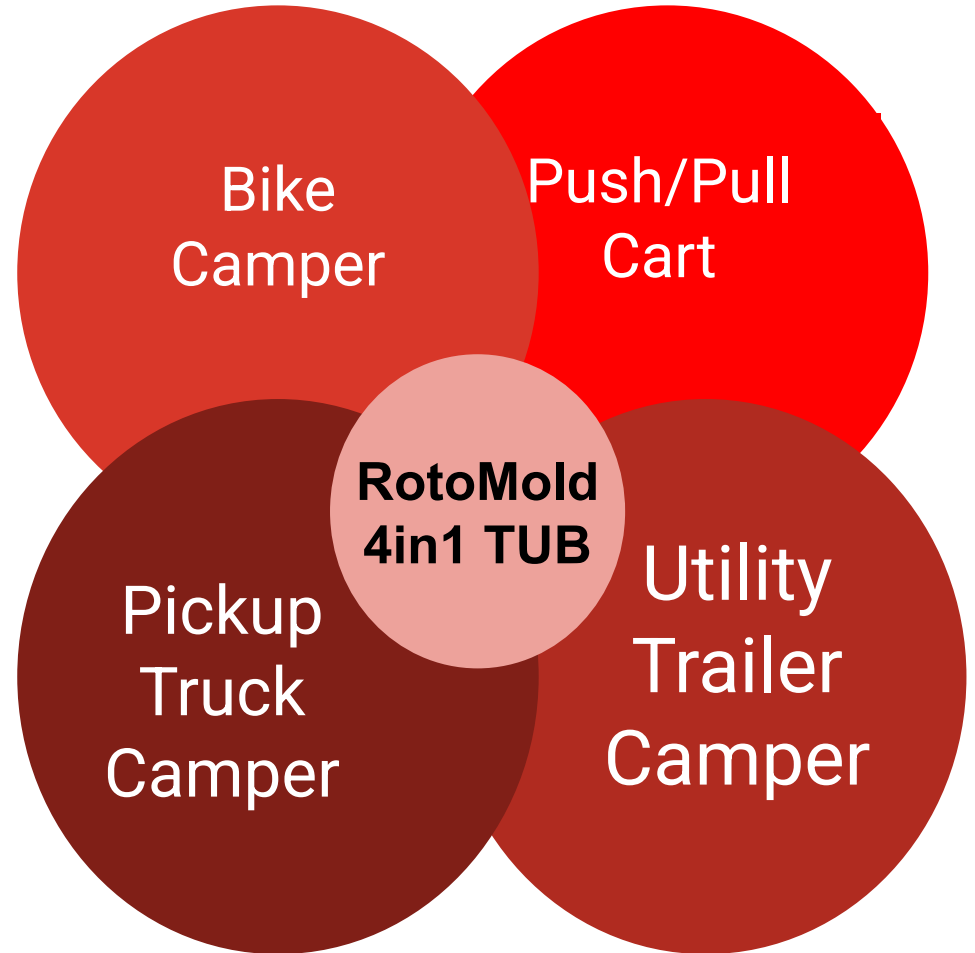


Micro Mobile Homes LLC



702-272-9650



Micro Mobile Homes LLC

Board of Directors:

- Rickey Johnson, Founder
- Isaac Smiles, Data Scientist
- Mike Giroux, Factory Eng./Solar
- James Sharpless, Sales & Mkt.

UNLV/SBDC: J. Zendejas-Chavez

Cal Poly Tech University:

- MMH R3/2025
- MMH R4/2026



Rickey Johnson
Founder/Registered Agent

RotoMold Tub

- Durable, Indestructible Materials.
- Non Flammable.
- Light weight.
- Mass Production.
- RotoMold Plastic can last 10K years!”



