# Easy Ride Project Interviews: Summary of Results



Prepared by Dr. Alec Soucy and Dr. Sara Kirk, Halifax Bike Lab

October 2020

## Introduction

The Halifax Bike Lab undertook a qualitative analysis of the Ecology Action Centre's Easy Ride project. Due to the circumstances of the Coronavirus pandemic, so far only one cohort of five people from Nova Scotia Health (NSH) has participated in the project, which aimed to provide e-bikes to employees to use in their commutes in place of single occupant vehicles (SOV). The trial took place from September 3<sup>rd</sup> to October 15<sup>th</sup>, 2020. Interviews were held with all participants both before and after the trial.

Of the five participants from the NSH cohort, four had a positive experience and used the bicycles extensively. One participant only used the e-bike four times, citing a variety of reasons (a lack of bicycle parking at the worksite, weather and preference for driving, being the most prominent reasons).

Throughout this report, participants are identified with pseudonyms.

"Easy Ride is an electric bicycle pilot project that aims to overcome perceived barriers to choosing cycling as a means of transportation. When individuals are handed the tools and taught the skills required, making sustainable transportation decisions is an easy ride."

# **Promoting Diversity Among People Cycling**

#### **Our Research Question:**

Can electric pedal assist bicycles be used as a tool for expanding bicycle use to a more diverse group in Nova Scotia?

#### Our Hypothesis:

Electric bicycles will attract a diverse group of users.

#### **Our Indicators of Success:**

Participants are from diverse groups including:

- Part of an age demographic older than 45 years
- Self-identifies as a member of a racially visible group
- Self-identifies as people who have physical limitations
- Identifies as someone who is not a confident cyclist

#### **Results:**

The participants in the NSH cohort were diverse in terms of gender, with three women and two men participating. It is often noted in the literature that women respond more negatively to inferior infrastructure conditions for cycling, so can be viewed as the "indicator species" for whether a city is developing adequate bicycle infrastructure. It is, therefore, encouraging to see that there were more women than men in this trial. The age range was from 34-58 years, with two participants being part of the indicator group of "older than 45". One participant was racially visible. Four of the five participants indicated differing levels of confidence around cycling.

	Gender	Age	Ethnicity
Mary	F	34	Caucasian
Raj	Μ	42	South Asian
Sue	F	48	Caucasian
Jane	F	58	Caucasian
Bill	Μ	38	Caucasian

#### Age

Two of the five participants were in the over 45 age group. None of the participants felt that their age was a barrier to cycling. The youngest participant (Mary, 34) only used the e-bike four times. She indicated an interest in fitness and stated a preference for a regular bicycle over an e-bike, as well as noting an intention to buy a new bike for the spring of 2021. She thought that, though she did not use the e-bike extensively, the trial positively influenced her to take up recreational cycling in the future. The oldest participant (Jane, 58) did not think that age was an issue but remarked that she thought e-bikes would be useful for older people, and cited a conversation with an older neighbour who was deterred from cycling because of hills.

She commented:

"I don't know if gender played a role, a fit male cyclist probably doesn't like to see a 40-something woman on a shiny silver e-bike pass him. The only other thing I could think of is, I thought about myself and I don't ever want to stop cycling but as I get older and if you start to get bad hips, bad knees all that kind of stuff. We talked about this at work with a few other people, it would be a great option to still allow people as they get older to still cycle when they have some of those physical injuries or age-related joint issues."

#### Member of racially visible Group

There was only one participant who was a racially visible (Raj, 42, South Asian). He did not feel that his ethnicity had any bearing on using an e-bike during the pre-trial interview. Likewise, in the exit interview he did not feel that being racially visible had had any impact on his experience.

#### **Physical limitations:**

None of the participants had physical disabilities that they thought would either negatively or positively affect their experience riding the E-bike. Bill (38) noted his weight status, but saw this as affecting the suitability of the style of the e-bike rather than being a barrier in-and-of itself. Mary (34) noted a back injury during the pre-trial interview but did not see it as a barrier to using the e-bike. However, in the post-trial interview she said that it was one of the reasons for not using the bicycle very much during the trial (although it was not one of the primary ones).

