

Meeting: Public Transport Committee

Meeting Date: 17 March 2022

Tabled Documents

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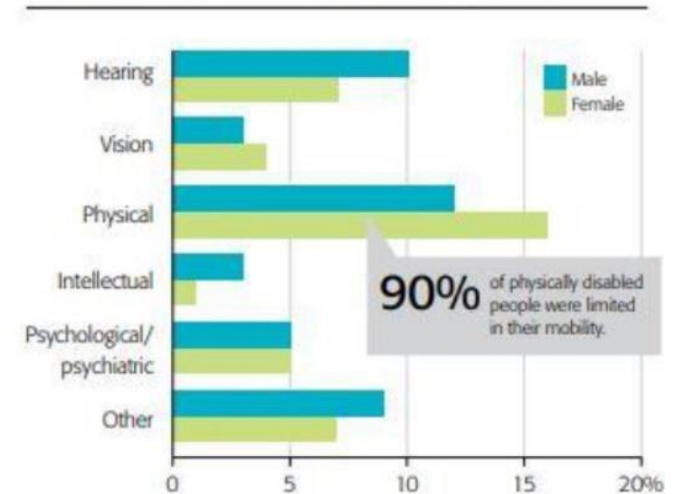
Tauranga Bus Stop Accessibility

Alice Davies

The Bay of Plenty's Disabled Community

- Statistics New Zealand's (2013) Disability Survey identified 24% of New Zealanders as disabled.
- A total of 1.1 million people.
- The Bay of Plenty had 27% of people identified as living with a disability.

Impairment rates
for males and females in total population



Prevalence of disability

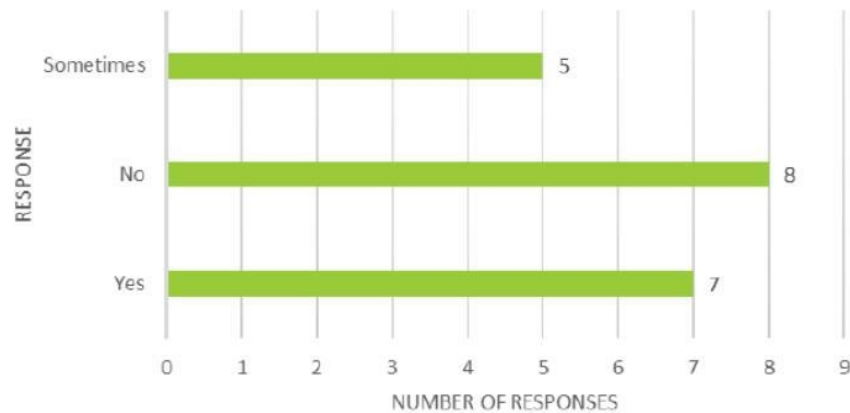
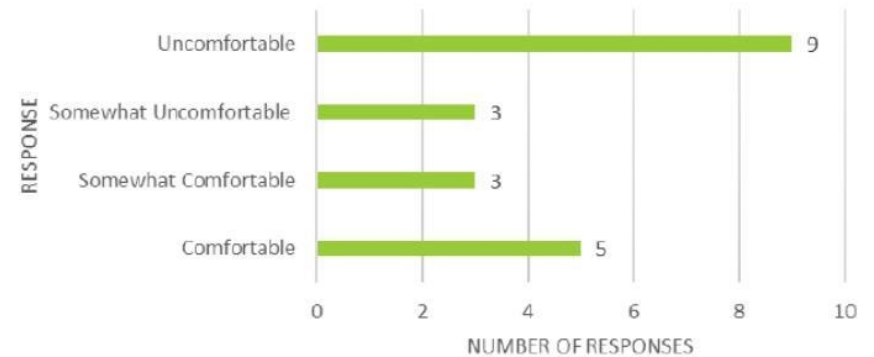
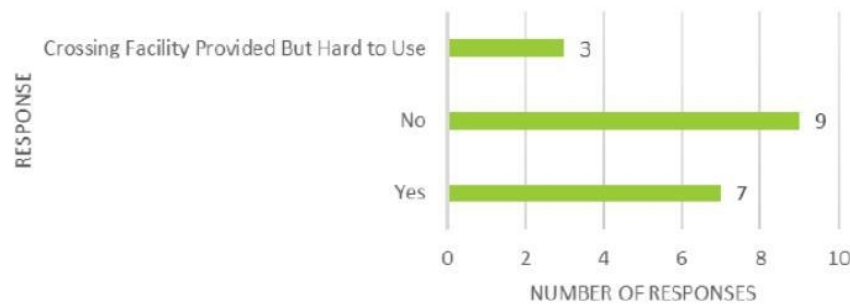
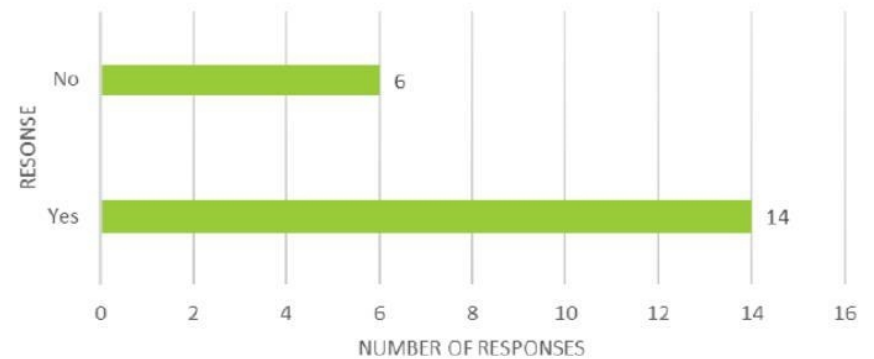