Target Market: E-Bikers

Models: Specifications	Entrepreneur 1.0 Bike Utility Trailer	Weekender 2.0 Tent Camper
Tent Size	N/A	1 Person 79"Lx32"Wx66"T
Square feet when open	17 Sq. Ft	17 Sq. Ft.
Style	Bike Trailer	Traditional or Pop-up Tent
Set-up Time	N/A	Pop-up: 15 to 20 seconds
Insulation	N/A	1 or (2 w Pop-up) Layer(s)
List Price	\$2,000	\$2,000
Total Weight Empty	46 lbs. W/O wheels & hitch	56 lbs. W/O wheels & hitch
Chassis Size	83"Lx34"Wx20"T	83"Lx34"Wx20"T
Dry Storage	108 gal.	108 gal.
4 in 1 Installation	N/A	Good
Quick Release Wheels/Towbar	Yes	Yes

Entrepreneur 1.0 Bike Trailer

- Easy to handle.
- Quick release wheels/towbar.
- Functions as a utility trailer for hauling & delivery.
- Can build your own business!
- Can charge your bike while riding!



Weekender 2.0 Tent Camper

- Rotational Molding:
 - +Indestructible material
 - +Non-flammable
 - +Mass production!
- Single person tents:
 - + Traditional (tent polls)
 - + Pop-up (no tent polls)
- Lowest cost, lowest weight camping solution.

MicroMobileHomes.com

E-bike Camping, Living, and Adventures!

KEY FEATURES: For inquiries, email us at: info@MicroMobilHomes.com

Comfortable Sleeping Space:
A cozy retreat for a good night's sleep.

Ample Storage:
Comes with Four quick access *Tough Totes*.

Spacious Heavy-Duty Tent:
78.8" L x 31.5" W x 65" T, with 12 design options.

Eco-Friendly Power:
Integrated solar panel and power station with various options.

Heating Solutions:
Electric heating blanket options available.

Cool Comfort:
Fans with lights and misting features.

Tech Ready:
Charge phones, computers, and other gadgets effortlessly.

Mobile Bicycle Camper (Retail)
Quick Release Wheels and Axle:
Detach wheels for camper stability.
Social Impact: 10% of every sale goes directly to combat homelessness!

Starter Mobile Home (Homeless)
Secure Design: Fixed to the ground with a locking cover for added safety.

the **WORLD'S FIRST TWO-LEVEL TWO-MARKET TRAILER HOME**

MicroMobileHomes.com

info@MicroMobilHomes.com



Weekender 2.0 Bike Camper



Target: Camping Enthusists

Camper Models: Specifications	Voyager R 3.0: 3 Person Camper Cal Poly Tech '25	Expedition R 4.0 Hardtop Camper Cal Poly Tech '26
Tent Size Square feet when open Style Set-up Time Insulation List Price	3 Person 80"Lx58"Wx40"T 32 Sq. Ft. Luxury 3 Person Tent 3-5 Minutes 2 Layers, one is removable \$4,000	1 Person 83"Lx34"Wx20"T 17 Sq. Ft. Hardtop Camper 5 to 10 Seconds R11 in the roof \$5,000
Total Weight Empty Chassis Size Dry Storage Simple 4 in 1 Conversion Quick Release Wheels/Towbar	162 lbs. W/O wheels & hitch 83"Lx34"Wx29"T 108 gal. Better Yes	92 lbs. W/O wheels & hitch 83"Lx34"Wx40"T 108 gal. Best Yes

Voyager 3 Person Luxury Camper

- Developed at Cal Poly Tech.
- Quick and easy set-up.
- Access to remote campsites.
- Camper can use solar power.
- Convenient bed height @ 18”!

Micro Mobile Homes R3

Team: Roha Ali, Luke Douglas, Yuka Iwashita, Joshua Le
Advisor: Rick Lasko

MicroMobileHomes.com
Sponsors: Rickey Johnson, Isaac Johnson

Objective

Outdoor enthusiasts need a way to keep themselves and their belongings safe when on the road. Existing products do not offer adequate security, portability, or versatility for bike travel.

Design Process

The Micro Mobile Home R2

Low Fidelity Prototypes

Alternative Solutions

Collapsible A-frame Fold-out

Initial Chosen Concept Design Second Chosen Concept Design

Concept Prototype

Fold-out Storage Pop-up Tent

Finalized Design

Solution

The MMH R3 is an e-bike trailer with 108 gallons of storage and 32 square feet of sleeping space that enables outdoor enthusiasts to comfortably and safely camp.