Bill is married to someone with autism and ADHD who finds being in a car confining and so rides a bicycle frequently. A prominent motivation for this participant to take up cycling was to be able to ride with his wife and children:

"She doesn't drive. She's autistic and she has ADHD and when she's in a closed space she can't really concentrate, she gets panic attacks really fast... But she does cycle and she's happy to bike. She started going to Bike Again Halifax last year and she fixed up all the bikes that we found and put them together so now the kids have bikes, and she has a bike. I was the only one without a bike at that point so we're changing the dynamic of the family right now."

While Mary did not find the e-bike suited her, she felt that it would be useful for people with mobility issues. She is engaged in fitness activities (cross-fit) and feels that she does not have problems with hills on a regular bike but thinks that the e-bike would suit people who were less physically fit and were trying to get started improving their fitness.

#### Confidence:

Four of the five participants were nervous about biking at the start of the trial, with the only one who expressed confidence during the pre-trial interview being the one who did not use the e-bike extensively during the trial.

Sue (48) had been a regular bicycle commuter until she had an accident on her bicycle in 2016. The accident eroded her confidence, so she stopped going to work on a bicycle, choosing instead either drive or take public transit:

"I had been on the bike a few times after that, so I didn't stop 100%. I definitely became a much more nervous cyclist and then as soon as the weather started to get cold, I just lost the confidence of biking in alternate weather, and then I put the bike away. I think because I started taking the bus, I just got into a new routine and never really got back on the bike to commute since then."

Raj (42) was nervous before starting, but immediately felt the e-bike helped with his confidence, noting that the issue was not only the distance from his home to work (Clayton Park to the Halifax Infirmary), but also the traffic. He had cycled his whole life in India and had used a bicycle as his sole mode of year-round transportation when he moved to Saskatoon for four years. When he moved to Halifax, he stopped riding a bicycle and got a driver's license, stating that he felt worried about riding in traffic in Halifax because of the lack of bicycle lanes (which were present in Saskatoon).

The oldest participant, Jane (58) was nervous about cycling because of the lack of a safe route onto the Peninsula from her home around Purcell's Cove Road. In the pre-trial interview she stated:

"Going up Quinpool was making me nervous because I've driven up it enough to know that at 6:30 in the morning it's not horrendous but the lanes are narrow and I often thought, how are cyclists doing that and feeling safe? I thought well, you know, I can't ride on the sidewalk, or you're not supposed to do so, but I said I have an e-bike, I should be able to just ride up and I felt pretty good this morning. They've given us a helmet that has a flasher on it and there's lights on the bike and I have an orange jacket. Definitely, being an e-bike makes a difference."

Bill (38) used to bike as an adolescent, but mostly stuck to quiet side-streets, and hadn't cycled in a number of years. He said: "I didn't feel safe before, only because as a driver I've seen how other drivers behave and they rarely follow road rules properly. There's a lot of entitlement and that was a huge deterrent for me to cycle. Also, I follow a lot of the Halifax Twitter news and there's accidents at least twice a month or more."

# **Potential to Overcome Barriers**

#### Our Research Question:

Can e-bicycles overcome common barriers to cycling use for daily trips including topography (hills),

distance, fitness, age and arriving to the destination sweaty?

#### Our Hypothesis:

*E-bicycles will help overcome common challenges that are cited in literature as the main barriers to cycling for transportation* 

#### **Our Indicators of Success:**

- Participants report that e-bicycles have overcome the barriers listed
- Participants are riding more often and for longer distances

#### **Results:**

All of the participants agreed that the e-bike was useful for overcoming a number of barriers, including helping with hill, distance and fitness levels. However, one of the most often cited barriers to cycling in Halifax — safety — was also reported to be mitigated by the e-bike. This also assisted with confidence levels of the participants. Four of the five participants reported that as a result of the trial they would be buying a bicycle, with three participants hoping to get an e-bike. The fourth (Bill) would also like to get an e-bike but feels that the cost is too high for his income, so is resigned to fixing up a bike that was given to him.

