1.INTRODUCTION

1.1 overview

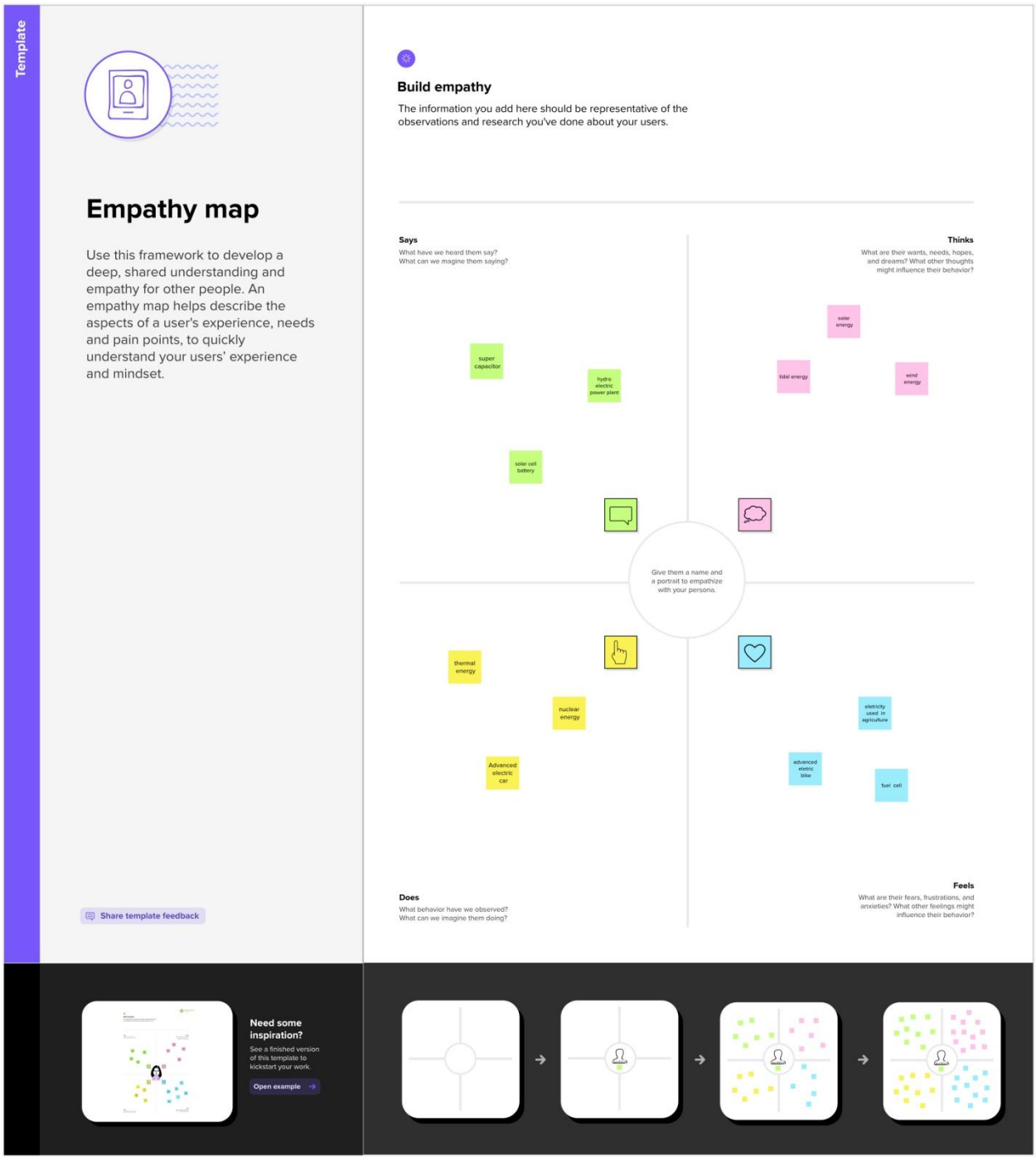
A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source and have an electric motor instead of an internal combustion engine

