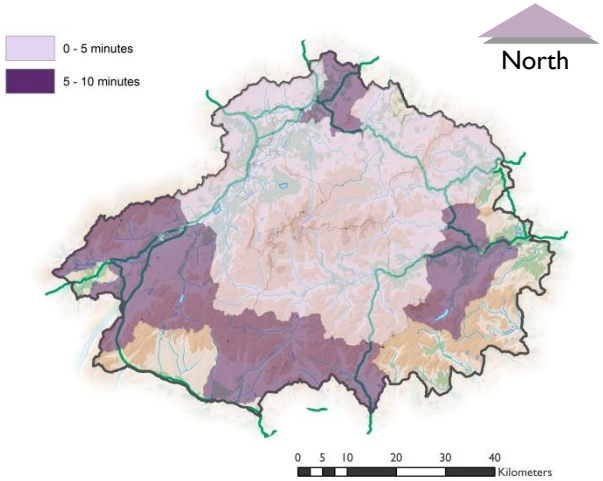


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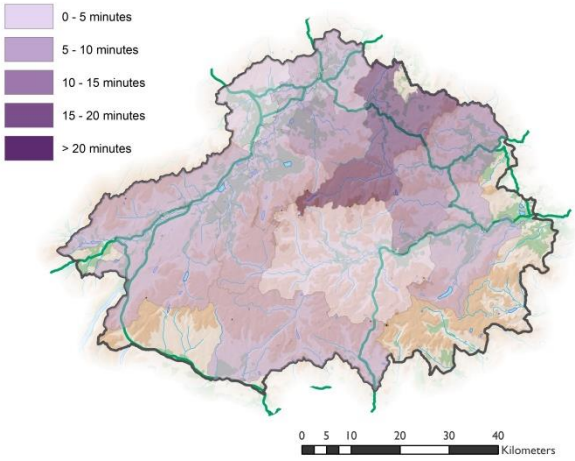
Figure 6 (left) - SIMD 2016 average drive time to GP surgery

Figure 7 (right) - SIMD 2016 average drive time to a post office



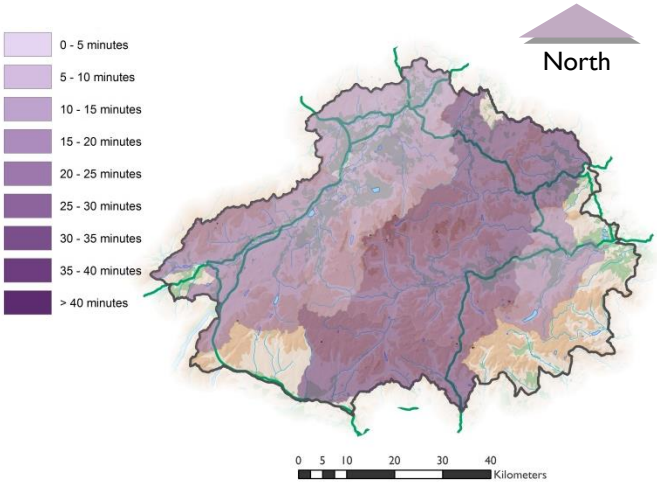


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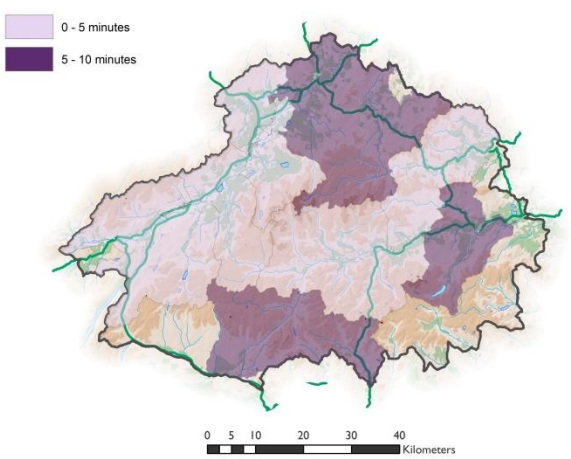
Figure 8 (left) - SIMD 2016 average drive time to petrol station

Figure 9 (right) - SIMD 2016 average drive time to a retail centre



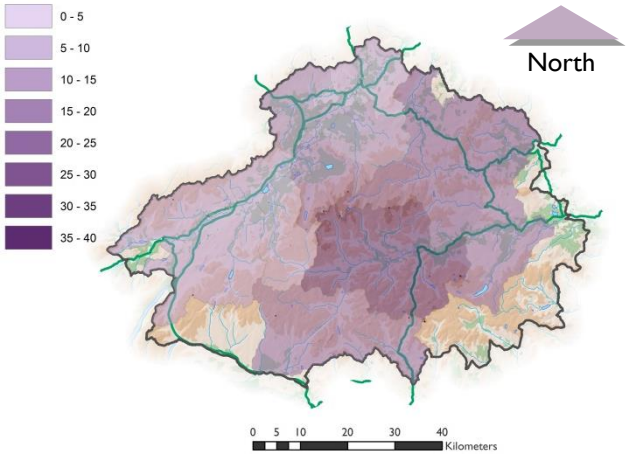


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Figure 10 (left) - SIMD 2016 average drive time to primary school

