

ASTHEIMER
DESIGN

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S010 redefining
urban
transport



SO10

redefining
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transport

SO10 is a unique pedal assist, zero-emission electric vehicle that's been designed to bridge the gap between bicycles and cars.

The vehicle promotes active travel by providing the best year-round accessible experience for personal transport within urban environments.

The SO10 Bike sets a benchmark in lightweight ingenuity, making it efficient, dynamic, and agile

"We worked with Astheimer Design on the development of the SO10 bike. Their design expertise and unwavering dedication were crucial in crafting the distinctive aesthetic of the SO10 bike. Their unique ability to seamlessly blend form and function is evident in every detail, resulting in a product that establishes a new benchmark."

Jamie Richards, Founder SO10 Bikes.

Future urban mobility

The future of urban mobility is poised to undergo a profound transformation, requiring an eco-system of products. Ride sharing pedal-assist bicycles will play a pivotal role in shaping this revolution.

These bicycles, equipped with advanced electric motor systems, seamlessly amplify human pedaling efforts, making urban commuting faster, more efficient, and environmentally friendly.

As cities grapple with congestion, pollution, and limited space, pedal-assist bicycles offer a sustainable solution that promotes healthier lifestyles while reducing the reliance on traditional ICE vehicles.

The integration of smart technologies, such as GPS navigation, connectivity features, and energy regeneration systems, is set to enhance the overall cycling experience, making it safer and more convenient.

With urban infrastructure adapting to accommodate cyclists and dedicated cycling lanes becoming more prevalent, the future envisions a harmonious blend of human and electric power, fundamentally revolutionizing the way people move within cities.



End-to-End Service

We pride ourselves on developing strong collaborative partnerships with our clients and that's what we did with SO10 bikes.

We started by understanding the founder's vision and objectives, guiding them through the product development process, understanding the market, customer requirements, positioning the brand and creating the design. We partnered with Prodrive who engineered the chassis and drive train, we designed the exterior and interior, and manufactured the prototype vehicle at our facility in Warwick.

This holistic approach meant that integrity of the initial concept design was able to be translated through to the running prototype.

"Throughout our collaborative journey, what stood out was Astheimer Design's resolutely positive, can-do attitude. Their approach not only elevated the project's outcome but also made them an absolute pleasure to work alongside. Their proactive stance, coupled with their deep design sensibilities, ensured that all challenges were met with innovative solutions."

Jamie Richards, Founder SO10 Bikes.

Design



Development



Prototype



Use case

As with all our projects the start point was the customer. In this case understanding personal urban transport first hand, taking ride sharing trips in London via E-bikes and Scooters. Alongside this we analysed the market and competitors, talked to users and became informed on planned future urban environments.

We found current ride sharing solutions to be lacking in functionality, and inaccessible to a large part of the population.