#### Safety

Feeling uncomfortable about the safety of riding in Halifax was one of the most frequently expressed barriers to bicycle commuting in the initial survey, and a topic that the participants brought up frequently in our conversations, either directly as their own experience or in reports of people who reacted to their participation with negative comments ("are you crazy?") While four of the five participants described how the e-bike improved their confidence, one of them noted that they felt safer because the e-bike allowed them to go faster. Sue had been a regular bicycle commuter from Dartmouth to the VG until her accident in 2016, which undermined her confidence to ride and led to her developing other commuter patterns. The e-bike solved this problem, so that she felt much more comfortable. Sue remarked:

"It really did, like right out of the gate because I had told you I really hadn't cycled to work because I was sort of a little gun shy and I thought 'oh, how am I going to feel about this?', but right away I felt safer because I felt like I could keep up with traffic more. Like when you're at a traffic light and everybody is stopped and you're waiting, then when you get to go, the part that always makes me nervous is when people are trying to zoom out, accelerate past you and with the ebike, at a lot of intersections during traffic, I could keep up and stay in my spot in the traffic. So definitely from that perspective, I felt the e-bike was safer for me than my regular bike."

This greater feeling of security mean that she made route choices that were different than they were using a regular bicycle. For example, she reported that she would go straight down Nantucket Ave.

to MacDonald Bridge rather than using quieter streets. She also found that the added feeling of safety allowed her to follow the law, by avoiding riding on the sidewalk:

"When I had my regular bike, I would break the law and when I would go under the bridge, I would go up the sidewalk up to Brunswick. You know how there's a ramp where cars come down? I would not go out onto Barrington Street because I just didn't feel safe merging onto Barrington Street after I got off the bridge on the Halifax side. With the e-bike because I felt that I could go faster, I just felt safer so I would merge out onto Barrington and then take my first right up Art Street which would take me up to Brunswick, which is the legal way for me to do it."

#### Confidence

One of the frequently mentioned experiences was how the e-bike could help overcome confidence issues. Raj stopped riding in Halifax, feeling like traffic and distance were major obstacles, forcing him to get a driver's license and buy a car for commuting to work. He reports that the experience of riding the e-bike was extremely positive and it re-invigorated his desire to cycle for transportation. As a result of his positive experience, he is determined to buy an e-bike of his own: "Yeah, I'm wondering if there's any discount. Can I get this bike forever?... Because I'm used to this bike and it will be great if they give me some discount, but otherwise I'm going to have to buy another bike next summer."

Sue's confidence, as mentioned above, was so fully restored by using the e-bike that she is considering winter biking. In response to the question "Did the e-bike, help somewhat in terms of that feeling about being worried?", she replied:

"It did, it definitely did, I thought I would be nervous, but I wasn't, and I think it was just the ability to be faster so I could keep up with traffic. I don't know how the e-bikes are like in the winter. I thought to myself, they have much thicker tires than my other bike. I don't know how they ride in wintery conditions or maybe you can get studded tires for e-bikes. I'm sure you probably can."

#### Topography of Halifax (Hills)

The physical geography of Halifax, with a number of challenging hills, was also a barrier that kept four of participants from taking up cycling more regularly. Jane told us in the pre-trial interview:

"I thought it was very interesting and it would be an opportunity to try cycling to and from work. From where I live, there are a couple of hills on my way to work that would probably deter me from taking up cycling and I thought it would be a good opportunity to see how I feel about cycling to work, especially in the Halifax area where a lot of people don't feel that safe, riding in Halifax on a bicycle."

#### After the trial, she said:

"I like the e-bike as a form of transportation because Halifax is so hilly. I find it gives you that extra, it seems to make that form of transportation more doable and accessible because you don't have this daunting feeling about doing hills, especially going to work... Even sometimes I found that for something I didn't think was hilly, I would put it in that low-gear with the e-bike to get that little bit of assistance because it was going to be... I want to do the exercise but I'm not on a marathon, wanting to have a very strong work out. I want my exercise to be enjoyable."

