

## Analysis : What is the use distribution of parks in Melbourne?

### Motivation and analysis conducted

Parks are regarded as an important part of community places where people from the community share their time and get together. However, the actual frequency of their use is not measured and discovering its tendency can be a pass to find an area potentially needing parks. From this motivation, this paper discovers;

- the percentages of areal check-in frequency in the areas from the centre of the city. Year 2010 is selected for the analysis sample due to the data availability in the extracted result in the key steps 1).
  - Centre: Melbourne Central Station
  - Area: A1: ~1km, A2: 1~2km, A3: 2~5km, A4: 5~10km, A5: 10~20km. A6: 20~40km from the centre
- top 5 visited parks and their time series of use by month
- whether the top 5 visited parks are included in the most frequently visited area

### Summary of key steps and challenge

- Preparation of the analysis data  
The Check-in table of Melbourne is spatial-joined with the Melbourne polygon table.
- Percentages of areal check-in distribution  
Using ST\_DWithin function, Count and sum function, % of check-in points in each area are identified.
- Time series of the top 5 sites visited by month  
Using extract and count, monthly data is generated and visualised using Python.
- Confirmation of the top5 parks are within the 2-5km distance area  
The most challenging and unique part. The parks are tested if within the concerning area with a 'donut' buffer area created by buffer and boundary.

### Result

Result show that area where most of the check-ins were recorded was the area 2 - 5 kilometre away from Melbourne central station (45 %). The result of top5 visited parks shows that in 2010, Edinburgh Gardens had a big spike in August and September contributing its 1<sup>st</sup> rank, and one in Albert Park in March to its ranking (2<sup>nd</sup>). 3 of the top 5 parks (Edinburgh Gardens, Albert and Royal Park) are located within the 2-5km area, contributing the concentrated check-in.

Figure 1

Percentage of each area of park check-ins

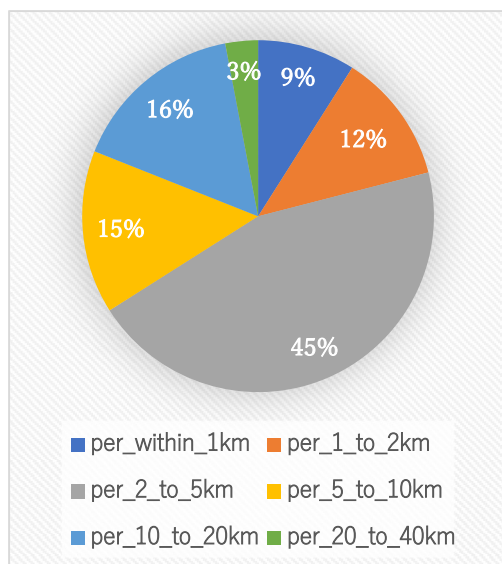


Figure 2

Monthly check-in tendency of top 5 parks in Melbourne

