

# Wheels of Change: Examining Incentive-Based Academic and Professional Staff e-Bicycle Initiatives

Ferdinand Oswald, Mohsen Mohammadzadeh, Timothy Welch

Research Report





### [Wheels of Change: Examining Incentive-Based Academic and Professional Staff e-Bicycle Initiatives.](#)

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## Abstract

As of today, commuting habits in Auckland remain predominantly centred around automobile transportation. However, recognizing the adverse impact of vehicle traffic on the environment and urban road congestion, numerous cities and organizations worldwide have devised initiatives aimed at promoting alternative modes of commuting. This paper focuses on exploring the advantages of commuting by bicycle and devising a strategy for implementing a Commuting by Bike initiative within the Faculty of Creative Arts and Industries (CAI) at the University of Auckland, New Zealand.

The initiative proposed in this paper, titled "Wheels of Change", involves subsidizing (E-)Bikes for staff, offering a data-driven approach to developing a transportation program that prioritizes sustainability. The process commenced by researching existing case studies from various cities and organizations to ascertain the most effective design for an initiative tailored to Auckland's landscape and lifestyle. Central to this research was the collection and analysis of data, including a survey administered to CAI faculty staff members to gather feedback on initial concepts and their commuting preferences. The response from staff was highly encouraging, providing ample data for analysis.

Given the significant engagement with the survey and the widespread support among staff for a university-led bicycle commute initiative, there is a solid foundation for the realization of the affordable (E-)Bikes for Staff program.



# 1. Introduction

This report investigates the perceptions of academic staff to use e-bikes when they are commuting to the university's city campus. To develop this research, we examine the support of the academic and professional staff for a program that aims to promote e-bikes. The result of this research can also inform the university travel plan.

Transport is a major social, economic, environmental, and even political issue around the world. Travel to and from work is one of the main daily trips for most people. Travel mode choice is more crucial in car dependent cities such as Auckland (Mohammadzadeh, 2020). Travel mode to work significantly contributes to the rise in road use, traffic congestions in cities, particularly in pick hours. Kingham, et al, (2001: 152) argued that travel to work "as a journey that is done routinely, the potential to travel by alternative non-car modes is greater than for less routine journeys". Researchers conducted different research projects to understand travel to work modes of different groups of residents, their perceptions, motivations of selecting travel to work modes (Kingham, et al, 2001; Pooley, 2006; Rissel, et al, 2014; Jeong, & Kim, 2020). These studies assist policy makers and planners to develop plans, policies, and programs to encourage the residents to change their travel modes from private car usage to other sustainable modes such as public transport systems (e.g., bus and trains), as well as active modes such as walking and cycling.

Universities are commonly characterized as "cities within a city," a designation stemming

from their considerable spatial footprint and the size and diversity of their communities (Romanowska, et al, 2019). Universities, much like other public and private institutions, wield both positive and negative influences on the cities. They boost the area's reputation, as well as significantly generate economic growth and prosperity. Universities are large generators/attractors of traffic by attracting academic and professional staffs, students, and other stakeholders (Rotaris, & Danielis, 2014). The challenge becomes more pronounced for universities whose primary campuses are situated within Central Business Districts (CBDs), such as the University of Auckland (Mohammadzadeh, 2020). Universities mostly attempt to create sustainable campuses and improve their sustainability ranking through several initiatives, programs, and plans. For example, the University of Auckland (Waipapa Taumata Rau) has been ranked first in Oceania and fifth in the world for sustainability in the 2024 QS World University Sustainability Rankings (Wong, 2023). "Transportation can play a significant role in establishing not only a more sustainable campus, but also contribute to the overall sustainability of the university's city or town" (Delmelle, & Delmelle, 2012: 1). Understanding how academic, professional staff, students and other stakeholders daily commute to the university's campus and their perception of sustainable alternatives such as e-bikes is crucial to inform sustainable transport initiatives, plans, or programs. The research mainly focusses on academic and professional staff of the University of Auckland who work in the city campus. Transport is amongst the top three contributors to a university's ecological footprint (Bonham, & Koth, 2010: 94). According



to the World Health Organization, the creation of safe bicycle routes linking key urban amenities, promotion of public bicycle sharing systems for short-distance travels, and expansion of bicycle parking infrastructure are pivotal in enhancing the attractiveness of bicycle commuting (Edwards and Tsouros, 2008). Offering incentives for bicycling is widely regarded as a highly effective strategy for encouraging individuals to alter their mode of transportation, particularly favouring bicycles over private automobiles (Doğru, et al, 2021). Some universities around the world, as a component of their sustainability plan, have offered incentives to their staff to change their travel to the university modes from private car to bicycling. These principles form a foundational framework for the present research endeavour, which seeks to investigate the feasibility of implementing a bicycle program at the University of Auckland (UoA). Proposing the incentivisation of bicycle commuting within New Zealand's largest academic institution holds promise. Drawing from established case studies, the successful execution of such an initiative at UoA could potentially inspire emulation by other educational institutions and the broader society. The research is developed based on a mixed methodology of research, including investigating different universities programs/initiatives that promote bikes among their staff, as well as a questionnaire-based survey.

This research includes both traditional bicycles (bikes) and electric bikes (e-bikes). E-bike emerges as a viable contender to the dominance of cars in transportation. E-bikes are

equipped with an integrated battery that augments the rider's pedal-power, e-bikes can provide pedal support up to speeds of 25 km/h in Europe, 32 km/h in North America (Fishman & Cherry, 2016) and 32 km/h in New Zealand. This enhancement allows e-bikes for covering longer distances with reduced time and effort compared to traditional bicycles. E-bike adoption tends to be higher in nations with a strong cycling culture (Fishman & Cherry, 2016). E-bikes are increasingly utilised to replace car trips in car-dependent countries such as Australia (Johnson & Rose, 2013) and North America (MacArthur et al., 2014). E-bikes present a viable alternative to cars in New Zealand which is a car-dependent country. Auckland, often characterised by its hilly terrain, has traditionally posed challenges for traditional bicycle usage. However, the advent of e-bikes introduces a promising new avenue for widespread adoption. These electrically assisted bicycles offer a solution to overcome the perceived obstacles of Auckland's topography, potentially making cycling a more attractive option for commuters (Wild, & Woodward, 2018), including the university staff. This investigation examines the perceptions of staff in using bikes or e-bikes as their main mode of travel to the university.

This report is comprised of 7 sections. Section 1 provides an overview of the context and rationale behind the research project. Section 2 details the research methodology, encompassing a discussion on the philosophical underpinnings of the selected methodology, the process of data collection, and subsequent interpretation and analysis. Section 3 offers a brief review of selected university programs

and initiatives aimed at promoting the use of (e-)bikes among staff. Section 4 presents a case study on The University of Auckland, exploring its characteristics within the context of New Zealand and Auckland. Section 5 presents the findings of the data analysis, supplemented with various charts and graphs. Section 6 delves into the discussion of the results. Finally, Section 7 concludes the project and discusses potential future research projects.

## 2. Methodology of Research

This section delineates the research methodology, encompassing the overarching aim of the project, the rationale behind the selection of the methodology employed, a succinct exposition of the philosophical underpinnings informing the chosen approach, elucidation of the data collection procedures, and subsequent delineation of the methods employed for data analysis. The research examines the possibility of developing an incentive-based bike program/initiative at the University of Auckland. A mixed methodology of research is deployed by researchers to answer the following research questions.

- How do staff perceive the proposed incentive-based bike program at the University of Auckland?
- How do staff currently commute to campus?

What is the level of interest among staff in commuting by bike or e-bike?

### 2.1 A mixed methodology

A mixed-methodology approach incorporating both case studies and questionnaire-based surveys offers a good understanding of the complex dynamics surrounding staff commuting habits and their receptiveness to bicycle-based initiatives.

From a philosophical perspective, a mixed methodology of research aligns with pragmatism, which emphasises the importance of practical consequences and the integration of

diverse perspectives and conditions to address complex issues (Evans, et al, 2011). By embracing a mixed method, researchers recognise that phenomena are multifaceted and may not be fully captured by any single methodological approach. This philosophical stance acknowledges the limitations of both qualitative and quantitative methods in isolation while valuing their respective strengths. It reflects a commitment to methodological pluralism and the belief that combining different methodological approaches can enrich our understanding of phenomena by providing complementary insights.

Moreover, the mixed-method approach reflects an ontological stance that recognises the dynamic nature of reality and the diversity of human experiences (Mayoh, & Onwuegbuzie, 2015). It acknowledges that phenomena are context-dependent and subject to multiple interpretations, emphasising the importance of exploring these complexities through diverse research methods.

Philosophically, the use of mixed methods embodies an epistemological perspective that values both subjective understanding and objective observation. It recognises the importance of subjective experiences and interpretations while also seeking to establish empirical evidence and generalisable findings (Varga, 2018). This philosophical underpinning reflects a commitment to methodological rigor and the pursuit of knowledge grounded in both empirical evidence and human experience.

Using a mixed methodology of research reflects a philosophical stance that values diversity, complexity, and nuance in the pursuit of

understanding and knowledge. This approach integrates various research methods to capture a comprehensive view of the subject matter, recognizing the multifaceted nature of phenomena (Hesse-Biber, & Johnson, 2015). Such diverse perspectives are helpful in informing the development of effective programs aimed at potentially shifting staff commuting patterns towards biking as a mode of transport within the university setting. By embracing methodological pluralism, we are better equipped to uncover nuanced insights and address the complexities inherent in promoting sustainable transportation initiatives, including bikes. This philosophical foundation underscores the importance of a holistic approach in designing strategies that resonate with the diverse needs and preferences of staff members, thereby fostering meaningful change in travel behaviour.

Questionnaire-based surveys allow us to directly gauge staff perceptions, preferences, and intentions regarding commuting modes and specific programs like the CAI Free Bikes initiative. Through questions addressing current commuting methods, interest in biking as a commuting option, and receptiveness to the proposed program, we can capture quantitative data that complements the qualitative insights gained through analysing the selected case studies. This mixed methodology approach not only enriches our understanding of the topic but also enhances the robustness and validity of our findings by triangulating multiple sources of data. It enables a more holistic examination of the research questions, facilitating informed decision-making and the development of

effective strategies for promoting sustainable transportation on campus.

## 2.2 Investigating Different Case Studies around The World

Investigating universities' existing programs and initiatives provides invaluable insights into real-world implementations, showcasing their successes, challenges, and best practices (Gray, 2021). By analysing the selected cases, we gain context-specific knowledge that can inform the design and implementation of similar initiatives tailored to our institution's needs and constraints.

The researchers selected the cases based on personal experience gained while working as staff in other universities that offer bike programs. Additionally, they considered the availability of secondary digital resources pertaining to various university programs aimed at promoting biking among their staff. The authors consider following criteria to ensure that the selected case studies provide relevant, comprehensive, and actionable insights that can inform the development and implementation of a successful e-bike initiative at UoA. Here is a detailed rationale for selecting the case studies:

### 1. Relevance to University Settings

The selected case studies focus on universities that have implemented e-bike initiatives. This relevance is crucial because universities share similar characteristics, such as large, diverse communities, significant daily commuter traffic, and a commitment to sustainability. By examining other universities, UoA can draw

parallels and apply successful strategies tailored to its specific context.

### **2. Geographical Diversity**

The case studies include universities from various geographical locations, such as Europe, the UK, and Australia. This diversity is important because it provides a broad perspective on how different regions address the challenges and opportunities associated with e-bike initiatives. It also allows for the comparison of different environmental, cultural, and infrastructural contexts, which can offer valuable insights for UoA.

### **3. Successful Implementation and High Participation Rates**

The selected universities have demonstrated successful implementation of e-bike programs with high participation rates. For example, the University of Graz in Austria has a 40% participation rate among staff, making it a leading example of a successful e-bike initiative. By studying such successful programs, UoA can identify best practices and key success factors that can be replicated.

### **4. Comprehensive Support and Incentives**

The case studies highlight universities that offer comprehensive support and incentives to encourage e-bike use. This includes financial incentives, infrastructure improvements, and additional support services such as free bike repairs and secure parking. Understanding these comprehensive approaches can help UoA design a well-rounded program that addresses various barriers to e-bike adoption.

