



Styling of a Small Car for Indian Cities

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Abstract: The styling of interior and exterior elements in small luxury cars for Indian cities presents a unique challenge due to the diverse needs and preferences of the target market. In terms of exterior design, the cars should exhibit a blend of elegance and compactness to navigate through the crowded streets while still making a statement. Attention to aerodynamics, sleek lines, and tasteful use of chrome accents can enhance the overall appeal. For the interior, a focus on maximizing space utilization is crucial, as Indian cities often face heavy traffic and limited parking. Smart storage solutions, comfortable seating with premium upholstery, and advanced infotainment systems are key considerations. The styling of small luxury cars for Indian cities requires a delicate balance between functionality and opulence, ensuring a comfortable and visually appealing experience for the discerning Indian customers in urban environments.

Index Terms - Small Car, Indian vehicle and styling.

1. INTRODUCTION

Styling the interior and exterior of a luxury small car for Indian cities requires careful consideration of various factors to create a harmonious blend of sophistication, functionality, and adaptability. In India's bustling urban landscape, where space is often limited and traffic is dense, designing a small luxury car demands a balance between elegance and practicality. Externally, the car should exhibit a sleek and modern design with clean lines, aerodynamic contours, and eye-catching details. Compact dimensions and nimble maneuverability are essential to navigate narrow streets and parking spaces efficiently. Attention should be given to enhancing visibility with well-placed windows and smart lighting solutions. Internally, the focus should be on creating a premium and ergonomic environment. Luxurious materials, such as high-quality leather and polished wood trims, can elevate the ambiance. Space optimization should be a priority, with clever storage solutions and flexible seating arrangements. Advanced technologies like touchscreens, voice-controlled systems, and connectivity features should be seamlessly integrated to enhance convenience and infotainment. Ultimately, styling a luxury small car for Indian cities necessitates blending opulence, practicality, and innovation to cater to the unique demands of urban lifestyles while offering an enjoyable and refined driving experience.

2. Background Theory

Several things must be taken into account while designing the interior and exterior of compact luxury automobiles for Indian cities in order to produce a fashionable and practical vehicle that meets the needs of city people. For the exterior, a sleek and compact design is essential to navigate crowded city streets. Emphasizing clean lines and aerodynamic shapes can enhance the car's visual appeal while also improving fuel efficiency. Attention to detail, such as stylish LED headlights, chrome accents, and alloy wheels, can elevate the overall aesthetic. Vibrant color options that suit the preferences of Indian consumers can also be considered. Interior styling should focus on maximizing space efficiency while exuding an air of luxury. The use of high-quality materials such as leather, wood, and brushed metal accents can enhance the premium feel. Ergonomics should be prioritized, with well-designed seating and intuitive control placement to ensure driver and passenger comfort. Integration of advanced technology, like touchscreen infotainment systems and smart connectivity features, can further elevate the interior experience. For the exterior, a sleek and compact design is essential to navigate crowded city streets. Emphasizing clean lines and aerodynamic shapes can enhance the car's visual appeal while also improving fuel efficiency. Attention to detail, such as stylish LED headlights, chrome accents, and alloy wheels, can elevate the overall aesthetic. Vibrant color options that suit the preferences of Indian consumers can also be considered. Balancing luxury, functionality, and the unique needs of Indian city driving, a well-designed small luxury car can offer an exquisite experience to urban motorists.

