QGIS Final Project Documentation

1. Load essential files.
   1. **Basemaps:** Esri Gray (dark) via QuickMapServices; [Seattle Neighborhoods](https://data-seattlecitygis.opendata.arcgis.com/datasets/531976f80bd74c0992ba9079e4d86e2a_0/explore)
   2. **Transit info:** [Seattle Bus Stops](https://gis-kingcounty.opendata.arcgis.com/datasets/284a6b7a12a04016ab8b754e3b354e47_2648/explore?location=47.618228%2C-122.340882%2C16.89); [Seattle Transit Routes](https://gis-kingcounty.opendata.arcgis.com/datasets/kingcounty::transit-routes-for-king-county-metro-transitroute-line/explore?filters=eyJST1VURV9JRCI6WzEwMDAwMSwxMDI3NDddfQ%3D%3D&location=47.621044%2C-122.325743%2C13.70)
   3. **CSVs:** [reliability\_list\_cleaned](https://github.com/rfoxall3/seattle_bus_data_project/blob/main/reliability_list_cleaned.csv); [reliability\_by\_stop](https://github.com/rfoxall3/seattle_bus_data_project/blob/main/reliability_by_stop.csv) (cleaned in R from raw data)
2. Clip the bus stops to the neighborhood map.
3. Join the reliability lists to the relevant transit layers.
   1. Reliability\_by\_stop joined to bus stops
   2. Reliability\_list\_cleaned joined to routes
   3. Use field calculator to create reliability\_mins = (yrly\_reliability / 60).
4. Add neighborhood labels using the neighborhood map (place the map layer underneath the basemap so that the layers show but not the individual neighborhoods).
   1. Change symbology of the neighborhood maps to 1) transparent fill and 2) dashed stroke to designate city borders.
5. Select only the bus routes that enter the city of Seattle.
   1. Select by location, “intersect” between Seattle Neighborhoods basemap and transit routes layer.
   2. Export to a new layer and save.
6. Modify symbology for transit layers to show gradations of “lateness” based on reliability\_mins field.
   1. Using graduated symbology and equal intervals (routes) or standard deviations (stops).
   2. Stop data is almost a perfect Bell curve which is why I used standard deviations. The mean lateness is +2.5 minutes which is also convenient for my categorization purposes (2 standard deviations = 5 minutes).
7. To make a layer showing only transfer points (2+ routes at one stop):
   1. Duplicate bus stop layer (after it’s been joined to reliability lists).
   2. Filter using the expression “ROUTE\_LIST” LIKE ‘% %’ to only include stops where the route list includes a space (indicating multiple routes).
   3. Under Symbology -> Advanced, modify the order of rendering so that the darkest red stops render last and thus show up on top of other nearby stops on the map.
8. Use print layout to create two map views: one zoomed in on downtown/Central Seattle (save this map view!) and one showing all transit routes/stops entering Seattle.