Figure 11 (right) - SIMD 2016 average drive time to secondary school

The drive times demonstrate the nature of the road infrastructure in the Park, with the population often having to travel for a long time to reach key services. The rural nature of the area is also demonstrated through the relatively high instances of car ownership. According to the 2011 Census around 85% of households had access to a car or van, which is higher than the Scottish level of around 70%. As a result, a high proportion of the population of the Park have a reliance on the road infrastructure of the area for access to services, as well as for work (Topic 8, Population and human health).

Rail

The Highland Main Railway Line runs between Inverness and Perth, through the Park with stations at Carr-Bridge, Aviemore, Kingussie, Newtonmore, Dalwhinnie and Blair Atholl. Much of the line is single track, so trains coming in opposite directions are often timed to arrive at stations at the same time, where crossing loops permit them to pass. When trains are delayed and miss the scheduled crossing point, this can cause significant delays for other trains that cannot proceed until the line is clear.

Using annual passenger usage at stations based on sales of tickets as an indicator of the overall use of the line, then there is an indication that use has increased significantly within the Park over the last 17 years (figure 12 and table 1).

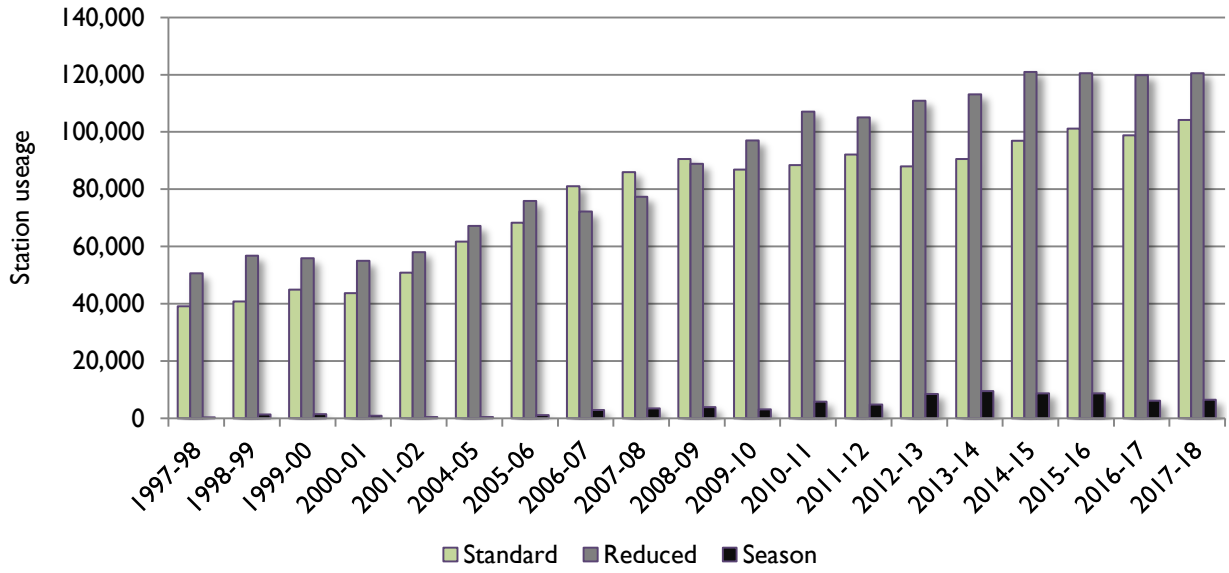

Figure 12 - Office of Rail and Road figures for total annual passenger usage (the sum of entrances and exits) by fare type at stations within the Park (no data available for 2002/03 or 2003/04, source www.orr.gov.uk/statistics/published-stats/station-usage-estimates)

Table 1 - Office of Road and Rail annual passenger usage at stations (the sum of entrances and exits) within the Park 1999 – 2018