2.1 History of Mercedes Benz

Mercedes-Benz, a renowned luxury automobile manufacturer, has a rich and storied history that spans over a century. The company traces its origins back to the late 19th century when Karl Benz and Gottlieb Daimler independently developed the first gasoline-powered automobiles. Benz patented his three-wheeled vehicle in 1886, while Daimler's motorized carriage made its debut in 1889. In 1926, the merger of Benz & Cie. and Daimler-Motoren-Gesellschaft formed Daimler-Benz AG, which laid the foundation for the Mercedes-Benz brand. Throughout the years, the company has become synonymous with innovation, engineering excellence, and luxury. Mercedes-Benz has introduced numerous groundbreaking technologies, including the first production diesel passenger car, safety features like the crumple zone and ABS, and pioneering advancements in hybrid and electric vehicles. Over time, Mercedes-Benz has established itself as a symbol of prestige and sophistication, producing a diverse range of vehicles that cater to various segments, from sedans and SUVs to sports cars and commercial vehicles. The brand's iconic three-pointed star logo represents its commitment to quality, performance, and timeless design. With a global presence, Mercedes-Benz continues to push the boundaries of automotive engineering, providing drivers with a blend of luxury, craftsmanship, and cutting-edge technology.

2.2 Evolution of Mercedes Benz Car

Mercedes-Benz has a rich history of automobile evolution that spans over a century. From its humble beginnings in 1886 with the Benz Patent-Motorwagen, the first gasoline-powered automobile, to the present day, the brand has continually pushed the boundaries of innovation and luxury. Over the years, Mercedes-Benz has introduced iconic models that have become synonymous with elegance and performance. From the legendary Mercedes-Benz 300 SL "Gullwing" in the 1950s to the S-Class luxury sedan, the brand has consistently embraced cutting-edge technology and design. In recent times, Mercedes-Benz has embraced electric mobility, with the introduction of the EQ sub-brand and models like the EQC, an all-electric SUV. The company has also made strides in autonomous driving technology, integrating advanced driver assistance systems into its vehicles. Furthermore, Mercedes-Benz has expanded its lineup to include diverse segments, such as compact cars (A-Class, B-Class), SUVs (GLC, GLE), and high-performance AMG models, catering to a wide range of customer preferences. Throughout its evolution, Mercedes-Benz has remained committed to its core values of luxury, safety, and innovation, ensuring that each new generation of vehicles builds upon its prestigious heritage.



Fig: 2.1 Evolution of Mercedes Benz

2.3 METHODOLOGY

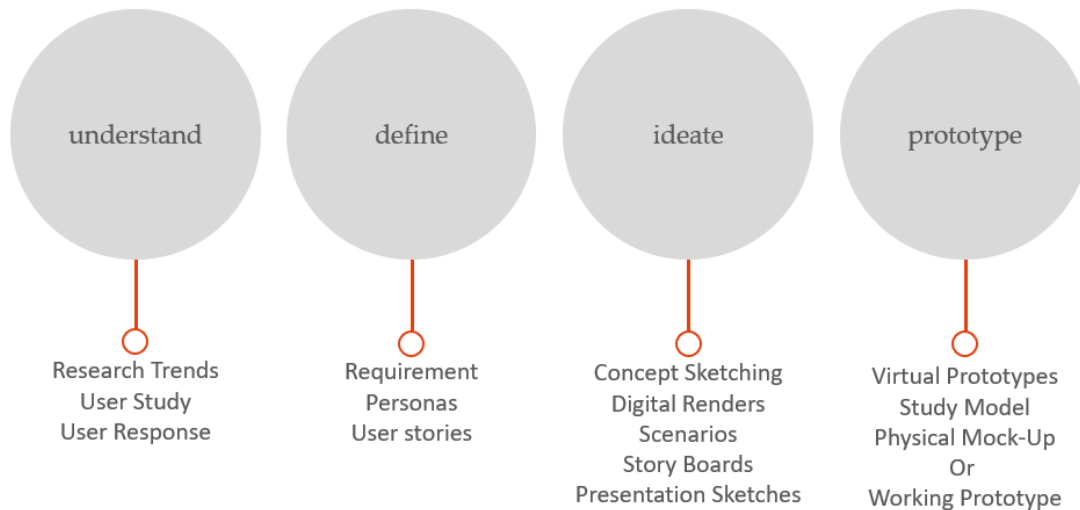


Fig: 2.2 Methodology

3. DATA COLLECTION

Small luxury cars have gained immense popularity among Indian people in recent years. They appreciate the combination of elegance and affordability these cars offer. Many believe that these vehicles perfectly balance style, comfort, and performance. Indian consumers are drawn to the compact size, making them ideal for navigating congested city streets. They appreciate the advanced features and technology incorporated into these cars, providing a luxurious driving experience. Additionally, small luxury cars are seen as a status symbol, reflecting one's success and taste. Indians appreciate the convenience and fuel efficiency these cars offer, making them a practical choice for daily commutes. Overall, small luxury cars have captured the hearts of Indian people for their style, affordability, and luxurious appeal.

