



INTRODUCTION

Physical Activity and Active Transportation

The increase in urban sprawl has led to an increased dependence on vehicle transportation which results in lower rates of active transportation.

E-bikes and Cycling

Bicycling allows one to be physically active while traveling to destinations, therefore offering health, economic, and sustainability benefits¹. E-bikes have been promoted as an effective transportation mode because they can reduce fossil fuel emissions, increase physical activity and overcome barriers, such as hilly terrain^{2, 3, 4}.

Perception of E-bike use

Individuals used e-bikes for environmental purposes and for the ability of an e-bike to travel farther and easier than a regular bike⁵.

RESEARCH QUESTIONS

How do people who use e-bikes perceive their use in addressing health and sustainability concerns?

Sub questions:

- What are the perceptions of current e-bike users towards the benefits and challenges of e-bike use?
- What do e-bike users think might encourage/motivate others to use an e-bike for transportation?

METHODS

Participants

- The participants for this study were 4 individuals who lived in the Halifax Regional Municipality (HRM) that used (rent or share) or owned an e-bike for more than one year

Recruitment

- Participants were recruited through posters and social media
- Convenience and purposeful sampling methods

Data Collection

- Semi-structured interviews

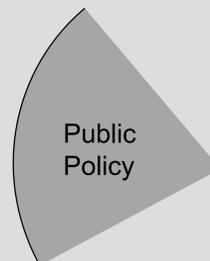
Data Analysis

- Six phases of thematic analysis⁶
- The Social Ecological Model (SEM) and the Diffusion of Innovation Theory were used to analyze the data.

Acknowledgement

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RESULTS

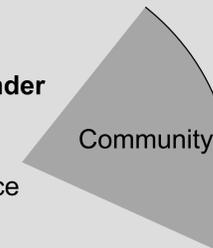


Participants noted the need for more policies to enforce safe biking:

"...no lanes nothing in terms of an, I mean these lanes they paint on what's that road here called uh, [name of road], ... it's bullshit, the cars drive over it anyways, yah and they pull over and they stop ... what am I supposed to do now...".

Participants identified various things within the built environment that hinder safe cycling:

"...there's tons of barriers, ..., uh mostly traffic, the absence of bike lanes, absence of bike paths, the absence of intelligent signaling for bikes, the absence of driver awareness of bikes, that's what makes me scared...".



Participants identified things within their work environment that needed to be improved for easier access:

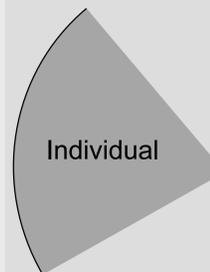
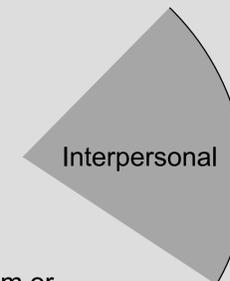
"... like an outdoor outlet where I could like park nearby and just be able to park it and I said people with e-bikes like if you could put on the sustainability map that here is a point where you can lock up your e-bike and plug in to charge ... they were able to say that you could go down to the underground parkade under the [name] building and you could go here and you could there so I just kind of cobbled together my own way".

Participants identified how strong the car culture was in the city:

"... I came from the [name of street], I passed 170 cars on my way to work, wow, in turn I was passed by 20, ..., when the traffic sort of picked up again, literally I was going along basically a standing parallel parking lot..."

Participants identified how they would promote and encourage e-bike use to others:

"...I think the way to do that would be to have like an e-bike bike share program or an e-bike rental program or something, something where people can easily go and use one when they need to...".



Participants identified personal benefits to using an e-bike:

"I get some fresh air and I think it's perfect ... getting the fresh air and the benefits, you are still having to pedal and do some work but not getting to work a big sweaty mess which is huge".

"I do have arthritis in my knees, ... like I said my doctor had said no more biking and I said I got an electric bike she was like ok you know she let that go so I think it's just you know the fact that I can yah still maneuver and still go because it I feel like I'm 10 years old when I am on it...".

An e-bike is a pedal assist bike with a motor



Figure 1. Image of an e-bike

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DISCUSSION

- The findings aligned with current literature through reflecting health, economic, and sustainability reasons for using e-bikes.
- Current users mentioned an e-bike share program could encourage more use
- Infrastructure was a major negative theme, identified as a lack of both enforcement and infrastructure to support cycling
- Convenience was a major theme- as the e-bike was a faster, cheaper commute than other modes of transportation.

CONCLUSIONS

Participants identified motivators that included convenience of e-bike use, cost effectiveness over other modes of transportation, and health benefits. Barriers that need to be addressed to promote e-bike use include: better cycling infrastructure, properly enforced, and the prevailing car culture.

IMPLICATIONS

- Bike use is growing and e-bikes offer a convenient, cheap, and sustainable mode of transportation. E-bike sharing programs can promote use to others. More cycling infrastructure is needed to further encourage use and promote safe travels.
- Future research can further investigate e-bike use through actual e-bike share programs. It can contribute to future planning and policies for population health as alternative modes of transportation, can be beneficial in bridging individuals from walking to cycling or to increase active transportation for those who may be limited in being able to walk therefore reducing short car trips.

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