

## Design of a Vehicle for Physically Challenged People for Mobility and Running a Small Business



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**Abstract:**

Currently around 10% of the total world's population, or roughly 650 million people, live with a disability. These people are unemployed as they don't have good mode of transport. Vehicles like wheelchairs, tricycles are used by the people as they are less expensive. These vehicles are not comfortable for the people to use them as they do not have a good design and also good protection. A vehicle with good design, functional and safety features for the user to conduct small business. This helps the user to run his day to day activities and also lead his life independently without being dependent on others. The present work was undertaken to design a vehicle for physically challenged people to serve both the purpose of mobility as well as running a small business.

So a vehicle with all the features for the physically challenged was conceptualized, designed and developed. The final concept was selected based on customer's rating amongst various concepts generated. Geometric modelling was done using CATIA and manufacturing drawings were generated.. The fabrication of the vehicle was done as per the manufacturing drawings. The vehicles capability for short distance transport in different road conditions, its usability was analysed and validation was carried out 1:1 prototype. The feedback was satisfactory.



Various concepts of vehicle



Rendered image



1:1 prototype