PUBLIC TRANSPORT EFFICENCY ANALYSIS
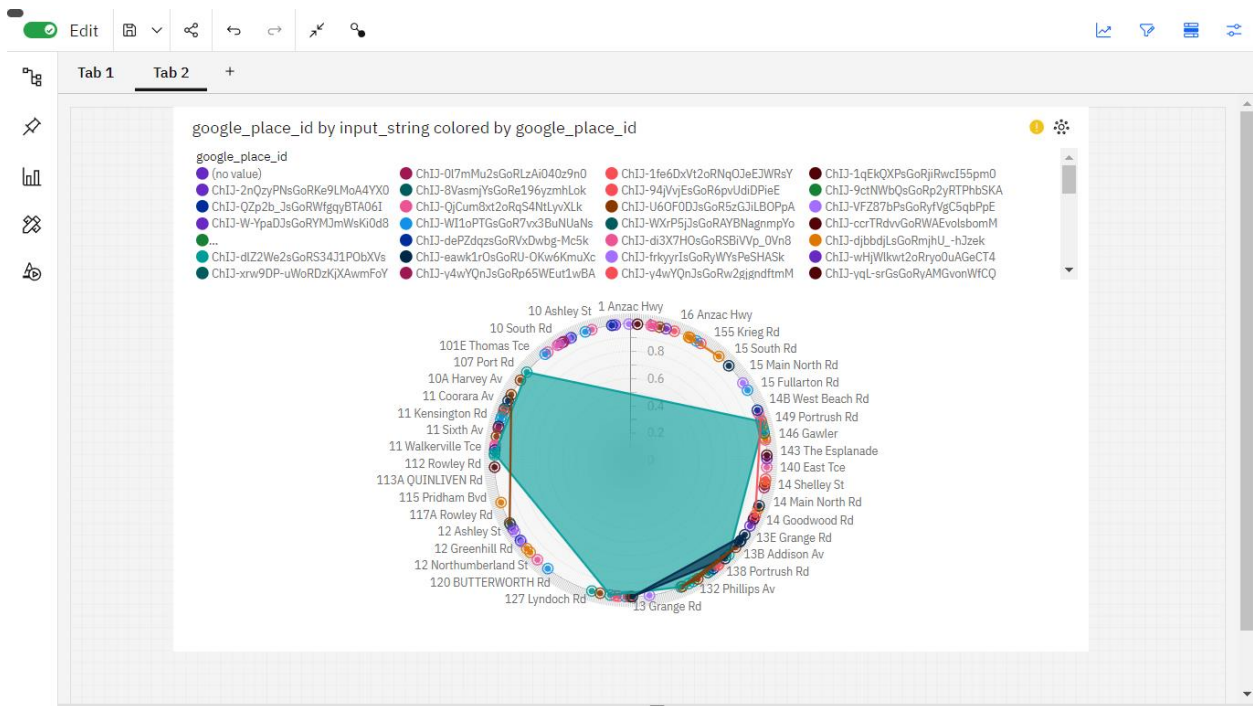