

4.0 VISUAL BASELINE

The following section details the analysis that was carried out to establish the relative visibility and visual sensitivity of different parts of Aberdeenshire.

4.1 Visual Receptors

In a study of landscape capacity and cumulative landscape impacts, it is important to consider visibility, and the effects of cumulative impact on visual receptors. This not only feeds into the assessment of landscape sensitivity and capacity (see Section 2.2), but also builds up a picture of how visual receptors in and around Aberdeenshire would perceive wind turbines within the Aberdeenshire landscape.

The types of potentially sensitive visual receptors within Aberdeenshire are broadly categorised into three groups, represented by the locations:

- Settlements, representing concentrations of residential receptors;
- Routes, representing travelling receptors, and including the dual carriageway, Trunk Road, A roads, railways, and long-distance footpaths and cycleways;
- Viewpoints, representing visitors, selected from popular walking destinations, visitor attractions, and viewpoints identified on OS maps, including several viewpoints outside Aberdeenshire but within the study area. These viewpoints were selected with the agreement of the officers of Aberdeenshire Council.

The locations of the settlements, routes, and viewpoints are illustrated on Figure 4.1a. The assessment includes receptors in the visibility study buffer area of 15km beyond the Aberdeenshire boundary in Figure 4.1b (see 4.2 below).

Individual residential properties are not included in the visibility mapping although notice is taken of the frequency and distribution of dwellings in the analysis of each landscape character type.

Whilst there are working receptors in Aberdeenshire, these have not been included, as it is common practice in Landscape and Visual Impact Assessment (LVIA) that people at work are considered to be low sensitivity visual receptors

4.2 Visibility Analysis

An assessment of visibility was made from the settlements, routes and viewpoints illustrated in Figure 4.1a (Aberdeenshire) and in Figure 4.1b (the wider study area). This was carried out using a computer based technique in which the intervisibility between receptors and landforms, or objects of specific heights on the landforms, is determined. The more intervisibility, the greater the visual sensitivity is likely to be. The method is described in more detail in **Appendix 2**.

The extent of the visibility assessment was limited to a 15km radius from the receptors. In our experience, this is the distance within which the great majority of significant impacts from wind farms or large turbines are likely to occur. Whilst it is recognised that impacts occur beyond this distance, up to 35km and beyond, as recognised by EIA best practice,

this is not an EIA assessment and the results are considered to adequately distinguish between locations of potentially greater or lesser sensitivity.

Results of the visibility analysis are illustrated in Figures 4.2a-f to 4.4a-f (also in Appendix 4). The colours show the differences in visual sensitivity across Aberdeenshire. Red colours indicate areas that are most visible from the greatest numbers of receptors, grading through orange, yellow and green to blue areas that are seen by fewest receptors and uncoloured areas that would not be seen at all.

4.2.1 Settlements

Figures 4.2 a-f show that the areas most seen from settlements within 15km are located in the central lowland areas of Aberdeenshire; in particular around where the largest populations lies, in Aberdeen itself.

Most notably visible are large parts of the *Kincardine Plateau* and a strip of the *Central Wooded Estates* south of Aberdeen, and coastal areas and *Formartine Lowlands* to the north overlooking the city. Immediately to the west of Aberdeen the higher ground in the *Central Wooded Estates* around Skene is also visible. Further west the local hills of the Bennachie range (Mither Tap and Cairn William) and Hill of Fare (Miekle Tap), both *Grampian Outliers*, are also visible.

To the north in Buchan, the areas of higher ground in *Eastern Coastal Farmland* are visible from the settlement of Peterhead in particular around St Fergus Moss, Rora Moss (circa 55m) and Moss of Cruden (approx 130m) although these are quite low features. Mormond Hill is also picked up as being visible.

The large coastal settlements of Stonehaven and Fraserburgh have little influence on visibility as they are both sited in concave landforms which face predominantly towards the sea.

Inverurie and the hills around it and in the south the southern slopes of Cairn O'Mount (the Highland Boundary Fault) and Hill of Garvock are also particularly visible by comparison with most other areas. Other hill features that are visible from settlements are the hills around Core Hill including Hill of Easterton which lie to the north-west of Oldmeldrum.

Within the lowland areas the areas less visible from settlements include lower ground in the low hills south of Stonehaven in the *Garvock and Glenbervie*, in the *Northern Rolling Lowlands* south of Huntly, The *Agricultural Heartland* east of the Deveron valley, the western edge of the *Insch Basin*, the *Howe of Alford* and the *Howe of Cromar*

The areas with least visibility of settlements lie to the west of Aberdeenshire, in the *Farmed Moorland Edge* areas such as the *Lumsden Valley* and *Cromar Uplands*. Lower ground *Straths and River Valleys* in particular *Donside* and the south of *Deeside* are also of low visibility. Of lowest visibility is the high *Moorland Plateaux* of the northern *Mounth* and *North Eastern Hill Ranges*.