### **5. Innovative Models and Unique Approaches**

The selected case studies include universities that have implemented innovative models and unique approaches to promoting e-bike use. For instance, the University of Cambridge's "Cycle to Work" scheme and the University of Graz's model where staff pay a nominal fee and reimburse costs if they leave within five years. These innovative approaches provide UoA with a range of options to consider and adapt to its specific needs.

### **6. Local Context and Applicability**

The case studies also consider local initiatives within New Zealand, such as the New Zealand Government's Employer E-Bike Purchase Support Scheme. This local context is crucial for understanding the regulatory and policy environment in which UoA operates. It also highlights the potential for leveraging existing government programs to support the university's e-bike initiative.

### **7. Addressing Specific Barriers**

The selected case studies provide insights into how different universities address specific barriers to e-bike adoption, such as hilly terrain, safety concerns, and weather conditions. For example, the University of Hohenheim in Germany has implemented extensive infrastructure improvements to support cycling. By understanding how other universities overcome these barriers, UoA can develop targeted strategies to address similar challenges.

The rationale for selecting these case studies is to provide UoA with a comprehensive understanding of successful e-bike initiatives in

university settings. By examining a diverse range of examples, UoA can identify best practices, innovative approaches, and effective strategies that can be adapted to its specific context. This comparative analysis will inform the development of a robust and sustainable e-bike program that meets the needs of UoA's staff and contributes to the university's sustainability goals.

### 2.3 A Questionnaire-Based Survey

The researchers use a questionnaire-based survey to investigate how academic and professional staff travel to the university city campus and provide an understanding of their interest in utilising bikes as an alternative transportation. The research also studies the impacts of an incentive, the distribution of free bikes to staff, on their travel mode to the university.

Using a questionnaire-based survey is one of the most prevalent scientific methods in social sciences to study the intended target group and efficiently collect the responses (Wardropper, et al. 2021). Conducting a survey based on questionnaires offers the advantage of exploring the responses of numerous participants to a specific set of questions. This approach enables statistical analysis and aggregation of the gathered data (Mohammadzadeh, 2020). Researchers extensively utilise questionnaire-based surveys to examine transportation issues, encompassing various modes of travel utilized by individuals and groups (Bouhouras, et al, 2022; Gunathilaka, et al, 2021; Yang, et al, 2022). The questionnaire survey includes both multiple choices questions

as well as open-ended questions. Statistical formulas are used to analyse the multiple choices questions. The capacity of an online statistical platform, Qualtrics XM, is used to conduct the initial statistical analysis. Although, questionnaire-based surveys, particularly multiple choices, are often used for quantitative investigations, open-ended questions provide an opportunity to collect some qualitative information through the survey. The participants can write their responses to the open-ended questions. These questions assist us to understand factors and issues that may not have been initially considered by the researchers (De Vaus, 2013).

We select staff of the Faculty of Creative Art and industries (CAI) at the University of Auckland as our target group. The researchers' access to the email address of the staff was the main rationale to selecting the target group. The survey results are analysed and then visualised through a set of graphs and diagrams.

The research team initially applied to achieve for the University of Auckland Human Participants Ethics Committee approval. Following the ethical approval, the researchers sent an invitation email to all CAI staff through their university email addresses to partake in the research projects. The invitation email included a link for online questionnaire survey, the project information sheet, and the consent form. The questionnaire encompassed 17 multiple-choice questions and open-ended questions that required 10 to 15 min to be answered. The online link was active for two weeks. A day before the deadline, the researchers sent another invitation email to remind the potential participant to answer the

questions and maximise the response rate. A total of 119 people completed the survey within a timeframe of two weeks. Out of 236 invited participants, this results in a response rate of 50.4%. Based on the statistical formula, to generalise the result, a sample size of approximately 127 was required to achieve a 90% confidence level with a 5% margin of error (Kumar, 2018). Since the actual sample size is 119, it is slightly below the required size. This means the results might be close to being generalizable but may not meet the desired confidence level and margin of error perfectly.

### 2.4 Conclusion

The researchers employ a mixed research methodology, which incorporates investigations of various case studies alongside a questionnaire-based survey. While these methodologies complement each other and yield sufficient results to address the research questions, they also possess inherent limitations. These limitations include a restricted number of participants in the survey and a limited scope of investigated case studies. The next section will cover the selected case studies.

### 3. Case Studies

This literature review aims to select and review different initiatives and programs that have effectively promoted bicycle commuting in the universities around the world.

#### 3.1 Graz University of Technology, Austria

The Graz University of Technology (TU Graz) in Austria has implemented a programme similar to the one this research project envisions for the University of Auckland. TU Graz has incentivised more carbon-neutral commuting modes since 2006 (Wiedner 2020). The programme has been so successful that they have won one of four awards for Austrian pioneers on two wheels and a gold certification as a Cycle Friendly Employer. Various articles on TU Graz's website and European publications have covered their Carbon Neutral Programme. For this research project, we are particularly interested in the bicycle aspect of their programme. The bike incentivisation programme has succeeded, as 40% of the university's staff commute by bike (Getzinger 2021). These incentives include subsidised prices to purchase new or second-hand bikes, providing one free bike service per year, self-service bike stations with air pumps and various tools around campus and over 900 covered cycle stands. Through the vast increase in bicycle use, the university has halved its car parks and has turned these spaces into 'communication zones'. All of the University-subsidized bikes have a TU Graz logo on their bike frames. For the University, this is a win-win situation. Staff commute by bike, reducing car

traffic, and at the same time, it serves as free advertising for the University, as the bikes can be seen in all parts of the city. Due to the success of the TU Graz bike program, the second-largest university in the city of Graz, the Karl-Franzens University, implemented a similar program. Staff there have the opportunity to obtain bikes from their employer with the Karl-Franzens University logo on them, and now a similar number of university bikes can be seen across the city.

#### 3.2. University of Hohenheim, Germany

TU Graz is not the only university to have implemented a successful bicycle programme that has been influential. In 2018, The University of Hohenheim joined the broader Stuttgart bicycle initiative called RegioRad. There were 400 new bicycle parking spaces and 47 new showers for cyclists to use on campus each morning (Schmid 2020). Like TU Graz, The University of Hohenheim was awarded the certificate of Bicycle Friendly Employer for their commitment to increasing bicycle use and commuting. The bicycle initiative has changed the way users move around the university campus. There is now a 30km/h speed limit across the campus and improved bike-only paths to remove danger for cyclists (Schmid 2020). Although this programme was initially for the university's students, it presents solutions to incentivising commuting by bike which can be applied to staff. It also works for staff because there are many needs that students and staff share when it comes to commuting by bike.



### 3.3. The University of Münster, Germany

A city which has implemented a large-scale bicycle initiative is the university town of Münster. The city has placed a greater emphasis on economical and cost-effective commuting. As with the previously discussed institutions, the Münster City Council believe bicycling is the solution to decongesting roads, decreasing pollution and improving general wellness for the city's people. Convenience and affordability are the factors that won over the city. For the 300,000 residents, there are 600,000 bicycles, meaning that 35% of daily commutes are made by bicycle, which shows how successful the scheme has been (Chase 2018). To turn Münster into a cycle-safe city and ensure people that it is safe to commute wide cycle highways, cycle bridges and tunnels at intersections, lower car speeds, and higher visibility of cycle routes were implemented (Thomas 2012).

Among many implementations of bicycle-friendly services Münster has, it is essential to explain the strategies that can be effective at the University of Auckland. One of these strategies is conveniently having repair workshops where commuters can take their bikes for various things, from flat tires to broken brake cables. Münster is a city with eight universities, with even more campus locations spread around the city. As we saw in the example of the city of Graz, if one university implemented such a bike program, other universities in the same city will do the same. They follow the same strategy, and this creates a chain reaction in which one desirable occurrence leads to another, further promoting

the first occurrence and resulting in a continuous process of improvement.

The strategies they have implemented are relevant and achievable not only for the University of Auckland but also for the City of Auckland and other universities.

### 3.4 The University of Valencia, Spain

In Spain, many cities are converting to alternative modes of daily commuting. Vitoria-Gasteiz, a city in northern Spain, has the highest bicycle use in the country. In 2012 Vitoria-Gasteiz was awarded the European Green Capital (López, Monzon, Muñoz 2016). Bicycle use increased dramatically from 3.3% in 2006 to 6.9% in 2011 and 12.3% in 2014 due to the introduction of new cycling infrastructures (2016). The article written by López, Monzon and Muñoz is relevant to include in this literature review as they investigate “key factors influencing bicycle commuting... for developing effective policies towards a cyclable city” (2016). They concluded that there are clear variables (Lifestyle, Safety and comfort, Awareness, individual capabilities etc.) associated with bicycle commuting that directly affect whether or not someone decides to commute by bike. While it may seem that the primary concerns about commuting by bicycle would revolve around safety and comfort, other factors also play a significant role. However, it is more around creating awareness and campaigns around normalising this alternative commuting transportation. Many of the participants in their survey were unaware or uneducated about bicycle commuting and how effective/efficient it can be. Thus, the researchers explained that“

bicycle-specific programs such as Bike-to-work Day and cycling courses” to target social groups effectively start the conversation.

There are also examples of university-driven bicycle programmes in Spain. In Spanish publications that were read for this project’s research, universities are considered as generating a large amount of the commuting that happens in peak times of the day and have a “relevant role in increasing cycling through improving infrastructure and programmes for active commuting” (Castillo, Queralt and Sallis 2015). In the research project called *Bicycling to University: evaluation of a bicycle-sharing program in Spain*, executed by Javier Molina-Garcia, Isabel Castillo, Ana Queralt and James Sallis, their findings were that inadequate facilities for safely leaving bikes were one of the significant barriers to bicycle transportation (2015). This research project was carried out over eight months with undergraduate students in psychology at the University of Valencia. The number of undergraduate students they used for the research was 173, with a mean age of 21.3 years. This is a different age bracket from the UoA research project’s target population, staff rather than students, meaning the mean age will be higher.

### 3.5 The University of Tilburg, the Netherlands

Amsterdam in the Netherlands is widely recognized as the bicycle capital of the world. The practice of commuting by bicycle in Dutch cities and towns has been an integral part of the lifestyle for generations (Pucher and Buehler, 2008). Consequently, it is accurate to assert that

many cities in the Netherlands, including those with universities, are well-equipped to accommodate bicycle commuting (Harms, Bertolini and Te Brömmelstroet, 2016).

This research project investigates sources directly related to university bicycle facilities and initiatives to keep the information as relevant as possible. It is also important to note that most cities in The Netherlands have a far different topography to Auckland. It is almost flat compared to Auckland’s rolling hills, which can be unappealing and challenging for some people. Many national/ local government-endorsed bicycle projects in The Netherlands were done in the 1970-80s. Thus, today’s infrastructure already has well-established urban-scale bicycle initiatives (van Goeverden and Godefrooji 2011). It is still helpful to understand how university lead programmes work in a country where cycling is a popular mode of transportation. This is because their projects have been successful, as 27% of all daily trips are by bike, and 38% of the Dutch population consider their bike their most used vehicle of transportation (Fruianu, de Munck and Voerknecht 2009).

A research project called The Dutch Research Study in 2011 reviewed the effectiveness of bicycle projects in prominent cities in the Netherlands. Their general conclusions were that when policies are introduced, they can positively affect cycling culture and sustain people using a bicycle to commute. Van Goeverden and Godefrooji (2011) discuss that they are the most useful for the Free Bikes Research Project in Tilburg. Tilburg is a university city located in the southern Netherlands. Tilburg has implemented much

larger scale bicycle initiatives such as a bicycle path which spans across most of the city, redesigned the central city and restricted car access, intersections give priority to bikes and painting the road red at intersections to continue the bicycle lanes (van Goeverden and Godefrooij 2011). Thus, the University of Tilburg's staff and students already have a more developed bicycle commuting infrastructure. The university's website briefly describes what is available to staff and students if they commute by bicycle. This includes multiple bicycle shelters around campus and on-campus showers (Tilburg University 2021). There do not seem to be particular financial initiatives to get more people involved with commuting by bike as it is already a well-established transport option.