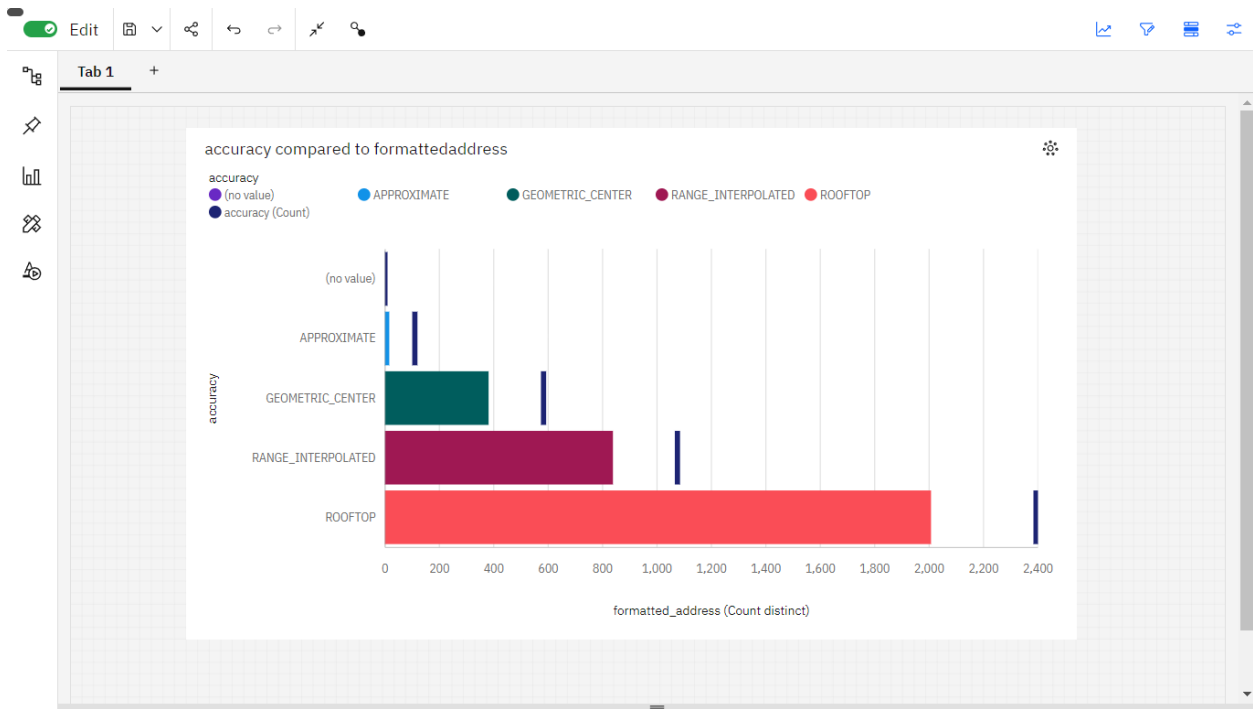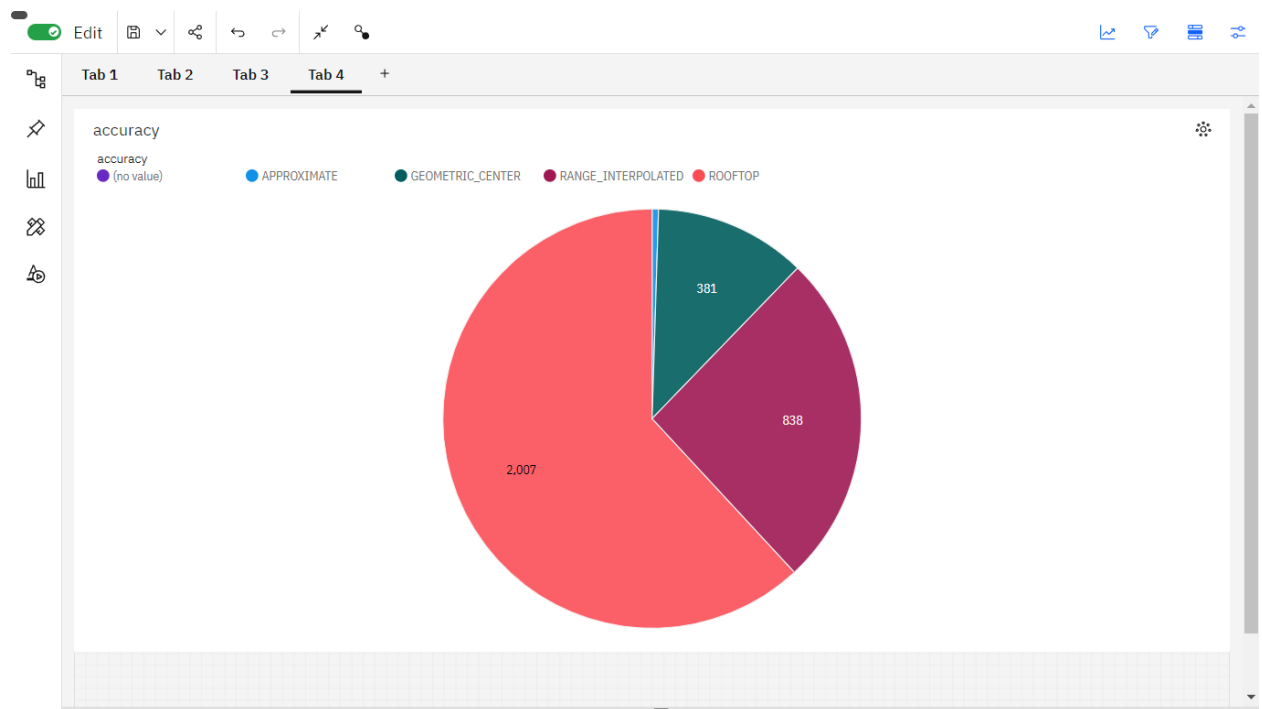