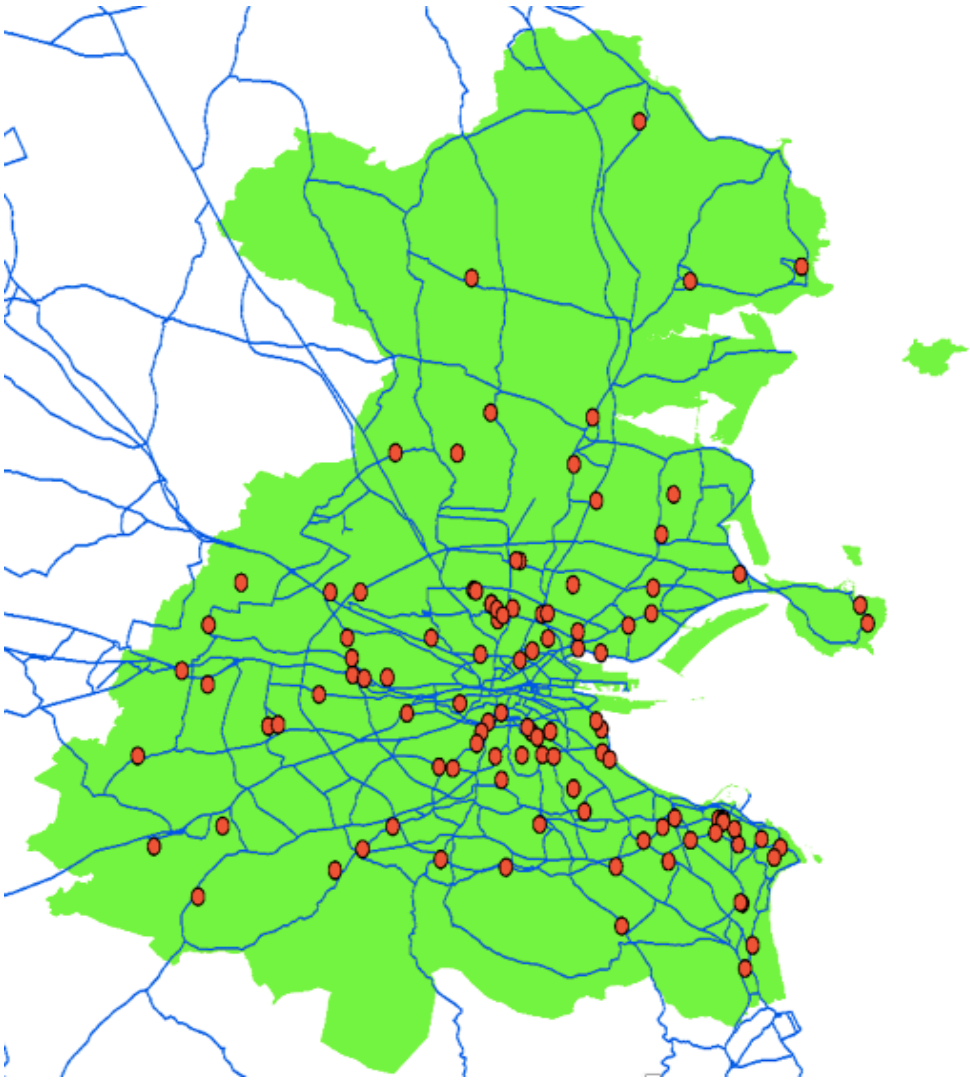
Dipa Rai: 17204741

Projects in GIS: Geoprocessing:

In this geoprocessing exercise, I used two different point-level datasets. Figure 1, attributes contain locations of nursing homes in Ireland (selected only Dublin). Figure 2 contains airports in Ireland and Figure 3 is selected only Dublin airport. The logistics of these selections will be described below.