These areas would not be visible from settlements within a distance of 15km, reflecting the low population within these areas.

4.2.2 Routes

The pattern of visibility from transport and other routes (Figures 4.3 a-f) shows similarities to the pattern for settlements, but is less skewed towards Aberdeen with a moderate level of visibility across the east of the study area. Whilst areas close to Aberdeen are still the most visible for higher objects in particular, other areas showing relatively higher visibility include: Howe of Mearns and Hill of Garvock which have the A90 passing by, the A96 corridor as far as Inverbervie and the *Formartine Lowlands* and *Eastern Coastal Agricultural Plain* west of the A90 and A952.

Again the local hills of the Bennachie range (Mither Tap and Cairn William), Hill of Fare and Miekle Tap are visible. The higher ground surrounding the A96 and A93 corridors at Hill of Foudland and Deeside are also particularly visible.

The less visible areas within the lowlands are similar to those for the settlements. Notably the west of Aberdeenshire continues to show low visibility.

Again the *Moorland* areas and in particular the *Grampian Outliers* and *Mounth* are the least visible due to the low density of routes within 15km, however the south and east facing slopes are slightly more visible.

4.2.3 Viewpoints

The viewpoints tell a different story (Figures 4.4 a-f). This is because they relate less to centres of population and more to available views.

On the basis of the viewpoints selected, by far the most visually sensitive area is in *Howe of Mearns* and Hill of Garvock. In the north hills to the west of the *Deveron and Upper Ythan Valley*, south of *Sandstone Ridges and Valleys South of the Troup*, and hills north of Cuminstown in the *Agricultural Heartland* are visible. The Hill of Foudland and eastern edge of the *Insch Basin* are also more visible than their surroundings. The heightened sensitivity of these areas reflects the significant number of hilltop viewpoints.

Areas around Aberdeen have relatively low visibility from viewpoints.

The areas least visible from viewpoints lie in the *Moorland* areas, both *Moorland Plateaux* and *Farmed Moorland Edge* together with *Straths and River Valleys* such as *Donside*. The area south of Stonehaven in *Garvock and Glenbervie* is also of low visibility.

4.2.4 Analysis of Visibility

The visibility analysis confirms some empirical observations of visual sensitivity across Aberdeenshire, ie that it is the areas of higher topography and close to population areas that have the highest visual sensitivity. However it gives a more refined and nuanced assessment, determining which geographical areas are the most and least visually sensitive.

Areas of higher visibility may have a bearing on their capacity for wind turbine development although the relationship may not be simple: high visibility could mean high visual sensitivity but may also indicate exposed large-scale locations suitable for turbines. Based

on the computer assessment and on observation, the following areas are of higher sensitivity:

- The south *Formartine Lowlands, Kincardine Plateau*, both lie to the north and south of Aberdeen. Also hills in the east of the *Central Wooded Estates* around Skene and Inverbervie due to proximity to a high population and transport routes;
- The south facing escarpment of the *Mounth* and Garvock Hill due to higher elevation and proximity to a high population and transport routes;
- Higher ground in the Eastern Coastal Agricultural Plain, such as Mormond Hill, St Fergus Moss and Moss of Cruden, which have higher visibility from transport routes and settlements;
- The high points of the more eastern Grampian Outliers such as the Bennachie, massive, Hill of Fare, Miekle Tap and Hill of Foudland which are visible from surrounding settlements and transport routes;
- Core Hill including Hill of Easterton which lie to the north-west of Oldmeldrum in *Upland Ridges South of the Deveron* and are visible from settlements, transport routes and viewpoints;
- Higher ground and hills west of the *Deveron and Upper Ythan Valley* are visible from settlements, transport routes and viewpoints;

The least visible areas may have capacity to conceal turbines or site them away from most receptors. However their lack of visibility may indicate landscape character sensitivities such as smaller scale and greater levels of settlement, or alternatively remoteness:

- The area south of Stonehaven in the area *Garvock and Glenbervie* where the main transport routes including the A90 and the nearby large settlement of Stonehaven are on lower ground;
- The *Agricultural Heartland* east of the Deveron valley;
- The western edge of the *Insch Basin*, the *Howe of Alford* and the *Howe of Cromar* are all screened by surrounding higher ground;
- Many of the areas west of Aberdeenshire, in the *Farmed Moorland Edge* areas such as the *Lumsden Valley* and *Cromar Uplands*. Lower ground *Straths and River Valleys* in particular *Donside* and the south of *Deeside* are also of low visibility. Of lowest visibility is the high *Moorland Plateaux* of northern *Mounth* and *North Eastern Hill Ranges*. This is due to distance from population centres and transport routes. However they form a backdrop to much of lowland Aberdeenshire and are in the foreground of views from the National Park.














