Tourist distribution in time and space: A case from the Icelandic Highlands

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Introduction

Of the foreign tourists in Iceland 82% come to enjoy nature, 40% of them visits the Highlands and 70% of all overnights in the Highlands are in the South. The southern Highlands are therefore extremely important for Icelandic tourism. They contain Landmannalaugar the most important Highland destination, and Laugavegurinn, the most popular long hiking trail in Iceland. Until now no reliable data has existed about the number of visitors or their distribution in time and space which makes it difficult to maintain the area and plan its future use in a sustainable way. Lack of visitor use data can also lead to tourism being undervalued in public policy.

The data available about the number of guests has been overnight statistics collected by Statistics Iceland and results from questionnaires where guests at exit points in Iceland are asked where they have been. The overnight statics are for privacy law reasons only available for large areas. The results from the questionnaires are unreliable in that they rely on the memory of guests and their knowledge of place names (Wolf, Hagenloh og Croft, 2012). In this project vehicles are counted by mechanized counters that record traffic on an hourly basis on all access and internal roads in the area. From the number of vehicles the number of visitors is estimated by hand-counting the number of visitors per vehicle at selected destinations. The work and results described here are a part of a larger project that aims at defining how the tourism sector wishes to use the Highlands in a sustainable way.

The study area

The Fjallabak area consists of two travelling regions, Fjallabak North and Fjallabak South. They are separated by a mountain ridge with extensive geothermal areas, that is a popular hiking area, and the glacier Torfajökull. Access to the North is through three routes and to the South by five routes. These are gravel tracks with unbridged rivers only useable by four wheel drive vehicles. Except for a track that is only open for special 4x4 vehicles, there are no roads connecting the two areas so the areas can be treated as separate tourism regions. The North is heavily visited and contains the very popular destination Landmannalaugar and the huge volcanic fissure Eldgjá. Results from questionnaires show that some tourists consider there are too many other tourists in the area and that the present target group is being replaced by more service oriented guests. The south part is much less visited.

Method

The Highlands are only open to mechanized traffic from late June until late September and there are a number of access roads. Counting the visitors and mapping their distribution is difficult during the short season and requires methods that are reasonably cheap and easy to apply. In 2011 counters were set up on twelve access and internal roads in the Fjallabak area and motorized traffic was recorded on an hourly basis. A researcher spent a week at one of the tourist destinations where the number of visitors per vehicle was counted, as well as the proportion of buses versus private cars. That gave the average number of persons per vehicle (6,24) and from that and the number of vehicles counted by the counters, the number of visitors was calculated.

Counting cars and people with mechanized counters has been widely used for example in the USA and the US Forest Service has published detailed instructions on how these should be performed (Yuan, Maiorano, Yuan, Kocis og Hoshide, 1995). The method is cheaper and easier to use than counting individual tourists and with calibration gives reasonable estimate of the number of visitors to an area and a good indication of changes with time. The method has not been much used in Iceland. The author has used it to determine the number of visitors to the Laki area in 2007 (Sæþórsdóttir, Ólafsdóttir og Ólafsson, 2009) and in the Kjölur area in 2009 and since June 2010 in Vatnajökull National Park in Skaftafell.

The counters used are produced by the Canadian company TRAFx Research Ltd. They come in a 10x15x5cm water resistant plastic box and use a tiny magnetometer for detecting vehicles. They are very easy to use as they can be placed in the roadside where they will detect vehicles 6 m away. No road cuts, special tools or calibration is required. Data is collected as hourly totals which gives f.ex. the options of finding the average traffic per hour over 24 hours, but daily counts and and total counts over the season are mainly used.

Results

From the number of vehicles (Figure 1) the number of visitors travelling through the main routes during the summer of 2011, as well as the total number of visitors to the area and its main destinations was calculated. The results show that about 150,000 visitors came to the Fjallabak area in 2011. From questionnaires it can be seen that the ratio of foreign versus local tourist varies somewhat between destinations but foreigners are about 85% at the most visited destination Landmannalaugar (Sæþórsdóttir, 2010). This means that more than half of all foreign visitors to Iceland during the summer season visit the area.