This is also the case with another Dutch city - The Hague. The Hague is the third largest city in The Netherlands and is where the national government bases itself. To set an example for the rest of the country and neighbouring countries, they have "demonstrated the feasibility of well-designed urban cycling infrastructure" (van Goeverden and Godefrooij 2011). The Hague University of applied sciences accommodates well for bicycle commuters. They have partnered with a company called Swapfiets which, for a monthly fee (there are student rates), you can rent a bike and have free bicycle repairs. Users can download a Swapfiets app and request a bike repair within 48 hours (Swapfiets 2021). There are three different types of bikes that the user can hire; one of them is an e-bike option. The original bike is 16.90 Euro per month (around 32.00 NZD), and the e-bike is 75.00 Euro (around 150.00 NZD), which gives an

alternative solution to the 'Free Bikes' concept that the UoA research project has started with.

### 3.6 Universities in Copenhagen, Denmark

Copenhagen is well-known for its world-leading bicycle transport initiatives. Copenhagen has allocated significant resources into improving bicycle facilities and commuting routes. In 2017 Copenhagen won the Copenhagenize Bicycle Friendly Cities Index for their ongoing investments to improve bicycle commuting around the city (Lubanski 2017). These investments are working because, in 2018, 62% of residents commuting to work or a place of education used a bicycle, compared to just 9% using a car (Fleming 2018). Between 2007 and 2017, Copenhagen injected USD150 million into its bicycle infrastructure and facilities, including eight built pedestrian-bicycle bridges (Lubanski 2017). This may seem like a significant financial commitment to an initiative that seemingly gives nothing back, but bicycle commuting is an investment that gives a high return. The cycling population in Copenhagen saves 261 million USD in public health costs per year. This is enough to finance and protect all bicycle infrastructure in under five years (Lubanski 2017). Bicycle commuting is not seen as a financial investment by local governments where it should be. Understanding the statistics for the financial benefits that Auckland could save might provide the opportunity to implement bicycle route improvements alongside the Free Bikes scheme.

As Copenhagen has established bicycle travel in the roots of the city's culture, over the years, exciting bicycle projects have taken place. An initiative called 'Free Bikes', funded by Danish

companies offers university students a bicycle for one year and is then sent to youth in Africa (Trincado 2011). The reason for doing this is to bring education closer to youth in African countries that live long distances from schools and universities. The businesses sponsoring this project get a free advertisement on the bikes used daily by students commuting to and from the university in Copenhagen. A similar idea could be realised here at UoA as the bikes could be branded with the university logo and colours. This would be great publicity and generate a positive image for the university as it will be clear they are placing importance on sustainable travel.

### 3.7 The University of Cambridge, UK

Situated in Cambridge, England, the University of Cambridge stands as a venerable public collegiate research institution renowned worldwide for its longstanding scholarly tradition. Established as the world's third-oldest continuously operating university, the University of Cambridge encompasses a constellation of 31 constituent colleges alongside more than 150 academic departments, faculties, and ancillary institutions, thoughtfully organised into six overarching schools.

Occupying a central nexus within the historic city of Cambridge, the university's presence profoundly shapes the local demographic landscape, with its student body constituting nearly 20,000 full time students in 2021, consequently imbuing the city with a distinctive youthful vibrancy (Cambridge City Council, 2022). The architectural tapestry of the University of Cambridge is intimately woven into

the urban fabric, with its venerable colleges predominantly clustered around the city centre, juxtaposed against the picturesque backdrop of the meandering River Cam. A quintessential feature of Cambridge's collegiate life is the centuries-old tradition of punting along the tranquil waters of the River Cam, affording patrons enchanting vistas of the university's storied edifices lining its banks. Characterised by a compact layout and relatively level topography, the Cambridge environs favour sustainable modes of transportation, with bicycles emerging as a favoured conveyance among students, epitomising approximately one-fifth of all journeys within the city, a testament to the university's commitment to environmental stewardship and fostering a pedestrian-friendly campus culture. Notably, vehicular access is regulated, with stringent restrictions barring student parking except under exceptional circumstances, thereby further incentivising alternative transportation modalities and reinforcing the university's ethos of sustainability and responsible urban mobility (Elliot, 2018).

The University of Cambridge has initiated "The Cycle to Work scheme" to encourage its staff to use bikes/e-bikes in their commuting to the university. The staff can save 23-39% on a new bike for work (The University of Cambridge, 2024b). The staff can spread the cost of getting a new bike, save on Income Tax and National Insurance. The University has a cycle to work salary sacrifice scheme. Through the scheme the university staff can: Spend at least £100 up to a maximum of £3000 on a new bike and/or safety equipment (i.e. lights, replacement parts etc). Spread the cost over a year and save on

their Income Tax and National Insurance contributions. Choose from a wide range of partner stores across the UK and online. Get access to a range of additional benefits and discounts through their exclusive “My Cycle scheme account”. To be eligible for the scheme, the staff must be a University of Cambridge employee with at least 12 months remaining on their contract of employment at the time they apply online for a certificate. They should earn above the National Minimum Wage after the salary exchange reduction and also, they should be a UK taxpayer (the University of Cambridge, 2024a).

The university offers free training for staff who would like to improve their cycling ability. The ‘try before you buy scheme’ allows University staff to test a bike for up to 2 months for the commute to work. This scheme provides an opportunity for the staff to choose from a range of bikes, including city, hybrid, electric, folding and cargo bikes at a subsidised price of £10 per month. A limited number of bike lockers at Park and Ride sites on the fringes of Cambridge have been secured for use by university staff to enable them to be able to park a car and cycle the last few miles to their workplace (The University of Cambridge, 2024c).

### 3.8 The University of Bath, UK

The University of Bath is a public research university in Bath, England. The university's main campus is located on Claverton Down, approximately 1.5 miles from the centre of Bath. The site is compact; it is possible to walk from one end to the other in fifteen minutes. There are around 3,500 staff employed at the

University (The University of Bath, 2024), and 19,000 students enrolled in its undergraduate and postgraduate programs in 2022.

The university employees can use the government cycle to work salary sacrifice scheme, saving tax and national insurance on their commute to and from work. The scheme is a salary sacrifice arrangement where the staff give up part of their salary before tax and national insurance in exchange for hiring a bicycle and/or safety equipment. The university runs its salary sacrifice scheme with a company called ‘Cyclescheme’ (like other UK based universities), giving the staff access to a network of local, national and online retail outlets. The staff should be an employee of the University of Bath to be eligible for the scheme. Choose a bicycle, component bike parts and safety accessories up to the value of £5,000 (The University of Bath, 2024b). By signing the contract, the staff agree to a monthly deduction to your gross salary – meaning that you'll benefit from reductions in income tax and national insurance. The monthly amount is dependent on the value of the bike and accessories you choose. The hire agreement runs for 12 or 24 months. At the end of the hire period there may be the option for the staff to make a final payment to Cyclescheme for the ownership of the bike and/or equipment or component parts. The staff should confirm that the bike will be their main mode of travel to and from work. They should maintain the bike and equipment in a reasonable and safe condition insure the bike against theft. The University of Bath accepts no responsibility if the bike is lost or stolen. The staff should pay the until the end of the agreement.

### 3.9 The University of Bristol, UK

The University of Bristol (UoB) is a public university in Bristol, England. UoB is organised into six academic faculties composed of multiple schools and departments running over 200 undergraduate courses, largely in the Tyndalls Park area of the city. The University is the largest independent employer in Bristol. The University of Bristol is a good demonstration of a city university. It has many buildings and facilities throughout the city centre as part of its Clifton campus, as well as some locations in different areas of the city, such as the new Temple Quarter development (Williams, 2022).

UoB offers the Cycle to Work scheme which is a government-backed employee benefits scheme enabling the university staff to save money and spread the cost of a new bike for commuting to and from work. The scheme is run via salary sacrifice, so the staff don't pay tax or National Insurance on the cost of a new bike and accessories. The staff can potentially save between 32% and 42% of their bike or e-bike costs by using the scheme. The University's scheme is delivered by Cycle2Work (Halfords), offering a range of months fits including: a choice of top cycling brands from Halfords, Tredz and a network of more than 1,000 independent bike shops; an increased scheme limit of £2,500, covering a wide range of electric bikes; an extra 10% discount on the retail price of bikes and accessories from all participating outlets; and repayments deducted automatically from gross salary (i.e. before tax) over the 12 month hire period. Only salaried University of Bristol employees on permanent or fixed term contracts are eligible to take part in the

scheme. If a staff is paid through an agency or external funding body, she/he is not eligible to join the scheme. If by doing so the salary sacrifice deductions would bring a staff monthly salary below National Minimum Wage, she/he cannot take part in Cycle to work scheme. Under His Majesty's Revenue & Customs (HMRC) rules, all bikes and equipment obtained through Cycle to Work must be used mainly (i.e. more than 50% of journeys) for commuting or other work-related purposes to be eligible for the tax savings on their purchase price ((The University of Bristol, 2024). The University holds regular Cycle to Work Roadshows which its staff can attend and receive an in-depth explanation of how the Cycle2Work scheme works and what type of bikes and accessories are included in the university initiative. Prior to the end of the 12-month hire period, the staff will be contacted by Halfords to discuss the three options which are:

- Zero Cost Extended Hire: this allows them to opt into an extended rental agreement at NO additional cost. The staff will have nothing more to pay, and ownership will be transferred automatically to them at the end of the period;
- Take ownership of the bike and accessories by paying the 'Fair Market Value' as defined by HMRC – this is usually 18% or 25% of the original value; or
- Return the goods to the local Halfords store.

If the staff employment at the University ends before the end of their hire agreement, the outstanding balance will be deducted from their final net salary (i.e. without the savings on tax and National Insurance). If the final salary does not cover the final balance, the staff should pay

the balance owing to the University within 14 days of leaving (The University of Bristol, 2024).

#### 3.10 The University of Nottingham, UK

The University of Nottingham is a public research university in Nottingham, England. Nottingham's main campus (University Park) with Jubilee Campus and teaching hospital (Queen's Medical Centre) are located within the City of Nottingham, with several smaller campuses and sites elsewhere in Nottinghamshire and Derbyshire. Nottingham is organised into five constituent faculties, within which there are more than 50 schools, departments, institutes, and research centres. Nottingham has more than 46,000 students and 7,000 staff across the UK, China and Malaysia. University Park Campus, to the west of Nottingham city centre, is the 1.3 km<sup>2</sup> main campus of the University of Nottingham. Set around its lake and clock-tower and with extensive parkland greenery. At the south entrance to the main campus, in Highfields Park, lies the Lakeside Arts Centre, the university's public arts facility and performance space. Jubilee campus is approximately 1.6 km from University Park. The campus' facilities house the Schools of Education and Computer Science, and The Nottingham University Business School. The site is also the home of The National College for School Leadership (The University of Nottingham, (2024a).

The University of Nottingham offers the Cycle to Work scheme. It is operated based on a salary sacrifice basis, the scheme allows employees to hire a bike and equipment from the University for twelve months and has increased the value

of the scheme to enable staff to purchase bicycles up to the value of £4,000. After this period the employee may, at the University's and scheme provider's discretion, be offered options to extend the hire agreement or take ownership of the bike (The University of Nottingham, 2024b).

#### 3.11 The University of Keele, UK

Keele University is a public research university in Keele, approximately 5 kilometres from Newcastle-under-Lyme, Staffordshire, England. Keele occupies a 253-hectare rural campus close to the village of Keele and consists of extensive woods, lakes and Keele Hall set in Staffordshire Potteries. It has a science park and a conference centre. Keele University is the largest campus university in the UK. Over 12,500 students are study in undergraduate and post graduate programs in 2024 (Keele University, 2024a).