3.1 Mercedes Benz in Indian Market

The Mercedes-Benz brand holds a prominent position in the Indian market, catering to luxury car enthusiasts. With its wide range of models, the brand showcases its commitment to elegance, performance, and advanced technology. In the Indian market, Mercedes-Benz offers a diverse lineup, including sedans, SUVs, and sports cars. One of the standout models from Mercedes-Benz in the Indian market is the Mercedes-Benz C-Class. It combines sophistication with dynamic performance, appealing to the discerning Indian consumer. The Mercedes-Benz GLC is another popular choice, offering a perfect blend of versatility and luxury for the SUV segment. Mercedes-Benz also offers a range of high-performance AMG models, known for their exceptional power and exhilarating driving experience. The Mercedes-AMG C 63 and Mercedes-AMG GLE 53 are among the sought-after AMG models in India. Furthermore, Mercedes-Benz ensures a delightful ownership experience by providing excellent customer service and a widespread dealer network across the country. As a result, the brand has established itself as a symbol of luxury and prestige in the Indian automotive market.

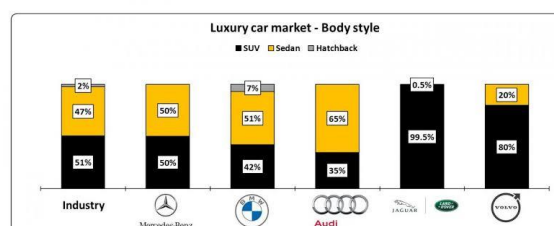


Fig: Luxury Car market

3.2 About the small cars in India

Small cars are extremely popular in India due to their affordability and maneuverability in congested city streets. They are a preferred choice for budget-conscious buyers and first-time car owners. These cars typically have a compact design, offering seating for four to five passengers. They are fuel-efficient, making them suitable for Indian roads and high fuel prices. Small cars often come with basic features like air conditioning, power steering, and front airbags. Their compact size also makes them easier to park in tight spaces, making them ideal for urban driving conditions.



Fig: Small Cars in India

3.3 Design Study of Mercedes Benz [Third generation (W176)]

The third generation of the Mercedes-Benz A-Class, known as the W176, showcases a distinct design language that embodies elegance, sophistication, and sportiness. With a sleek and aerodynamic profile, the W176 features clean lines and dynamic curves, exuding a sense of modernity and agility. At the front, the signature Mercedes-Benz grille takes center stage, flanked by striking LED headlights that provide a bold and confident look. The sculpted hood adds a touch of dynamism, further accentuating the car's athletic appeal. Moving along the sides, the W176 exhibits a well-proportioned body with pronounced wheel arches and a character line that runs from the front fender to the taillights, emphasizing its strong stance. The sleek roofline slopes gently towards the rear, enhancing the car's aerodynamic efficiency. The rear of the W176 features stylish LED taillights with a distinctive pattern, complemented by a sculpted bumper and dual exhaust tips, showcasing a blend of elegance and sportiness. Overall, the design language of the Mercedes-Benz W176 demonstrates a harmonious combination of aesthetics and performance, capturing the essence of the brand's luxury and innovative spirit.



Third generation (W176)

Mark Fetherston Designer

Fig: 3.3 Third generation (W176), Mark Fetherston Designer

4. Concept Generation

4.1 Ideations

All ideations were made manually keeping in mind the mood board as well as the popular opinion of the summary of my research and in order to get new ideas for the concept, I decided to implement various other design elements that can work together to create a new design for a small car for Indian cities.