1.2 Purpose

EV charging involves supply of direct current(DC) to the battery pack.As electricity distribution systems supply alternate current(AC) power a converter is required to provide DC power to the battery

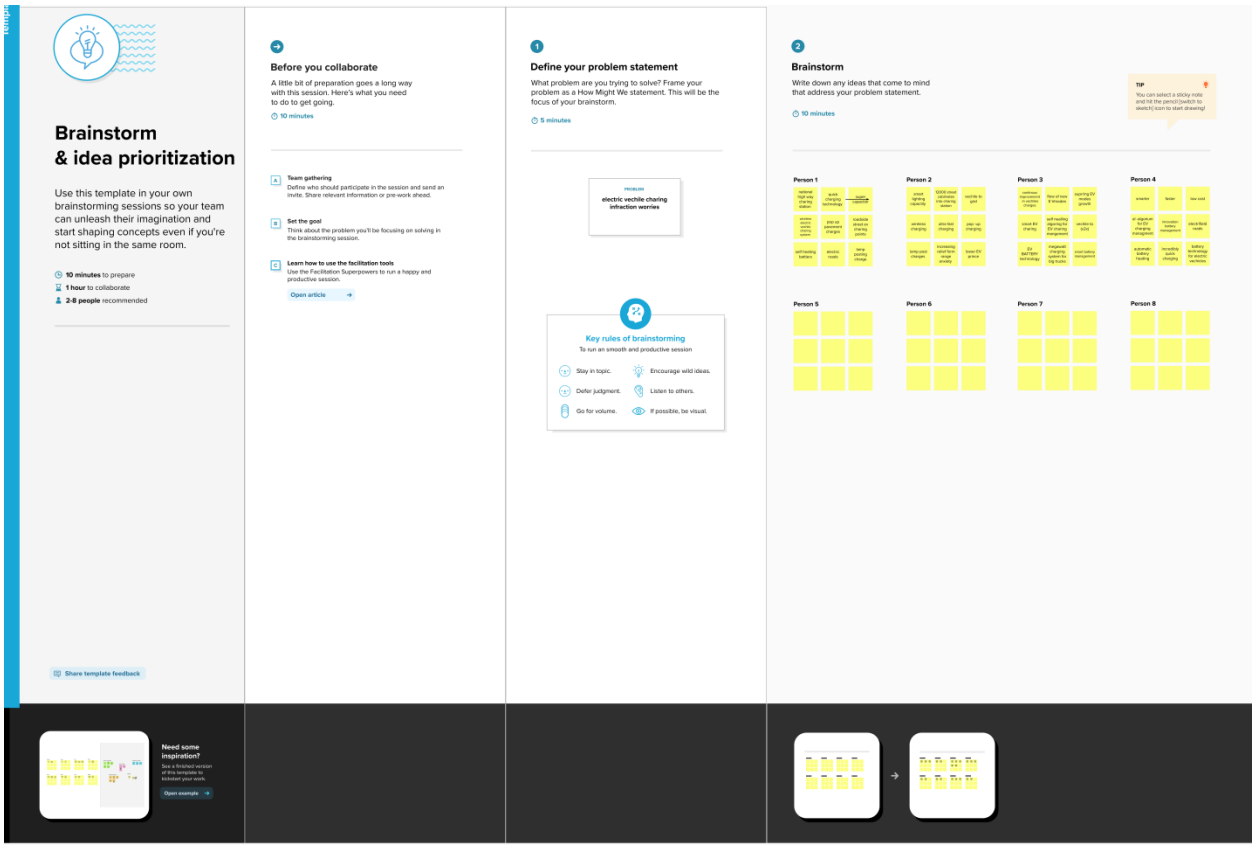
2. Problem Definition & Design Thinking

2.1 Empathy Map



2.2 Ideation & Brainstorming map

Visualization tool for electric vehicle charge and range analysis



3. RESULT

In 2019-20 about 3.8 lakh electric vehicles were sold in India of which 58% were low –speed E3 and E2W.