The university follows the UK government's Cycle to Work program. The university offers its employees to save money and spread the cost of a new bike for commuting to and from work. The scheme is run via salary sacrifice so the staff don't pay tax or National Insurance on the cost of a new bike and accessories – a potential saving of over 30%. The University are also partnered with the Green Commute Initiative to provide a Cycle to Work Scheme to eligible employees. The scheme allows staff to choose a bike (and safety and security equipment) from a participating store up to the value of £1,000 (incl. VAT) for standard (pedal power) bikes and up to a value of £2,500 (inc. VAT) for electric bikes. The bike is paid for via salary sacrifice

(saving on tax and NI contributions) over an 18-month hire period. After the initial hire period the employee can take the option to take full ownership of the bike (and safety and security equipment). The scheme will be open all year round. There are some eligibility requirements that should be met to qualify for participation in the scheme. Bicycles and/or safety equipment hired through the scheme should primarily (more than 50% of the time) be used for 'qualifying' journeys but can also be used for non-work journeys. 'qualifying journeys' means a journey or part of journey: Between the staff home and work place; Between one workplace and another; To and from the train station to get to work. If a staff don't intend to use the bike for 'qualifying journeys' you will not be able to join the scheme. If a staff joined the scheme and the bike wasn't used for 'qualifying journeys', the staff would become liable to an income tax Benefit in Kind charge. The salary sacrifice agreement will be effective for the duration of the hire period. After a 14 day "cooling-off period after signing the hire-contract, the contract is irrevocable. If an employee leaves the University before the end of the salary sacrifice period, the outstanding balance will be deducted from the employee's final salary. It will be the employee's responsibility to maintain and insure the bicycle. If a bicycle is stolen during the hire period, the employee will still be required to make the remaining payments (Keele University, 2024b). The university recommends The Green Commute Initiative as the service provider. Its website indicates (Green Commute Initiative, 2024) that,

Its important for you to understand that the Government's Cycle to Work scheme is

based on bicycle hire with no automatic right to ownership at the end of the hire period. You will not own the bike during the hire period. You will be hiring the bike from GCI and we will retain the ownership until we agree otherwise. We will write to you with ownership options at the end of the hire period, ensuring HMRC rules are adhered to. Unlike other scheme providers, we will not charge you a 7% end-of-scheme fee. We want you to make the maximum possible savings.

### 3.12 The University of Edinburgh, Scotland

The University of Edinburgh is a public research university based in Edinburgh, Scotland. The university has five main sites in Edinburgh: Central Area, King's Buildings, BioQuarter, Easter Bush, and Western General. The five campuses are spread in Edinburgh, Scotland – the capital and one of the country's largest cities. Around 11,000 academic and professional staff are hired by the university. Around 41,000 students are enrolled in undergraduate and post graduate programs in 2022 (HESA, 2024).

The University of Edinburgh employees can make savings on the cost of a bike and equipment for commuting to work. The Cycle to Work scheme is designed to help you save money on a new bike to commute to work. The costs are spread over monthly instalments taken from your payslip pre-tax. The scheme can save you between 32% - 47% on a bike and accessories. The University of Edinburgh scheme is administered by Halfords Cycle2Work. Employees can select bikes and/or accessories from over 1,000 independent bike



stores, as well as Halfords or Tredz, providing access to over 98% of bike brands.

The university staff, if they are interested in scheme, can choose a bike and/or accessories from Halfords, Tredz, or one of the many independent bike shops who are members of the Halfords Cycle2Work network. Halfords Cycle2Work issue them with a Letter of collection that they can redeem against their bike and/or accessories. The staff doesn't own the bike; she/he hires the equipment from Halfords Cycle2Work via salary sacrifice for either 12 or 18 months (The university of Edinburgh, 2024a). At the end of the hire term Halfords Cycle2Work will contact the staff to discuss their options for ownership of the bike:

- Paying the fair market value of the bike (as determined by HMRC) to take ownership of the bike immediately.
- Continuing to hire the bike at zero cost until HMRC deem the value to be negligible (usually 4-5 years), at which point they will automatically take ownership of the bike.
- Returning the bike.

The scheme assists the staff to make savings because salary-sacrifice reduces from their gross pay. This, in turn, reduces the amount of income tax and National Insurance that they pay each month. Savings are dependent on their personal tax code:

- Basic rate taxpayer 32%
- Higher rate taxpayer 42%
- Additional rate taxpayer 47%

Employees may spend up to £3,000 on the cost of a new bike and/or accessories (such as a helmet, lights and locks). The scheme is strictly for bikes which will be used for commuting or

work-related journeys at least 50% of the time. The scheme can also be used to get e-bikes, cargo bikes, tricycles and other adaptive bikes. E-scooters are not eligible. If the bike value is greater than £3,000 they are considered and authorised on a case by case basis (The university of Edinburgh, 2024a).

The university also offers another scheme in which staff can borrow an e-Bike for up to a month to try out commuting on it. The purpose of the "Try-Before-You-Buy" scheme is to help the staff decide if commuting by e-Bike is a good fit for their circumstances. Bike shops will usually let them test-ride a bike, but that doesn't help the staff figure out if their commute would be feasible, or if the bike would physically fit into their home. The scheme provides staff with an easy way to work out these smaller details before committing to an e-Bike of their own, which can be a considerable expense (The university of Edinburgh, 2024b).

### 3.13 UNSW, Australia

The University of New South Wales (UNSW), also known as UNSW Sydney, is a public research university based in Sydney, New South Wales, Australia. It is one of the highest ranked universities in Australia and the world. The university comprises seven faculties. The main campus is in the Eastern Suburbs in the suburb of Kensington, 7 kilometres from the Sydney central business district (CBD). The creative arts faculty, UNSW Art & Design, is in Paddington, and sub-campuses are located in the Sydney CBD as well as several other suburbs, including Randwick and Coogee. Research stations are located throughout the state of New South

Wales. Around 7,482 regular staff are working at the university and 66,500 undergraduate and post graduate students are study in its different campuses.

UNSW offers its staff an option to purchase a salary packaged electric-bike through a service provide (E-stralian). The e-Bike salary packaging initiative aligns with the UNSW's sustainability goals and is in line with the UN's Sustainable Development Goal 12 to promote responsible consumption (UNSW, 2022). However, the detail of this initiative is not publicly available. UNSW also provides 1000 bike racks, several bike repair stations and a secure bike shed across its main campus. The bikers and e-bikers can find the nearest bike park, shower, or repair station through an interactive map.

### 3.14 Australian National University, Australia

The Australian National University (ANU) represents a distinguished public research institution recognised for its academic excellence within the Australian higher education landscape. Strategically positioned in Canberra, Australia's capital city, ANU's primary campus sprawls across the Acton suburb, boasting an expansive footprint spanning approximately 1.45 km<sup>2</sup> of verdant parkland harmoniously integrated with architecturally significant university edifices. With a robust workforce exceeding 4000 dedicated professionals, ANU serves as a pivotal nexus for scholarly discourse and intellectual engagement. Evidencing its pivotal role in academia, ANU attracts an extensive cohort of

both undergraduate and postgraduate scholars, with enrolment figures exceeding 22,000, attesting to its stature as a pre-eminent institution fostering the pursuit of knowledge and scholarly inquiry.

ANU provides full-time and part-time employees with the opportunity to salary package e-bikes, specifically intended for commuting purposes to and from work. All full-time and part-time employees are eligible for this salary packaging option, allowing them to package up to 100% of their salary. A smart platform (SmartSalary) deducts automatically lease payment amounts pre-tax (excluding GST) and disburse these directly to E-stralian (e-bike service provider) each pay period on behalf of the employees. The e-bike purchased under this initiative is intended primarily for commuting purposes, specifically for travel to and from work (ANU, 2024). Any additional usage of the bike beyond this scope should be minimal and secondary. During the initial three-month period of ownership, users are required to maintain a logbook documenting their travel patterns, emphasizing trips primarily between work and home, or for work-related tasks. This logbook should be retained by the employees for a minimum of five years after its completion. Routine maintenance costs, such as regular servicing, for the e-bike will be incorporated into the standard lease payment amount (ANU, 2024).

### 3.15 Conclusion

This section reviewed several cases of university bikes/e-bikes initiatives and programs around the world. Selecting different

universities with different characteristics such as their size, the distribution of their campuses, their geographical locations in small towns, middle-cities and metropolitan cities, different topographies and climates, shows that universities increasingly understand their roles in generating traffic congestion and increasing carbon emissions, particularly from travel to and from university campus. Therefore, they attempt to change their staff travel modes to sustainable modes such as bikes and e-bikes through these initiatives and programs.

The investigation of different cases shows that the universities often use the capacity of the national level schemes or initiatives such as UK Cycle to Work Scheme as the backbone of their initiatives. However, the level of the provided financial supports vary case by case, even in the same country. The next chapter mainly investigates The University of Auckland as the main case study in the New Zealand context.

## 4. Case study: The University of Auckland, New Zealand

### 4.1. Cycling in Auckland: opportunities and barriers

Auckland serves as the primary nexus for trade and educational activities within New Zealand. As reported by Stats NZ (2021), approximately one-third of the nation's populace resides in the Auckland region. According to the 2018 New Zealand census, approximately 70%, Aucklanders use private or corporate vehicles, with only 30% utilising public transport, shared mobility options, or active modes of

transportation to travel from work in the Auckland region (Stats NZ, 2024). The pervasive dependence on automobiles, citing its deleterious impacts on urban liveability, manifesting as traffic congestion, and engendering multifaceted social, economic, and environmental challenges.

The NZ Transport Agency (Waka Kotahi), Auckland Council (AC) and Auckland Transport (AT) have prepared *AUCKLAND CYCLING: An Investment Programme*. “Many people would cycle short distances if the conditions were right. Overall, Auckland has good weather and lots of flat areas and with the popularity of e-bikes, hills are no longer such an issue” (NZTA, AC & AT, 2018:3).



Figure 1. Auckland Isthmus cycle paths and Tertiary institutions (Reference: NZTA, 2024a).

With a resident population exceeding two hundred and thirty thousand individuals residing within a convenient thirty-minute biking distance from the urban nucleus, a considerable volume of daily commutes is currently facilitated through public transportation means, which could potentially be substituted by cycling. This scenario is particularly pronounced in specific locales of Auckland, notably the city centre, characterised by constrained prospects for expanding existing road infrastructure and an anticipated delay in augmenting the much-needed capacity of public transit systems by several years (NZTA, AC & AT, 2018).

Bike routes have been developed extensively around the Auckland Region, including the Auckland CBD. Figure 1 displays Auckland's cycleways around the Auckland Isthmus and tertiary institutions, including the University of Auckland city campus.

### 4.2 The University of Auckland and CAI

Auckland grapples with traffic congestion, notably in its Central Business District (CBD) during peak hours. Bicycles demonstrate promising early potential as technologies that could help alleviate network congestion and counteract the declining satisfaction with travel in the Auckland region. "However, there are a number of barriers associated with shifting travel away from cars to bikes: including distance, and the hilly terrain" (Wild, & Woodward, 2018: 11). Auckland's topography is a challenge for active transport promotion such as cycling. Research conducted abroad indicates that e-bikes are notably efficient in mitigating obstacles associated with

transitioning from car-centric transportation to active modes. This effectiveness stems from their ability to alleviate exertion-related challenges typically encountered in conventional cycling, such as traversing hilly terrain, covering extensive distances, contending with adverse weather conditions, accommodating varying levels of physical fitness, disabilities, and individuals with higher body weights. Moreover, e-bikes expand the potential for adopting behaviours reminiscent of automobile usage with bicycles, including undertaking longer journeys, engaging in more frequent trip chaining, and transporting heavier and bulkier loads (Behrendt, et al., 2021; Müller, et al, 2020; Dill, & Rose, 2012; de Geus, & Hendriksen, 2015; Lee, & Sener, 2023). Rérat (2021: 423) conducted a large-scale survey (14,000 bike commuters) in Switzerland that "shows that the e-bike makes it possible to overcome some of the barriers faced by conventional cyclists, such as distance, gradient and physical effort. The e-bike empowers more people to cycle, across social groups (women, couples with children, people over 40, people with a lower physical condition) and spatial contexts (suburban and rural areas). By reaching groups and spaces that are more motorised than average, the e-bike expands the practice of cycling as a complement or alternative to automobility". By considering the capacities of e-bikes, Wild and Woodward (2018) argued that e-bikes generate a new opportunity for Aucklanders to change their travel mode from cars to active modes.

The Auckland CBD hosts the primary campuses of two prominent public universities, namely The University of Auckland (UoA) and Auckland

University of Technology (AUT), drawing substantial daily traffic from both faculty and students, especially during the academic semesters (Mohammadzadeh, 2021). Founded in 1883, The University of Auckland is the largest and the first ranked public university in New Zealand with over 36,000 students and 6,000 academic and professional staff (The University

of Auckland, 2022). The university has different campuses, The city campus is right in the heart of Auckland. That is within walking distance of all the main cultural, entertainment and commercial hubs. CAI is one of the five faculties that its buildings are distrusted in the university city campus. Around 400 academic and professional staff work in this faculty (Figure 2).