The findings of the visibility assessment are incorporated in the analysis and assessment. Nevertheless, as discussed above, they require careful interpretation in relation to sensitivity of receptors, landscape character and the importance of some more distant views.

Strategic Landscape Capacity Assessment for Wind Energy in Aberdeenshire

March 2014

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Legend

-  Study Area
-  Study Area 30km Buffer
-  Scottish Local Authority Boundaries
-  Settlements
-  Viewpoints
-  Additional Viewpoints
-  Cycle Routes
-  Long Distance Footpaths
- Road Classifications**
-  Primary Road
-  A Road
-  B Road
-  Railway
-  Western Peripheral Route

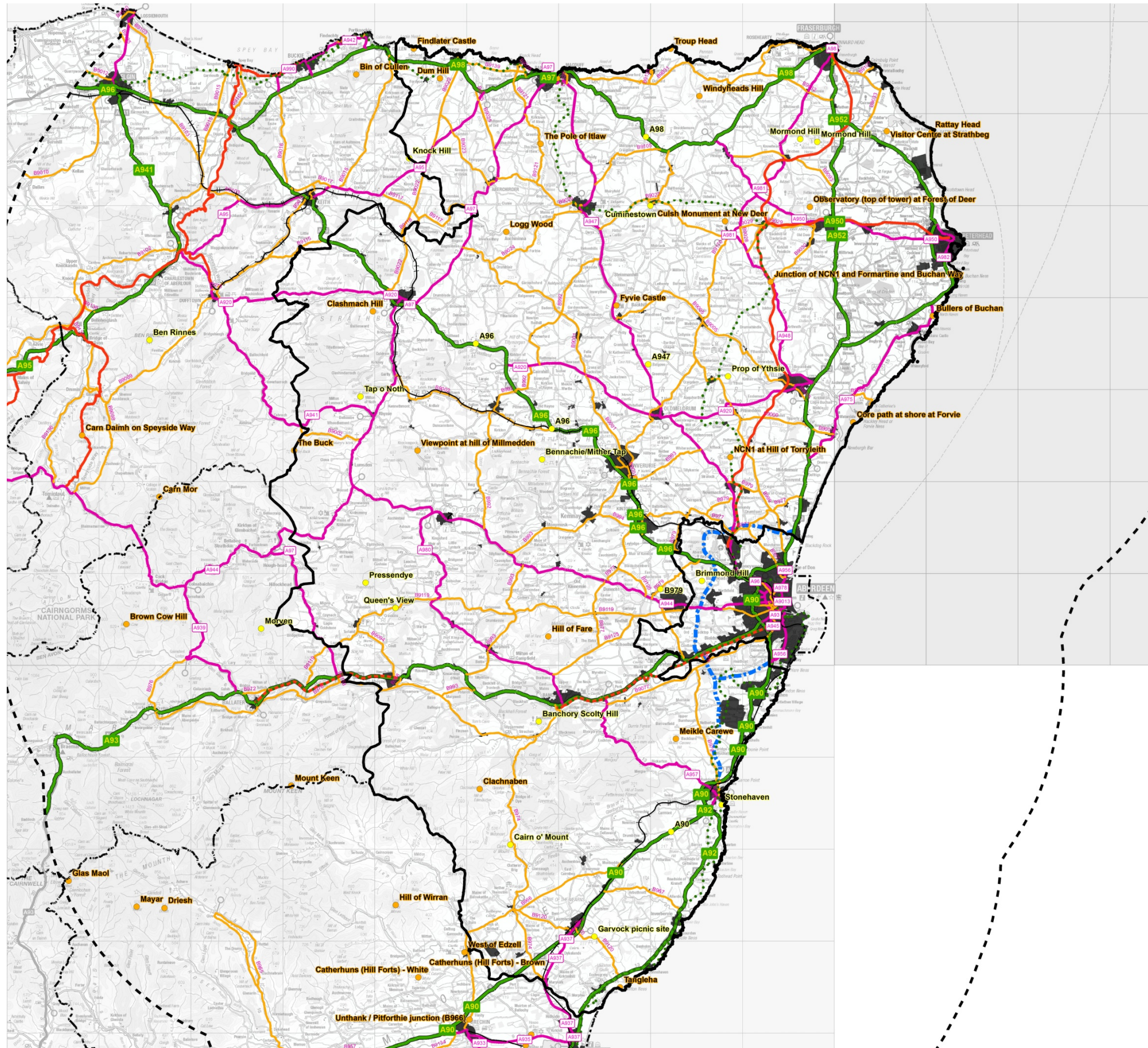


Figure 4.1a
Transport Routes,
Settlements & Viewpoints
in Aberdeenshire



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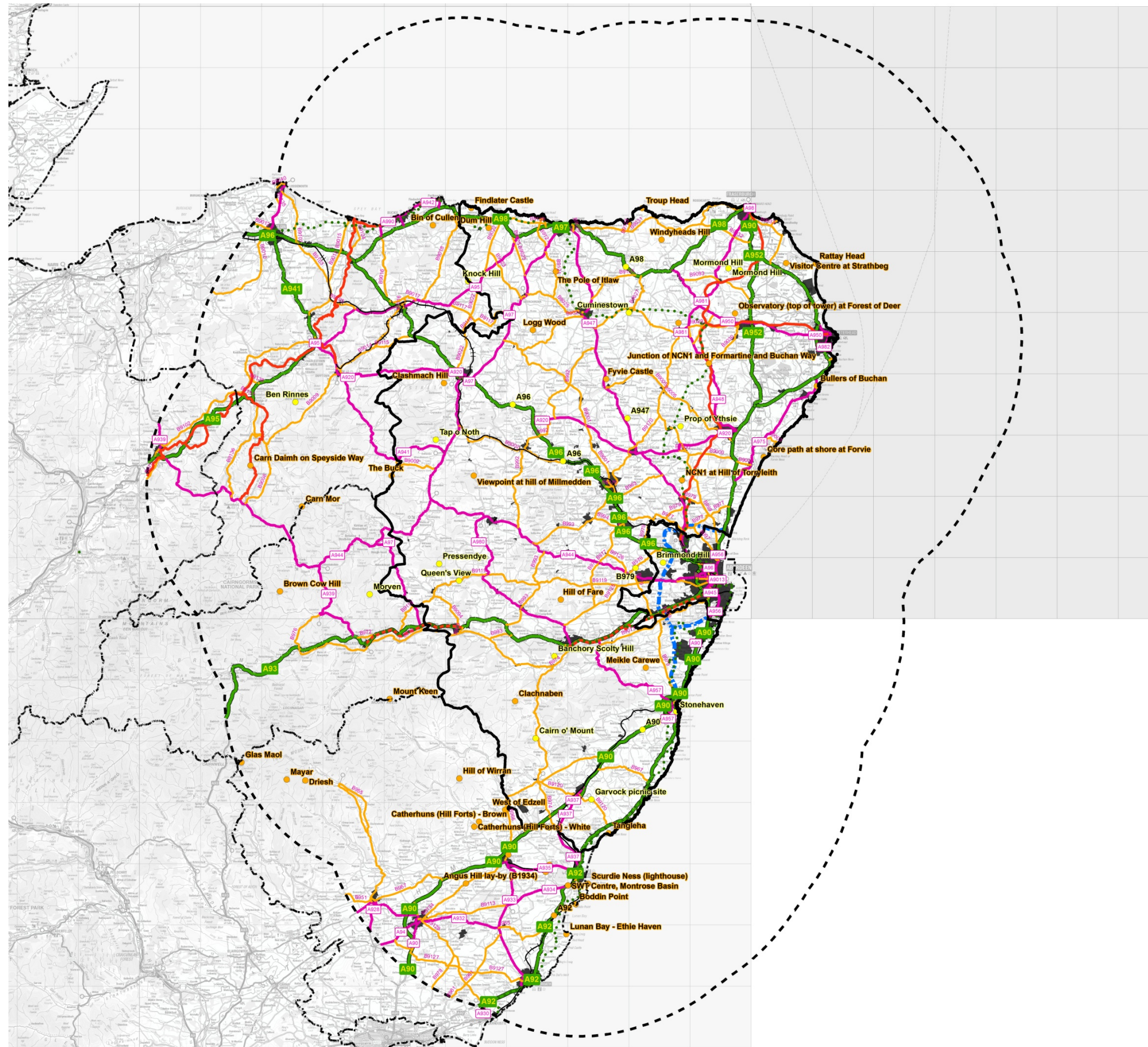
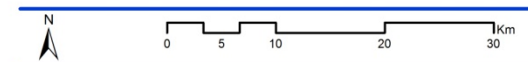


Figure 4.1b
 Transport Routes,
 Settlements & Viewpoints
 in Study Area



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