Next steps:

1. Try to identify topic from reading
   1. Impact of built environment on active travel
      1. Look at kartdata portal if there is anything to work with.
         1. Can’t find for bydeler, but have grunnkretser, including population.
   2. Studies where cycle count has been used
      1. Look at some of the count data for projection modelling
   3. Look through existing “built environment” section
2. Download data and explore what is feasible
   1. Scraping works, potentially annoying to get for all 41 counters but can be done.
      1. Counts are by day, and specify direction if wanted
         1. Opens up scope for analysing differences?
   2. Some manipulation needed to merge the counter ID and location data with the list of counts.
   3. Statens vegvesen data
      1. Mainly pedestrian or cycle track parralel to motorways
      2. Need to use propertory SQL to access API. Can plug this through Python.
         1. Data can also just be selected manually and downloaded as CSV so definitively can be done.
3. Investigate any historic or granular weather-data
   1. <https://seklima.met.no/observations/>
      1. Has quite good and granular weather data, including temperature, participation, winds, snow.
      2. Lowest unit of observation is hour
      3. CSV downloads don’t quite work, but the xlsx ones are fine.
      4. 5 weather stations in Oslo, so not able to do that granular weather for each counter.
4. Investigate if Strava or smart phone location data available for Oslo
   1. Look at Oslo Bysykkel data as well.
      1. Very easily accessible, by hire, available for each month.
      2. Includes time start and end, duration, location of both stations (including co-ordinates and brief description of the surroundings of the stations).

Conceptualising:

Could do a Poisson/NB model estimating network-wide usage, applying it to Oslo

* Check if this has been done already.
* Include:
  + Population density
    - Have no other demographic or data
    - Being difficult with loading into ArcGIS and QGIS
  + Weather
  + Built environment, infrastructure,
    - Could estimate with Google Maps or OSM
* Could try to merge with Strava data, if they have for Oslo, or bike sharing data?

Time series analysis / regression?

* Look more into it

Network analysis?

Clustering??

Topic:

* Cycling/active travel
  + Relationship between pedestrians and cyclists, or cyclists and motorists
  + Bike use in suburban or rural settings

Datasets:

* [https://data.eco-counter.com/ParcPublic/?id=3936#](https://data.eco-counter.com/ParcPublic/?id=3936)
* <https://trafikkdata.atlas.vegvesen.no/#/kart?lat=59.90876560911374&lon=10.75646852488415&trafficType=bicycle&trpids=71153B2460281&zoom=14>
* <https://usmart.io/org/cyclingscotland/>

Plan:

1. Scrape OK data and API VGS data and merge them
   1. Do for a set time period, e.g., 2024
2. Ideas
   1. Compare over time, e.g., winter over summer.
   2. Network analysis, stringing together the pointers into more and less successful routes?
      1. Combine with OPM
   3. Contribute to some kind of prediction modelling literature
      1. A way that new sources of data can help solve old questions
   4. Poisson regression?
      1. Lack other data to combine it with though that is not geographic
   5. Compare urban and suburban behaviour
      1. Around times of travel?
   6. Visualise a gravity adjusted map for each counter, size depending on number
   7. GIS map of unified counters.

Research questions and project objectives with the support of academic literature

• Data collection methods, either through API, online scraping, or explaining the data

sources

• Understanding your data (data types, summary statistics, data visualisation, etc.)

• Data cleaning (missing values, outliers, date/time transformation, data errors, etc.)

• Feature engineering (categorical variables to dummy variables,

normalisation/standardisation, feature combination, etc.)

• Data analysis (time series analysis, machine learning, spatial analysis, advanced

regression analysis, etc.)

• A summary of your findings and suggestion from your data analysis

## Notes on data:

All VGS counters and some of the OK counters are separated by direction.

* Would need to merge before analysing

Earliest counters start at some point in 2015-6

OK counters also have pedestrian data for a few

More OK counters in outer west, compared to outer east, medium in outer south east.

* VGS have a couple more options around the east

Feedback:

|  |  |
| --- | --- |
|  | Your topic looks good overall.  On your method, think more carefully what analysis method to use e.g. for analysing relationship between place characteristics and cycling counts.  On the data, what data will you use for place characteristics?  On your question: […] |