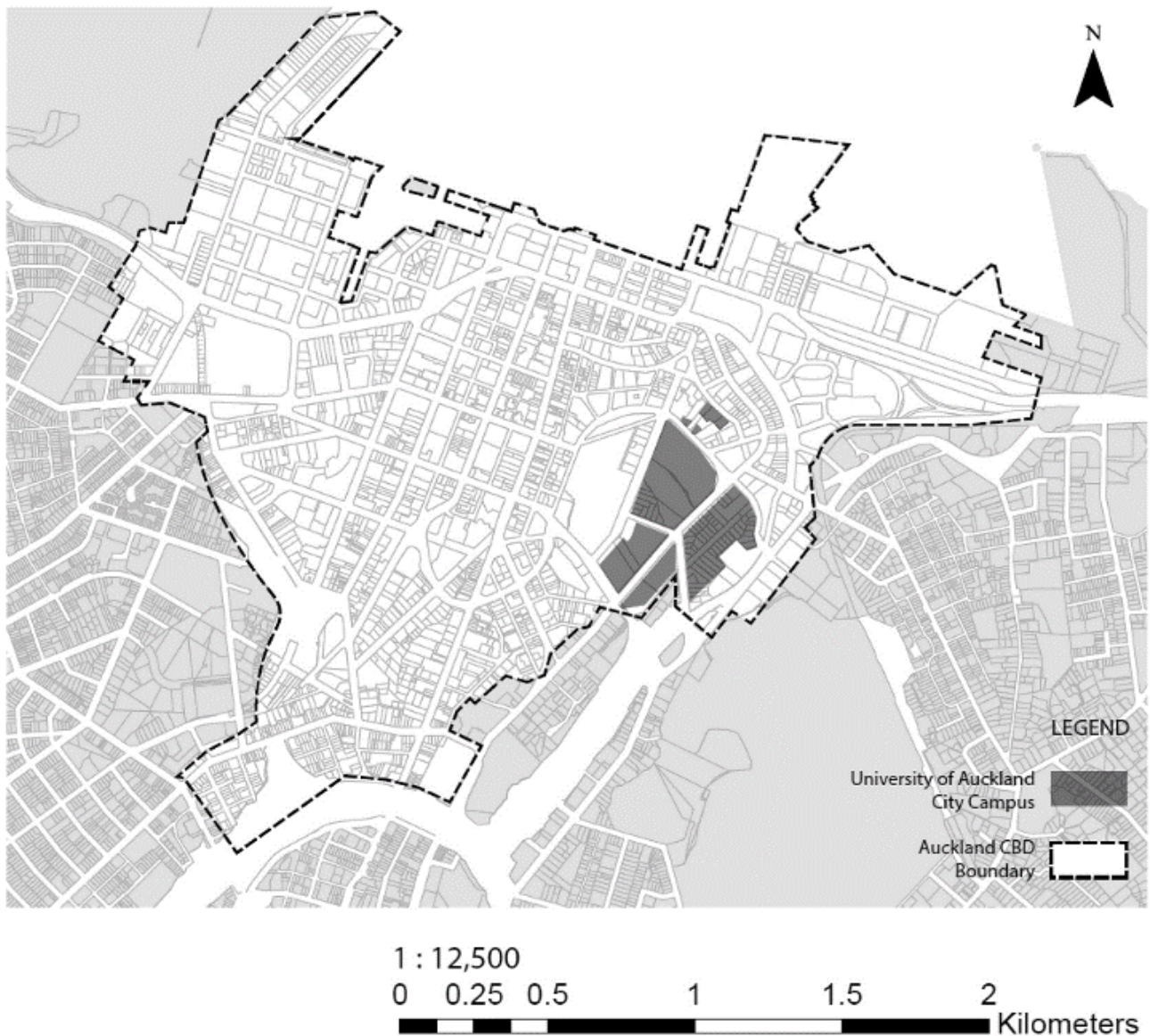


Figure 2. The location of the University of Auckland city campus within the CBD of Auckland (Reference: Mohammadzadeh, 2020).

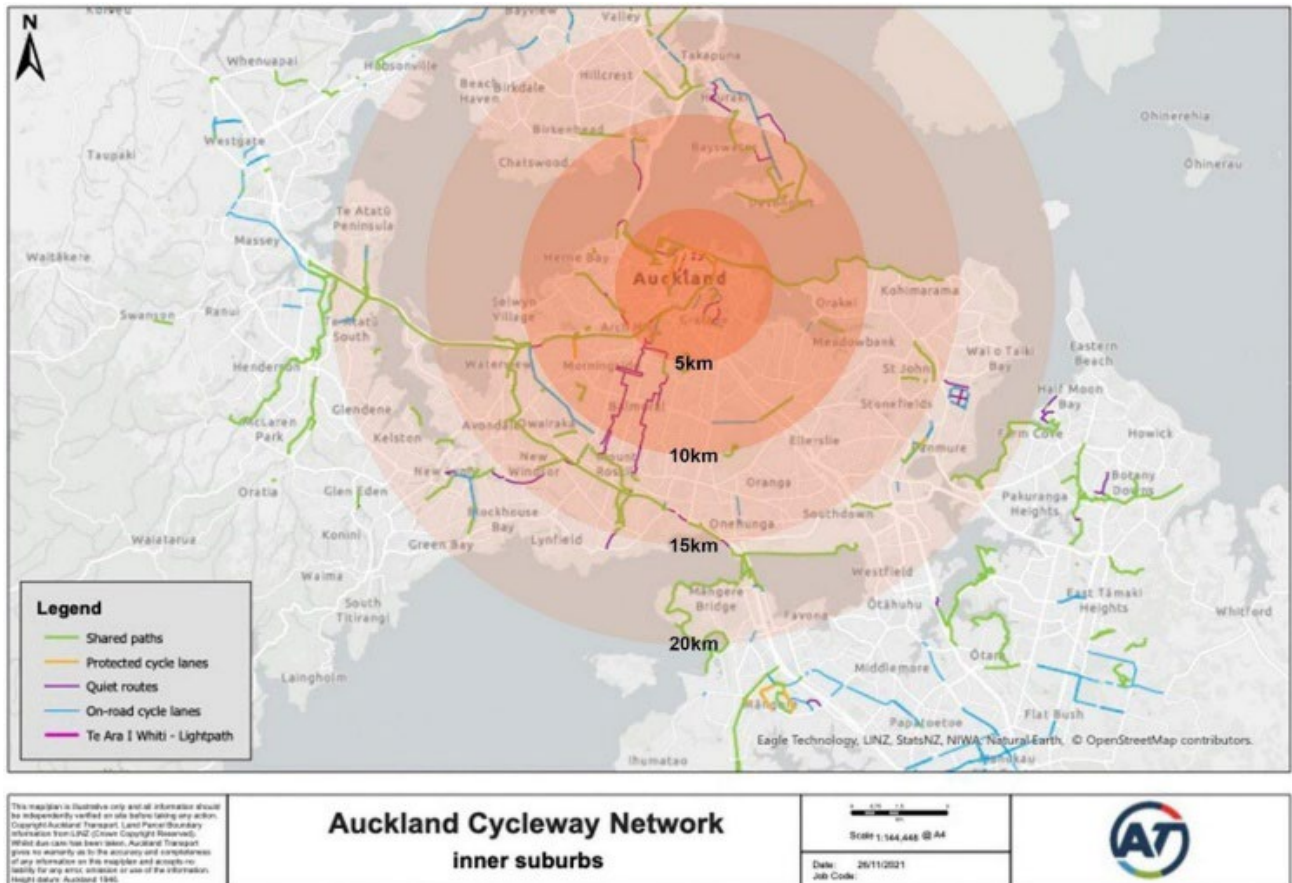


Figure 3. Auckland's cycleways with an overlay of distances from the CBD (Reference: authors, 2024).

This research project considers CAI staff's perception of using bikes or e-bike options as their main travel to university mode if the university offers financial supports. Figure 3 is an enlarged version of the previous map concentrating on the CBD area where the UoA city campus and CAI are based. The map uses the same key to highlight cyclists' various options to navigate the CBD. The closest bicycle lane to most CAI facilities is the green path, a shared path with pedestrians.

### 4.3 New Zealand Government's Employer e-bike purchase support schemes

The NZ Transport Agency (Waka Kotahi) introduced the public sector electric bike (e-bike) purchase support initiative, also known as the "national initiative," in late 2019. The aim was to enhance the affordability of e-bikes for public sector employees, although the program wasn't exclusive to them initially. Its primary focus was on the public sector to encourage government organisations to set an example in fostering sustainable and active travel programs, leading to a shift in transportation modes.

This initiative assists employers in establishing e-bike purchase schemes in collaboration with approved e-bike suppliers. Various financial mechanisms are employed to lower the initial purchase costs, including salary advances, employee loans, product discounts, and interest-free finance terms. Approved e-bike suppliers offer pre-purchase support, such as e-bike trial opportunities and advisory services (Blewden, et al. 2021). While some schemes may also encompass pushbikes and electric scooters (e-scooters), the main emphasis remains on e-bikes.

An employer-sponsored e-bike purchase assistance program entails an organization facilitating a collective procurement of e-bikes for its employees, and potentially for its own fleet, at a discounted rate. The organization selects an e-bike supplier capable of fulfilling its requirements, typically offering discounts, trial sessions, and robust customer support. Furthermore, some organizations may incentivise participation by extending financial support to employees through either a wage advance or a loan, typically amounting to a maximum of \$2000, for their e-bike acquisition. Employees then reimburse this amount through automated deductions from their salary over an agreed-upon period, typically a year. Generally, this option is not accessible within the core public service; however, alternative financing arrangements with suppliers can yield similar outcomes (NZTA, 2024b).

In 2020, the New Zealand Transport Agency (NZTA), also known as Waka Kotahi, commissioned Mackie Research to assess Employer e-bike purchase support schemes. The

process evaluation of these schemes occurred from May to September 2020. The evaluation encompassed a literature review, a survey of organizations registered with the scheme, and interviews conducted with scheme coordinators, e-bike suppliers, and employees who had purchased e-bikes (Blewden, et al. 2021).

The analysis of organisations either implementing or in the process of establishing schemes suggests that existing support mechanisms are relatively efficacious in fostering participation. Additionally, a considerable proportion of survey respondents expressed a high level of satisfaction, categorizing the provided supports as either 'Very useful' or 'Useful'. Employees interviewed similarly conveyed overall contentment with the pre-purchase assistance they received. Notably, demonstration days played a pivotal role by facilitating trial runs and furnishing individuals with pertinent information and guidance (Blewden, et al. 2021). These initiatives proved instrumental in aiding employees in determining the suitability of e-bikes for their needs and identifying the most appropriate type or model. Moreover, demonstration events often served as enjoyable and communal staff engagements. The expertise of retail personnel was highlighted, as they demonstrated a keen commitment to assisting customers in selecting bikes that aligned with their requirements. However, there was a prevailing sentiment among participants that wage advance or loan provisions were essential for schemes to present a compelling incentive beyond mere discounting. Such provisions were perceived as indicative of the employer's unwavering dedication and backing. Furthermore, it was posited that these facilities



were particularly crucial for extending the scheme's reach to lower-income employees, as discounting alone might not sufficiently surmount financial barriers. Consequently, it was recognised that lower-income employees, in general, may necessitate additional forms of support (Blewden, et al. 2021).

Some public sector organizations are restricted by legislation from providing loans to their staff members. Consequently, workplace e-bike schemes within these organizations must be modified to exclude salary advances or loan options. Alternative financing arrangements, such as offers provided directly by suppliers or payroll deductions remitted directly to suppliers, can serve as viable substitutes.

In March 2023, an amendment to taxation law was enacted, exempting e-bikes from fringe benefit tax when utilized for commuting to and from work. This legislative amendment significantly impacts employer e-bike purchase support schemes (NZTA, 2024b).

