

PROJECT NARRATIVE

Wheel Haus is an innovative off-grid cabin solution designed to cater to ride-in/ride-out bike adventures while adhering to Accessory Dwelling Unit (ADU) size constraints and regulations in various jurisdictions. This versatile housing concept prioritizes Universal Design, Affordability, Sustainability & Resilience, and Innovation & Creativity:

Universal Design & Aging in Place:

- Wheel Haus is designed with accessibility in mind. Its slab-on-grade concrete foundation eliminates thresholds and steps, making it easy for people of all ages to age in place comfortably.
- The inclusion of a curbless shower and zero-maintenance finish floor further enhances accessibility.
- The spacious kitchen and wide doors provide clearance for ADA accessibility and turnaround requirements.
- Durable materials were thoughtfully selected to minimize maintenance needs and ensure longevity.

Affordability & Cost Effectiveness:

- While some materials, such as the concrete floor, metal roof, and high-performance windows, may have higher upfront costs, they offer long-term cost savings through improved energy efficiency and minimal maintenance requirements.
- The structure's design on a four-foot module optimizes material usage, reducing construction waste and creating the potential for off-site prefabrication in modules, which can increase cost efficiency.

Sustainability & Resilience:

- Sustainability is a central focus of Wheel Haus. Its butterfly roof design incorporates clerestory windows to maximize daylight, reducing the need for artificial lighting and lowering energy costs.
- The roof doubles as a collector of solar energy through a large south-facing solar panel array, reducing reliance on traditional energy sources.
- An integral gutter system captures rainwater during storms, which can be repurposed for toilet flushing, and landscape and garden irrigation, promoting water conservation.

Innovation & Creativity/Aesthetics:

- Despite its seemingly simple footprint, Wheel Haus showcases innovation through its strict four-foot grid design, optimizing standard materials and dimensions for efficient construction.
- The semi-open floor plan allows for flexible space reconfiguration over time, adapting to changing lifestyles and occupants.
- Wheel Haus is designed to withstand the challenges of an uncertain future, including rising energy costs, increased droughts, and temperature fluctuations, thanks to its integration of self-sustaining systems.

Wheel Haus is a forward-thinking housing concept that addresses the needs of both adventure enthusiasts and those seeking a sustainable, adaptable, and accessible living space. Its careful consideration of design principles makes it a viable solution for various environments, from backyards to mountain valleys, where resilience and innovation are key factors for comfortable living.