

BEVISONNEERS

THE MERCEDES-BENZ FELLOWSHIP

Project Milestone Portfolio 1

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Planet-positive Project Portfolio
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The Vision

Introduction

The beginnings and future of this project

My father instilled in me the belief that intelligence should be used not just for personal benefit, but for the wellbeing of others as well, fueling my passion for sustainability.

Biking and working out have always helped me manage my emotions and stay healthy, so I aim to create a beautiful technological gadget that transforms urban transportation, inspiring others to take small, impactful actions for the environment and their own health.

About me

My **personal purpose** is to create sustainable solutions that transform urban transportation, **so that** we inspire healthier lifestyles and protect the environment.

I aspire to work with **creativity, tenacity, and community**, because they drive innovation, perseverance, and collective impact in achieving a better future for all.



The System

The central issue

- The inefficiency in harnessing mechanical energy generated by bicycle users in urban areas.

Key variables

- Bicycle Usage in Public Transportation Systems.
- Public Acceptance and Promotion of Bicycles.
- Energy Generation and Storage.
- Urban Pollution & Traffic.
- Cost of the Gadget's Implementation and Maintenance.
- Environmental Impact.

The strongest relationships (+ and -)

- (+) Increased Bicycle Usage → Increased Energy Generation and Storage.
- (+) Increased Energy Generation and Storage → Reduced Urban Pollution & Traffic.
- (+) Increased Public Acceptance → Increased Bicycle Usage.
- (-) Cost of Gadget Implementation & Maintenance → Public Acceptance.
- (-) Urban Pollution & Traffic → Public Health/Environmental Damage.

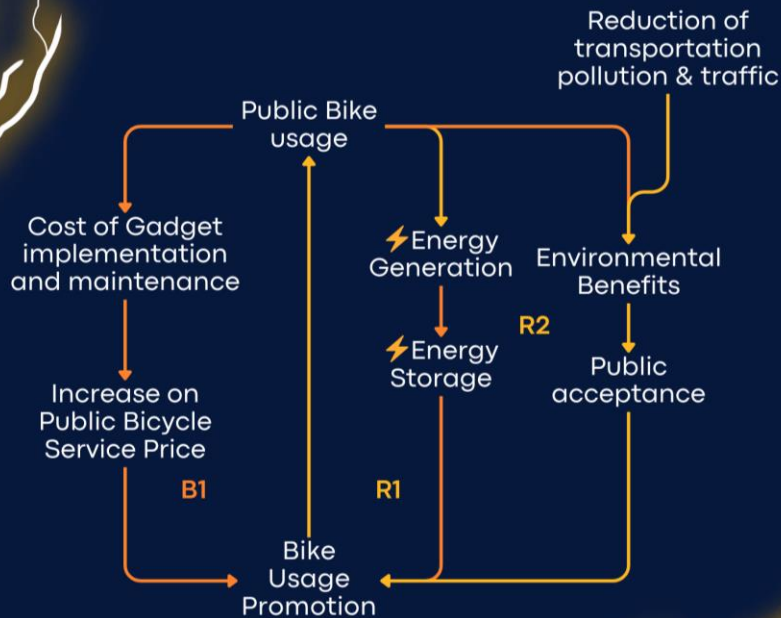
Key reinforcing patterns (feedback loops)

- **R1:** Bicycle Usage → Energy Generation → Public Acceptance → Bicycle Usage.
- **R2:** Reduced Urban Pollution & Traffic → Improved Public Health/Environment → Increased Bicycle Usage.

Reflection: WHY is this problem occurring?

The problem arises from insufficient infrastructure to capture energy generated by bicycle usage, society's preference for polluting vehicles, and economic & regulatory barriers in Mexico to adopting energy-harnessing technology, all of which leads to urban energy inefficiency and pollution, despite the potential of bicycles as a cleaner transportation option.

