Cyclistic's Project

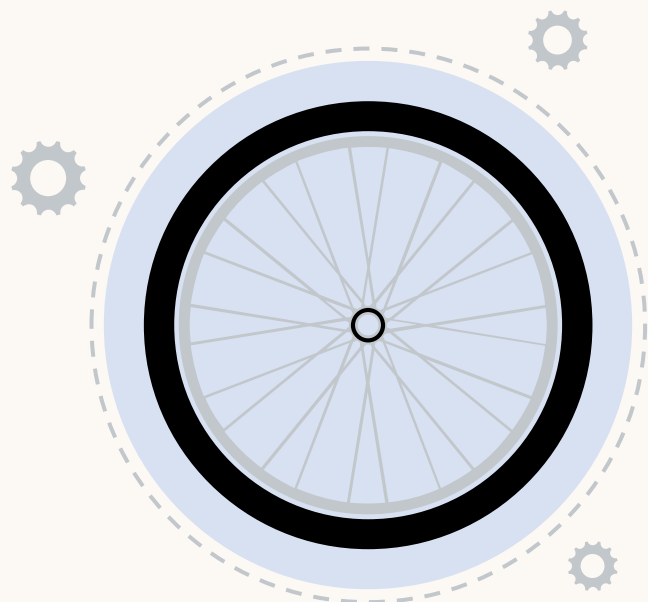## Google Business Intelligence

By Ismi Ana Sulasiyah (BI Analyst)

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Project Background

Cyclistic bike-share

Cyclistic is a fictional bike-share company has partnered with the city of New York to provide shared bikes. Currently, there are bike stations located throughout Manhattan and neighboring boroughs. Customers are able to rent bikes for easy travel among stations at these locations.

Stakeholders:

- Sara Romero, VP, Marketing
- Ernest Cox, VP, Product Development
- Jamal Harris, Director, Customer Data
- Nina Locklear, Director, Procurement

Project Background

Business Problem

Cyclistic's Customer Growth Team is creating a business plan for next year. The team wants to understand how their customers are using their bikes.

1. **Their top priority is:** Identifying customer demand at different station locations.
2. **Primary question:** How can we apply customer usage insights to inform new station growth?

Stakeholder Usage Details

➢ They will use this BI tool in order to gain insights related to data generated by the bikes when being used by customers.

➢ Then, this information will be used to understand; What customers want? What makes a successful product? and How new stations might alleviate demand in different geographical areas?

Project Goal: Grow Cyclistic's Customer Base

01

Understand **What** customers want. **What** makes a successful product. and **How** new stations might alleviate demand in different geographical areas.

02

Understand **How** the current line of bikes are used, and **How** can we apply customer usage insights to inform new station growth.

03

The customer growth team wants to understand **How** different users (subscribers and non-subscribers) use our bikes.

04

Keep in mind users might use Cyclistic less when the weather is inclement. **This should be** visible in the dashboard.

Stakeholder Requirements

Table or Map

A table or map visualization exploring starting and ending station locations, aggregated by location.

Destination Viz

A visualization showing which destination (ending) locations are popular based on the total trip minutes.

Trends on Summer

A visualization that focuses on trends from the summer of 2015.

Growth of Trips

A visualization showing the percent growth in the number of trips year over year.

Gather Insights

Gather insights about congestion at stations, and number of trips across all starting and ending locations.

Gather Insights

Gather insights about peak usage by time of day, season, and the impact of weather.

SMART Methodology

Specific

For more effective planning

Measurable

Make your goal & progress MEASURABLE

Action-oriented

Reasonably achieve goal within certain time

SMART

Relevant

Align with values and long term objectives

Time-bound

Set a realistic end-date to clarify task prioritization

Success Criteria with SMART

|	
Specific	BI insights must clearly identify the specific characteristics of a successful product. They must demonstrate how customers are currently using bikes and what impacts demand at station locations
Measurable	Each trip should be evaluated using starting and ending location, duration, variables such as time of day, season, and weather.
Action-oriented	These outcomes must prove or disprove the theory that location, time, season, and weather impact user demand. Then, the Cyclistic team will use this knowledge to refine future product development.
Relevant	All metrics must support the primary question: How can we build a better Cyclistic experience?
Time-bound	Analyze data that spans at least one year to see how seasonality affects usage. Exploring data that spans multiple months will capture peaks and valleys in usage.