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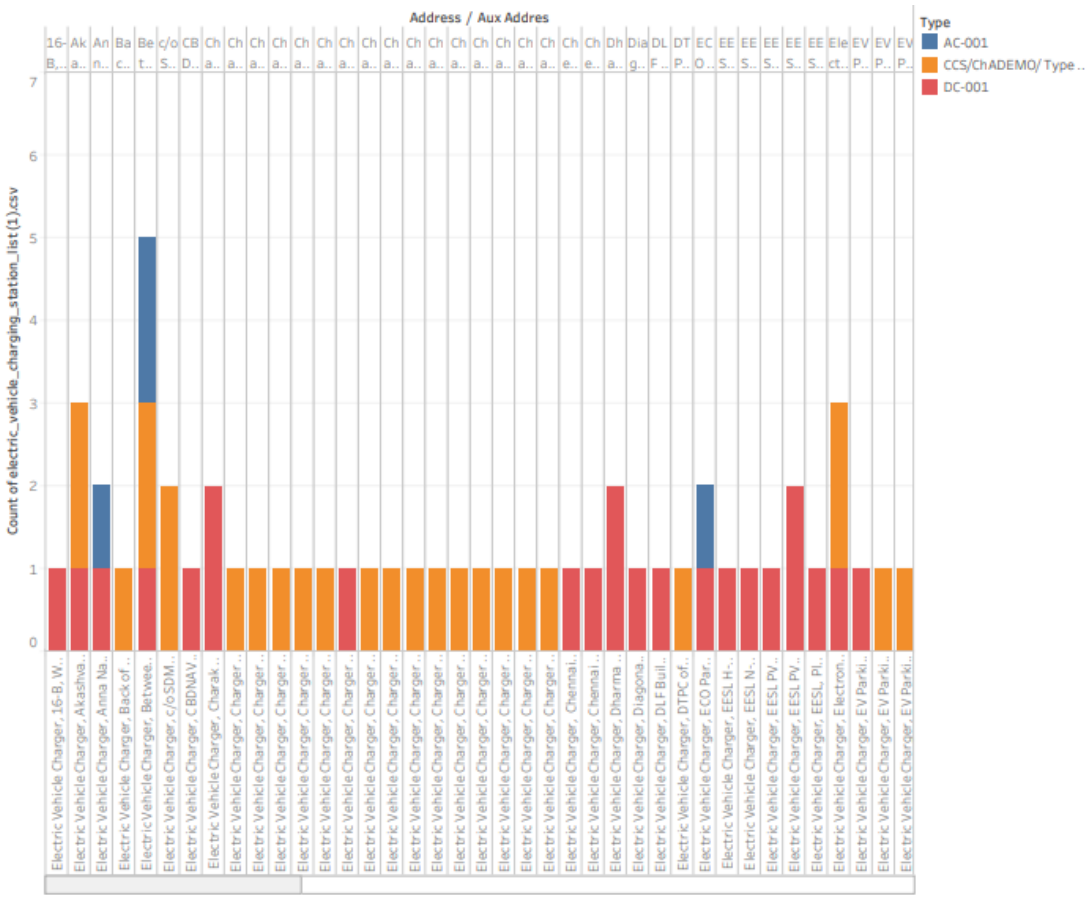
Visualization tool for electric vehicle charge and range analysis



