1. Estimate of total number of users of the SDW per month and per year for 2022 and 2023.

*Unique Device ID by month and year.*

*Assumptions on how you clean your data.*

*You can one person wearing three devicees.*

*IMEI model number and serial number. International Mobile Equipment Identity. Can use this to identifiy which are smart phones, which are*

*MAC address*

*Are they just getting readings from smart phones or is it other devices. How to identify unique device.*

1. Estimate of the number of repeat visitors to give a total yearly number of visits and total number of unique visitors

*An ID that only appears on one day in a whole year. Could have 3 or 15 pings, but as long as all those pings are on one day and no other day in a year, then that is a single visit.*

*Repeat visitor then defined as Unique Device ID + Date that appears more than once in the dataset on a non-concurrent date.*

1. Busiest section of the SDW per month, based on the 12 locations in the ‘scope’

*Heirarcy of Unique ID + Date cut by the 12 locations and month*

1. Estimated number of long-distance users (defined as those that complete more than half the SDW within a year) per year

*Unique Device ID must appear within 6 or more of the 12 POI’s during a year.*

1. An analysis of the distance users travel to visit the SDW, to include the number of day visitors versus number that stay away from home overnight

Unique Home ID.

Does this involve calculating the distance from the home location to the first of the 12 locations that and ID appears in? Yes. Can use the Haversine formula in Python to do this.

1. List of visitors ‘home’ locations.

*Unique Device ID and home location linked to dataset here:*

*https://open-geography-portalx-ons.hub.arcgis.com/datasets/ons::postcode-to-2021-census-output-area-to-lower-layer-super-output-area-to-middle-layer-super-output-area-to-local-authority-district-november-2023-lookup-in-the-uk/about*

Can use Python to link a device to an LSOA (Lower Super Output area). These then have census details attached to them, e.g. education, income, average age, household size etc

1. List of the top 10 ‘gateway’ towns or villages from where visitors start their trip to the SDW.

*Count of Top 10 ‘home’ town locations by name using Unique ID*

1. Total estimate for the number of people that complete the whole SDW in one continuous trip versus the total estimate that complete the whole SDW in multiple separate trips.

=IF Unique Device ID in POI’s 1234 on day 1 AND 567 Day 2, 89, Day 3, 10,11,12 day 4 = Then Whole SDW in One Trip

= if Unique Device ID in POI’s 1234 on day 1, then on a non concurrent day, 5,6,7,8,9,10,11,12 Then whole SDW in multiple separate trips

Remove duplicates from each of the 12 sections

Then calculate if it’s concurrent duplicates across the sites on consecutive days

1. An estimate of the total % of visitors on mountain bikes or E-bikes.

*Any velocity data? Need to ask if they can supply this, if not, estimates of distance.*

*Speed = distance/time*

*Would need to calculate the distance/time Devices move between POI’s then find average walking vs cycling,*

1. An analysis of visitors socio-economic category based on their ‘home’ location.

*Link post code of home location with census data and/or indices of deprivation*