



# CWA-ACCESSIBLE TRISHAW

Eddy Enyedy

Ryan Gottwald

Alex Masiero

Kelsey Reno

COPEN  
HAGEN  
CYCLES

CYCLING  
WITHOUT  
AGE



# MEET OUR TEAM



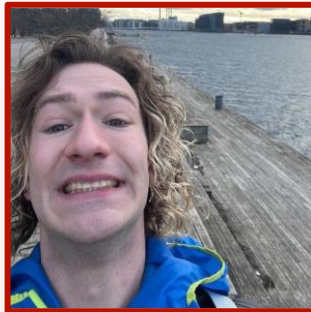
**Eddy Enyedy**

Robotics and  
Mechanical Engineer



**Ryan Gottwald**

Mechanical Engineer



**Alex Masiero**

Mechanical Engineer



**Kelsey Reno**

Mechanical Engineer



# CYCLING WITHOUT AGE (CWA) HELPS CONNECT COMMUNITIES WITH TRISHAW RIDES

Slowness

Generosity

Relationships

Without Age

Storytelling



# EXISTING TRISHAWS WERE NOT FULLY DESIGNED FOR CWA MISSION AND PURPOSE



Nihola  
Taxi



Triobike  
Taxi

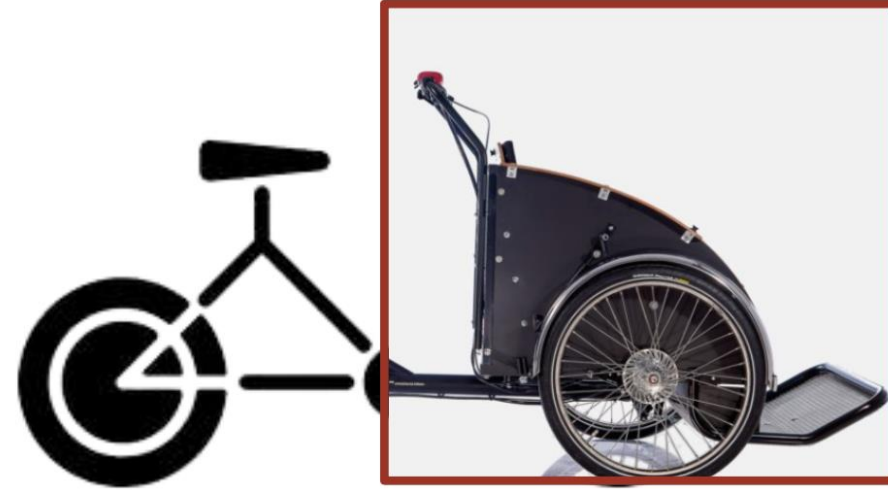


Christiania  
Model-T



Van Raam  
Chat

# DELIVERABLES



1

## TIPSTAND

Tipstand for Triobike  
Taxi

2

