

## Conceptual Design of Quad Bike for Urban Commuting



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**Abstract:**

In Indian market two wheelers dominate the sales chart owing to their quick commuting means and affordability. As convenient as the two wheelers may be, they come with their set of shortcomings. The fatality rates associated with two wheelers are very high and the ergonomics of two wheelers are not on par with four wheelers. These two factors have led to the rise in single driven cars which contributes to rise in traffic congestion and price per person of commuting. The above phenomenon parts way for a new segment in urban commuting. Quad bikes are around since the early 19th century where in they are built for off road activities. Quad bikes which are being designed for urban commuting are only a decade old consisting of a handful of manufacturers and none in the Indian market. This paves way for exploration of new ideas. Also the ergonomics of some of the current line of two wheelers are to be bettered.

In the Indian market two wheelers are the most preferred means of commuting. The dominant sector is the motor scooters such as Honda Activa, TVS Jupiter and so on which have wide user appeal and rate high on practicality for every day usage. The project focuses on implementing electric drive, a wide-user ergonomic appeal, ample storage space and unisex design elements. To achieve the above said objectives, thorough literature survey and Gemba study was carried out to lay out design parameters. Non parametric modeling and rendering were carried which was followed by building a 1:5 scaled down mockup model using wood.

In the end a Quad bike has been designed which incorporates a active lean suspension, contemporary design features, comfortable ergonomics for both 50th and 90th percentile users and storage space in context to the Indian market.



**Ideation sketches**



**Product rendering**



**1:5 scale mockup model**