#### 4.4 The University of Auckland e-bike initiatives

The University of Auckland has implemented several initiatives and partnerships to promote and provide discounted access to e-bikes for staff and students. This includes a free trial program, retailer partnerships, and utilizing government purchase support schemes. However, there does not appear to be a comprehensive, university-led subsidised e-bike purchase program for staff. Through the E-Bike and Scooter Testing Programme, the university

offers a free program for staff and students to test e-bikes and e-scooters by borrowing them for a period of time (The University of Auckland, 2022). This allows individuals to experience using e-bikes and e-scooters for their commute before potentially purchasing one, addressing the barrier of unfamiliarity with the technology. The program involves testing the e-bike and e-scooter batteries by Mobile Bicycle Services, and participants receive a basic safety check of their bikes, including brakes, chains, and wheels. The university has also established a partnership with Electric Bike Team, a local retailer (Electric Bike Team, n.d.). Through this partnership, staff of the University of Auckland have access to benefits and discounts when purchasing electric bicycles from Electric Bike Team. This includes a \$300 discount on eZee electric bicycles and a \$150 discount on all other electric bicycles in their range. The partnership aims to make e-bikes more affordable and accessible for staff by providing financial incentives and leveraging the expertise of a specialized e-bike retailer. In addition to these initiatives, the university can utilize the New Zealand Government's Employer E-Bike Purchase Support Scheme (Blewden et al., 2021). This scheme provides financial mechanisms such as salary advances, employee loans, product discounts, and interest-free finance terms to reduce the upfront cost of e-bikes for employees. Approved e-bike suppliers also offer pre-purchase support, such as e-bike trial opportunities and advisory services.

## 4.5 Conclusion

Auckland serves as a prominent educational and business hub within New Zealand. Major institutions, including The University of Auckland, generate significant commuter traffic to and from work, contributing to congestion, particularly around the Central Business District (CBD). While bikes are often considered a viable alternative to private car usage for commuting, Auckland's topography, relatively low urban density, and the cost of bikes are commonly cited as barriers to adoption. E-bikes are increasingly viewed as a solution for overcoming challenges associated with hilly terrain and longer-distance urban trips in Auckland. The New Zealand Transport Agency (NZTA) offers Employer e-bike purchase support schemes, which entities like The University of Auckland can utilise to enhance the attractiveness and accessibility of e-bikes for their employees.

The subsequent section delves into the findings of a questionnaire survey aimed at gauging the perspectives of CAI staff regarding the feasibility of using bikes or e-bikes for commuting to the university's city campus if subsidized by the institution.



## 5. Results

The section will investigate results of the survey. It includes five subsections that consider the interests of staff of using (e-)bikes when commuting to the university.

### 5.1 Analysing participation rate

The results from the survey were auspicious as the engagement with it was high. A total of 119 persons completed the survey in the timeframe of 2 weeks. 236 persons have been invited. This corresponds to a response rate of 50.4%. A sample size of approximately 127 is necessary to achieve a 90% confidence level with a 5% margin of error which is usually used in transportation planning and policy making (Kunar, 2018). With our actual sample size of 119, the study falls slightly short of this requirement, indicating that while the results may be nearly generalisable, they may not fully meet the desired confidence level and margin of error. However, interest in this idea has been substantial, with many survey participants reaching out to inquire about the CAI Free Bikes for Staff proposal.

### 5.2 How staff currently commute to campus

Understanding how staff are currently commuting to campus is very important when proposing an alternative mode by which to travel. Figure 5 outlines the current most popular modes of commuting. The other category consists of staff who vary in how they

get to work. For example, some walk on fine days and catch public transport in wet weather.

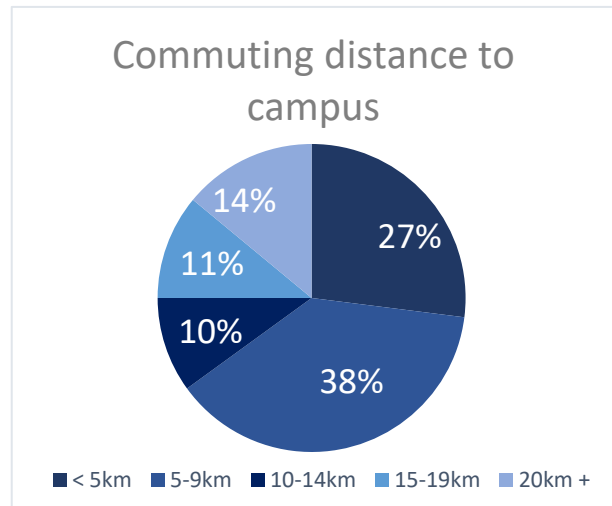


Figure 4. Graph showing percentage of staff commuting to campus in relation to distance. (By Authors, 2023).

A slight majority of staff are commuting by car (31%), closely followed by public transport (29%), which was a much closer gap than anticipated. As the graph shows, there is a reasonable distribution over the suggested transportation options. This demonstrates an already established understanding of commuting via alternative modes to a car. Commuting by bike and on foot were equal (14%), indicating that many staff live reasonably near campus. This is reinforced by the survey, where the data, shown in Figure 4, shows that 65% (27% < 5 km + 38% 5-9km) of the survey participants live within a 10km radius of campus. It is also important to note the 'other' category, in which all responses included a partial use of an alternative to a car for commuting which is easier to achieve when commuting within a 10km distance.

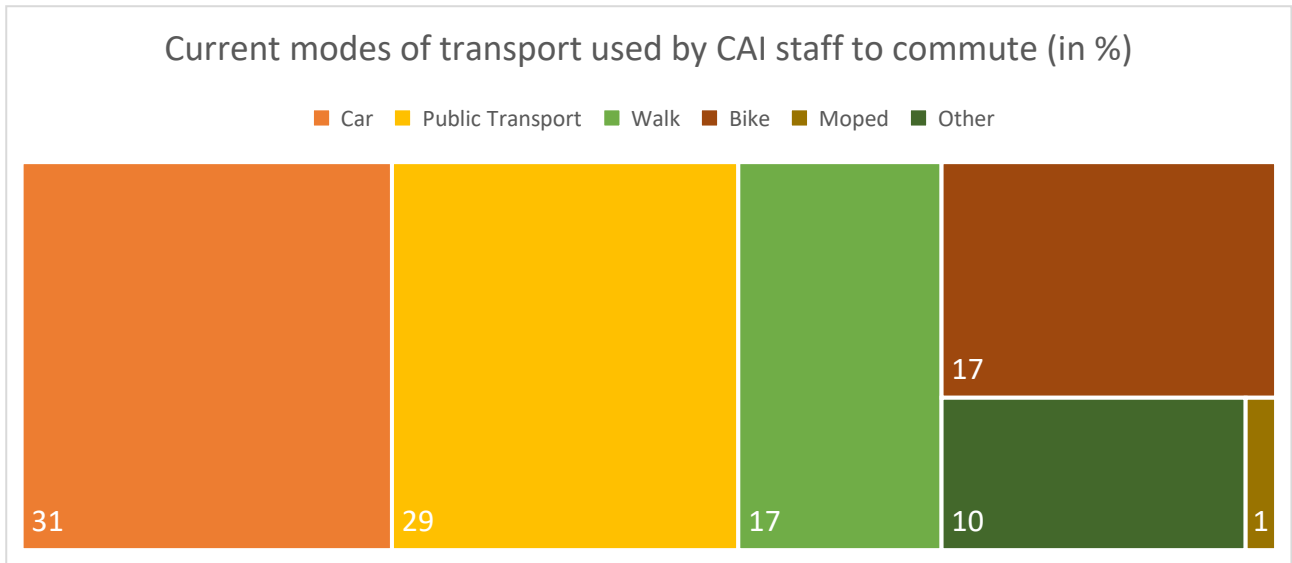


Figure 5. Graph showing percentage of current modes of transport used by CAI staff commuting to campus. (By Authors, 2023)

### 5.3 Level of interest in commuting by bike

One of the initial questions the survey asks regarding bicycle commuting is whether the staff member would be interested in receiving a bike from the university and whether or not this would decrease the number of times they use a car to commute per week.

It is promising to see in Figure 7 that 82% of participants responded yes, and the 'other' option with the written feedback staff stated that they do not commute by car and already commute by bike, so it does not apply to them. A follow-up question asking how many days a week could the staff member imagine using a bike to commute some interesting results to strengthen the results from the graph (Figure 6). 63% of the responses were two to four days per week, 30% said five days and only 8% said one day.

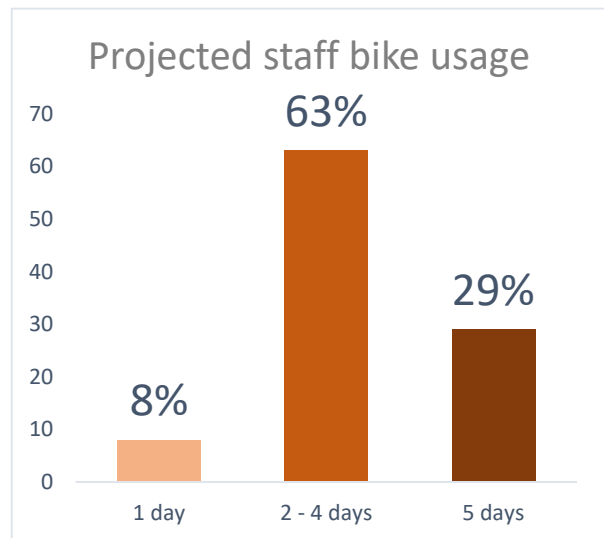


Figure 6. Graph showing projected number of days per week a staff member would use a bike. (By Author, 2023).

Figure 6 shows the percentages discussed above on how many days per week a staff member can imagine themselves commuting by bike. To see if the participants had thought

about commuting by bike in the past because of the various potential

benefits, the survey addressed this by asking: Have you considered the benefits of commuting by bike?

In response, shown in Figure 7, 82% of the participants answered yes, and many gave reasons (9%) in the extended answers section outlining that this is because they live close to work, it is very enjoyable, cost-effective and improves their overall health and wellbeing. Even though the participants may not currently be choosing the commute by bike, many of them are conscious of the benefits. If UoA can take the time and effort to purchase and finance a bike, more staff will probably be inclined to commute by bike.

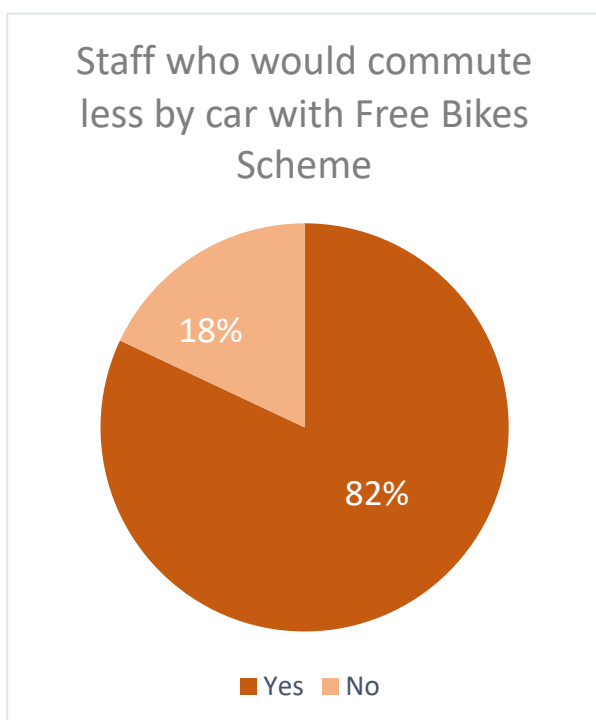


Figure 7. Graph showing percentage of staff who would commute fewer times per week by car if offered a free bike. (By Author, 2023).

### 5.3 Level of interest in the proposed CAI Free Bikes programme

Building off the initial level of interest in commuting by bike, it was essential to establish how much interest is carried over in support of the proposed CAI Free Bikes Programme. The survey includes a brief introduction outlining the purpose of measuring the potential interest in switching from an automobile-based commute to a more sustainable mode of transport - specifically a bike or e-bike. Thus, the participants in the survey were made aware of a bike commuting proposal when answering the survey's questions.

As discussed in the literature review, the University of Graz in Austria has implemented a staff bicycle program. One survey question addressed this model by stating: 'Staff members at the University of Graz pay approximately 10% of the cost of the bicycles. If they leave the university within five years, they must reimburse a proportional amount based on the time of departure. Do you support this model? We selected this model as a radical example to recommend a radical scenario beyond the existing initiatives at the national and the university levels as we offer as a conservative scenario.

Figure 8 shows that most respondents agreed with the model, and having the option to provide feedback and suggest another solution was insightful. There were some critiques on the five years, as some said this was too long and three years would work better. Others said the university should own and return the bikes once the staff member leaves. In saying this, most responses were in favour of a programme

where they contribute to the bike's cost in order to use it.