## PASSENGER SEATING

Physical prototype and  
CAD model

3

## RECOMMENDATIONS

Steering and suspension  
recommendations

4

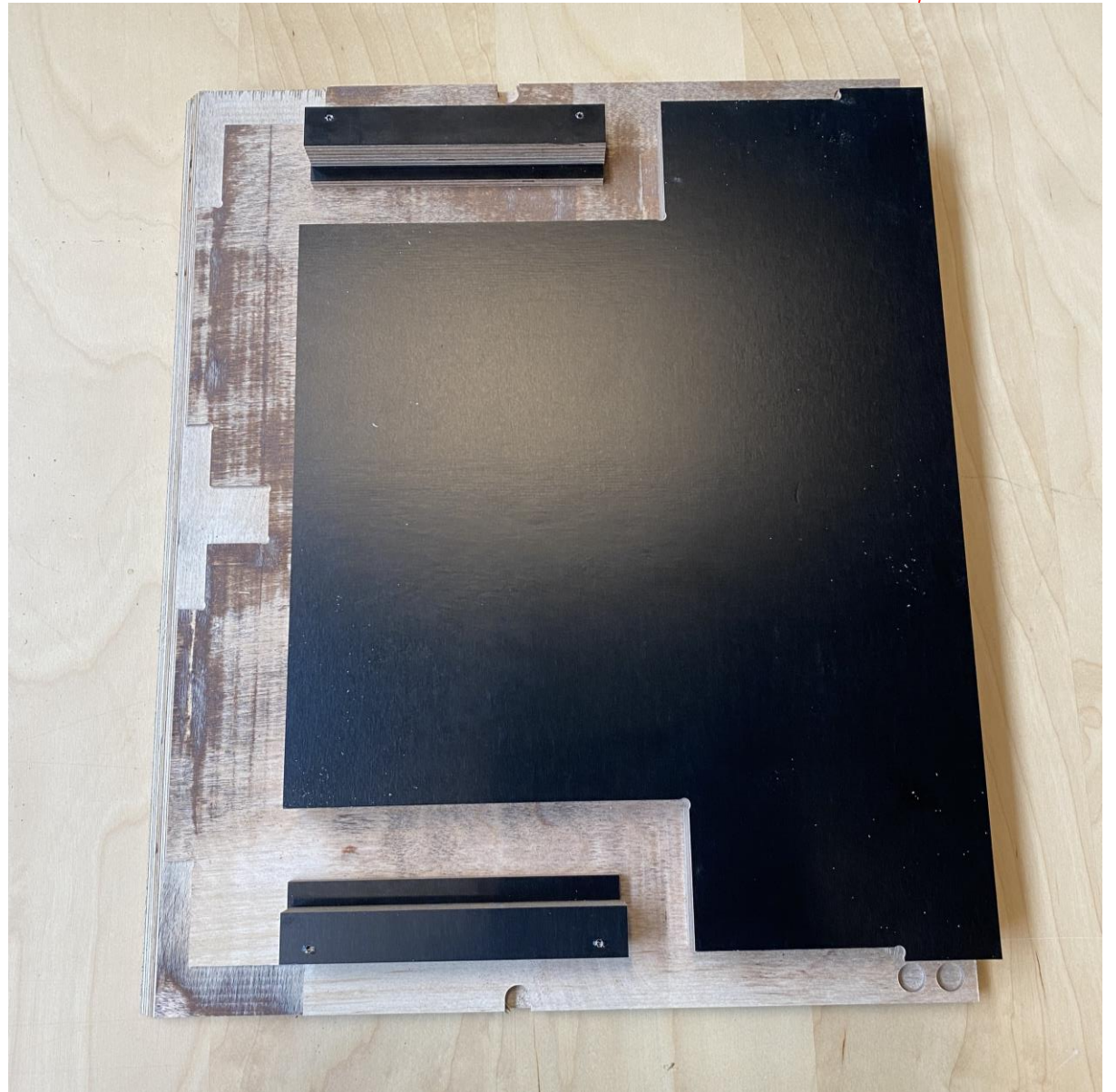
## FINAL CONCEPT ART

Sketches of our vision  
for a final product



# 1. TRIOSBIKE TIPSTAND DESIGN

Improve safety of the  
Triobike

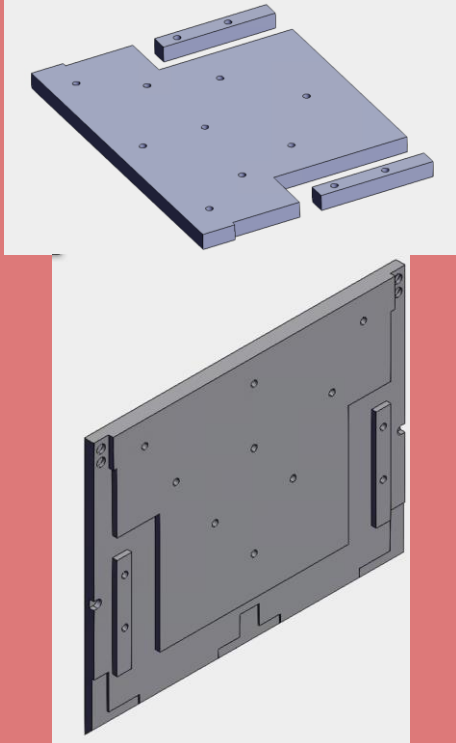


# 1. TRIOBIKES ARE PRONE TO TIPPING. WE WERE TASKED WITH FIXING