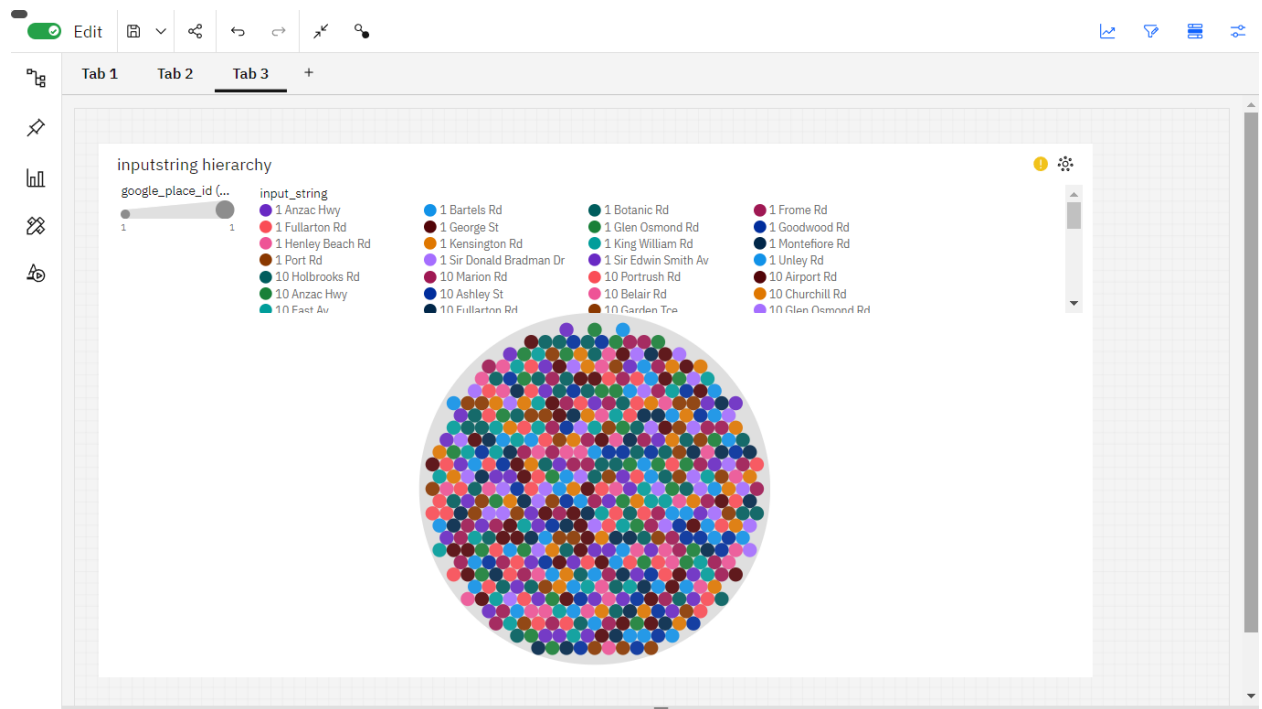
PHASE-5