Manufacturing

- Nearly all components are off-the-shelf
- Components were modified to fit requirements
- Storage base was manufactured using rotational molding
- Tent legs were attached to Meadowlark XL Tent frame
- Aluminum Frame:
 - Made from aluminum extrusions and fixed together with brackets, T-bolts, and nuts
 - Holes drilled through frame with hand-drill or drill press for attachment of tow-bar, buckle strap guides, jack alignment pins, and axle

Analysis

- FEA: Roto-molded base and tent legs withstand the max loads with minimal deformation.
- Base - only 0.75 inches of deflection under a max load of 840 lbf.
- Tent legs - negligible stress and deflection under a 400 lbf load.
- Tongue Weight: load on bike's rear axle
- Calculate 10-15% of gross weight
- Tongue weight is ~95 lbf on rear axle for maximum payload

Test Results

Tensile Testing for Straps Connecting Tent to Storage Base

- Strap ruptured before hooks and loops came undone
- Dependent on strap orientation
- ~180 lbf loading before failure
- Required load per strap: > 45 lbf → F.O.S = 4

Acceleration/Deceleration and Towability Testing

- Acceleration and deceleration between 0 and 10 mph
- iPhone Speedometer app tracked speed over distance
- Qualitative stability test showed low vertical oscillation

Deployment Time Test

- Target: < 5 min
- Subject Groups:
 - Two members of the MMH team:
 - Times: 4:11 min and 4:58 min
 - One subject unfamiliar with usage:
 - Time: 16:00 min

Tongue Weight Test

- Failure by shear stress → max weight spec. reduced

Payload (lbf)	Gross Trailer Weight (lbf)	Tongue Weight (lbf)	Pass/Fail
0	140	22	Pass
112	252	27	Pass
224	364	41	Pass
336	476	48	Pass
504	644	-	Fail

Conclusion

Testing confirmed that the connecting straps exceed load requirements of 45 lbf, the trailer can be deployed in under 5 minutes, and the trailer can withstand a maximum payload of 336 lbf. Additional tests, including acceleration/deceleration, towability, and unit stability ensured the safety and usability of the trailer.

Next Steps

Design improvements include repurposing the original tent cover to integrate solar power sources, adding exterior jack storage, and integrating a lift support system to ease storage access. More rigorous testing should be done for stability and towability.

3 Person Luxury Tent Camper

Luxury Camper with Flexible Installations:

- Two Adults and One child.
- Install behind a bike, in a pickup, in a utility trailer, or a cart!

Bicycle Camper



Pickup Truck Camper



Trailer/RV Camper



Push/Pull Camper



Voyager Truck Installation

- Quick Install and Set-up, No Poles.
- Low cost truck camper alternative.
- Easy to move and remove.
- Campers can use truck lights, battery, and extra storage!



Voyager Trailer Installation

- Quick Install and Set-up, No Poles.
- Low cost RV alternative.
- Campers can leave their trailer/Voyager 3.0 at the campsite while driving to town!



Voyager Interior Highlights

- Skylights and rope light.
- Plenty of ventilation and pockets.
- 2.5" Memory Foam Mattress
- Sleep in luxury, not on the ground!



Ventilation and pockets!

Skylights and Rope Light!



Expedition 4.0 Hardtop Camper

- Quickest Setup.
- Light Weight, 92 lbs.
- Unique three levels:
 1. Kitchen Counter
 2. Bedroom/Sitting Room
 3. Secure Storage
- R11 Roof Insulation
- Protection against hot/cold weather, bugs, wind, and rain!



Expedition 4.0 Hardtop Camper



Competing Retail Products

MMH Install	Competition	Competition Pricing
Bike Trailer: \$2K*	Surly Bill Trailer BikesAtWork.com CarlaCargo.de	\$815 plus (frame only) \$1,700 (frame & hitch) \$4,000 (deluxe frame)
Bike Camper Install: \$2K - \$5K*	Evolving Market, DIY on YouTube	TBD
Pickup Truck Camper Install: \$2K - \$5K*	Many Truck Campers available.	\$10K - \$50K
Utility Trailer Camper Install: \$2K - \$5K*	Many RVs available.	\$25K - \$100K or more

*Note: Bike, Truck, and Utility Trailer not included.

All Models

- Rectangular design frees up space for bikes, boats, beach toys, gear, food, almost anything!
- Secure storage.
- Stores as a table or bench in the backyard!



Bikes fit alongside camper!

Hidden/lockable Storage!

