

## Inventory Management and Station Planning For A Bike Share Operator

Bike-share companies have access to large quantities of data coming from their bicycle fleet and docking stations. This data provides real-time visibility on customer trips and the availability of bicycles at any station. To allow the bike share company to make day-to-day operational decisions by understanding the following:



Using bike movements to manage inventory for different stations



User segmentation in terms of usage patterns



User behaviour in terms of typical journeys/trips taken

An IoT  
Case Study

# Inventory Management and Station Planning For A Bike Share Operator

## Solution

Lynx Analytics developed a solution to predict the frequency of inflows and outflows of bikes at different stations using historical data of days of the week, weather, and location. The solution was able to identify any oversupply and overdemand in advance in order to relocate bikes more effectively and ensure demand could be met by rerouting excess supplies to appropriate bike stations.



Fig 1: Map of trips taken in a day

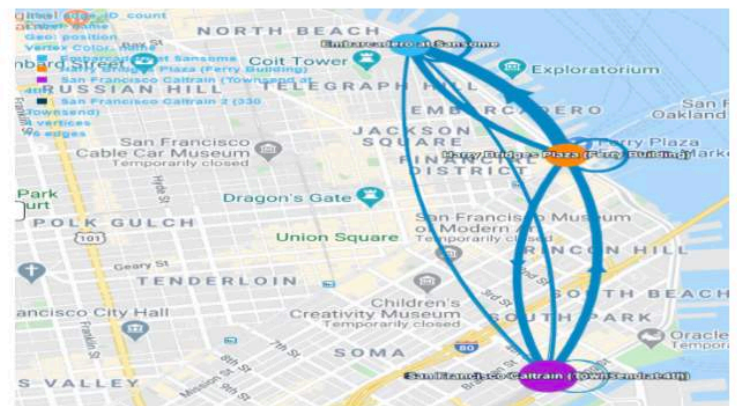


Fig 2: Analysis of most popular routes taken

The solution allowed the bike share company to make day-to-day operational decisions by providing answers to key questions such as:

- What is the expected inflow and outflow for any station, by day of the week and time of day?
- Which stations will need to be re-supplied or will reach maximum capacity in the next two hours?
- What would be the optimal location for an additional bicycle station in the network?
- What are the most popular routes?
- What is the average riding time for each route?

## Lynx Analytics

Founded in 2010 and headquartered in Singapore with an engineering team based in Hungary, we bring value to companies across telecommunication retail, banking and life sciences with data science solutions.



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