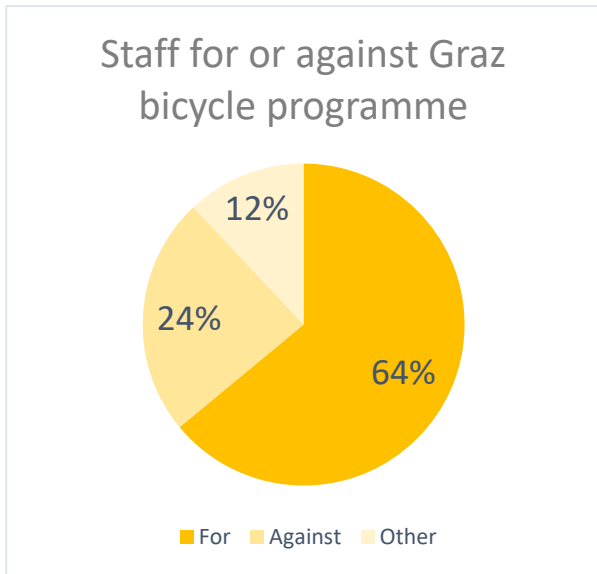


Figure 8. Graph showing agreeance with Graz bicycle programme. (By Author, 2023)

An incentive that many bicycle programmes at other universities use is free bike repairs for the programme participants. This helps make the change in transport more appealing. To see if this would effectively operate as an incentive, the survey included a question stating: in other institutions where the Free Bikes programme is offered, the staff are provided with free bike repairs. If this was offered in the UoA's proposal, would this be an incentive to start commuting by bike?

From the results in Figure 9, it is clear that staff would see this as an incentive. 82% of the responses were for this service being provided; thus this would be an essential point of the programme to look at implementing. The 'other' category included much feedback saying that being provided with the bike is enough incentive.

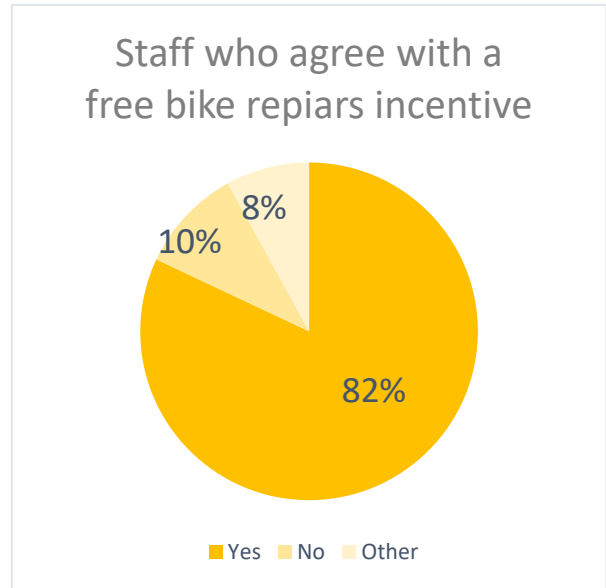


Figure 9. Graph showing of staff who agree with a free bike repairs incentive. (By Author, 2023).

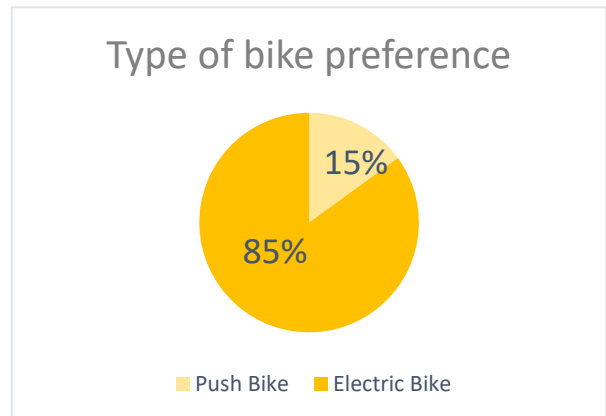


Figure 10. Graph showing whether staff would prefer an e-bike or push bike (By Author, 2023)

Another factor under consideration to justify this type of programme is the length of time a staff member can imagine themselves using the bike. Figure 11 compares the percentage who currently use automobile transport which is 31%, to the percentage of staff who, if offered a university bike, see themselves using it for three years or more is 63%. This is very

promising for the success of the proposed programme.

The survey participants also had to choose which type of bike they would prefer - a push bike or an e-bike. 85% would prefer an e-bike leaving only 15% preferring a push bike shown in Figure 10. Considering the number of responses in favour of e-bikes, it is suggested to have them as an option in the proposed bicycle commuting programme.

To investigate the potential success rate of the proposed bicycle commuting programme, the below graph (Figure 12) combines the data collected from the initial commuting transport choices with the percentage of staff who would commute fewer days per week by car and thus use an alternative mode of transport instead. Alternative transport includes public transport, biking, and walking, as these were the most common selections. This graph does not indicate the exact number of staff commuting by bicycle,

but there is an increase in the uptake of alternative modes of transport. Although data was taken from two different questions, the percentages are accurate as the same number of respondents answered both questions (119).

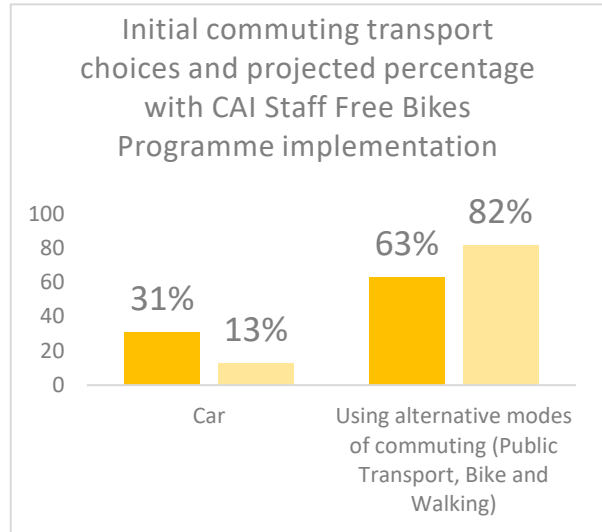


Figure 11. Graph showing comparison between initial commuting transport choices with projected percentage (By Author, 2023). post CAI Staff Free Bikes Programme implementation (By Author, 2023)

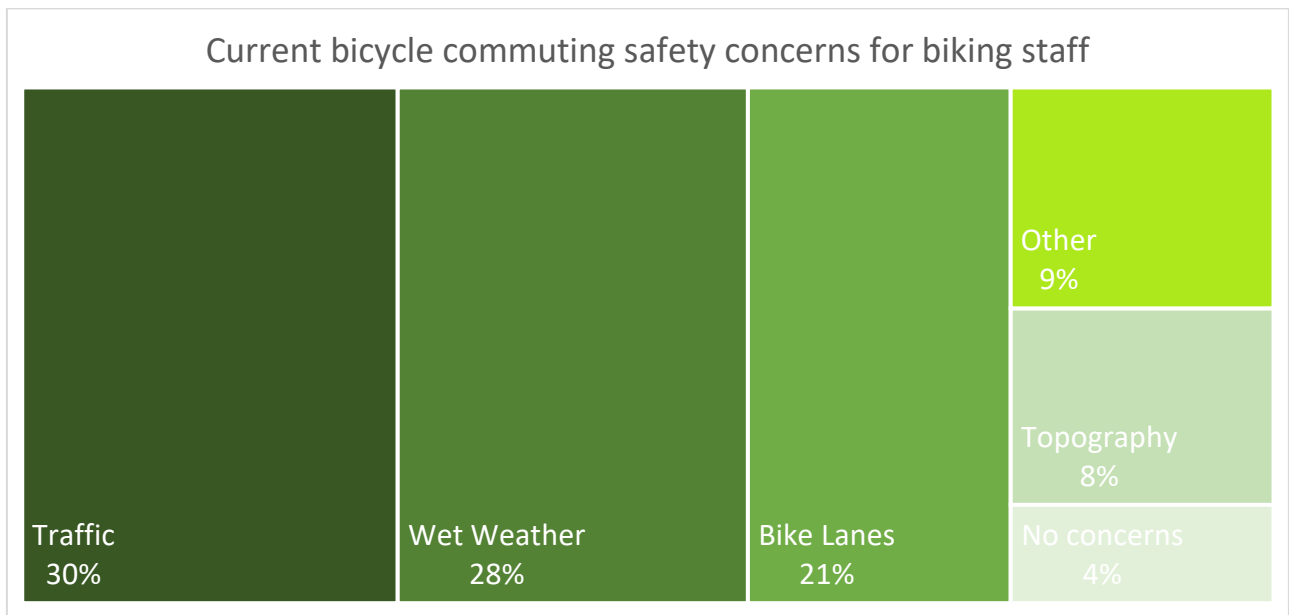


Figure 12. Graph showing current bicycle commuting safety concerns for staff who are already commuting by bike (By Author, 2023).



## 5.5 Factors deterring staff from currently commuting by bike

Imperative to the survey was the opportunity to understand what the current factors are that are deterring staff from currently commuting by bike. Two questions were asked depending on whether or not the staff member currently commuted by bike. Figure 12 and Figure 13 display the outcomes from the collected data. The questions were: If you do (or do not) currently commute on a bike, what concerns do you have when commuting using a bike? Many of the factors are concerns that the university cannot directly change but will be able to find potential solutions to improve/ease the concern. For example, if wet weather is a significant issue, sheltered bicycle parking will be suggested. If topography is a deterrent, having e-bikes as a bicycle option will be necessary. The tree-map diagram (Figure 12) shows current bicycle commuters' responses to the question.

There were 53 responses to this question, and the concerns are relatively evenly spread. Traffic, suitable bike lanes and wet weather were factors which most participants felt were the most significant deterrents. The 'other' category where staff could write a response included that they ride a bike in conjunction with public transport, and since Covid, there are more reservations about doing so.

Another concern mentioned was inexperienced cyclists using e-bikes to commute. E-bikes have much more power than people may initially realise or grasp; thus, a compulsory training session is suggested before issuing a staff member with an e-bike to commute with.

Safe and secure storage was also an issue that was brought up. Especially with e-bikes, they are a significant amount of money to purchase. Some but not all of the CAI facilities provide secure off-street bicycle parking. It would also be in the best interest of the university to provide this to ensure theft is minimised. The university offers some secure bike parking around the city campus such as the Business school bike parking and Faculty of Engineering bike parking. Staff and students with their university ID cards can access to these secure bike parking spaces. However, there is no secure bike parking at the CAI buildings (see photo in Figure 14).

The same question was asked of the staff who do not commute by bike. This is because it is vital to understand the difference between responses and how to address them to make every potential participant in the proposed programme comfortable.

The most notable difference between the two graphs is how the topography is much more of an issue for non-bike commuters (20%) than bike commuters (8%). Although wet weather was a major deterrent for both groups, it was more of an issue for the non-bike commuters. There were also many more written responses in the 'other' category. These responses included issues with aggression from drivers, not knowing how to ride a bike, needing a shower when arriving at work and distance. Having e-bikes as an option would help improve the appeal for non-bike commuters as they minimise the exertion required when on a bike. This would make it more attainable to commute a further distance and would be a contributing

factor to improved personal hygiene when arriving at work.

## 5.6 Conclusion

The survey results indicate a strong interest and support among CAI staff for the proposed Free Bikes for Staff programme. The response rate of 50.4% with 119 participants, although slightly below the ideal sample size for a 90% confidence level with a 5% margin of error, still provides valuable insights into staff commuting preferences and attitudes towards bicycle commuting.

The analysis reveals that a significant portion of staff currently commute by car (31%) or public transport (29%), with a notable interest in switching to biking if the appropriate infrastructure and support are provided. The survey data indicates that 82% of participants would be interested in receiving a bike from the university, and 63% could envision using the bike for commuting two to four days per week. This enthusiasm underscores the potential success of the programme in reducing car usage and promoting sustainable transportation.

Moreover, the feedback on the proposed model, inspired by the University of Graz, shows substantial support, with most respondents agreeing to contribute to the cost of the bike.

Additionally, the inclusion of free bike repairs was seen as a significant incentive, with 82% of participants supporting this feature.