THIS



# 1. OUR DESIGN PROCESS

## 1. Design



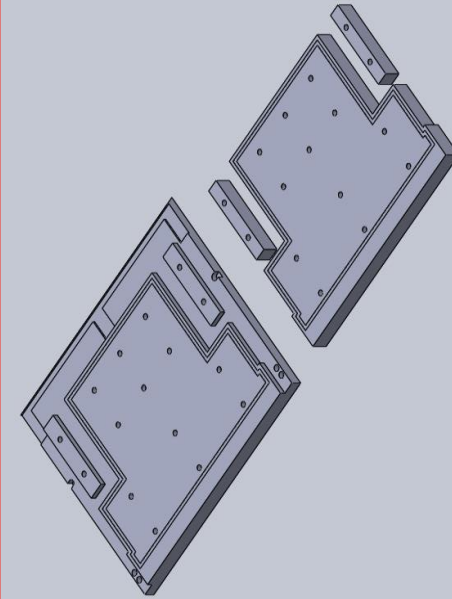
## 2. Manufacture



## 3. Test



## 4. Redesign



## 5. Finalize





# 1. TIPSTAND INCREASES SAFETY WHEN ENTERING/EXITING BY PREVENTING TIPPING

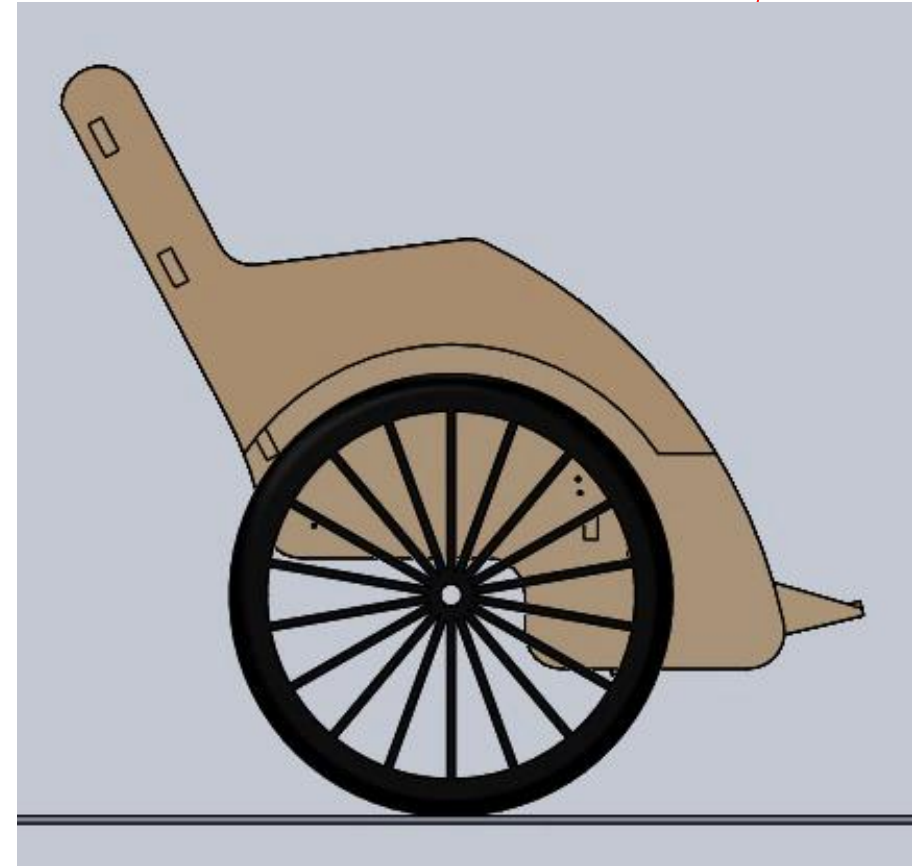


## 2. PASSENGER SEATING DESIGN

Designed Specifically with  
CWA in Mind

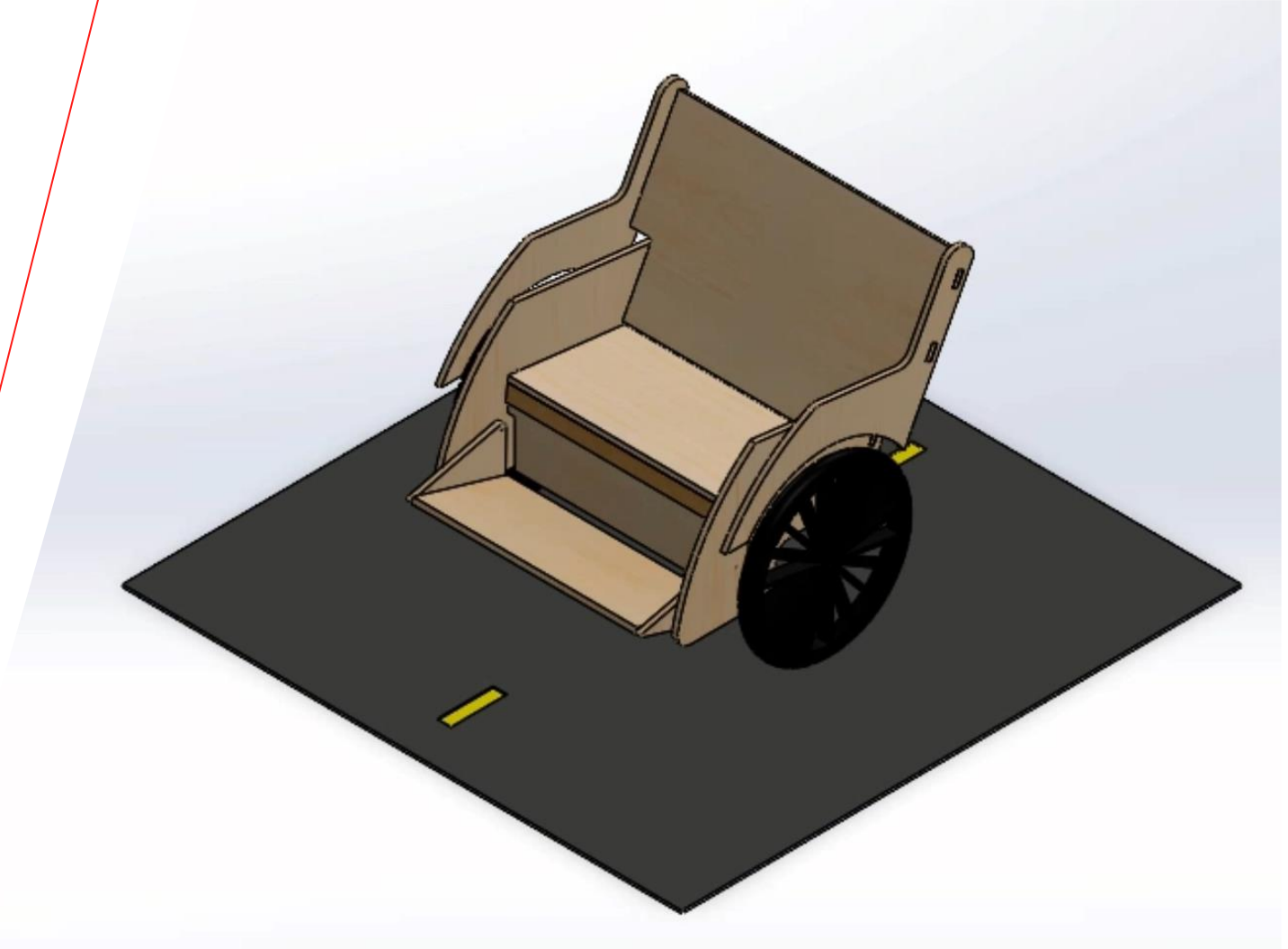