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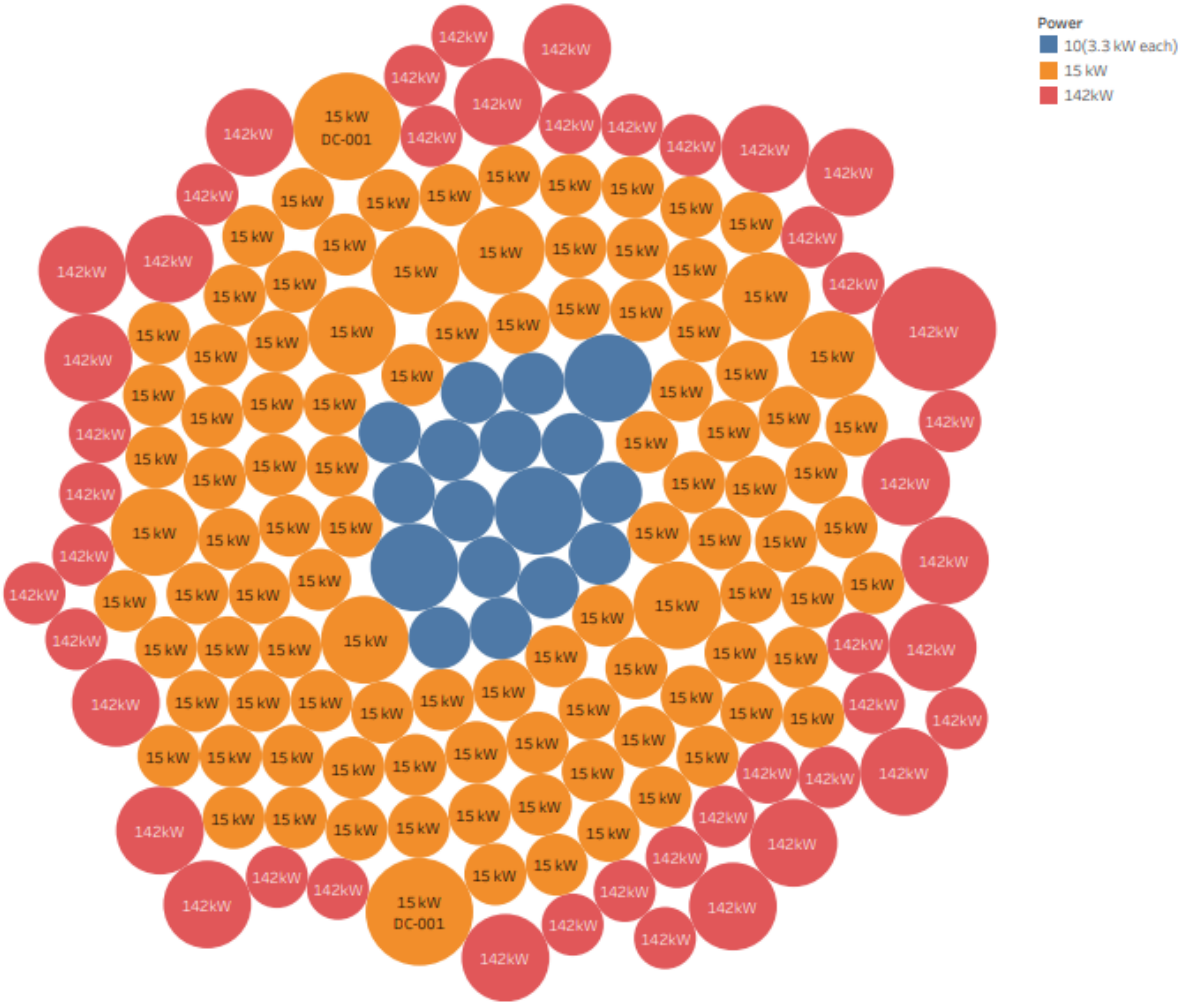