Fig:4.1 Ideation

4.2 FINAL AND CHOSEN CONCEPT

After various concepts, I decided to finalize the concept shown in figure 4.2, this concept generated by the taking the inspiration by from the design language of Mercedes Benz and BMW. In these chosen final concepts, I combined (W176) and BMW I vision circular design language, in order to keep in mind, keep the design simple and sustainability.

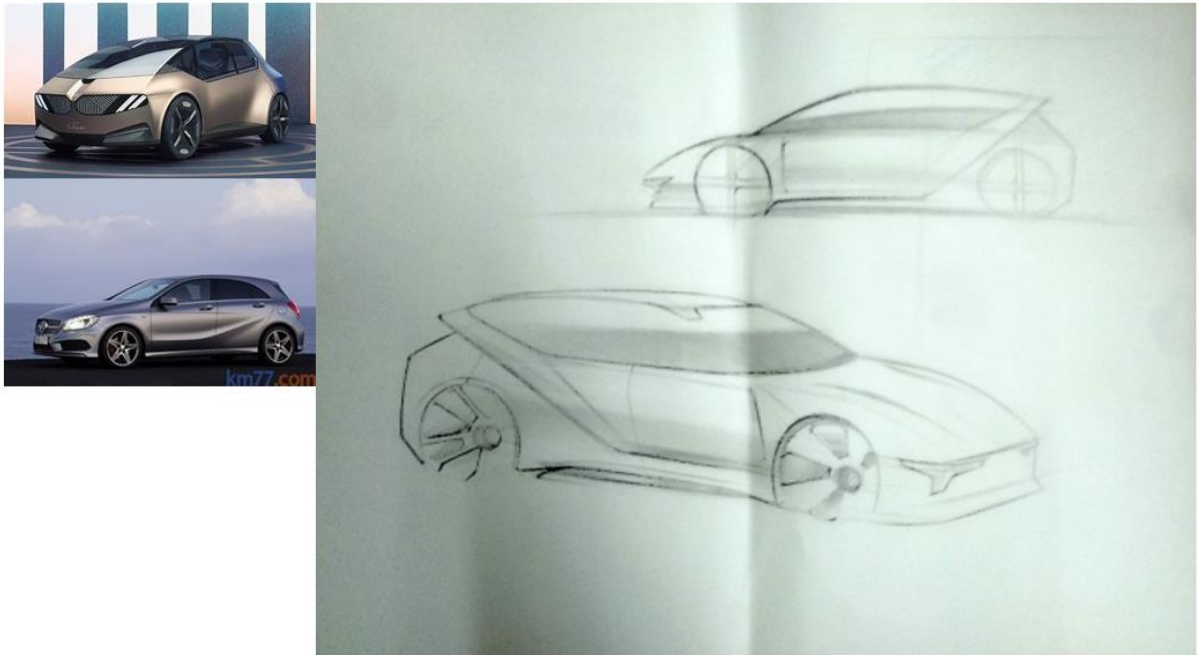


Fig:4.2 Chosen Concept

4.3 CONCEPT DETAILING

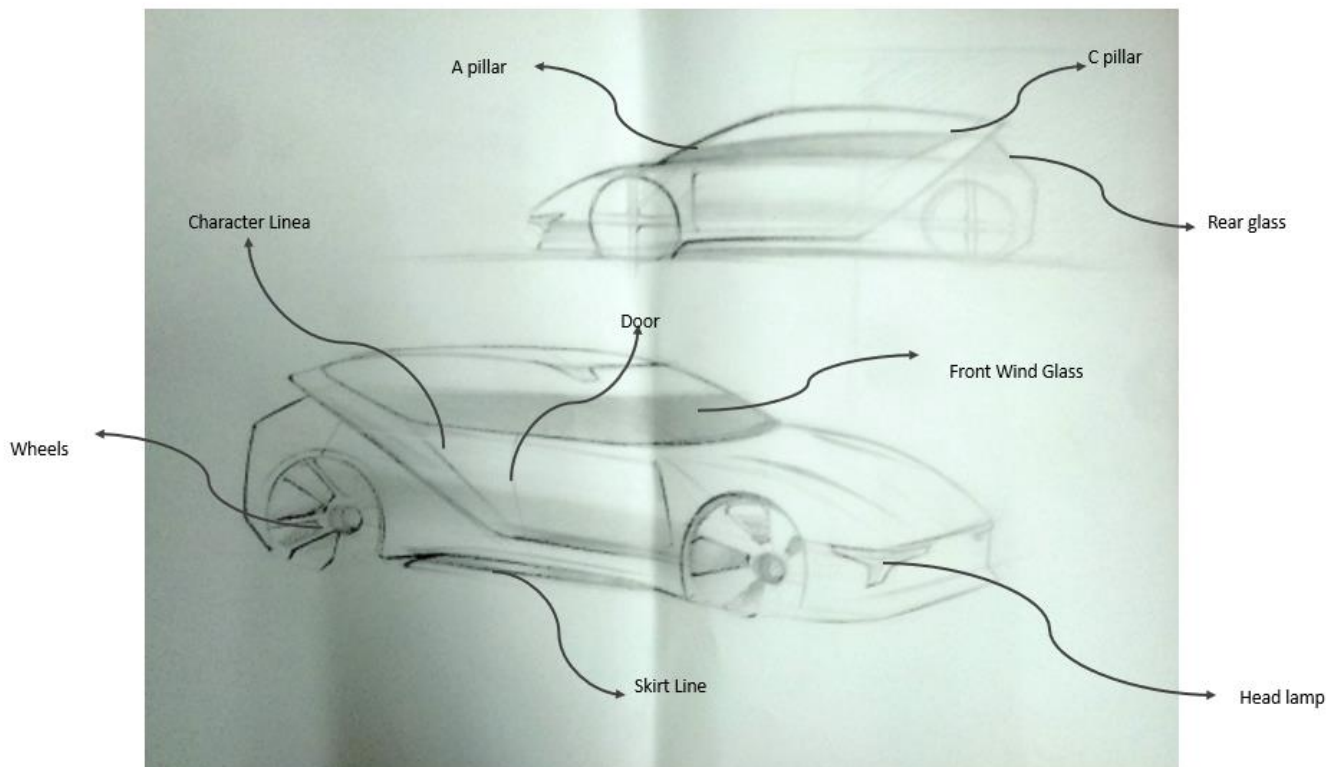


Fig: 4.3 (Concept Detailing)

All the essential components that would be required to this car design, the model was detailed such so that comfort, that provided with proper aesthetical look to the car. And adding to the new design style to car model, which looks different in the Indian roads and users also likes the model. And this car model mainly focusing on the reducing the components, so that maintenance will be less, and the manufacturing, assembly and material cost also will reduce. And mainly focusing on aesthetics. Focusing on the lines, forms and shapes which gives the more aesthetical look to the model.