Raj — who was re-introduced to biking with the e-bike trial — found it a big advantage for the hills he needs to climb to get to his home in Clayton Park: "*It helps me because I may end up with a regular bike after practicing a lot but now ups and downs makes it kind of discouraging to ride a regular bike. E-bike, I still need to put in my best effort but it's not very hard for me.*"

Bill reported that the e-bike led to him choosing to cycle more often than he otherwise would have with a regular bike:

"Yeah, especially in my area. It's very close to Dorothea like the bigger hills in Westphal, so the ride assist was definitely more help. I went out with my wife and she had the trailer bike with the kids in it and I had mine and I was cycling circles around her, so the e-bike made itself known to a more simple machine. It just helped to accommodate. She wasn't happy with that."

It did not take long for his confidence to build using the e-bike, particularly when encountering hills. Later in the interview he described the realization of how the electric assist could flatten out the Halifax topography:

"The e-bike itself, it made things easier, easier than I expected. On my first day there were some thing's I didn't think I would be able to handle on this bike so like the path going up from the Halifax side to the Dartmouth side on the bike path, you know that hill? I looked at it and I was like I don't know the settings on this bike very well, I'm not going to do it and then this old lady pedaled past me and I was like well maybe I'll give it a try tomorrow. Then I turned it to its lowest setting, and I was like, 'Oh, this is easy', and it made hills a lot easier than I was expecting. It has been 20 years since I've been on a bike."

#### Distance

Only one participant (Raj) saw distance as a barrier, which he felt the e-bike addressed. At the pretrial interview (a day after he received the bicycle), he stated: "I'm a bit scared, I thought it was a bit far for me. Yesterday after riding the electrical bike it gave me a lot of confidence and if I ride most of the time, I feel like it's not difficult. Even now I've got confidence that I can ride a regular bike too." After the trial he concluded: "Right now, I like the e-bike because of the distance, I do almost 10 kilometers. When I get more used to riding, I may change to a regular bike but right now I really need the e-bike."

#### **Fitness**

A number of participants noted that they were nervous about riding because of distance and topography and were concerned that it would be too physically challenging. As noted above, Raj was one of these, who was concerned with about the 10-kilometer route from his home to work. However, after the trial he was overwhelmingly positive about his experience. In the exit interview Raj reported that the experience has motivated him to resume cycling as a form of transportation. Mary, who only used the e-bike four times during the trial period, nonetheless recognized that it would be useful for people who were not very fit.

#### Age

None of the participants felt that their age was a barrier to them, but Jane noted that her conversations with an elderly neighbour sparked interest in an e-bike, which could help him get up hills that were an insurmountable barrier to using a regular bicycle. Mary, who was the youngest participant (34) felt at the conclusion of the trial that she preferred a regular bike, but recognized that it would become more attractive when she got older: "*I can definitely see myself, when I'm getting a little bit older, switching over to an e-bike just so that I can take those hills.*"

#### Arriving to the destination sweaty

One of the often-cited benefits that proponents of e-bikes cite is that you can commute without exerting so much effort that you arrive at work or meetings covered in sweat. A couple of participants recognized this advantage. Mary contrasted the e-bike with now her regular bicycle — a heavy mountain bike — made it impossible to use for commuting: "Yeah it just wasn't very, it didn't feel very accessible. Going up Bayer's Road is kind of not the nicest thing with traffic and I have a heavier mountain bike that I don't really use anyways, so I would just get all sweaty and gross." Sue also appreciated how the e-bike kept her from getting sweaty on the way to work:

Rather than a regular bike? Faster commute time, also I didn't get sweaty so when you're arriving to work or coming home you don't feel like you have to take another shower because you can, depending on which level of boost, you put the ebike on, you can gauge how much you actually work to pedal.

## **E-Bikes for Transportation**

#### **Our Research Question:**

Can e-bicycles be used for transportation in place of single occupancy vehicles?

