

LSE Employer Project – Thoughtworks

Background / context and clearly defined problem statement

Problem Statement:

Transport for London (TfL) is a local government body responsible for most of the transport network in London and guided by the [Mayor's Transport Strategy 2018](#) (MTS).

The central aim of MTS is for 80% of all trips in London to be made on foot, by cycle or using public transport by 2041.

Business Questions:

What are the main factors which influence cycling uptake? How can improving these factors help contribute to achieving the goal of 80% of all trips in London to be made on foot, by cycle or using public transport by 2041.

Analysis / Hypothesis to test:

- How do socioeconomic factors contribute to cycling uptake?
 - Is cycling uptake higher in areas of London where the average income is higher?
 - Is cycling higher where the Education level is higher?
- How does cycling uptake change amongst different demographics?
 - How can cycling uptake be improved amongst young black, Asian and mixed-ethnicity men and women?
 - This can include age, class, gender & race
- How does infrastructure affect uptake in cycling?
 - Has cycling uptake been higher since the introduction of PAYG bikes?

- Where are PAYG cycling hubs situated? Are these based in areas of higher average income?
- How safe is cycling in London? Are there the necessary cycling paths / infrastructure?
- How do technological advances affect the uptake of cycling?
 - Has the introduction of electric bikes increased cycling uptake?
- How does the weather affect cycling uptake?
 - Does an increase in temperature mean an increase in cycling?
 - What do seasonal changes affect cycling uptake?
 - Could availability / price of PAYG change during high seasons?
- How has WFH affected cycling uptake?
 - How can government initiatives (Cycle to Work) help increase cycling uptake?
- How has tourism affected cycling uptake?
 - Has there been a knock-on effect from Brexit on tourism / immigration to London and thus cycling uptake?

Team roles and ways of working

Divided team responsibilities up based on Belbin's team roles. Each member selected which role they think suits them best.

Team Member:	Belbin Role:	Strengths:
Oksana:	Implementer & Resource investigator	<ul style="list-style-type: none"> ● Good organisational skills ● Proactive approach ● Strong communication skills

		<ul style="list-style-type: none"> • Attention to detail • Ability to multitask • Curiosity • Success-orientated
Irina:	Plant & Implementer	<ul style="list-style-type: none"> • Generate ideas • Creative • Dedicated • Reliable
Shin:	Plant & Specialist	<ul style="list-style-type: none"> • Codes • Free-thinking • Knowledge provider (lvl 1) • Unconventional
Yash	Plant & Implementer	<ul style="list-style-type: none"> • Strong interpersonal skills • Innovative thinker • Goal orientated • Team-player • Adept-learner
Chris:	Plant & Shaper	<ul style="list-style-type: none"> • Creative solutions to problems • Open to explore and derive meaning from abstraction • Works well under pressure, will deliver by being resourceful • Empathetic, driven and passionate for common goals

Dom	Implementer & Teamworker	<ul style="list-style-type: none"> • Strong Communicator • People orientated • Enjoys driving / organising work • Creative & producing ideas
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Distributing work:

- All team members will be involved in creating the project scope and plan
- All team members involved in hypothesis testing, communicate and discuss the identified insights from the conducted analysis
- The team will be divided into sub-groups based on time zone – each subgroup will focus on testing these hypotheses
 - Subgroups will also be dictated by team member's roles and strengths
- All will be involved in the exploratory phase – producing ideas & questions and then investigating.
- Sub-teams will report back to the wider group, so all members are aware of the processes & insights

Communication plans:

- Once-weekly meetings - currently every Thursday 1pm, with everyone in the team due to time zones and work commitments.
- Subgroup meetings - Members within subgroups will then meet more regularly on a daily or every other day basis.
- Daily communication on WhatsApp groups to keep members apprised of tasks for the day and work completed.
- Clear communication will ensure there are no blockers

3. Project Plan

Below is a description of each phase during the project and how each phase relates to our milestones. These milestones are clearly defined in our project roadmap.

See appendix for our roadmap.

Initiation Phase:

- Part of the Scope and Goal Setting milestone
- Work as a team defining the scope of the project, deliverables, key requirements, and timeline.
- This will be done as a whole group
- Deadline set for January 23rd

Planning Phase

- Part of the Scope and Goal Setting milestone
- Here we will define the goals and objectives for the project by implementing the SMART Framework
- The project roadmap will also go through its first phase here
- Subgroups will be decided during this phase
- Business questions we wish to be answered and additional resources will also be explored
- A collaborative effort between the whole group
- Deadline 27th January – this is to allow enough time though we would likely expect to be finished before this deadline

Execution Phase

- Part of the Low Fi & Final Presentation milestones
- This will be the longest phase where we will seek to deliver on project requirements, answering any business questions we have set and testing hypotheses

- The group will divide into subgroups due to time zones and work commitments. Each team member will be responsible for completing the work set for their subgroup and will report to subgroup leaders and the wider team on progress and insights – this will allow each member to work efficiently during the time they can allocate whilst ensuring clear communication with the group
- There will be weekly team meetings to ensure work is up to date and everyone is appraised of the work completed – these meetings will be key in ensuring every team member understands each stage of the work being completed
- To manage scope creep we have set buffer time to allow for unseen events
- Have also set deadlines and limits on additional resources to maximise efficiency

Monitoring Phase

- Part of the Low Fi & Final Presentation milestones
- Weekly meetings will be important here in ensuring everyone is on task and meeting deadlines
- Each member will be responsible for meeting the deadlines set to them and their subgroup with the team collaborating all together to submit work and adhere to hand-in deadlines
- Allows each member to be autonomous and work effectively during their hours keeping an effective workflow

Closure Phase

- End of the Final Presentation & Reflection milestones
- Final deliverables are met ensuring all team members are happy with the results
- This will be more collaborative than the execution and monitoring phase – all members will be able to voice their thoughts

4. Analytical approach

Programs & Tools:

- Will utilise Excel and Python to clean and analyse the data.
 - Excel will provide an initial insight into the data – provide an idea of what each column represents and how the data looks
 - Python – the main tool utilised to analyse the data and the present insights through visualisations & regression models
- Might utilise SQL for descriptive analysis if we feel necessary
- Tableau to deliver a dashboard / final report – present the best insights / visualisations
- GitHub – to share and store information and files
- Google Docs & Asana – sharing documents and project plan

Timeframe & Milestones:

- Complete initiation phase – 22nd January
- Complete Planning phase – 27th January
- Complete Execution phase - 13th February
- Complete Low-Fi Presentation – 17th February
- Complete Final Presentation 27th February

- All of these deadlines will be fluid due unpredictability of how many different questions we run through the analysis
- Allocated a minimum of 2 weeks to complete the Execution phase – this will be ongoing and will be the most fluid of any of the stages
- Timeframes are there to provide some structure and guide but these are not set in stone