AUTOSOLES

The Electric Skates That Fit In Your Pocket

Problem Statement

Population Increase in major cities

↓

Increased road congestion, delays and limited parking

↓

Increased use of public transportation and walking for commuters

- Long walking commutes take away from free time
- Walking commutes are tedious and tiring

Customer Product Requirements:

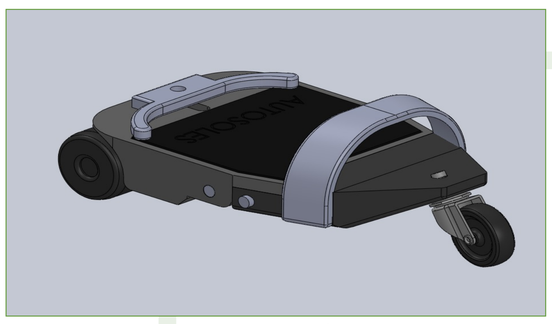
1. Decrease walking commute times
2. Makes commutes more enjoyable
3. Fun and easy to use
4. Easy to carry and transport

Value Proposition

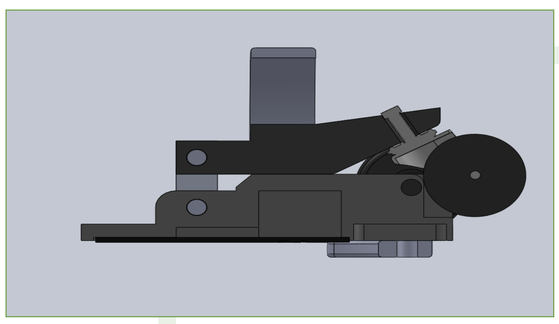
Value Proposition

Efficiency	Sustainability	Usability
Time Saving – **Decrease 30 min walking time** to 8 min.	**Adjustability–** Can adjust to **various shoe sizes**, reduced material wastage.	**Convenient–** Easy attachment, **lightweight and portable**.
Cost Effective – **One-time purchase** as opposed to transit tickets and gas.	**Eco-Friendly–** **Zero emissions** and alternative for driving short commutes.	**Recreation–** More **engaging commutes** and can be used for **leisure purposes**.

Solution



Expanded configuration

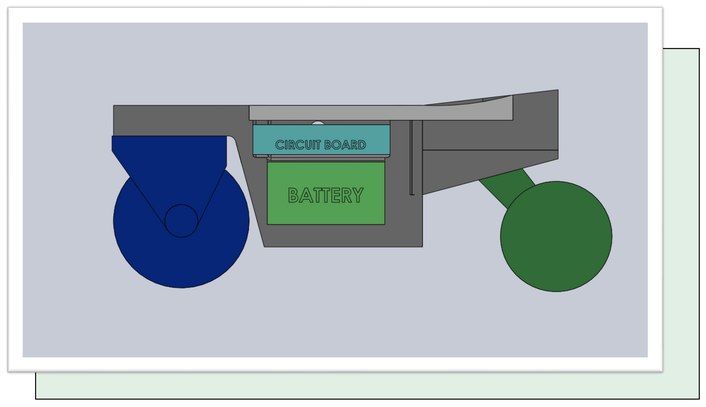


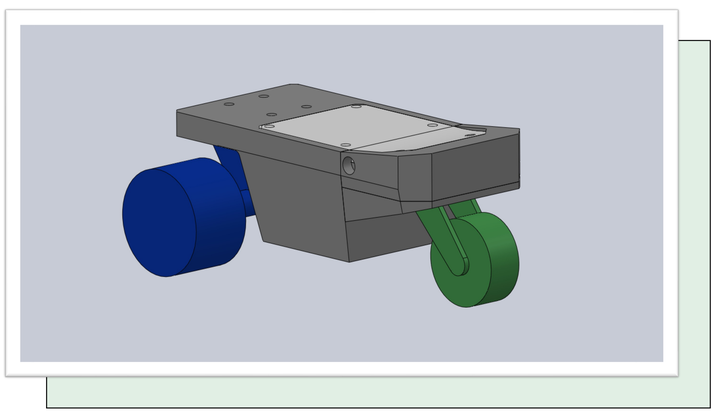
Folded configuration

Key Design Features

Electric skates that clip onto shoe soles
Remote Controlled speed adjustment
Foldable, portable and lightweight
Adjustable to multiple shoe sizes
Max Speed: 15km/h, Max Range: 10km

Final Prototype Design





Key Testing Factors

- Dynamics of steering system
- Motor power and torque requirements
- Stability of platform