INTRODUCTION:

✓ Public transport efficiency analysis is a critical process that evaluates the effectiveness and sustainability of public transportation systems within a specific region or city. This examination aims to assess various aspects, including operational performance, environmental impact, accessibility, and economic viability. By conducting a comprehensive analysis, policymakers, urban planners, and transportation authorities can make informed decisions to improve public transit services and enhance the overall quality of life for residents. In this analysis, key factors such as ridership levels, cost-effectiveness.

✓ Data preprocessing is an essential step in preparing your data for analysis. Pre-processing refers to the transformations applied to our data before feeding it to the algorithm.

Data Visualization:

✓ These tools are used to represent your data through charts, graphs, and maps t hat allow you to find patterns and trends in the data.

✓ datapine's already mentioned BI platform also offers a wealth of powerful onl ine data visualization tools with several benefits. Some of them include: deliv ering compelling data-driven presentations to share with your entire company

✓ the ability to see your data online with any device wherever you are, an intera ctive dashboard design feature that enables you to showcase your results in an interactive and understandable way, and to perform online self-service reports that can be used simultaneously with several other people to enhance team pr oductivity.

Tab 1 +

accuracy compared to formattedaddress

accuracy
- (no value)
- APPROXIMATE
- GEOMETRIC_CENTER
- RANGE_INTERPOLATED
- ROOFTOP
- accuracy (Count)

accuracy
- (no value)
- APPROXIMATE
- GEOMETRIC_CENTER
- RANGE_INTERPOLATED
- ROOFTOP

0   200   400   600   800   1,000   1,200   1,400   1,600   1,800   2,000   2,200   2,400

formatted_address (Count distinct)

Edit

Tab 1   **Tab 2**   +

google_place_id by input_string colored by google_place_id

google_place_id
- (no value)
- ChIJ-0l7mMu2sGoRLzAi04Oz9n0
- ChIJ-1fe6DxVt2oRNqOJeEJWRsY
- ChIJ-1qEkQXPsGoRjiRwcI55pm0
- ChIJ-2nQzyPNsGoRKe9LMoA4YX0
- ChIJ-8VasmjYsGoRe196yzmhLok
- ChIJ-94jVvjEsGoR6pvUdiDPieE
- ChIJ-9ctNWbQsGoRp2yRTPhbSKA
- ChIJ-QZp2b_JsGoRWfgqyBTA06I
- ChIJ-QjCum8xt2oRqS4NtLyvXLk
- ChIJ-U6OF0DJsGoR5zGJiLBOPpA
- ChIJ-VFZ87bPsGoRyfVgC5qbPpE
- ChIJ-W-YpaDJsGoRYMJmWsKi0d8
- ChIJ-WI1oPTGsGoR7vx3BuNUaNs
- ChIJ-WXrP5jJsGoRAYBNagnmpYo
- ChIJ-ccrTRdvvGoRWAEvolsbomM
- ...
- ChIJ-dePZdqzsGoRVxDwbg-Mc5k
- ChIJ-di3X7HOsGoRSBiVVp_0Vn8
- ChIJ-djbbdjLsGoRmjhU_-hJzek
- ChIJ-dlZ2We2sGoRS34J1PObXVs
- ChIJ-eawk1rOsGoRU-OKw6KmuXc
- ChIJ-frkyyrIsGoRyWYsPeSHASk
- ChIJ-wHjWlkwt2oRryo0uAGeCT4
- ChIJ-xrw9DP-uWoRDzKjXAwmFoY
- ChIJ-y4wYQnJsGoRp65WEut1wBA
- ChIJ-y4wYQnJsGoRw2gjgndftmM
- ChIJ-yqL-srGsGoRyAMGvonWfCQ