4.4 Alias 3D MODELLING

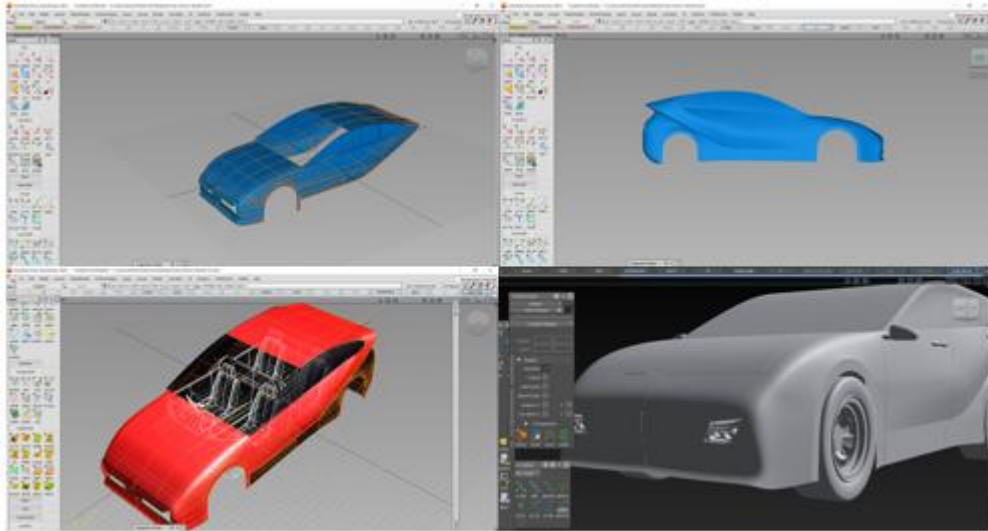


Fig: 4.1.1 (3D modelling)

The models were entirely designed in Autodesk Alias software and rendered in Keyshot11. In order to reduce components, many of the Parts were design separately to be added on to the model when in use.

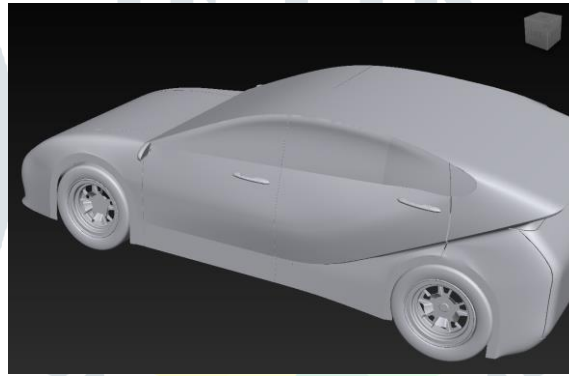


Fig:4.1.2

All parts of the Model were design aesthetically, comfort and Styling of the product when in use, mainly focusing on the reducing the components.

4.5 Rendering and Colour Pallet

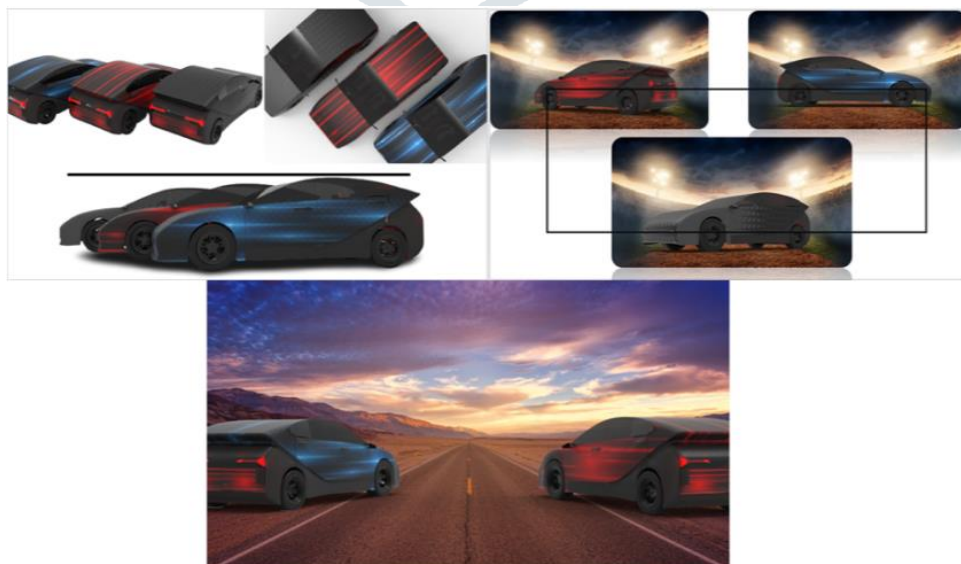


Fig: 4.5.1 Key Shot Rendering

The product was rendered in key shot with the appropriate materials given for the respective parts and giving it a representative appearance for how it would look like when the prototype was finally made. The colour was also chosen considering the use of the product.