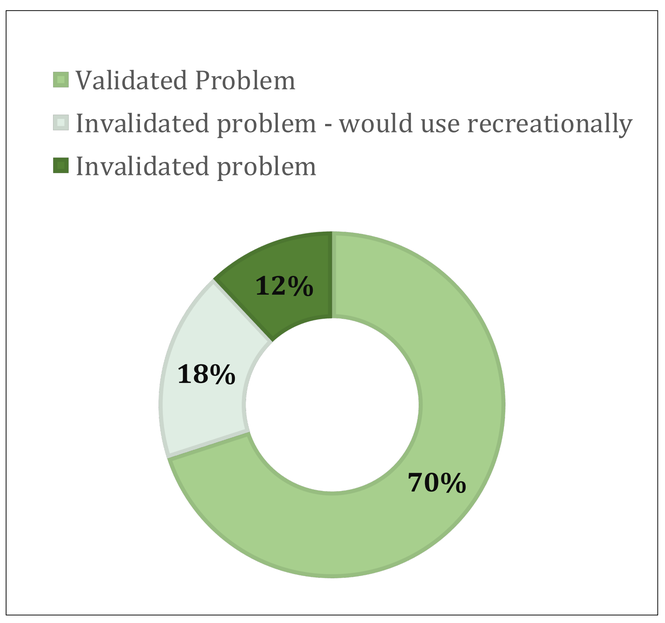
Key Design Features

- Using existing commercially available In-hub motors and trunks
- Batteries and Circuit board vertically integrated into chassis

Customer Discovery

25 Interviewees of Various Customer Segments

12 Downtown Commuters
7 Skaters at UofC Oval Skating Arena
6 University Students



The problem of walking during commutes exists and is highly relevant

Business Model Logistics

Revenue Streams

- D2C Business Model through e-commerce
- Rental partnerships with 30% revenue share
- Repairs and Warranty

Marketing Channels

- TikTok organic, paid ads through Facebook and Instagram
- Search ads through search engines like Google

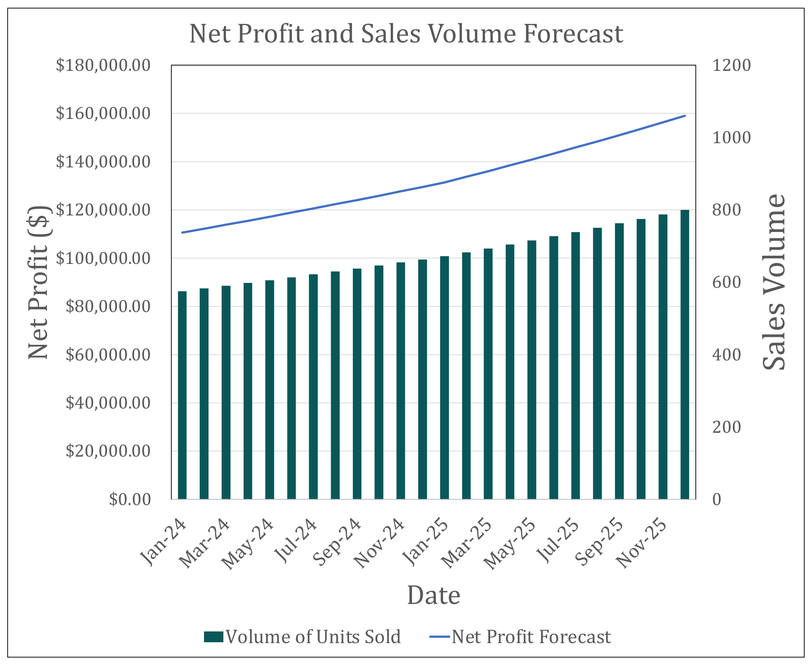
Business expenses

Fixed Costs	Variable Costs
• Employee Salary • Business Loan Repayments • Website Maintenance	• Manufacturing • Marketing • Shipping, Packaging and Fulfilment • Cost of Goods • Inventory and Warehouse

Cost Breakdown

Cost Component	*Cost Per Unit*
Frame (Plastic Injection Mould)	$1.50
Motor and Wheels (in-hub motors) x2	$70.00
Controller and circuit board	$97.00
Battery Holder x2	$8.00
Batteries x8	$8.00
Assembly Cost	$13.64
Customer Delivery	$67.54
Cost of Goods:	**$184.50**
Operating expenses	$81.18
Total cost of goods:	**$265.00**
Retail Price	**$560.00**

Financial Forecast



$21.43 B USD Micro Mobility Market
Assume: 5% is captured by electric skates, and AutoSoles captures 1% of electric skate market, this is $10M a year. Forecasting that AutoSoles will hit $10M a year by 2029, the above graph shows the forecasted volume for the first 24 months.

Micro Mobility Data Book Coverage Snapshot		
Markets Covered		
Micro Mobility Industry USD 21.43 billion in 2021 13.9% CAGR (2022 to 2030)		
Electric Kick Scooters Market Size	Electric Bikes Market Size	Electric Bicycles Market Size
USD 2.61 billion in 2021	USD 980.3 million in 2021	USD 17.83 billion in 2021
11.5% CAGR (2022 to 2023)	7.8% CAGR (2022 to 2023)	5.0% CAGR (2022 to 2030)

https://www.grandviewresearch.com/sector-report/micro-mobility-industry-data-book

UNIVERSITY OF CALGARY

SCHULICH School of Engineering