Project Timeline
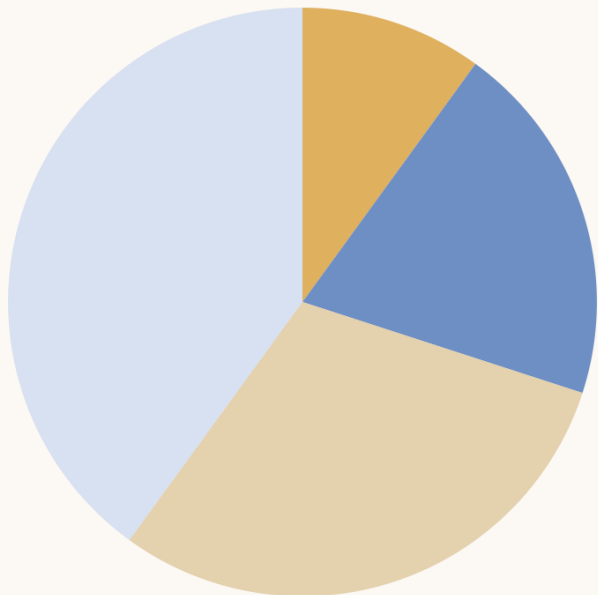
Q1 — **Week 1**
Dataset assigned
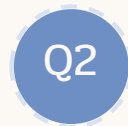
Q2 — **Weeks 2-3**
SQL & ETL development

Q3 — **Weeks 3-4**
Finalize SQL. Dashboard design. 1st draft review

Q4 — **Weeks 5-6**
Dashboard development and testing

Dashboard Functionality

Dashboard Feature	Your Request
Reference Dashboard	Build a new dashboard to display the starting and ending locations, aggregated by location. This should show the number of trips at starting locations.
Access	Access will be provided as read-only to the user profiles listed in this document.
Scope	Fields include: station, zip code, neighborhood, and/or borough, year, month, trip count, weather
Date Filters and Granularity	Date filters can be applied for the following: Date, Month, Year Granularity: Any chart with user detail metrics should have the ability to click on that metric to view specific information.
Reference Dashboard	Build a new dashboard to display the starting and ending locations, aggregated by location. This should show the number of trips at starting locations.

Metrics and Charts

Chart 1

Chart Feature	Your Request
Chart title	Trip Totals
Chart type [What type of chart needs to be created? This could include any chart type, including a line chart (timeseries), bar chart, or table.]	Line
Dimension(s) [What dimensions does this chart need to include?]	Date
Metric(s) [What metrics are relevant to this chart?]	Trip count

Chart 2

Chart Feature	Your Request
Chart title	Trip Counts by Starting Neighborhood
Chart type [What type of chart needs to be created? This could include any chart type, including a line chart (timeseries), bar chart, or table.]	Table
Dimension(s) [What dimensions does this chart need to include?]	Neighborhood, month
Metric(s) [What metrics are relevant to this chart?]	Trip count

Chart 3

Chart Feature	Your Request
Chart title	Total Trip Minutes by Destination
Chart type [What type of chart needs to be created? This could include any chart type, including a line chart (timeseries), bar chart, or table.]	Bar
Dimension(s) [What dimensions does this chart need to include?]	Zip code end, borough end, neighborhood end, user type
Metric(s) [What metrics are relevant to this chart?]	Trip minutes

Chart 4

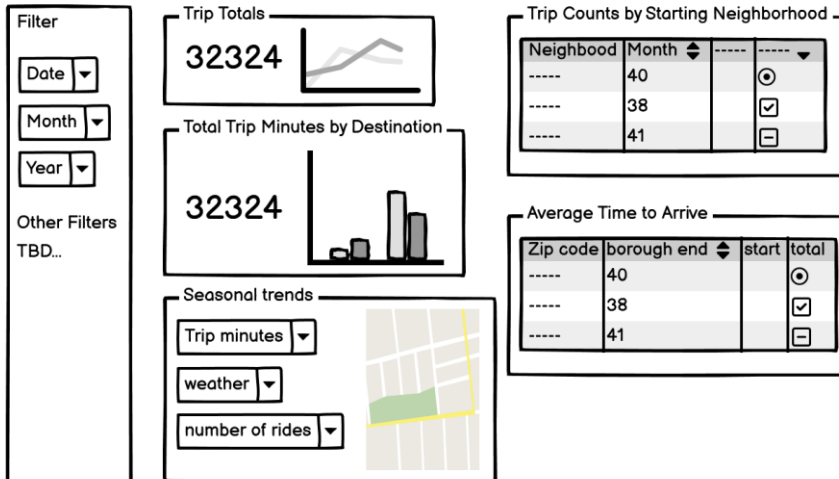| Chart Feature	Your Request
Chart title	Average Time to Arrive
Chart type [What type of chart needs to be created? This could include any chart type, including a line chart (timeseries), bar chart, or table.]	Table
Dimension(s) [What dimensions does this chart need to include?]	Zip code end, borough end, neighborhood end, start day, grand total
Metric(s) [What metrics are relevant to this chart?]	Trip minutes

Charts and Mockup Dashboard

Chart 5

Chart Feature	Your Request
Chart title	Seasonal trends
Chart type [What type of chart needs to be created? This could include any chart type, including a line chart (timeseries), bar chart, or table.]	Map
Dimension(s) [What dimensions does this chart need to include?]	Neighborhood start, neighborhood end, number of rides, average trip duration, weather
Metric(s) [What metrics are relevant to this chart?]	Trip minutes, weather, number of rides

Cyclistic's BI Project

Summarize of Cyclistic's Customer Rides

Filter

Date ▾

Month ▾

Year ▾

Other Filters
TBD...

