Step 1: download tree coverage data from the following link:

- https://discover.data.vic.gov.au/dataset/tree-cover

Step 2: Fetched Metadata and identified Information about tree coverage as stated below:

| Column Name	Obligation	Unique	Data Type	Reference Table	Comments
X_TREESRC	O	N	VARCHAR2		
AREASQM	O	N	NUMBER		
HECTARES	O	N	NUMBER		
TREE100_SRC	O	N	NUMBER		
TREE	O	N	VARCHAR2		
X_TREEDESC	O	N	VARCHAR2		

We will be using the "Tree" attribute to confirm the presence of tree coverage along a street.

Step 3: Load downloaded spatial data into QGIS and overlay it with the network edge file we have produced before
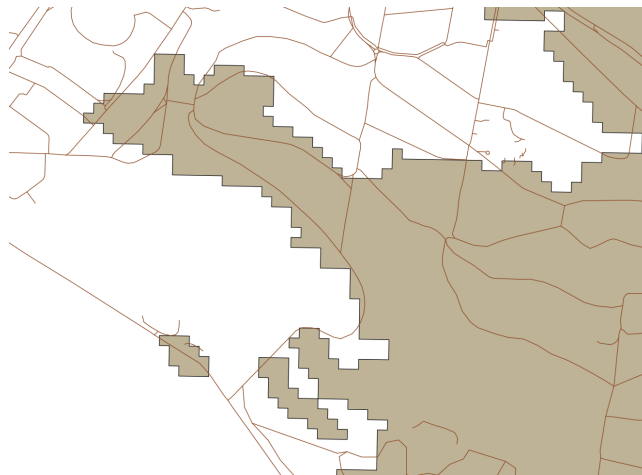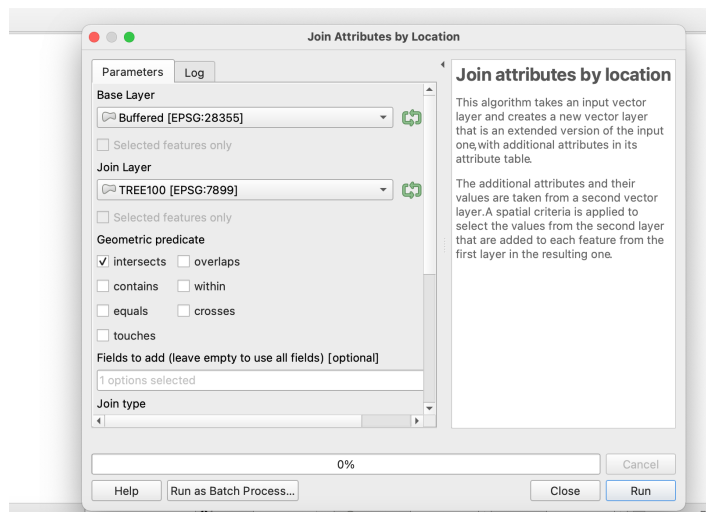
When you open the Tree dataset you find Tree column with "P" values in it signifying presence of a tree

Step 4: create a buffer of 20 meters around the network edge file to see if a location of a tree falls within the buffer
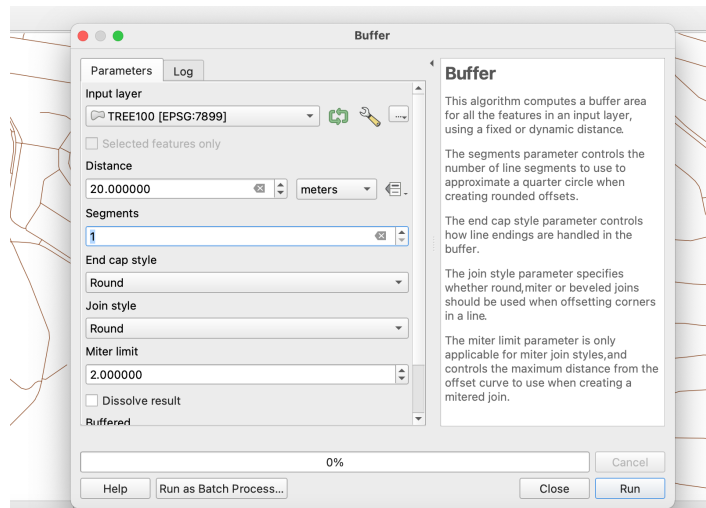
Step 5: Perform spatial join (one to one) to merge attribute data from edge file buffer and Tree dataset

Step 6: Export the joined data to Geopackage format for more processing

Step 7: Download quietness index from the JIBE github repo. Link:

https://github.com/jibeproject/network/blob/main/01_DataInput/quietness.csv

Step 8: Load network edge data, generated Treeset data and Quietness index (in csv format) in an R-studio environment

Step 9: Join network edge data and treeset data using osm_id, from_id and to_id (because osm_id is no longer a unique identifier). Afterwards, every column will have the "p" attribute to signify the presence of a tree and "np" to signify otherwise(convert all NA rows to np).

Step 10: perform additional join with quintess index data using osm_id, cycleway.left and cycleway.right datasets.

Step 11: save the new geopackage as 'updated_tree&quietness'