



EXPANDING PROSPERITY AND WELL-BEING THROUGH BICYCLE MOBILITY

The First RCT Study on Bicycle Impacts
Among Adults in Rural Zambia

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Idinsight



BACKGROUND AND STUDY OVERVIEW

In regions like Zambia's Mumbwa District, mobility poverty severely limits access to essential services, hindering livelihoods and development. Without affordable and reliable transportation, individuals in rural areas are forced to travel long distances—often on foot—to reach healthcare, education, and markets.

Between May 2023 and June 2024, a randomized controlled trial (RCT) on bicycle mobility impacts was conducted by IDinsight in partnership with World Bicycle Relief (WBR). This groundbreaking study, involving 1,488 participants from 19 rural communities, aimed to rigorously assess how access to bicycles can improve livelihoods, boost economic productivity, create greater social empowerment, improve access to health facilities, and support service delivery by community health workers.

WHY THIS MATTERS

This study represents the first-ever randomized controlled trial (RCT) focused on bicycle mobility and its impact on adult livelihoods. By comparing adults who received bicycles with those who did not, the research offers a robust evaluation of the degree of impact bicycles can have in rural communities.

The results show measurable improvements in economic activity, social mobility, and access to essential services for bicycle recipients. The findings highlight bicycles as an integral component of broader development programs aimed at improving access to education, healthcare, and economic opportunities in mobility-challenged communities.

STUDY DESIGN AND APPROACH

PARTICIPANTS

1,227 livelihoods group members and 261 community service workers across 19 communities. Nearly 70% of participants were women.

TREATMENT

50% of participants were provided with bicycles, while the control group continued without. Program participants in the control group will be provided with bicycles after the completion of the study.

STUDY FINDINGS

After one year, the RCT research data highlighted significant positive changes in participants' access to essential services, productivity, and income, confirming the transformative impact of bicycles to combat mobility poverty.



COMPELLING METRICS & FINDINGS



INCOME BOOST

Households that received bicycles reported a **43% higher average monthly income** compared to the control group, with average earnings higher by USD 21 per month and **24% higher average consumption**. More specifically, women who received bicycles recorded 50% higher earnings from work compared to women in the control group.



SOCIAL EMPOWERMENT

Women who received bicycles benefited from increased travel convenience, recording a **60-percentage point reduction in the likelihood of canceling travel** outside their communities when compared to women in the control group. Better mobility **increased women's life satisfaction by 11%**, leading to greater self-esteem and decision-making power within households.



HEALTHCARE ACCESS

Bicycle recipients were **36 percentage points more likely to access healthcare** when needed. Community health workers with bicycles served 63% more households than those without.



FOOD CONSUMPTION

Households that received bicycles scored an average **12% higher on household dietary diversity scores** compared to non-recipients, indicating a higher quality of diets consumed relative to non-recipients.



BUSINESS IMPACT

Business owners with bicycles saw a **53% higher revenue** compared to the control group, underscoring the economic power of improved mobility.



TIME SAVINGS

Bicycles reduced travel times by an average of 4.2 hours per week, giving recipients **22% more time** for income-generating activities or household tasks.



CLIMATE RESILIENCE

Households without Buffalo Bicycles observed a decline in income and consumption of food and other household essentials, largely due to the effects of a drought that adversely affected the 2023/2024 farming season. However, over the same period, households that received bicycles **sustained their consumption and observed an increase in income levels**.

To read the full IDinsight Mobilized Community Impact Evaluation Endline Report, visit worldbicyclerelief.org/idinsight

CONCLUSION: BICYCLES AS A LAST-MILE SOLUTION

This groundbreaking RCT, conducted during one of Zambia's most severe droughts in recent years, demonstrates that bicycles are not just a means of transport but a transformative tool that can significantly improve welfare and well-being. The findings of this study, when combined with the insights from our previous 'Wheels for Change' randomized controlled trial—focused on the impact of bicycles on girls' education—paint a powerful picture of how bicycles improve access to essential services, boost economic productivity, build resilience, and enhance social mobility, particularly for women and marginalized groups. These findings validate World Bicycle Relief's approach to providing critical last-mile mobility solutions that empower individuals and create sustainable pathways out of poverty. With this research, World Bicycle Relief is uniquely positioned to lead scalable, sustainable mobility interventions that can be integrated into broader development programs focused on education, healthcare, and economic opportunities. As global organizations seek proven strategies to tackle mobility poverty, bicycles offer a practical, scalable solution, and World Bicycle Relief is at the forefront of delivering this impact.