#### **Our Hypothesis:**

E-bicycles are an attractive alternative to driving a car

#### **Our Indicator of Success:**

Participants use the bicycle for trips in which they would have otherwise taken a vehicle

#### **Results:**

All of the participants used bicycles for trips they would otherwise have used a car. All of the participants intended to continue cycling after the end of the trial. Four out of five would continue to commute by bicycle, with three indicating that they would like to buy an e-bike. Even Mary, who only used the e-bike four times to commute to work, intends to buy a regular bicycle that she would use recreationally and occasionally commute by bicycle, especially as Halifax builds a more complete and safe network of bicycle infrastructure: *"I can see myself commuting by bike but not solely using a bike for commuting. I could see myself getting into more mountain biking, seeing as my partner likes to do it."* 

Raj's experience was very positive, with the trial of the e-bike initiating a conviction to resume his former pattern of bicycle commuting that he had before moving to Halifax:

"Oh my god, I really, really, love it. I biked so far — almost 300 kilometers. Unless the weather is really bad, and sometimes drizzling, I'm still biking... Especially, my overall wellbeing, I feel great. I used to bike a lot but now that I've gotten back my habit, I feel a difference and after coming to work after biking it makes me ready a lot and feeling great. Now I can't go to Canada Games Center, it's all on hold, so the biking will be helping me keep up with the pace. It is amazing, I really like it. I regret how many days I missed this opportunity."

A number of the participants noted that there were a number of advantages of using the e-bike instead of driving. These included saving time, saving money, the way it fit into their life (including physical and mental health benefits), and the advantages during the pandemic.

#### Time Savings:

Participants noted that using the e-bike saved time, even over driving or recognized that the amount of extra time to bike was not significant. Raj said: *"Yeah and also the time to drive, in a car it takes half an hour. By bike it takes half an hour, thirty-five minutes max it is taking for me."* Sue reported that before the pandemic she used to either bus to work or combine walking and the ferry from her Dartmouth home to her work at the VG Hospital. After the Pandemic hit, she was forced to switch to driving. She was happy to discover that the e-bike was one-third faster her former commuter pattern:

"It was a lot of fun. Just the decrease in my overall commute time, because it used to be 30 minutes door to door, and with an e-bike it became 20 minutes. The Ecology Action Centre said that we can keep the bikes until December 21<sup>st</sup> so 1'm really kind of excited to keep using it and maybe ask Santa for one for Christmas."

For Sue, this was a significant reason for wanting to continue using an e-bike as her mode of transportation for commuting:

"Two main things, time is precious to me, so the fact that I can get home and get to work ten minutes faster, that's twenty minutes of my day that I can be spending with my family or doing something else and also the feeling of safety because I have the ability to keep up with traffic more with the e-bike versus the regular bike. I would say those are the two things that really would be the reason that I would invest in an e-bike."

Jane similarly concluded that an e-bike could be a faster way for her to commute:

"Yes, definitely. Going home it took me a little longer because there was more traffic and I tried going down the same route I took in and Summer Street would be very congested and then you have to go with am I following the rules of the road or am I weaving through traffic. I find that it's a fine line, if you're commuting, to try to use an efficient way of getting home, because it is quicker than being in a vehicle sometimes."

Bill also found it an efficient way to get to work, spending only an extra fifteen minutes each direction from his home around Woodlawn (past the Highway of Heroes) to his work at the Victoria General Hospital: "*I was surprised by how quick it was because in my vehicle I would leave at 6 o'clock and be at work by 6:30 and there was only a 15-minute difference. With the e-bike it was 47 minutes whereas a car would be 29*". However, when we asked him to factor in the time it took to park, he replied: "*That's 29 [minutes] to drive and look after that so that's a good point… Probably a few minutes [more to drive] because I can't afford to pay for parking, so I park close to a different park and then I walk to the VG and that's about an 11-12-minute walk where I can get parking and I have long legs so… It is easier to just ride up to the hospital and then [park the bike]."* 

#### Saving Money:

One of the motivations that participants gave for taking part in the trial and for thinking of switching commuter modes to cycling was the savings that cycling afforded them. Bill listed the cost savings as one of his main motivations. While he would like to buy an e-bike, however, the cost is prohibitive for him (he said the e-bike was worth more than his car), so he plans on refurbishing a regular bicycle that someone gave him. Sue found herself calculating the cost of buying an e-bike as she rode in to work, based on the money she saved:

I've been thinking about the money going back and forth to work, as I'm on the bridge and I don't really have to pay attention to vehicles, I've been doing the math in my head with the gas and the bridge tolls and everything and how long I would have to ride the bike to pay it off. I think I figured out it's definitely less than three years, probably less than two.