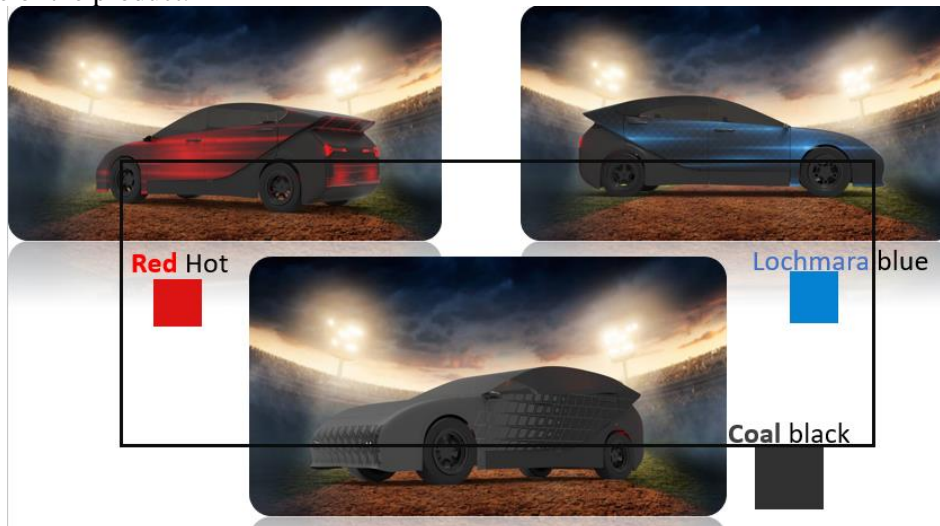


Fig 4.5.2 Color palette

The color palette was chosen considering the use and placement of the product which looks at the maintenance and Aesthetic look of the product in use.

4.6 features of product

- Electric Vehicle
- Futuristic Look
- Less components
- Unique form and Styling
- Wide rare wind glass
- Sustainability
- Less maintenance cost.
- Suitable for Indian Roads
- Available in affordable cost

Small cars are designed to be compact, making them suitable for navigating through congested city streets and tight parking spaces. Indian small cars are typically equipped with fuel-efficient engines, offering higher mileage per liter of fuel, which is crucial for cost-conscious buyers. Small cars are often priced competitively, making them accessible to a wide range of buyers, including first-time car owners and budget-conscious individuals. With their small size, these cars offer nimble handling, making them easy to maneuver in traffic and tight corners. Despite their compact size, small cars in India often feature well-designed interiors with comfortable seating, ample headroom, and clever storage solutions. Due to their smaller size and simplified mechanics, small cars tend to have lower maintenance and servicing costs compared to larger vehicles. Small car buyers often have the option to personalize their vehicles with various exterior and interior accessories, allowing them to reflect their individual style. These features cater to the needs of Indian consumers who prioritize affordability, efficiency, and practicality in their everyday transportation.

5. RESULTS AND DISCUSSION

This project was intended to describe the Styling of Small Luxury car. Starting from the preliminary analysis, research and Market Study. This project has given opportunity to explore in the styling of a small car for Indian cities and given emphasis on aesthetic, ergonomics, functionality and aerodynamics.

6. CONCLUSION

In conclusion, the styling of interior and exterior luxury small cars for Indian cities is a delicate balance between elegance, practicality, and functionality. The design elements take into account the unique challenges and requirements posed by urban environments, such as limited parking space, traffic congestion, and varying weather conditions. These cars offer a harmonious blend of style and substance, providing a luxurious driving experience while navigating the bustling streets of India's cities. With their compact dimensions, advanced features, and attention to detail, these vehicles cater to the discerning tastes of Indian car enthusiasts seeking luxury in a small package.

7. Acknowledgment

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