Trip Totals

32324

Total Trip Minutes by Destination

32324

Seasonal trends

Trip minutes ▾

weather ▾

number of rides ▾

Trip Counts by Starting Neighborhood

Neighbood	Month ⇕	----- ▾
-----	40	⊙
-----	38	☑
-----	41	⊟

Average Time to Arrive

Zip code	borough end ⇕	start	total
-----	40		⊙
-----	38		☑
-----	41		⊟
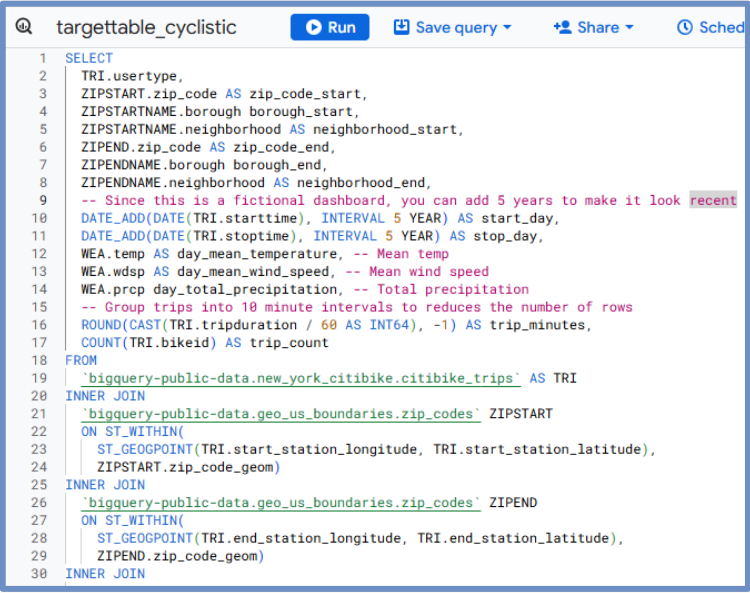
Dataset Target Table

Final dataset is created using Google Bigquery.

Target table included:

✓ geo_us_boundaries

✓ new_york_citibike

✓ noaa_gsod

✓ cyclistic_zipcode

These source tables provided free in public dataset by Bigquery.
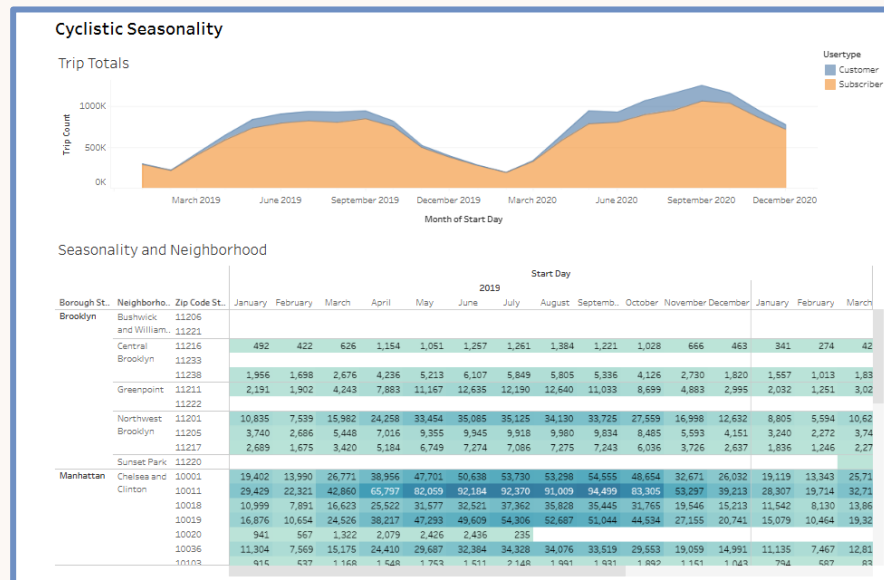
Dashboard Overview

Summer Trends

➤ The first tab of the dashboard is a map of seasonal trends of bike trips in each of the New York boroughs.

