

An aerial photograph of the New York City skyline at dusk. The sky is a mix of dark blue and orange, with scattered clouds. The city is densely packed with skyscrapers, many of which are illuminated with their lights. The Empire State Building is prominent in the center, with its top lit in red and green. The Hudson River is visible on the right side of the image.

# TransPo Analytics

AKA Project 3 Team 1



# The Team

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# Our Purpose

The Purpose of our project is to use supplied and publicly available data to explore ways to promote a healthier and environmentally-friendly city that supports bike use as a primary form of transport for residents and tourists.



# Our Objective

Provide data that has the ability to inform city councils and municipalities on city planning strategies and inform how to supply bikes to meet demand.





A close-up, slightly blurred photograph of a person's hand holding a purple marker, drawing on a white surface, likely a whiteboard. The background is dark and out of focus, showing some bokeh light effects. The text 'Analysis Direction' is overlaid in white on the left side of the image.

# Analysis Direction

What additional infrastructure (bike stations, paths) is needed to make the bike project successful?

# How Our Project is Set Up

1. `app.py` is the starting point for the project. Running this file will extract all the data from our zipped CSV file and create a SQL database file with 50,000 rows of the original 750,000 rows of data
2. The SQL database file is accessible through API calls to a local Flask server on port 5000
3. Some additional data was required for the functionality of the leaflet map. In the “API” folder is a file that retrieves the latitude and longitude of the bike stations from the TFL API (<https://api.tfl.gov.uk/>), where 800 calls took 20 minutes. Without running a local flask server, this would have been a very long presentation! That new data was merged into the CSV file and saved locally.



Demo Time

# Limitations

- The biggest limitation of our project is the we are analysing only one specific period of time (the month of August 2023). Share Bikes and bikes in general are used year round, and without that data, coming to general conclusions would be premature.
- Due to resource and time constraints we used only 50,000 of the 750,000 data records available, which may skew data results.



# Conclusions

1. *With the correct planning, infrastructure and maintenance programs in place - a busy city like London can have a successful bike share program, as evidenced by the 4 fold increase in usage of the program between 1999 and 2023.*

<https://bicyclenetwork.com.au/newsroom/2023/07/18/bikes-take-the-transport-lead-in-the-city-of-london/>

# Conclusions

2. *By creating cycle paths and Cycle Super Highways and Quietways to facilitate cycling between destinations across London, the efficiency of bike travel can help make the program a success.*

<https://tfl.gov.uk/modes/cycling/routes-and-maps/cycleways?intcmp=59201>

# Ethical Considerations

1. *The source data used for this project contained no personally identifiable information.*
2. *Personally identifiable data cannot be access via the API, nor was it included in the csv file data. The data was therefore quite safe and easy to work with.*

# Ethical Considerations

2. *In promoting cycling as a healthy, environmentally-friendly method of transport, consideration must be given to the dumping of bikes, particularly in the Thames river and its surrounds, and the requirements of bike hire firms participating in the scheme, to promptly locate and retrieve bikes that have been dumped.*

<https://news.sky.com/story/dockless-bikes-dumped-firms-told-to-help-retrieve-them-from-canals-11768199>

# Future Considerations

*To inform less successful projects like Melbourne's bike programs about what works and what doesn't*

*(Link to data from City of Melbourne Open Data and API with bike program data*

*<https://data.melbourne.vic.gov.au/explore/dataset/bike-share-dock-locations/information/>)*

*<https://www.crikey.com.au/2019/09/09/melbourne-bike-share-scheme-failure/>*



An aerial photograph of New York City at dusk. The sky is a mix of dark purple, blue, and orange. The city lights are visible, and the Empire State Building is prominently featured in the center, with its top section illuminated in red and green. Other skyscrapers are visible on the right side of the frame.

FIN.

Thank you so much for  
listening