Almost everyone that travels through the area visits Landmannalaugar, over 120,000 visitors in 2011. The traffic falls sharply already in the middle of August while road and weather conditions are still good, indicating that the season could be extended. The North is much more visited, about 120,000 visitors came there during the summer

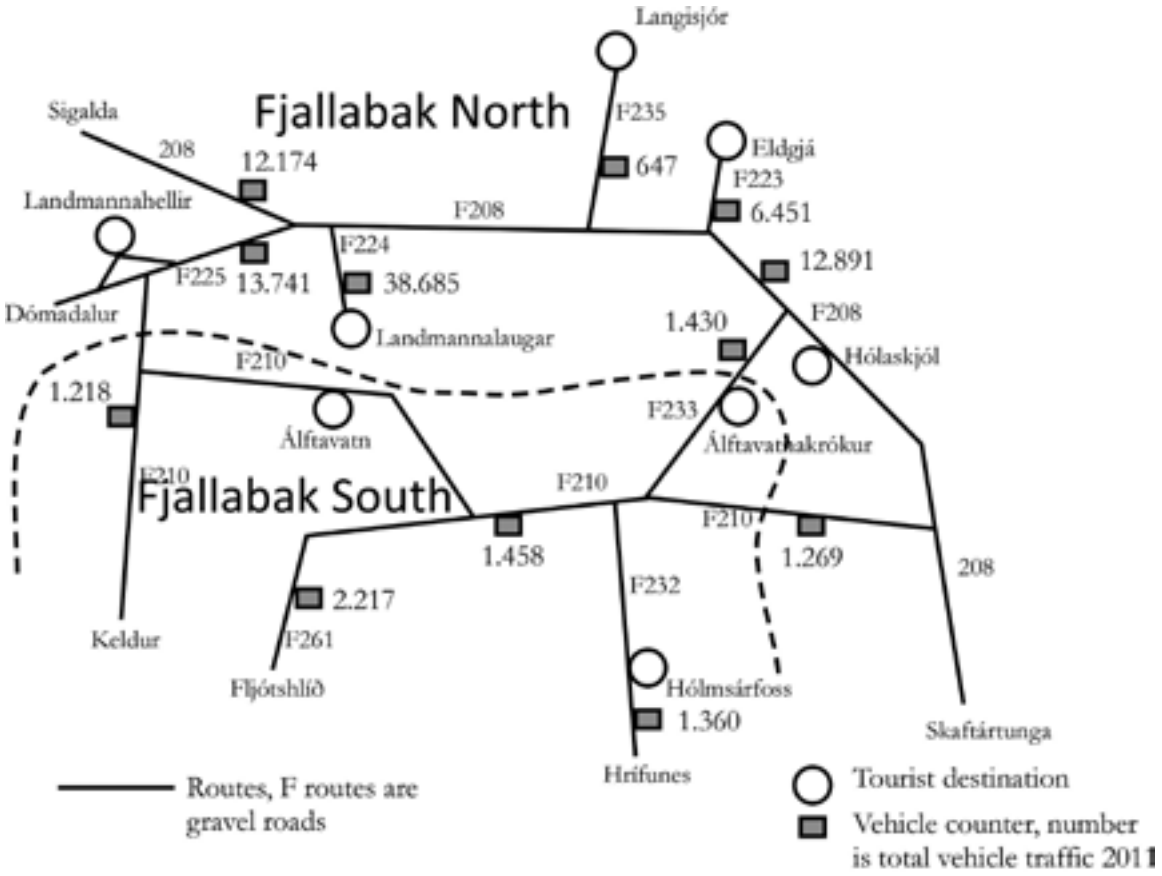

Figure 1. Routes in the Fjallabak area and position of counters with total number of vehicles 2011.

2011, but only about 25,000 visited the South, indicating that with better infrastructure the South could take some of the load off the North. Comparison with data from the The Icelandic Road Administration from 1995 and 2007 shows that traffic on the main access road to the North doubled from 1995 to 2007 and doubled again from 2007 to 2011which gives an indication of the steep growth in tourist traffic in the Fjallabak region. In the South the increase in traffic from 1995 to 2011 is only about 50%.

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