

Studying E-rickshaw Operations

Scope: The main idea is to develop a network of charging and parking infrastructure for e-rickshaws, so that they can continue with their trips without being stopped by drained battery issue. E-rickshaw drivers face problem as they charge their vehicles in home or from shops by paying high tariffs. Due to such hindrances they are forced to make much fewer trips as taking vehicle back to home for charging is not always feasible in terms of distance and time spent in charging. Due to unavailability of parking spaces, e-rickshaws pick up passengers from locations which are not suitable. This causes uncontrolled congestion and lack of passenger safety, so designing an optimal parking location infrastructure will people board and deboard vehicles at some designated places leading to increased safety and decreased congestion on roads. The study will also incorporate owner profile analysis. There has been many studies focusing on socio-demographic profile of e-rickshaw drivers but there is practically no charging infrastructural requirement and e-rickshaw owner profile related studies till now. Another important focus of the service will be on developing algorithm to determine optimally located charging stations and parking stations and to minimize the queue of the e-rickshaws waiting to get charged. So the scope of this study will cover the areas of supporting infrastructure and owner profile of e-rickshaws.

Objectives: The main objectives are

- i) Analyzing e-rickshaw owner profiles
- ii) Understanding and analyzing e-rickshaw operations in Delhi
- iii) Developing the map of routes for e-rickshaws
- iv) Identifying and analyzing charging infrastructural requirements for e-rickshaws.

The whole data collection and analysis to achieve some objectives are targeted to be completed within August 2020.

The action steps consist of identification of study area, conducting questionnaire survey and repeated observation to collect e-rickshaw trip and operational characteristics, charging infrastructural requirement, and owner profile related data. The final step consists of analysis of the collected data to achieve the proposed objectives.

Timeline:

Jan – Aug 2020: Survey preparation and data collection

Sep – Oct 2020: Data analysis for owner profiles, e-rickshaw operations and route maps

Nov – Dec 2020: Solving for optimal charging infrastructure requirement and locations