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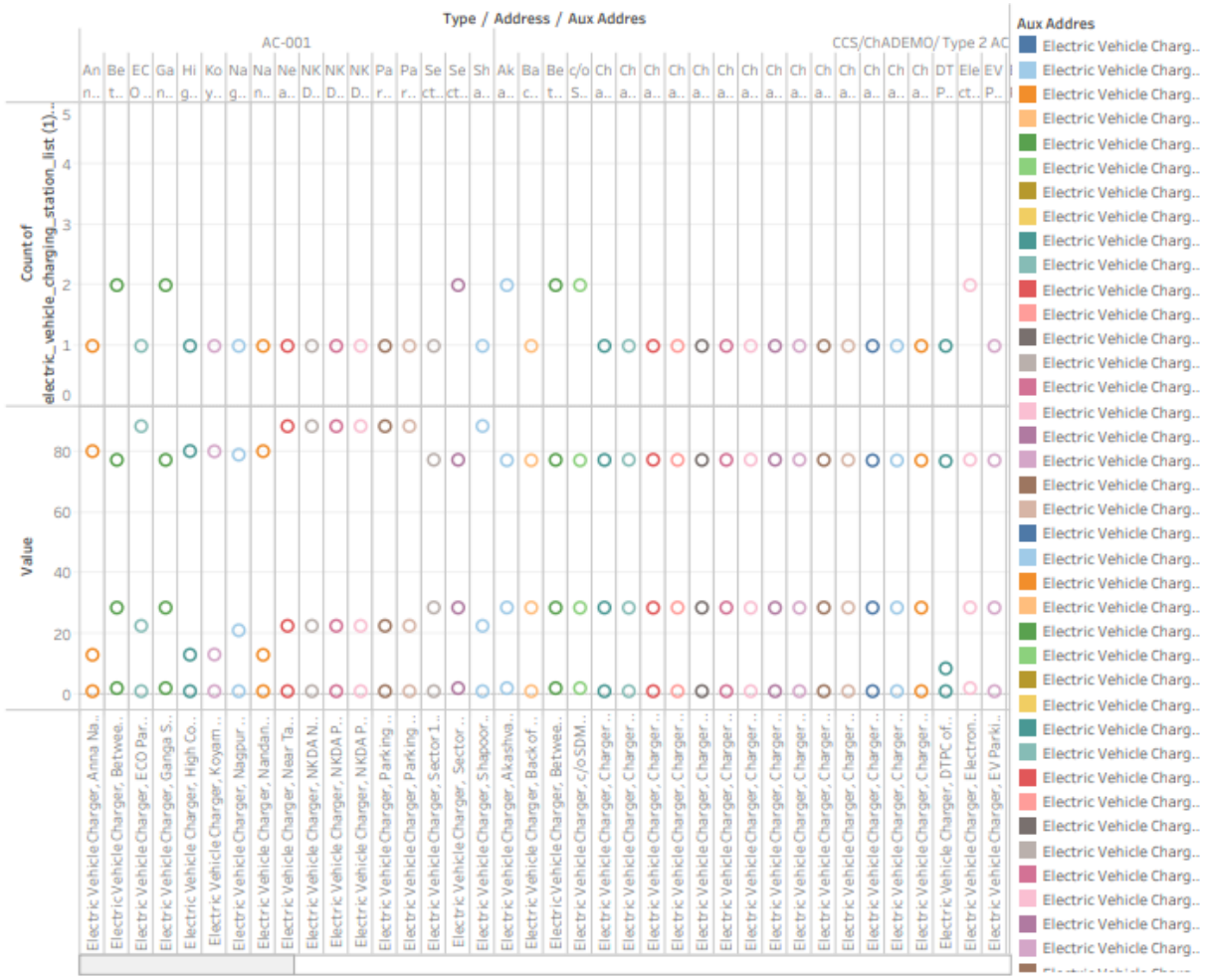