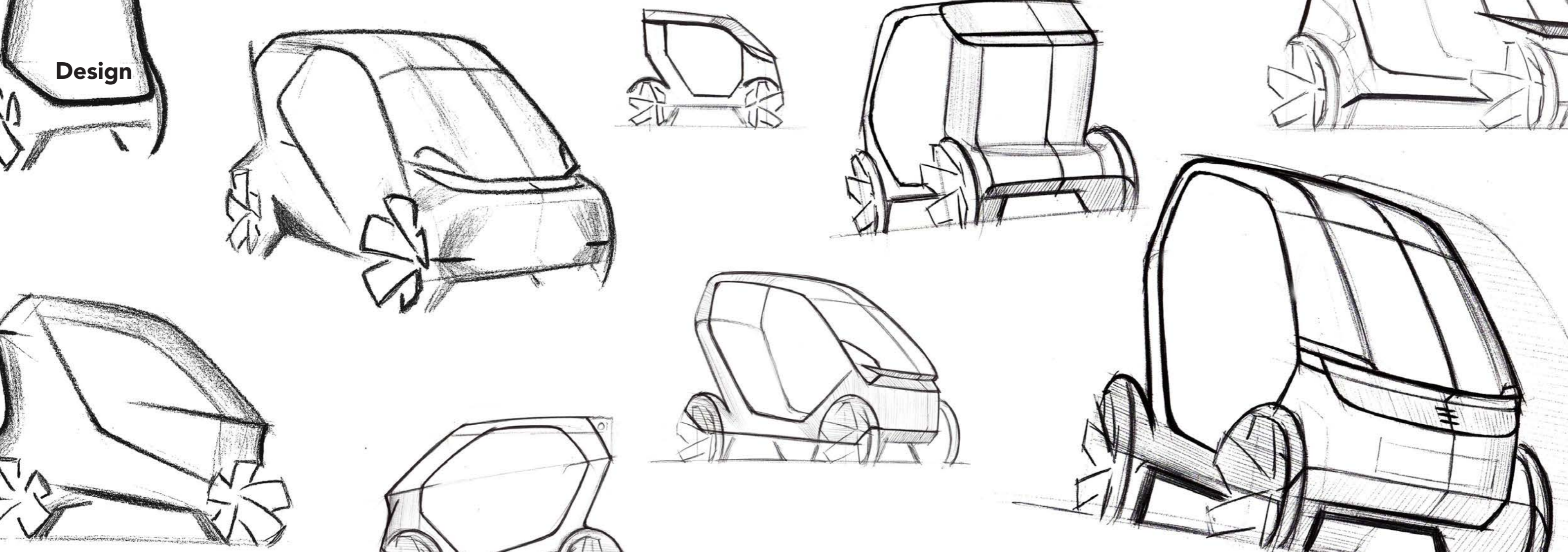
They were predominantly used by men 18-35 years old, one ONS survey suggested 75% of all cycle trips were being taken by men.

We found women's concerns were around safety, and that their needs would include taking journeys with multiple stops - including school runs and shopping. In addition, ride sharing is significantly less utilised during winter months and inclement weather.

Therefore the identified opportunity was to create an **inclusive, safe, all weather** vehicle with the ability to transport children with space for shopping. As a pedal assist ride sharing vehicle, where range and battery life is vital, it also needed to be as compact as possible, lightweight and agile, yet durable enough for operator use.