The results highlight the importance of addressing specific barriers to biking, such as safety concerns, topography, and weather conditions, which were more pronounced among non-bike commuters. Implementing safe bicycle storage, cyclist road safety workshops, and a free bike repair service are crucial steps to ensure the programme's success and staff comfort.

In conclusion, the findings suggest that with proper support and infrastructure, the Free Bikes for Staff programme at the University of Auckland could significantly shift commuting patterns towards more sustainable modes, thereby reducing congestion and promoting environmental sustainability. Future steps should involve engaging with local authorities for infrastructure support, addressing identified barriers, and ensuring robust communication and justification of the programme to maximize staff participation and support.

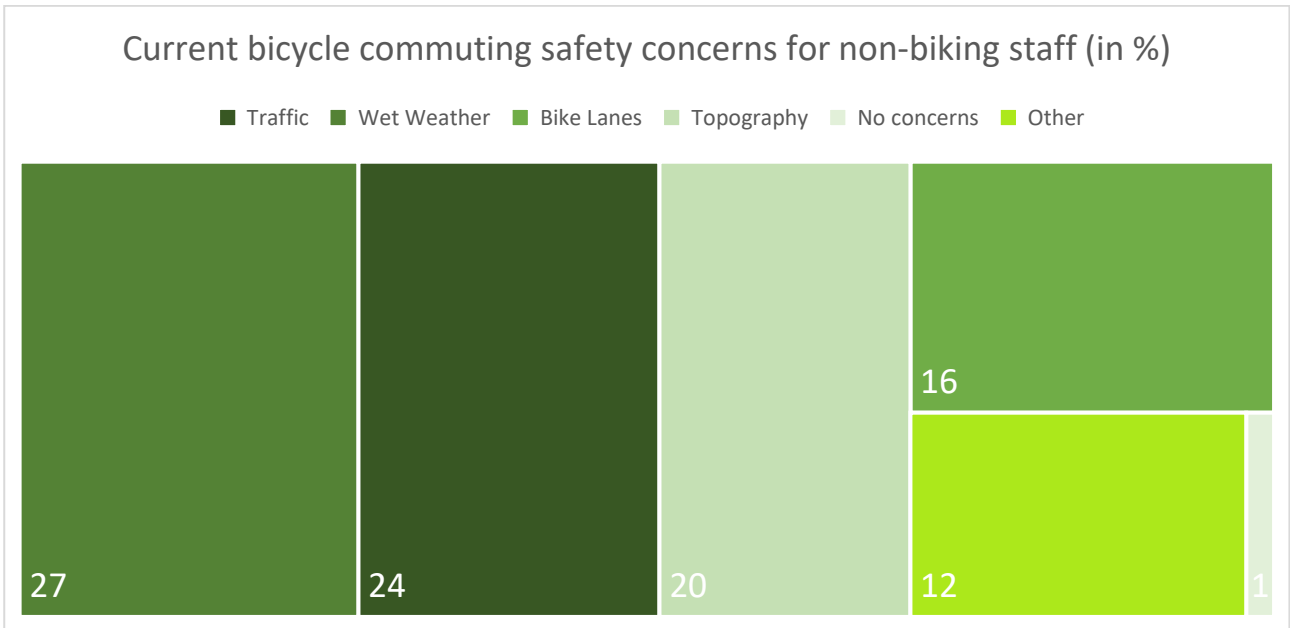


Figure 13. Graph showing current bicycle commuting safety concerns for staff who are not commuting by bike (By Author, 2023).



Figure 14. Photo showing current bicycle parking at the University of Auckland, Engineering Faculty Building 405. Staff and students with their university ID cards can access to these secure bike parking spaces (By Author, 2024).

## 6. Discussion

The survey results and literature review collectively highlight the significant potential for a successful Free Bikes for Staff program at the University of Auckland's Faculty of Creative Arts and Industries (CAI). This section critically examines the findings, drawing on examples from similar initiatives both locally and internationally, to provide a comprehensive analysis and recommendations for implementing an effective bicycle commuting program.

The survey demonstrated a strong interest among CAI staff in adopting bicycle commuting if appropriate infrastructure and support were provided. With a 50.4% response rate, the data revealed that 82% of participants would consider using a bike provided by the university, with 63% envisioning using it for two to four days per week. Additionally, 82% supported the inclusion of free bike repairs as part of the program, highlighting the importance of maintenance support in encouraging bike use.

These findings align with broader trends observed in successful bicycle programs worldwide. For instance, the University of Graz's initiative, where staff pay a nominal fee and are required to reimburse a proportional amount if they leave within five years, received positive feedback and could serve as a model for the University of Auckland. Similarly, programs by Auckland Council and Auckland Hospital have successfully increased e-bike adoption among their staff, demonstrating the feasibility and effectiveness of such schemes in the local context.

The literature review provides further evidence supporting the feasibility and benefits of bicycle commuting programs. Pucher and Buehler (2008) highlight those cities with comprehensive cycling infrastructure and supportive policies, like those in the Netherlands, see high levels of bicycle commuting. Harms, Bertolini, and Te Brömmelstroet (2016) emphasise the importance of municipal support in sustaining cycling cultures, which is critical for the success of such initiatives. An examination of university initiatives in the UK and Australia indicates that support from state and local governments is essential to strengthen and broaden the cycling culture among staff and students.

For instance, the University of Cambridge in the UK has successfully integrated cycling into everyday life, with 50% of residents using their bikes at least once a week. This success is partly due to the university's promotion of cycling and the city's supportive infrastructure, including extensive bike lanes and parking facilities (University of Cambridge, 2024a). Similarly, the University of Bath and the University of Bristol have implemented the Cycle to Work scheme, which is a government-backed employee benefits scheme enabling staff to save money and spread the cost of a new bike for commuting to and from work (University of Bath, 2024b; University of Bristol, 2024).

In Australia, the University of Technology Sydney (UTS) and the University of New South Wales (UNSW) have also made significant strides in promoting cycling. UTS celebrates cycling with events like Ride to UTS Day, which includes free breakfast, competitions, and social

rides. The university provides extensive bike parking, including secure indoor facilities, and offers change rooms, showers, and lockers to support cyclists (University of Technology Sydney, 2024). UNSW offers a salary packaging option for purchasing e-bikes, aligning with its sustainability goals. The university also provides numerous bike racks, repair stations, and an interactive map to help cyclists find the nearest facilities (UNSW, 2022). These examples highlight the importance of comprehensive support from both universities and government bodies. State and local governments play a crucial role in funding and developing cycling infrastructure, such as dedicated bike lanes, secure parking, and maintenance facilities. Additionally,

government-backed financial incentives, like the Cycle to Work scheme, make cycling more accessible and affordable for staff and students. By fostering a supportive environment and providing necessary resources, universities and governments can collaboratively promote a robust cycling culture, encouraging more sustainable commuting practices.

Examples from local organisations such as Auckland Council and Auckland Hospital illustrate the practical application of these principles. These organisations have leveraged the New Zealand Government's Employer e-bike purchase support scheme, which includes financial mechanisms such as salary advances, employee loans, and interest-free finance terms. These initiatives have not only fostered greater e-bike adoption but have also provided valuable insights into addressing the challenges associated with such programs.

Based on the survey and literature review, two recommended scenarios are proposed for implementing the Free Bikes for Staff program at the University of Auckland.

### 6.1 Scenario 1: Utilising the Existing New Zealand Government's Bike Scheme

The first scenario involves leveraging the established New Zealand Government's Employer e-bike purchase support scheme. This model has been successfully implemented by Auckland Council and Auckland Hospital, demonstrating its effectiveness in promoting e-bike adoption. The scheme offers financial mechanisms such as salary advances, employee loans, and product discounts, which reduce the initial purchase cost and make e-bikes more accessible to staff. By adopting this model, the University of Auckland can benefit from an administratively straightforward and cost-effective solution. This approach ensures that the program is aligned with existing government initiatives, facilitating easier implementation, and potentially attracting additional support and funding from government bodies. Furthermore, the positive experiences of Auckland Council (AC) and Auckland Hospital (AH) show that this model can effectively address staff concerns about affordability and maintenance. The literature review shows that this model is largely used by different universities around the world where these institutions often use the governments' initiatives to develop their scheme.

## 6.2 Scenario 2: Implementing a Radical Model Inspired by the University of Graz

The second scenario proposes a more radical approach inspired by the University of Graz. In this model, staff members pay approximately 10% of the bike's cost, and if they leave the university within five years, they must reimburse a proportional amount based on their departure time. This approach ensures staff commitment while making the bikes affordable.

In addition to the financial structure, this scenario could include incentives such as free bike repairs, safe storage facilities, and cyclist road safety workshops to further encourage participation. The University of Graz has seen substantial success with this model, and adopting a similar approach at the University of Auckland could provide a robust framework for fostering a cycling culture. This model also promotes long-term engagement by requiring staff to reimburse costs if they leave prematurely, ensuring sustained commitment to the program.



## 7. Conclusions

This report shows that the Free Bikes for CAI Staff programme has the potential to be a success if the suggestions made are considered. It has highlighted the requirements needed to implement the programme along with the staff's suggestions and needs to gain maximum engagement. This research report provides an analysis of the potential for implementing a Free Bikes for Staff program at the University of Auckland's Faculty of Creative Arts and Industries (CAI). The findings from the survey, combined with insights from the literature review and examples from both local and international case studies, demonstrate a strong interest and substantial feasibility for such an initiative.

### 7.1 Key Findings

The survey results indicate a high level of interest among CAI staff in adopting bicycle commuting if appropriate support and infrastructure are provided. With a 50.4% response rate, the data revealed that 82% of participants would consider using a bike provided by the university, and 63% envision using it for two to four days per week. The inclusion of free bike repairs and safe storage facilities emerged as critical factors for the success of the program.

Literature review insights further support the feasibility and benefits of bicycle commuting programs. Examples from the Universities around world, Auckland Council, and Auckland Hospital illustrate successful implementations

of similar initiatives, providing valuable frameworks for the University of Auckland to build upon.

### 7.2 Research Limitations

The scope of this research was limited to the Faculty of Creative Arts and Industries, primarily due to constraints related to time and budget. Expanding the investigation to include all university faculties would provide a more comprehensive understanding of the potential impact and feasibility of a university-wide bicycle commuting program. Additionally, while the survey response rate was robust, achieving a slightly higher sample size would enhance the generalizability of the findings.

### 7.3 Recommendations

Based on the findings, two scenarios are recommended for implementing the Free Bikes for Staff program:

- Using the Existing New Zealand Government's Bike Scheme: Leverage the established Employer e-bike purchase support scheme, which has been successfully implemented by Auckland Council and Auckland Hospital. This model includes financial mechanisms such as salary advances, employee loans, and product discounts, making e-bikes more accessible and affordable for staff.



- Adopt a model where staff pay approximately 10% of the bike's cost and reimburse a proportional amount if they leave within five years. This approach ensures commitment while making bikes affordable. Additional incentives such as free bike repairs, safe storage facilities, and cyclist road safety workshops would further encourage participation.

### 7.4 Future Research Opportunities

Future research could explore several avenues to build upon the findings of this report:

- **University-Wide Study:** Expanding the study to include all faculties at the University of Auckland would provide a more holistic view of the feasibility and impact of a university-wide bicycle commuting program.
- **Longitudinal Impact Analysis:** Conducting a longitudinal study to assess the long-term impacts of the Free Bikes for Staff program on commuting patterns, environmental sustainability, and staff health and well-being.
- **Comparative Analysis:** Comparing the effectiveness of different incentive

models (e.g., salary advances vs. direct subsidies) in promoting bicycle commuting.

- **Infrastructure Evaluation:** Investigating the effectiveness of various infrastructure improvements (e.g., dedicated bike lanes, secure storage facilities) in supporting bicycle commuting.

### 7.5 Conclusion

The proposed Free Bikes for Staff program at the University of Auckland's CAI faculty has the potential to significantly shift commuting patterns towards more sustainable modes, reduce car usage, alleviate congestion, and promote environmental sustainability. By addressing the identified barriers and providing comprehensive support, the program can foster a culture of cycling and set a case study for other faculties and institutions to follow. Engaging with local authorities for infrastructure support and ensuring clear communication about the program's benefits and logistics will be essential for its successful implementation. Future research should continue to explore the broader application and long-term impacts of such initiatives to maximize their effectiveness and sustainability.

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