**Project Proposal**

Our group aims to develop a model that maximizes coverage of bike stations to POIs. Given this coverage a subsequent model aims to maximize an ESG score. Environmental will consist of # of anticipated trips taken, weighted values for “car heavy” POIs covered, and reduced traffic delays.. Societal values will consist of % coverage, cost to user, availability of bikes and docks, and distance from stations. Governance will consist of cost to the Council, cost to companies, benefit of reduced vehicular traffic (e.g. less wear and tear on roads). Our main concerns are adequately representing potential demand. We are considering a two-stage model approach, where we maximize coverage and use that to maximize ESG score. Our key deliverables are how many bikes, how many docks, station locations, bike return scheme, estimated investment requirement, and a breakdown of our evaluated ESG scoring. We would like to (if possible) provide some analysis and modelling of an annual maintenance routine/plan, focused on minimizing time bikes are unavailable for maintenance, perhaps planning around seasonal demand and a community mechanic system for routine maintenance tasks given some incentives. Other possible extension ideas are determining the impact of station type (open air dock vs. hangar).