➤ The largest map shows each of the boroughs.

➤ The table compares the number of trips and average trip duration for customers and subscribers in each neighborhood.

➤ Three smaller maps focus on July, August, and September: the three months with the highest bike traffic.

➤ This map features several filters to focus on specific bike IDs, user types, metrics, months, starting neighborhoods, and ending neighborhoods.

Dashboard Overview

Cyclistic Seasonality
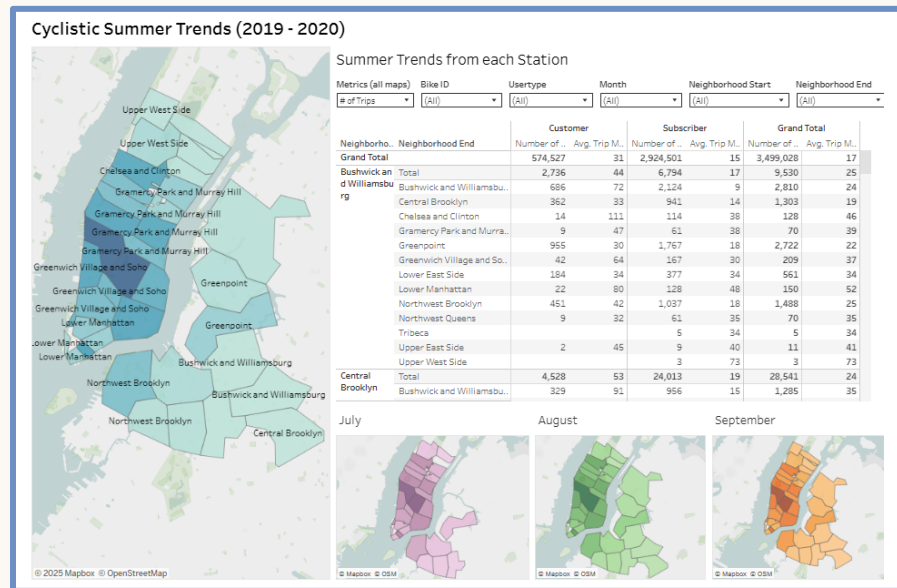
➢ The second tab of the dashboard focuses on seasonality, or trends throughout the year, with the Trip Totals chart and the Trip Counts by Starting Neighborhood table.
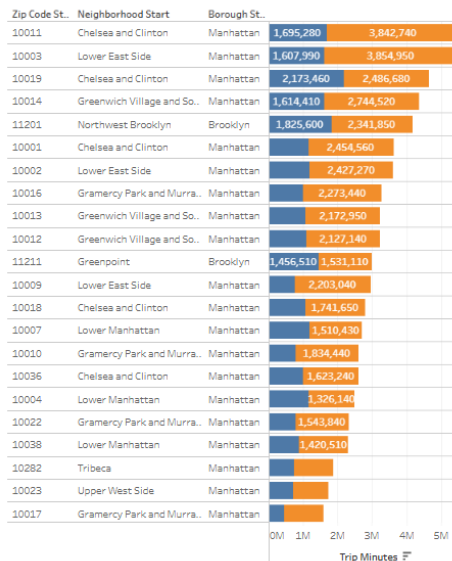
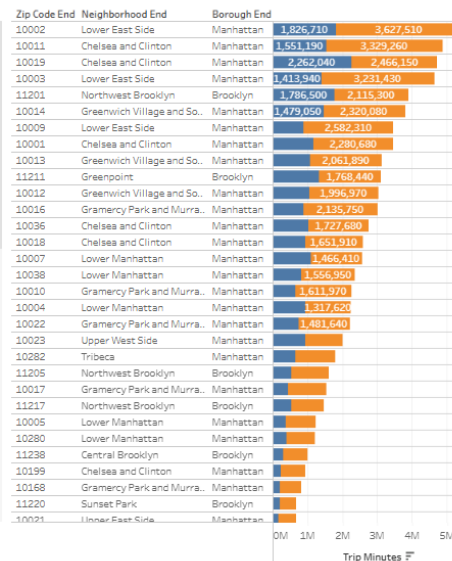# Dashboard Overview

Cyclistic Top Trips

➢ The third and final tab of the dashboard is a comparison of the <u>total number</u> of trip minutes by starting neighborhood and <u>ending neighborhood</u> for both customers and subscribers.

➢ The two charts are horizontal stacked bar graphs that are ordered from highest to lowest number of minutes (between customers and subscribers combined).

Thanks!

Completed by Ismi Ana Sulasiyah

Apr 28th, 2025
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https://www.coursera.org/account/accomplishments/professional-cert/KV69ZJLUH8R3