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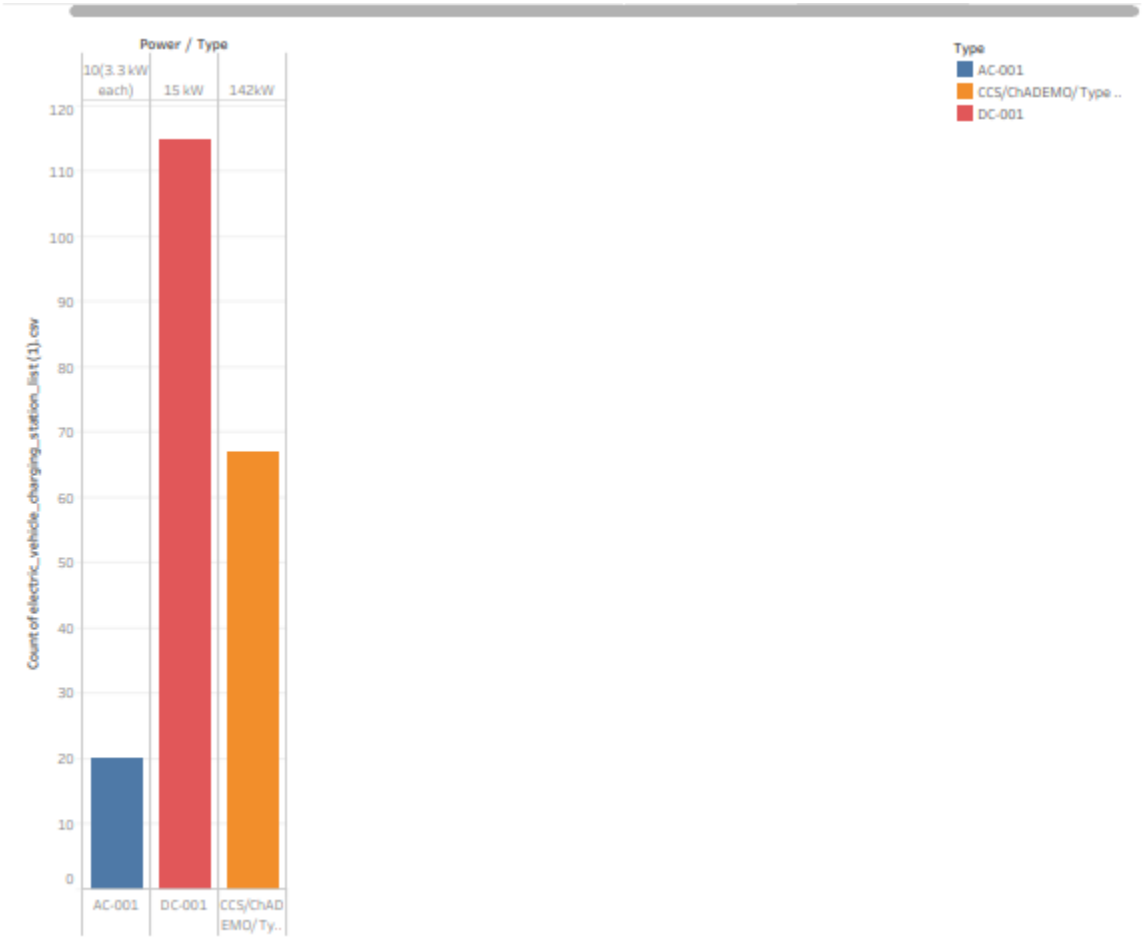