Several of the participants noted that the cost and inconvenience of parking was a factor. Mary noted that it is getting "harder and harder to find parking in the downtown area for work", so with improved bicycle infrastructure it will get increasingly attractive for people to commute by bike. Sue also felt that parking costs were a motivation to commute by e-bike: "So I'll usually try and find a spot down the street, closer to Saint Mary's, those blessed few free spots. If I was to park in the VG parking lot, its \$14/day. That adds up". Raj similarly sees parking costs as a motivating factor for commuting by bicycle:

"The positive thing is that you can quickly get to one place and I work in an Out-Surgery department. When I'm being on call, weekends and after work, so when there is a call, I have to be here within 30 minutes max. So that's how the car helps. Otherwise I don't see much benefit with a car. A bicycle works. Like it's exercise, I don't need to go to the gyms, we can do many things, exercise, there is no problem with the parking. There is no parking spot for me inside the hospital so I have to look for a parking and you can pay almost \$120 for parking per month. Biking is the best if I can continue this option."

#### Fit into life:

A number of participants described how the e-bike fit into their life. They were attracted by both the physical and emotional benefits that cycling offered. Raj described how cycling has positively affected his "overall well-being" stating:

"I really like biking. This is my main form of exercise before. I'm used to it. I don't like to go to the Canada Games Centre because I'm not familiar with those exercises but as a bike, I really like it while coming to work. No need to waste my time going to other places. It's like my commuting time I'm using for exercising and commuting both. That's fairly helpful." Sue not only appreciated the physical benefits from cycling, but also appreciated the emotional benefits that it brought:

I think it fits in great. I'm a mother of two teenage daughters, I work full time at the hospital. The savings and time in my commute, also stress level, I guess I can't forget about that. It's very relaxing to ride a bike, I find. Therapeutic almost, especially going across that bridge where you're totally safe, in a designated bike lane so you're not having to worry about traffic for that part of your commute and the fog and the sun coming up or going down, things like that, it's lovely.

We asked Jane if she could see herself making a decision to shape her life around using a bike for transportation, she said: "Yeah because it's like people who decide to park their cars and walk several blocks to get exercise in. It's a way of, I'm all for, if you can get your exercise in, if you have to go to work, if you can get your exercise in as part of that process. I found that part great because my distance of commuting was a perfect distance for me too." Jane felt that it also fit in with her overall perspective about living and about the environment:

"Even having this conversation today has made me think more about it as far as, I've been leaning towards doing a lot of stuff about minimalism and tiny houses and stuff like that as well and it's about really looking at, I hate renting. I often throw it out to people, 'If you've got a garage with a loft, I'd rather give my rent money to you.' If I didn't have my dog I would probably live in just about anywhere, just as cheaply as I could, because I value my money more to be able to do things outdoors and have other experiences, then to live in something extravagant or waste my money. The whole biking idea is very interesting too, if you wanted to invest in an e-bike and use it as more of a commuting thing. I could afford an e-bike down the road."

#### *COVID-19*:

The current situation of COVID-19 frequently came up in our conversations. A couple of the participants specifically noted that the e-bike was particularly useful during the Pandemic. Comparing it to her regular pattern of mostly using public transportation, Sue said:

"Certainly, comparing it to public transportation in this era of a pandemic, I'm currently other than taking the ferry where you can be outside. At this stage I would not be super comfortable using public transportation unless I had to. So, I feel more safe on it from a COVID perspective." The concern with taking public transit during the pandemic was a prominent motivation for Sue to sign up for the trial:

"I did get into the habit pre-COVID, was to bus or if I wanted more exercise I'd walk to the ferry, take the ferry, and then walk home. Of course, once COVID started to hit, public transportation was not something that appealed to me and still doesn't and so exactly, this was sort of the perfect opportunity where it was like you know, I have been driving my car as a single driver since the COVID pandemic took off. Not only the cost, but gas, bridge tokens, parking, it's certainly more expensive but also, I'm environmentally conscious and I thought this was the perfect opportunity when I saw this come up. Okay, maybe I can get back in to riding my bike to avoid costs, impact on the environment, and being at higher risks for exposure to COVID by taking a bus or a ferry which is not even my second choice at this point."