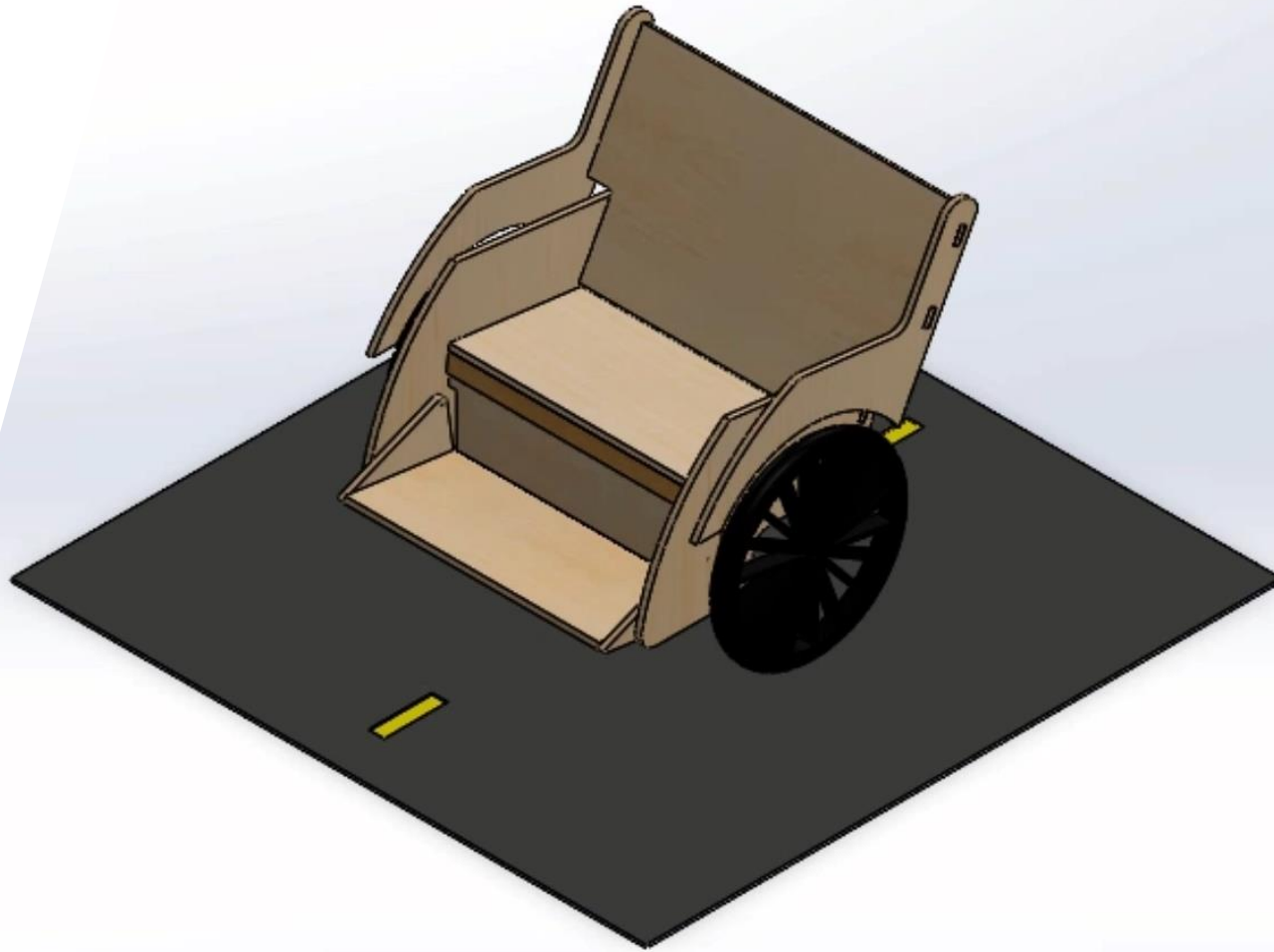
## 2. WE MOVED THE WHEELS FORWARD TO PREVENT TIPPING





2. FOOTPLATE IS  
RETRACTABLE TO  
INCREASE  
ACCESSIBILITY





2. THE SEAT  
ANGLE IS  
ADJUSTABLE  
FOR TESTING





2. We created a prototype of the seating compartment







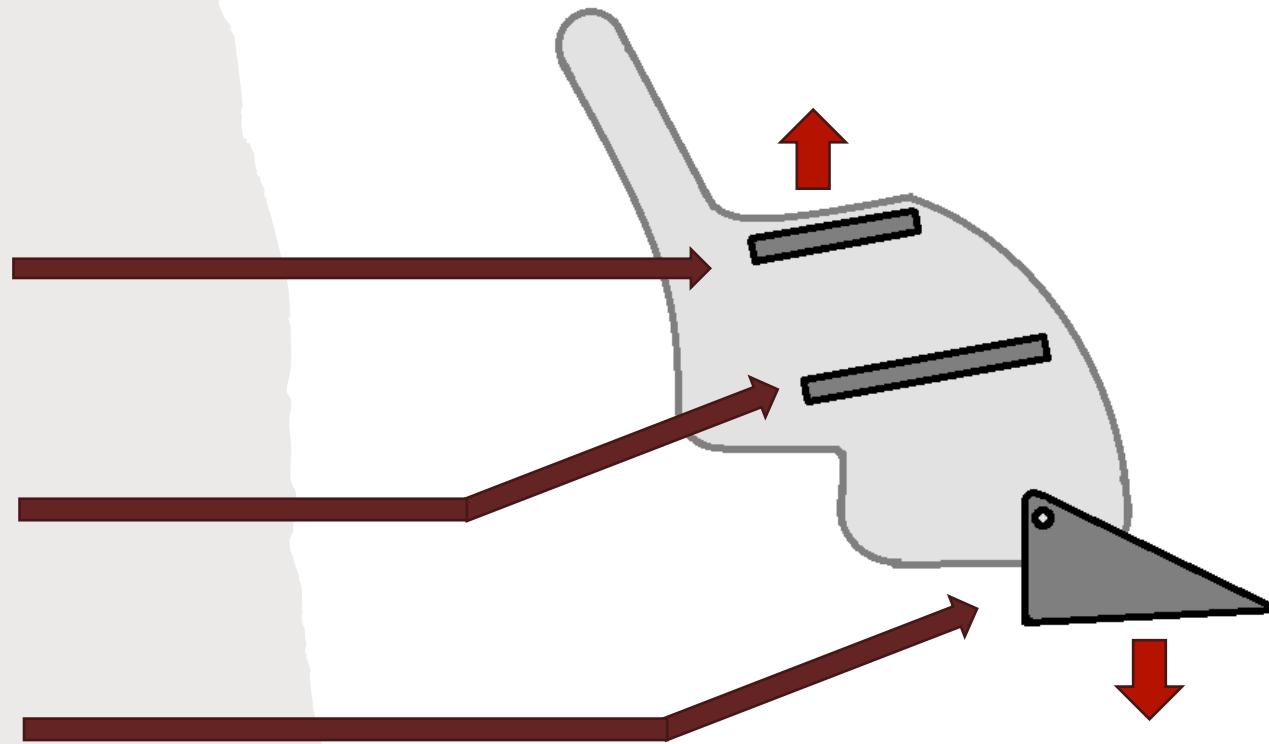
2. Nursing home residents tested our seating design and provided feedback