Design



Design

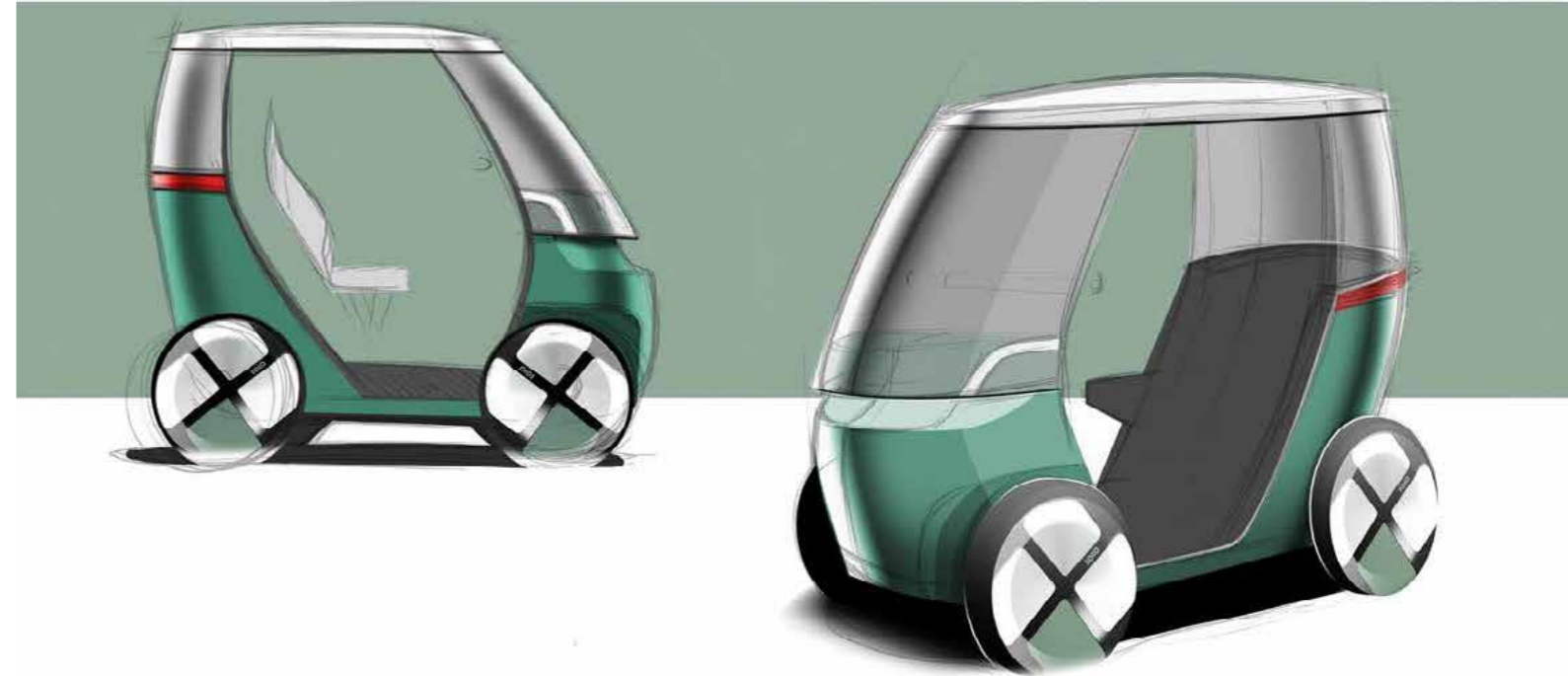
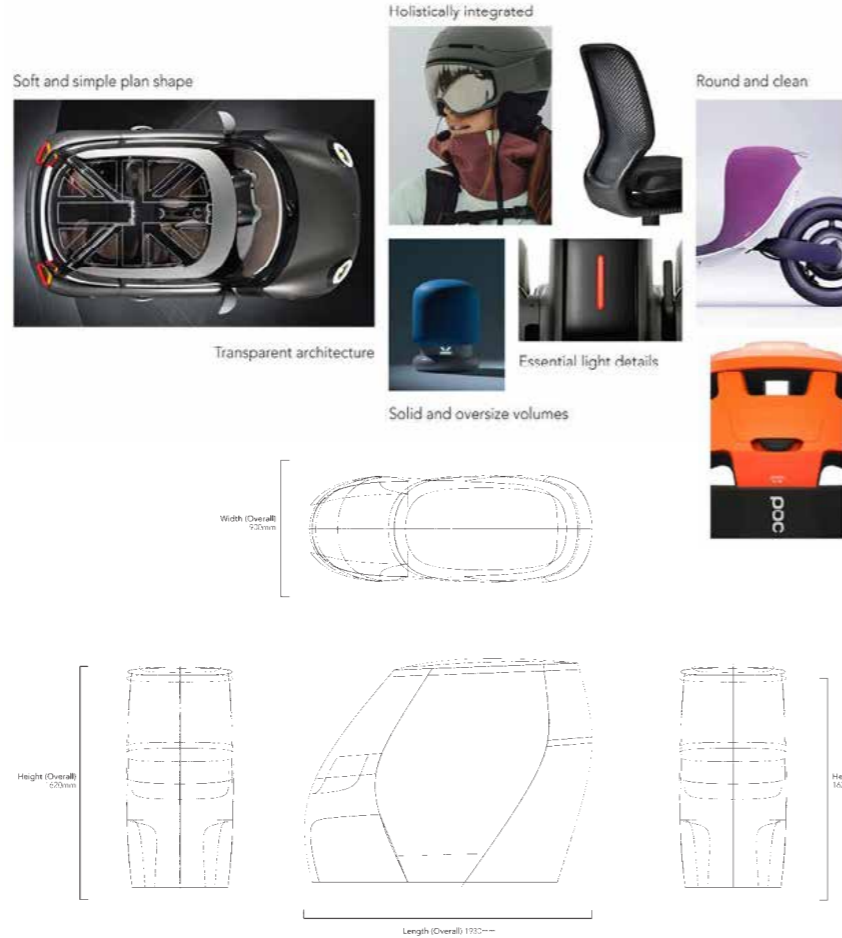
The SO10 bike was designed to be inclusive from the start, and at home in an urban environment.

