

Cyclistic BI Capstone: Executive Summary

Cyclistic, a New York City bike-share service, aims to expand its customer base by leveraging data-driven insights. This BI capstone project was designed to identify customer usage patterns, peak demand locations, and seasonal trends using NYC Citi Bike trip data combined with Census boundary data for geographic aggregation.

Over a 6-week structured timeline, the project followed key BI phases: capture, analyze, and monitor. SQL and ETL pipelines were developed to prepare millions of trip records while ensuring data governance, privacy (PII removal), and accessibility compliance (large print and TTS readiness).

The Tableau dashboard created summarizes:

- **Trip start and end location trends** using maps and tables.
- **Destination popularity** by total trip minutes, focusing on peak months and the summer of 2015.
- **Year-over-year trip growth** to capture seasonality.
- **Station congestion insights** via net bike inflow/outflow calculations.
- **Usage patterns** segmented by subscriber vs. non-subscriber, weather, and time of day.

Key challenges included working with weather data lacking time-specific granularity and ensuring accessibility features without compromising visualization clarity. The project delivered actionable insights to guide Cyclistic's new station placement strategy, optimize bike distribution, and enhance customer experience.

This project demonstrates proficiency in BI workflows, stakeholder communication, SQL/ETL processing, and dashboard development using Tableau, ready for application in professional environments.