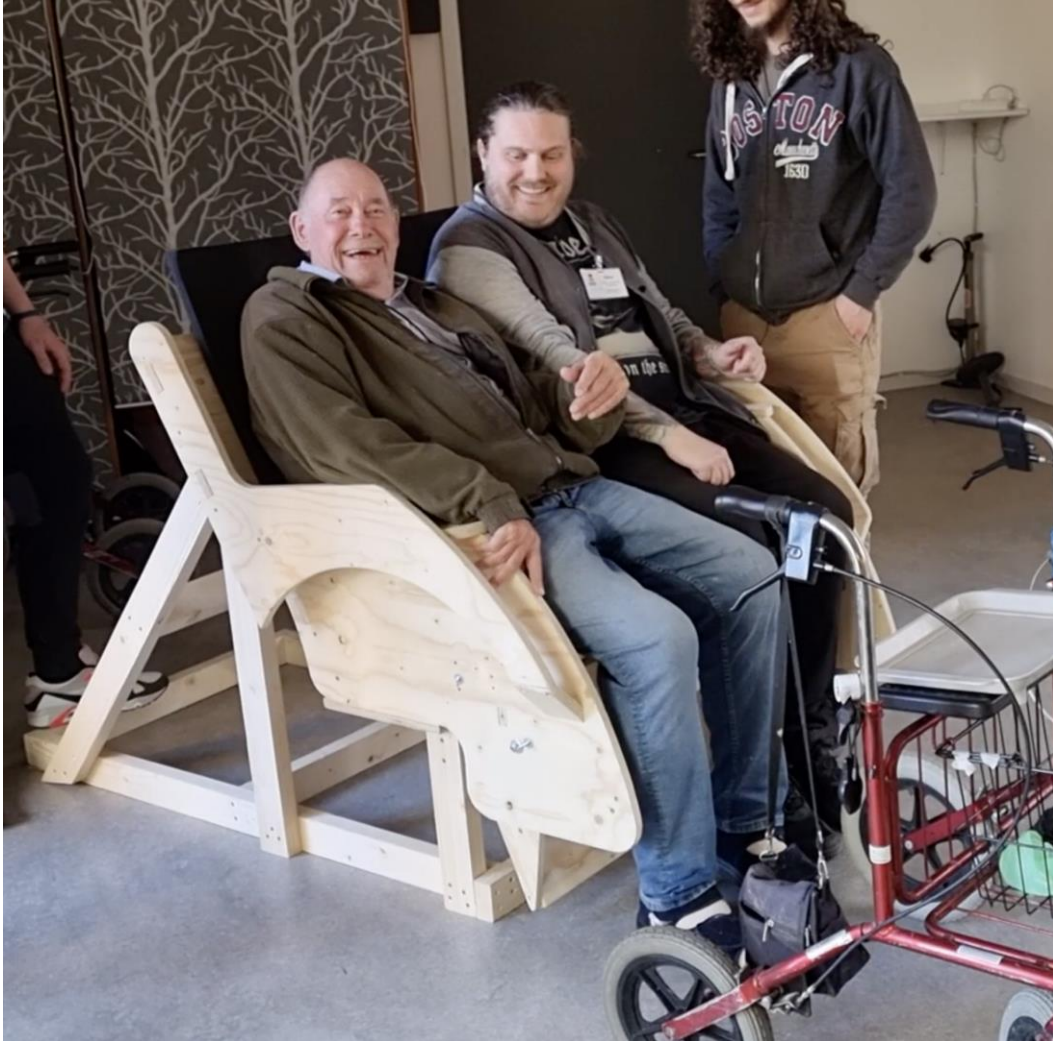
# Post-Testing Results

Raising the  
Armrests

10° Seating

10° and lower  
the Footplate