We created a simple, **dynamic** yet **friendly** aesthetic characterised by a large transparent canopy and unique 'hockey stick' DRL signature.

The design of the bike was refined through a thorough process, starting from an initial package, 2D sketches and renderings.

Initial 3D CAD models were created and evaluated in VR to help make the most informed design decisions.

We created full scale mock-ups to validate the ergonomics before a final 3D 'A' surface model was created for design freeze and sign off.



Initial chosen concept sketch





SO10 Bike

SO10 is designed around the user.

An integrated phone dock allows the user to navigate safely whilst charging their phone. The handlebar controls provide familiar 'car like' functionality including sequential indicators and brake lights. The front and rear lighting are highly visible, giving best in class safety. In addition a laser projects an image ahead of the vehicle for advanced warning to other road users.

The 4 wheeled vehicle architecture, bumpers and canopy not only provide weather protection, but also a physical barrier between the occupants and the outside whilst maintaining maximum direct visibility.

The compact footprint of '1+1' seating arrangement allows for an adjustable riding seat, but also a bench seat behind for children, pets, belongings or shopping.







Development

Subsequent to design freeze we worked through the engineering phase, starting with a full build strategy.

Based on the fully functional chassis, and working closely with our partners, we defined parts splits, plus engineered all A & B surfaces and attachment strategies for all the visible parts.

In addition, to enable the custom lighting features we designed the electronics programmed the PCBs.

We then co-ordinated with suppliers for full feasibility, and reworked where required to ensure the BOM was within budget.

Finally we facilitated parts production and performed quality checks before starting the assembly process.



Prototype



We go the extra mile in designing each and every detail of the prototype to ensure the ease and efficiency of the vehicle build. The parts were assembled onto the running chassis in less than 2 weeks.







Delivery

The SO10 bike project was delivered from a clean sheet of paper to fully functional running prototype in 6 months.

It will be tested and trialled by users and operators with the goal of starting a production vehicle program in the coming months.

We are thankful to SO10 bikes for giving us the opportunity to partner in such an exciting project, the Niche Vehicle Network for their support, and also to Prodrive for their collaborative approach and excellent working relationship.





We are Astheimer Design

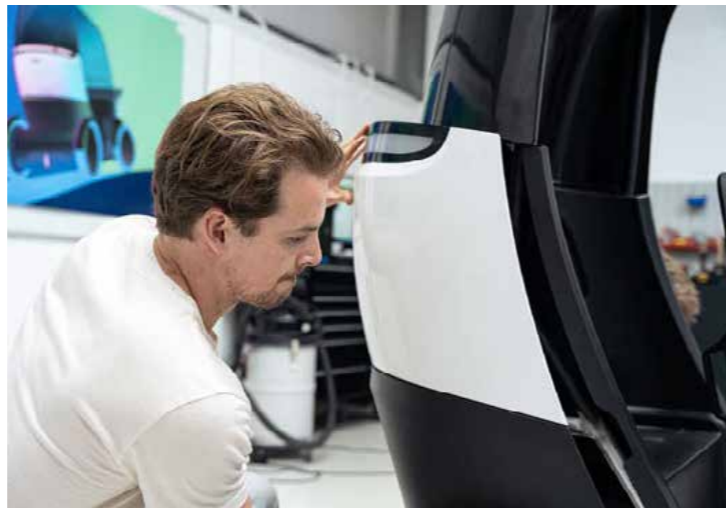
Making it real.

We balance visionary creativity and practical engineering to make sure our designs are unique, relevant and desirable.

We are proud to be the design partner to some of the world's most innovative sustainable mobility companies, across a broad spectrum of sectors including Automotive, Commercial vehicles, Marine, Public transport and Personal mobility.

We have a world class team of creative designers, design engineers, modellers and visualisers. We're humble, passionate and relentless in our pursuit of excellence.







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