

## Abstract

Cycling Without Age (CWA) sells and distributes trishaws to their community and customers/chapters. Trishaws are cycles with a carriage in the front for passengers to sit, as shown below. A challenge to CWA is that trishaws are not affordable in the Global South. A sustainable, open-source business model and a test of that business model were created to help CWA address this problem. These outline how CWA locations can choose available trishaw designs to build locally through different open-source options, based on the resources available to them.



## Process

- **Identify:** Key principles and success factors of open-source initiatives through interviews
- **Improve:** Availability of trishaw by researching CWA's current plan, identifying sustainable business models/key partners and resources, and determining an ideal way to open-source
- **Determine:** Criteria for open sourcing trishaws through researching the manufacturing, distribution, and assembly processes
- **Create:** Business model and test the viability of the process

## Open-Source Options and Test

During our research, we realized the aspect of open sourcing is gauged on a spectrum, rather than yes or no, therefore, a chapter can pick from the four different open-source options outlined below, based on what they feel they can accomplish. Along with these options, our research helped us to determine a list of factors a chapter should consider when deciding on an option.

Completely Open Sourced	Partially Open Sourced	Open Sourced Through Hubs Sending in Flat Packs	Open Sourced Through Hubs Sending Fully Assembled Trishaws
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We have set up a beta test of two of the four open-source options with a hub for South America (Sebastian Brachetta of Lester Bikes in Argentina) and two test locations (Peru and Panama).

- Peru - Partially Open Source
- Panama - Open Sourced Through Hubs Sending in Flat Packs



CWA - Triobike Trishaw Model

## What is CWA?

Cycling Without Age, an international non-profit, creates happiness among elderly citizens by providing them with an opportunity to remain an active part of society and the local community. The problem CWA is facing, is the unavailability of trishaws in the Global South due to the typical cost of trishaws, which range from \$7,000-\$12,000. Along with decreasing costs of future trishaw models CWA hopes to increase sustainability and local economic growth and development in the Global South.

## Project Objectives

- **Identifying:** Current Open-Source Initiatives
- **Researching:** Process of Manufacturing a Trishaw
- **Designing:** Open-Source, Sustainable Business Model
- **Test:** Open-Source Business Plan

## Key Aspects of Our Open-Source Business Model

<b>Open-Source Success Factors</b>	These success factors incorporated throughout the model combine the feedback from existing open-source initiatives in order to ensure the highest level of success for this initiative
<b>Value Proposition</b>	This model focuses on the creation of local economic growth, the decrease of transportation carbon footprint, and a creation of a more affordable (\$600-\$2,500) trishaw distribution process for the Global South
<b>Key Activities</b>	The activities emphasized are increasing the availability of trishaws and continuously posting updates and new open-source designs to the CWA online platforms
<b>Key Resources</b>	Resources highlighted are local manufacturers, makerspaces, materials and parts, and tools necessary to assembly a trishaw
<b>Our Open-Source Principles</b>	These open-source principles are a framework of how to ensure the overall success of this initiative



## Recommendations

- Finish current beta tests with Peru and Panama
- Create a platform for accessing open-source designs in order to promote designer collaboration, as well as ease of participation in the open-source plan
- Conduct more tests using the refined business model and the online platform in order to ensure success for future use of the Cycling Without Age open-source initiative

## References

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