Causal Loop Diagram



The Root Causes

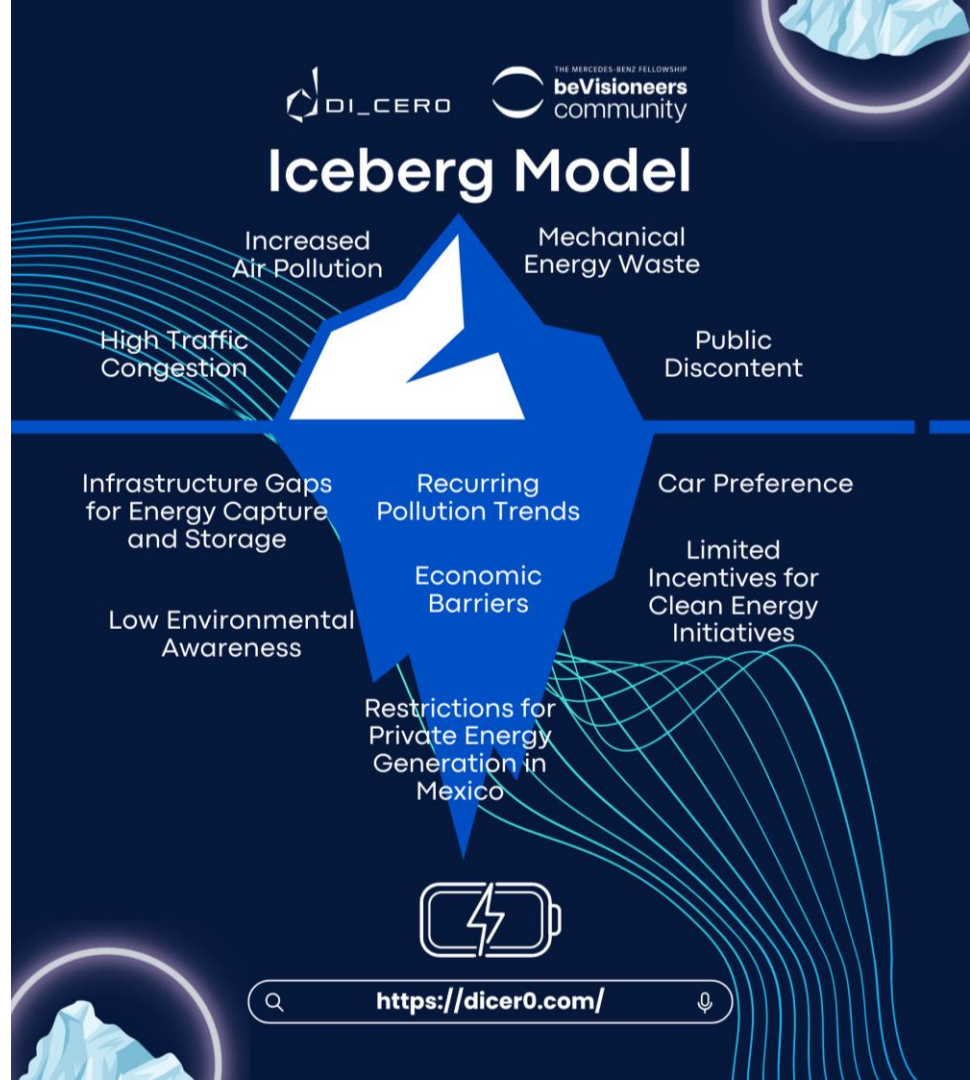
Direct and indirect drivers, beliefs and values

Structures contributing to the lack of clean energy collection:

- **Infrastructure Gaps for Energy Capture and Storage:** Lack of facilities to harness and store mechanical energy from bicycles.
- **Economic Barriers:** High costs associated with implementing clean energy technologies.
- **Restrictions for Private Energy Generation in Mexico:** Regulatory constraints limiting private initiatives in energy generation & collection.
- **Recurring Pollution Trends:** Persistent high levels of pollution due to inadequate urban planning and transportation systems.

Beliefs contributing to the lack of clean energy collection:

- **Car Preference:** Societal bias favoring cars over bicycles for convenience and status.
- **Low Environmental Awareness:** Lack of understanding or concern about the environmental impact of transportation choices.
- **Skepticism About Technology:** Doubts about the effectiveness and reliability of new energy-harnessing technologies.
- **Resistance to Change:** General reluctance to alter established transportation habits and systems.
- **Cost Aversion:** Belief that the initial investment in clean energy solutions is too high compared to perceived benefits.



The People

User Insights

People talked to:

- 4,403 Mexicans (single/married, students/working) aged 18 to 44, male and female, located in Mexico City.

Methods used:

- Research, interviews, forms and surveys.