	Number of passengers using the station						
Year	**Carr-Bridge**	**Aviemore**	**Kingussie**	**Newtonmore**	**Dalwhinnie**	**Blair Atholl**	**Total**
1999-2000	2,432	61,795	21,196	4,013	1,937	10,893	102,266
2000-2001	2,441	62,338	19,207	4,146	2,027	9,341	99,500
2001-2002	1,930	70,230	22,585	4,062	2,062	8,573	109,442
2003-2004	1,531	70,272	23,815	4,184	2,066	8,613	110,481
2004-2005	1,910	80,977	27,725	5,396	1,619	11,708	129,335
2005-2006	2,987	91,456	30,045	6,815	2,013	11,896	145,212
2006-2007	3,954	101,294	32,135	6,585	1,774	10,491	156,233
2007-2008	5,508	108,353	33,416	7,060	1,975	10,443	166,755
2008-2009	3,796	121,090	38,054	7,446	2,296	10,580	183,262
2009-2010	4,500	124,972	35,838	7,972	2,208	11,572	187,062
2010-2011	5,118	132,336	38,544	9,484	1,894	13,948	201,324
2011-2012	5,636	132,052	40,298	9,406	1,984	12,608	201,984
2012-2013	4,454	136,456	40,954	8,958	2,172	14,280	207,274

2013-2014	5,540	141,311	41,400	8,326	2,472	14,084	213,133
2014-2015	6,256	150,724	42,522	8,636	2,460	16,062	226,660
2015-2016	6,898	152,082	42,850	9,432	2,392	16,652	230,306
2016-2017	5,808	145,200	44,200	8,770	3,188	17,598	224,764
2017-2018	6,064	147,964	44,736	9,194	3,372	19,802	231,132

The data on fare types also gives an indication of the types of journey being made. For example, while, season ticket use remains extremely low relative to Scotland (4% in the Park compared to around 28%), the increase in their use between 1997 and 2016 (table 1), particularly at Aviemore station, may offer an insight into the impact of the significant population growth experienced by Aviemore over the past 15 years has had.

Digital infrastructure

Good digital connectivity is increasingly seen as a basic service that is required by residents, businesses, students, visitors and the public sector. It allows businesses to function more effectively and expand their reach, people to connect with each other as well as access services such as health care and education from remote areas.

There are currently 28 telephone exchanges that cover the Park, not all of which are located within the Park boundary. Combined, they service around 15,065 telephone connections (not all within the Park area) of which 13,682 are classed as residential and 1,176 as non-residential. All 28 exchanges are enabled to provide asymmetric digital subscriber line (ADSL) broadband, with all but two capable of providing connection speeds of up to 8 Mbps. (ASDL is a broadband connection provided over home telephone lines.) The two exchanges that are not equipped for these speeds are Clova and Advie, which only provide speeds of up to 512 Kbps (according to https://availability.samknows.com/broadband/broadband).

As part of the Scottish Government Digital Scotland Superfast Broadband programme, high-speed fibre broadband networks were implemented for 95% of Scottish premises by December 2017. Scottish Government figures for 2019/20 identify 10,352 premises within the Park as having access to fibre broadband, with around 87% of these having speeds of > 24Mbs – although it is unclear how many of these potential connections were as a result of the programme and how many already had access. Focus has subsequently switched to the Reaching 100% programme, which does include Moray and Highland, aiming to get to 100% of premises with broadband speeds of at least 30 Mbps by 2021. The tender for the north area (which includes the Park) has just been awarded, but the programme of works is unknown at present.

In addition to the Scottish Government programmes for improved accessibility to high speed broadband in Scotland is the Universal Service Obligation (USO - http://researchbriefings.files.parliament.uk/documents/CBP-8146/CBP-8146.pdf). The USO is a UK-wide measure intended as a minimum technical standard and financial cost to provide broadband to those premises that do not have access to a decent and affordable connection. This means premises that do not have access to a connection that can deliver 10 Mbps download speed and which costs less than £45 per month have a legal right to request a decent broadband connection up to a cost threshold of £3,400. Residents and businesses will be able to make requests under the USO from 20 March 2020.

In relation of mobile coverage, there are a number of 'not spots' within the Park for mobile reception. However the Scottish 4G Infill programme, which seeks to address up to 60 'not spots' in Scotland by 2022, does not include any areas within the Park.

The impending roll out of 5G should play an increasingly important role in improving digital access in more rural and remote areas, although it is unclear whether 5G will suffer from the same not spot issues as 4G. Different models are currently being assessed to reduce the deployment and operational costs of providing a 5G network in rural and remote areas, so the baseline at present is zero.

Proposed SEA objectives

SEA main objective	Sub-objective
5a: Encourage the sustainable use and reuse of material assets	Will there be an effect on sustainable use of natural resources (eg water, timber, aggregates)?
	Will there be an effect on the sustainable use and management of existing and proposed infrastructure (eg water, heat, energy or flood protection infrastructure)?
	Will there be an effect on the use of finite resources through the use of secondary and recycled materials?