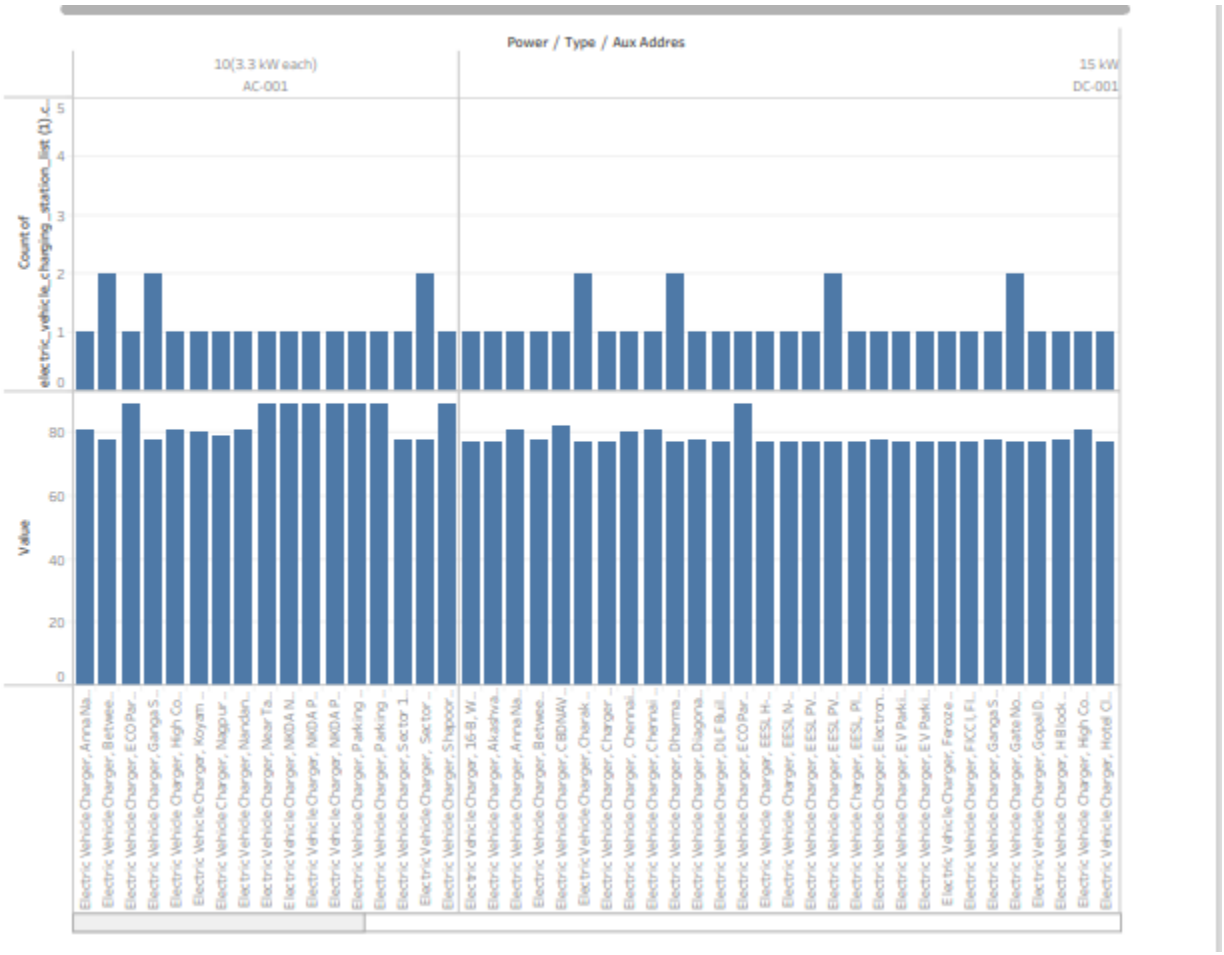

4. ADVANTAGES

*No fuel required so you save money on gas

*Environmental friendly as they do not emit pollutants

*lower maintenance due to an efficient electric motor

*Better performance

5.DISADVANTAGE

*Charging takes longer

*The driving range on a full charge

*Higher initial purchase cost

*Replacing the batteries is expensive

6.APPLICATIONS

*Electric motors

*Batteries

*Inverters

*Charging stations

7.CONCLUSION

By 2030 NITI aayog expects to reach 70%EV market penetration for all commercial vehicles.

8.FUTURE SCOPES

The government wants India to be a 100% electric vehicle nation by the year 2030.Under the new plan of the govertment every car which will get sold in India from 2030 will be electric