Needs and pain points identified:

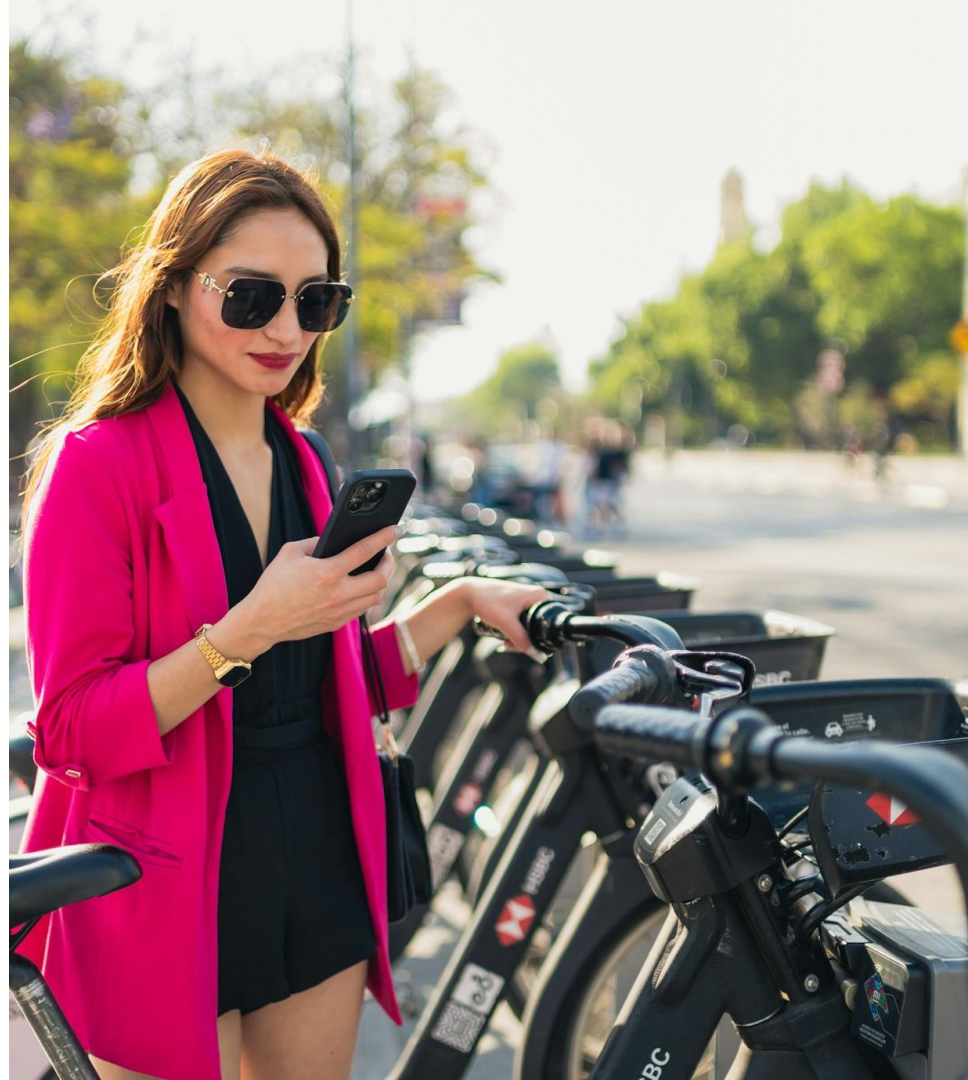
- Unfulfilled desire to help the environment.
- Need to exercise, lose weight and reduce car usage.

Current solution available:

- The public bike service at Mexico City, called EcoBici.

Desires & bright spots found:

- Strong environmental concern.
- Interest in Health and Fitness.
- Positive Reception to Eco-Friendly Solutions.
- Potential for Increased Bike Usage.



Purpose-driven Problem Statement

Weaving all the findings
together



In summary

I want to address **urban energy waste and transportation pollution.**

I have identified **the relationship between increased bicycle usage and energy generation/storage** as key, which relates to deeper underlying **societal structures that favor polluting & unsustainable transportation**, as well as **restrictive regulations on private energy collection & usage**, revealing the following **root causes: lack of infrastructure for energy capture and storage, insufficient public awareness of sustainable energy opportunities, and regulatory constraints.**

The **mexican urban citizens aged from 18 to 44** that I serve are *individuals seeking sustainable and efficient commuting options*, taking into account **their desire for greener living, convenience, a reduced carbon footprint, healthier lifestyle, and positive reception for clean energy initiatives.**

I aspire to **transform urban transportation into a clean energy solution**, while living up to my values of creativity, tenacity, and community.