10 Ashley St   1 Anzac Hwy   16 Anzac Hwy
10 South Rd   155 Krieg Rd
101E Thomas Tce   15 South Rd
107 Port Rd   15 Main North Rd
10A Harvey Av   15 Fullarton Rd
11 Coorara Av   14B West Beach Rd
11 Kensington Rd   149 Portrush Rd
11 Sixth Av   146 Gawler
11 Walkerville Tce   143 The Esplanade
112 Rowley Rd   140 East Tce
113A QUINLIVEN Rd   14 Shelley St
115 Pridham Bvd   14 Main North Rd
117A Rowley Rd   14 Goodwood Rd
12 Ashley St   13E Grange Rd
12 Greenhill Rd   13B Addison Av
12 Northumberland St   138 Portrush Rd
120 BUTTERWORTH Rd   132 Phillips Av
127 Lyndoch Rd   13 Grange Rd

0.8   0.6   0.4   0.2

Tab 1 Tab 2 Tab 3 +

inputstring hierarchy

google_place_id (...

input_string

1 Anzac Hwy	1 Bartels Rd	1 Botanic Rd	1 Frome Rd
1 Fullarton Rd	1 George St	1 Glen Osmond Rd	1 Goodwood Rd
1 Henley Beach Rd	1 Kensington Rd	1 King William Rd	1 Montefiore Rd
1 Port Rd	1 Sir Donald Bradman Dr	1 Sir Edwin Smith Av	1 Unley Rd
10 Holbrooks Rd	10 Marion Rd	10 Portrush Rd	10 Airport Rd
10 Anzac Hwy	10 Ashley St	10 Belair Rd	10 Churchill Rd
10 East Av	10 Fullarton Rd	10 Garden Tce	10 Glen Osmond Rd

Edit

Tab 1 Tab 2 Tab 3 Tab 4 +

accuracy

accuracy

(no value)	APPROXIMATE	GEOMETRIC_CENTER	RANGE_INTERPOLATED	ROOFTOP

Data Cleaning:

✓ **Outlier Detection**:

Code can help identify and handle outliers in ridership data, which might distort statistical analysis.

✓ **Missing Data Handling**:

Automation can fill in missing data points using imputation techniques or flag them for further investigation.

✓ **Data Validation**:

Code can validate data for accuracy, consistency, and adherence to predefined formats.

✓ **Handle missing values:**

Decide whether to remove rows with missing data or impute missing values using methods like mean, median, or predictive modeling.

Data Transformation:

✓ **Feature Engineering**:

Create new features or variables from existing data to capture more relevant information, e.g., calculating daily or hourly averages.

✓ **Normalization and Scaling**:

Code can normalize data to ensure that variables are on a consistent scale for statistical analysis. One -Hot Encoding: Convert categorical variables into numerical format for modeling purposes.

Visualization Strategy:

✓ Creating informative dashboards and reports using IBM Cognos to visualize insights from transportation data can be a powerful way to convey information effectively. Here's a plan to achieve this:

Define Objectives and Audience:

✓ Clearly define the objectives of your dashboards and reports. What insights are you trying to convey? Who is your target audience (e.g., transportation officials, management, passengers)?2.

Data Preparation:

✓ Ensure your transportation data is cleaned, structured, and stored in a suitable data source that Cognos can access (e.g., a relational database).

Connect to Data Sources:

✓ Use IBM Cognos to connect to your data sources, which can include databases, spreadsheets, and web services.

Design Data Models:

✓ Create data models that define relationships between different data tables, making it easier to pull data for visualization.

Dashboard Design:

✓ Design your dashboard layout. IBM Cognos provides drag-and-drop functionality for arranging visual elements. Consider the placement of key performance indicators (KPIs), charts, graphs, and maps.

Select Visualization Tools:

✓ Choose appropriate visualization tools based on the type of data and insights you want to convey. Options in Cognos include bar charts, line charts, heat maps, and more.

Create Interactive Filters:

✓ Implement interactive filters that allow users to drill down into specific data points or time frames for deeper analysis.

Conclusion:

✓ Data collection is an essential part of the research process, whether you're conducting scientific experiments, market research, or surveys. The methods and tools used for data collection will vary depending on the research type, the sample size required, and the resources available.

✓ Public transport efficiency analysis is a critical process that evaluates the effectiveness and sustainability of public transportation systems within a specific region or city. This examination aims to assess various aspects, including operational performance, environmental impact, accessibility, and economic viability.