Figure 1: Area Selection

Locations of Nursing homes in Co. Dublin



This map displays where the nursing homes are located in Dublin. It also shows the patterns according to the numbers of these homes. The map is a combination of three different layers. The points in red are the locations of all the nursing homes in Co. Dublin, which is a point-level dataset. The green area is Co. Dublin, which is extracted from county boundaries. The Blue lines are roa networks. A list of nursing homes and addresses with X and Y coordinate systems across Ireland was accessed from the

open data portal Ireland. The map in figure 1, is a selected area (only Co. Dublin) from the county boundaries. The map shows that there are significant numbers of nursing homes concentrated in the inner-city Dublin and dispersed in the outer-city. In the far north, there are very few care centers, the fact that where Dublin airport is located. Most nursing homes are located very close to roads. It shows the leaner relationship between the roads network and the care centers.

Figure 2: Locations of Large and Medium Airports in Rep. Ireland (point-level data)

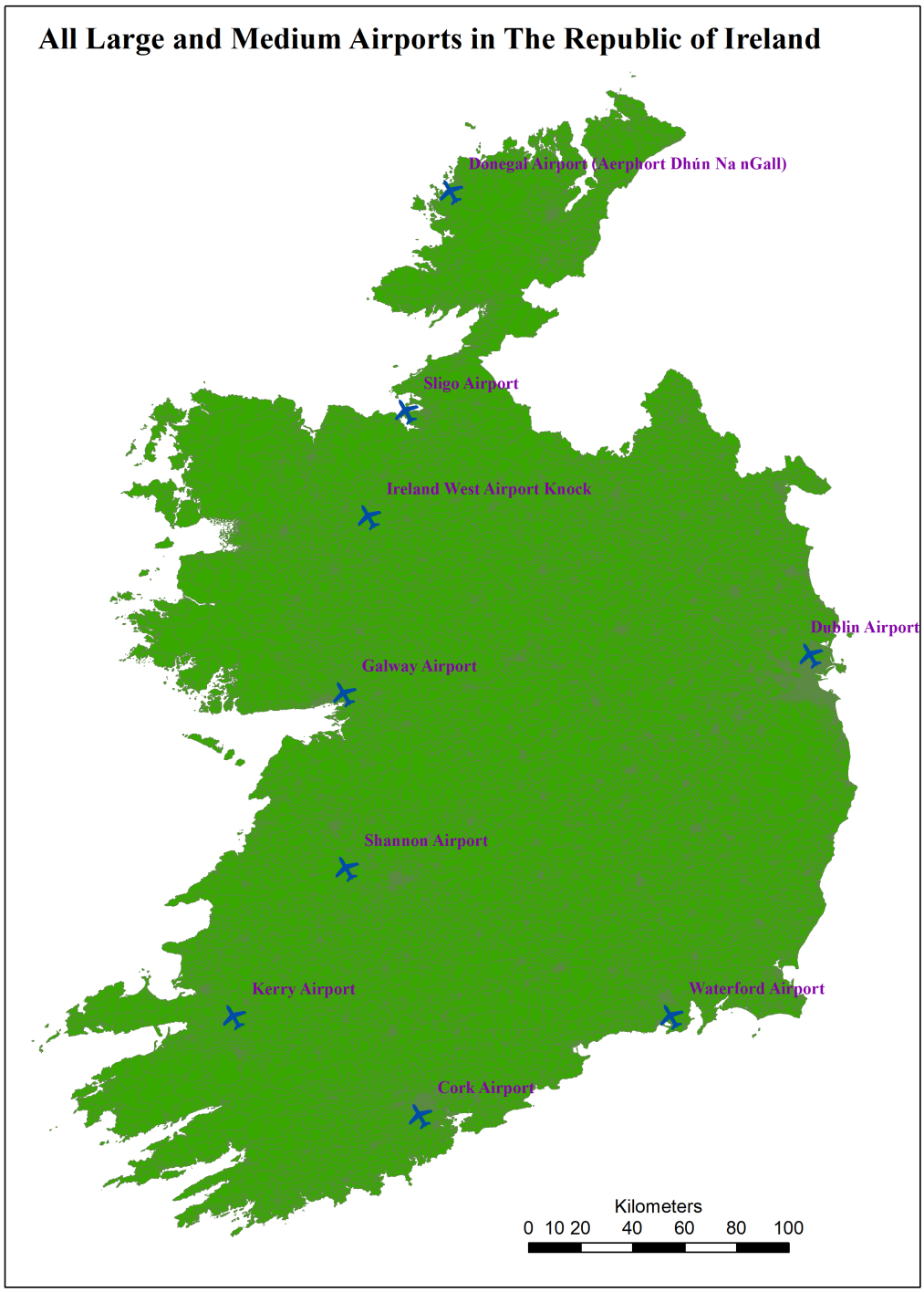


Figure 3: Buffer and Clipping Selecting feature; Dublin Airport:

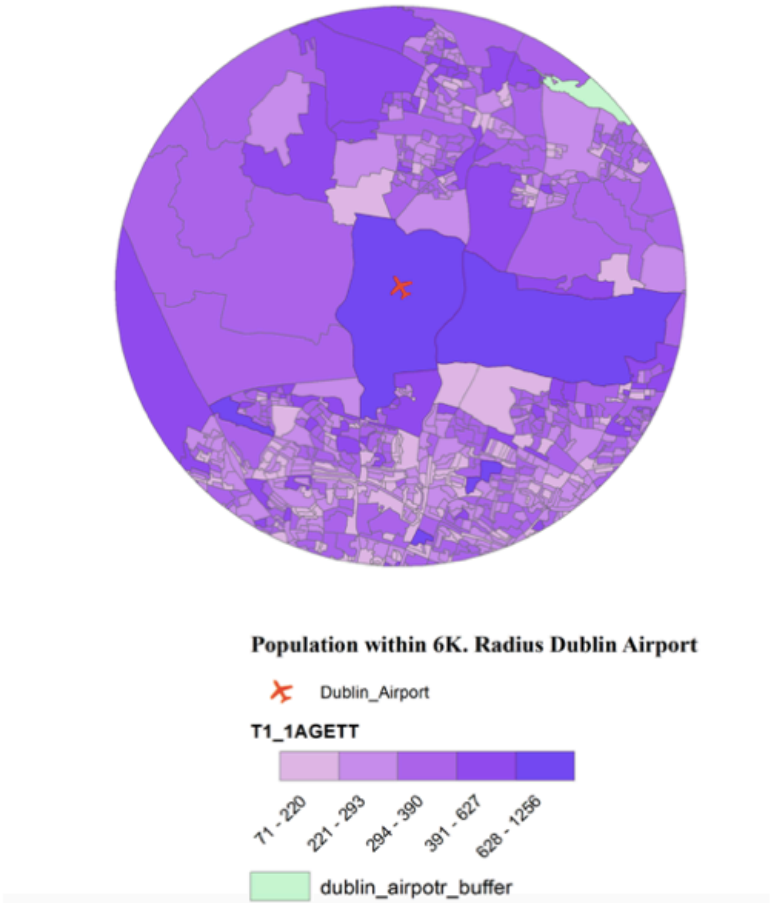


Figure 3, contains Dublin airport as a feature, Ireland's small area boundaries, and total population by the small areas. The buffer zone covers 6km. radius from the point of Dublin airport. The coordinate system of all large and medium airports in Ireland was first calculated in Google Earth and imported as a kml data file shown in the figure 2. Here only Dublin airport is selected as a point feature. The idea of selecting Dublin airport as a feature is that assuming noise and air pollution from the airport could impact people's health and day-to-day lives who live near. The graduated colors show the different sizes of the population in five categories, residing in the given areas. The lowest category holds 71 to 220 people in an area and the highest 628 to 1256 according to the natural break classification equation. It shows that the population densities are higher near and around the airport, however, the size of the areas is also significantly bigger. This kind of mapping method could be used to facilitate to design or build the type of housing for noise resistance or not to build any residential housing within a certain space. And the space could be used for carbon stock by planting trees and leaving it to other natural habitats.

Data Sources

https://data.gov.ie/dataset?q=Nursing+homes+&theme=Health&sort=score+desc%2C+metadata_created+desc

https://www.cso.ie/en/census/census2016reports/census2016smallareapopulationstatistics/

https://www.gov.ie/en/publication/b61012-aviation-statistics/