Jane also expressed similar concerns during the pre-trial interview about commuting by bus during the pandemic:

"I was taking the bus a lot before March. And then of course then there was free parking and I'm a healthcare worker, so I was going to work, I haven't stopped working. I was taking my car because my regular express bus wasn't running either and there wasn't mandatory masking, so I didn't feel comfortable with that... *To make a long story short* — *because it would be a long story for the last 5* months—once in June, I tried taking the bus, and of course there was no social distancing, even getting on the bus, which really turned me off. So, I continued to take my car and then I would park several blocks away and walk. Then in August, when there was mandatory masking, I went back to the bus again but then this week, or I guess it was last week, because I was on vacation for a week, I tried taking the bus again but then a whack of high school students got on the bus and it was... When you've been working all along, and you work at the hospital, and there's social distancing and you work in the lab where they test for COVID, it's very uncomfortable to all of a sudden have no social distancing and being surrounded by strangers... And then when a bunch of them got off, then there's two teenagers sitting across the aisle from each other with their masks under their chins talking, it's like, you know, I just got really discouraged again and I was glad that this biking opportunity was here because now I feel like I can use that form of transportation, at least for 6 weeks. My fear is that I work in the lab, I'm now using this system to enter the requisitions for university students who are being tested being quite thoroughly with people coming out of province and what if I got, we're waiting for this second wave, what if I got infected and then brought it into the lab? That would be horrible. I know we all go to far extremes, but I'm glad to have the option of the bike again now and not have that worry..."

During the exit interview, Jane was appreciative of the opportunity to try the e-bike, with fear of contracting COVID-19 leading to a realization that this was an opportunity to make major changes in her transportation habits"

"You and I had talked about the whole pandemic thing initially too, and biking and bussing. It did change my mode of transportation because of not feeling safe health wise to be on the bus with other people because there wasn't mandatory masking, and even with mandatory masking that doesn't make it 100% safe either, so biking would've definitely been... but I wouldn't have considered it. This is how great this project has affected me, I never would've considered it because of the hills. Until you see other people walk two blocks, up Quinpool, which isn't a big deal, if you're biking anyways, you're being physical and walking two blocks up the hill isn't going to be the worst part of your commute. Talking to my neighbour in front of me, she said she didn't have a car for five years and she would bike everywhere and put it on the bus, and go on the ferry over to Dartmouth and different things, you just kind of go, "Yeah, look at that, it can be done."

# Conclusion

While more solid conclusions could be reached by a more extended study, involving more participants, we can see from this small NSH cohort that there are some patterns that are emerging. The participants all appreciated the opportunity to try the e-bikes, and a number of them felt that it would lead to permanent changes in their patterns, with intentions to buy either a bicycle or an ebike. Four of the five indicated that they would prefer to purchase an e-bike, though they all felt that the cost was an obstacle — to a greater or lesser extent depending on their financial situations. All of the participants saw the value of e-bikes for overcoming recognized barriers (like hills, age, fitness level, safety and distance), as well as for the financial, physical and emotional benefits commuting by e-bike brought to their life. Mary was the only participant of the five who did not feel encouraged by the e-bike to use it for commuting on a regular basis. She cited a number of reasons for why she only used the e-bike four times during the trial period: she had trouble finding adequate parking at her workplace at the Halifax Infirmary; she found that it took her longer to cycle than to drive, particularly since she usually picked up breakfast on the way to work in the morning and couldn't do it with the e-bike; she felt that the weather was not good enough to bike for much of the time, and felt that she probably would have used it more if the trial had taken place in the summer rather than in September; she felt choosing to use the bike represented a "disruption to my lifestyle". Nonetheless, she said that she had good experiences riding to work and the experience has made her decide to buy a new bicycle for the spring for recreational use. She felt the e-bike was not versatile enough, but would be good for someone who only wanted a bicycle for commuting. All other of the other participants intended to continue commuting by bicycle and three expressed a desire to purchase an e-bike.