### 3.RECOMMENDATIONS

Additional Features for the CWA  
Trishaw



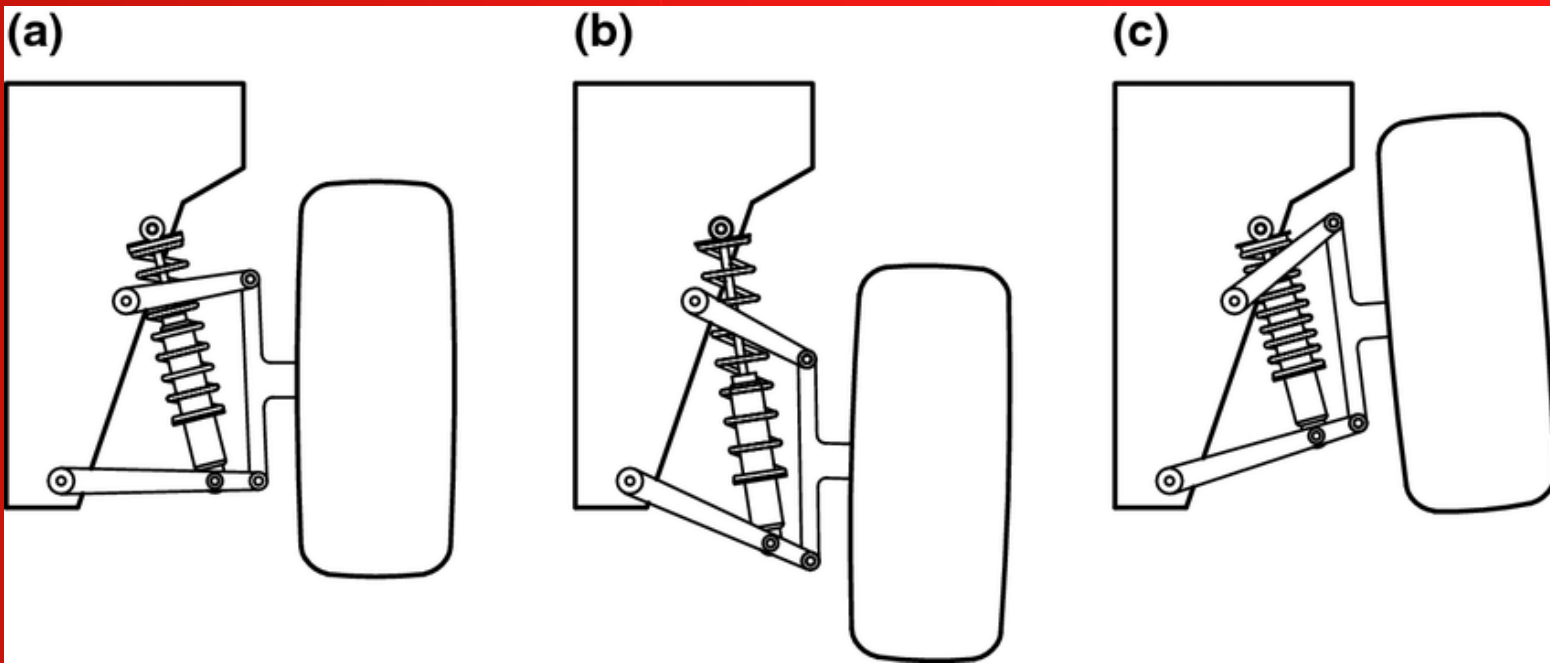
# 3. STEERING



# 3. SUSPENSION



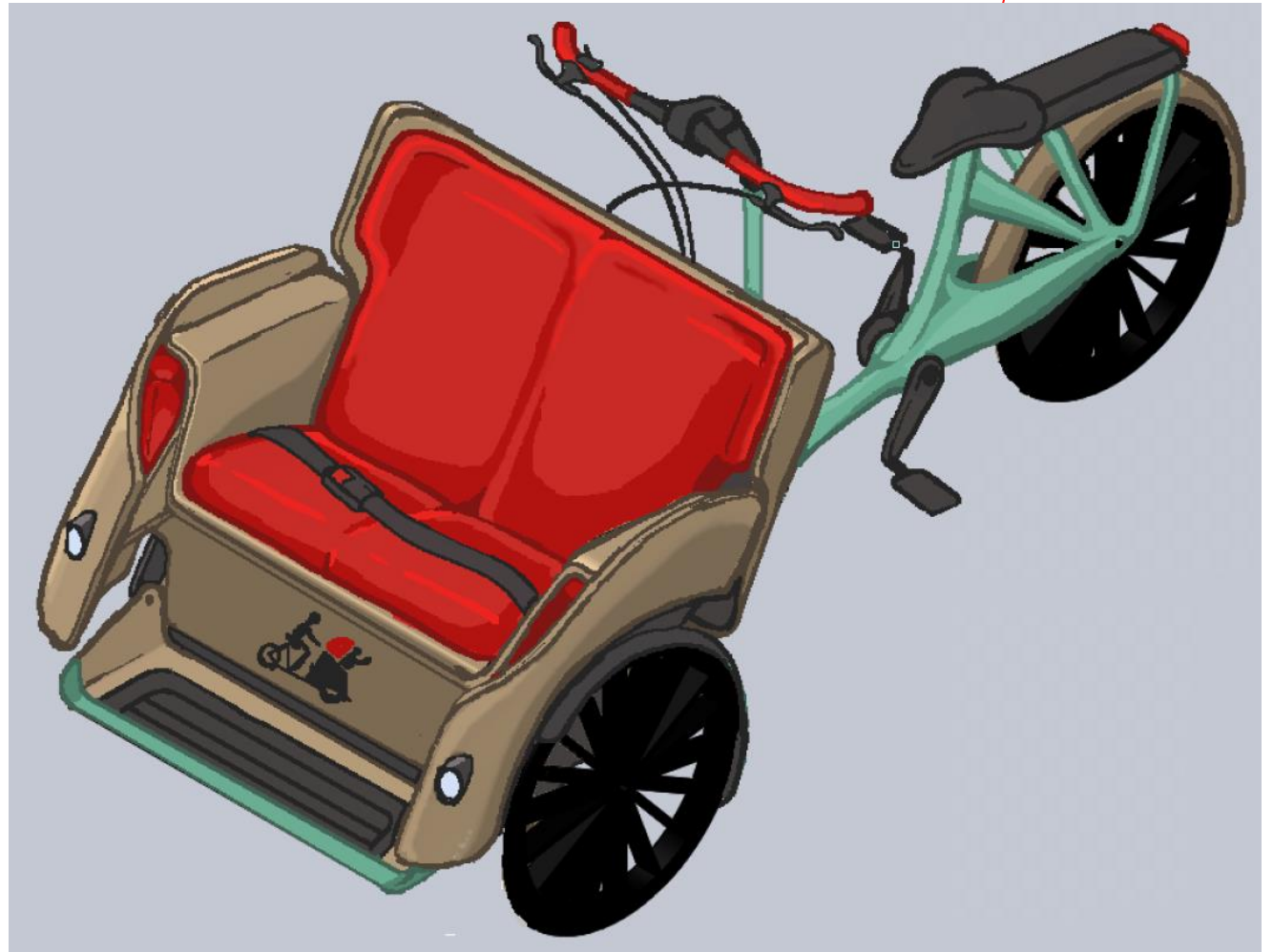
Cargo Bike



Cars

## 4. FINAL CONCEPT ART

- Inviting Design
- CWA Colors
- Cup holders
- Storage areas







**Thank You!**

**Questions**