Participants felt that they benefitted from the training that they had before the beginning of the project. One participant, Jane, remarked in the pre-trial interview: "I found that the Ecology Centre did a great introduction to biking and doing some activities and exercises with us in a parking lot and talking a lot about the safety aspect of it and circumstances and different things to watch for with drivers and traffic and it was really well informed, made me feel more confident." Bill held a similar view, expressing in the pre-trial interview how the training session with Ashleigh of the Ecology Action Centre, helped to mentally prepare for getting on the road with an e-bike:

"I feel, even after my short course yesterday with Ashley, after doing it for a week I might want to do more with it after I get used to using a bike because I used to cycle as a teenager. I only got my driver's license at 23 because I was always on the bus or biking everywhere, but I steered clear of actual roadways where there were vehicles. I had a lot of anxiety around being around cars. After doing the course with Ashleigh yesterday I am very confident in what's going to happen over the next six weeks."

This positive impression of the preparation that the Ecology Action Centre offered was expressed by all. The only critical feedback was expressed by a couple of participants who felt that it would have been better if it was held during the summer rather than heading into autumn. One participant felt that the training was great and would have appreciated another follow-up (refresher) meeting half-way through the trial.

All of the participants saw the lack of safe and connected bicycle infrastructure as a major issue in Halifax, and a continued barrier to getting more people to commute by bicycle. All of the participants lived off the Peninsula, and bicycle connections onto the Peninsula do not currently exist (and nor are they a part of the planned grid in the Integrated Mobility Plan). Jane expressed it this way:

"I would rather see bike lanes in the city than parking spaces. If you even look at Quinpool, why is there parking on Quinpool when there's so many side streets? I would never park on Quinpool unless I was desperate to go into a business, I suppose. I would much rather park on one of the side streets and walk 10 minutes. When you look at Quinpool and having the lanes, they're not really lanes when they allow parking. It seems silly to me that they make it seem like there's actually two lanes and then all of a sudden in the middle they start allowing parking. I would rather see less parking spots on a busy street and bike lanes, because if people were biking, then you wouldn't need the car parking spots. To me that sounds like a no-brainer. You won't need the parking spots if people could bike around in the city and shop. Like you say, you have bags on your bike. You know you just plan your trip. Like what are you buying, you're not going to pick up a TV. I think to make, and people would be happier. If people were biking 9 months out of the year and then using MetroTransit if they made it better people would be less cranky, don't you think?"

#### Mary felt that the unconnected assemblage of bicycle infrastructure needed to be more connected:

"We don't have a lot of bike pathways, the bike pathways that we have are very disjointed from one another. They have the one now on Lady Hammond, or part of it, but then it, for the longest time, didn't match up with anything down on Barrington. I think that Halifax is making some efforts though to change that and has tried a few different new things around the university that's looking really interesting and makes me want to try riding more frequently now."

Sue was dismayed that her route from downtown Dartmouth was largely devoid of bicycle infrastructure except on the MacDonald Bridge:

"the bike lane on the MacDonald Bridge of course has been there since I started cycling. I do go down Brunswick street, I'm trying to recall if it was always there. And of course, as we all know, when I say bike lane, it's a strip of paint on the road. I've seen the newer installed bike lanes along South Park Street and that sort of thing, but my route has never really involved that type of bike lane, so I don't think it's really changed that much." To conclude, the participants of the trial universally had a positive experience, and four of the five participants intend to make permanent changes to their commuting patterns as a result.

"If I'm driving in a car, by the time you get home, if you're sitting in traffic, that's not a relaxing experience for me. You come home and you're almost on edge. When I'm riding my bike, I come home and I'm happy as a clam because I've rode the day away and now I'm home for my other life." - Sue

Acknowledgements: Many thanks to Eryn Burn for her help transcribing the interviews.