Research Purpose

- Public bus services are a crucial service for disabled people as they are more likely to be of a lower income and may be restricted from driving due to their disability.
- Statistics New Zealand (2021) presents evidence that for New Zealand's disabled population the unemployment and underutilisation rates are greater than the non-disabled population.
- Financial hardship means disabled individuals are unable to afford an accessible private vehicle.
- The bus system allows them to access opportunities like work, education, medical appointments, shops, and social groups.
- An individual living with a disability has the same rights as any New Zealander to access a vehicle available to the public (Human Rights Act 1993)

Research Methods

- My exploratory research focused on answering how does current bus stop design affect the disabled community and how could bus stop design be more accessible for disabled users.
- My research project was done over 6 weeks.
- Qualitative data was collected through a survey to explore the experiences of the disabled community concerning bus stops.
- I created an online survey which was distributed through disability services and organisations in the Bay of Plenty.
- The survey had 23 respondents.

DO YOU FIND BUSES EASY TO USE?**HOW COMFORTABLE DO YOU FEEL USING BUS STOPS AT NIGHT?****DOES YOUR NEAREST BUS STOP HAVE AN EASY WAY TO CROSS THE ROAD NEARBY?****DO YOU REGULARLY TAKE THE BUS?**



Recommendations

A bus stop design standard that every bus stop must meet.

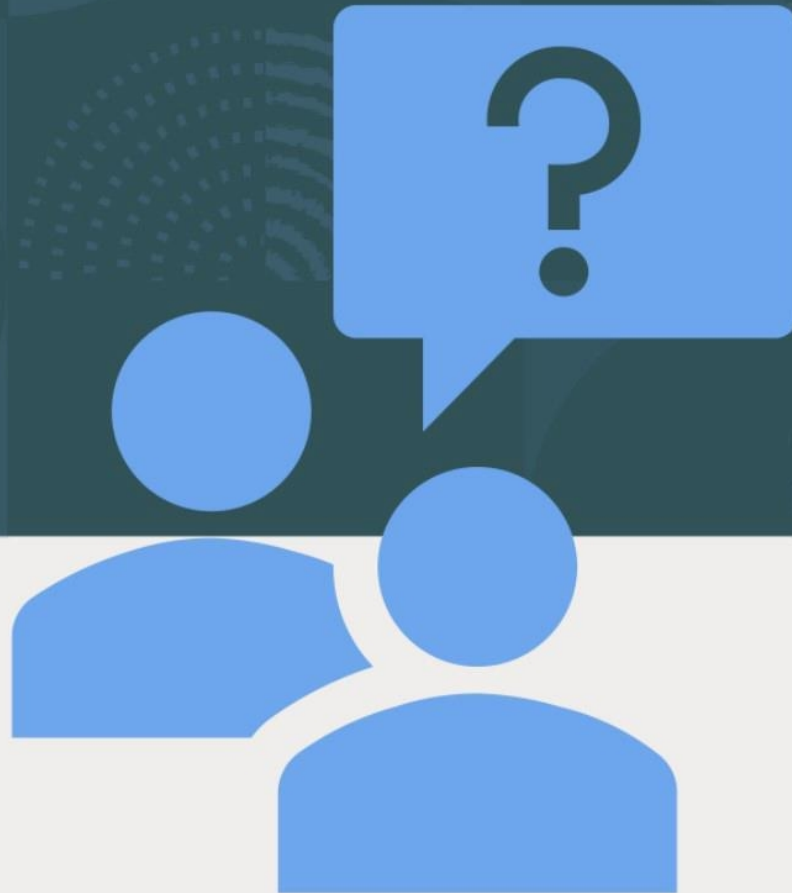
Disability awareness training for public transport facility designers.

Disability awareness and support training for bus drivers that includes the disabled community to create direct communication between bus drivers and disabled bus users.

A public transportation team that includes employees from the Bay of Plenty Regional Council as well as the Tauranga City Council. This would promote connectivity between the bus system and bus stop facilities.

To address the inaccessibility of interregional travel, the regional council's transport teams should have open communication to work out how interregional bus travel could be improved.

The Bay of Plenty Regional Council should review the standard of buses as well as the maintenance procedures of accessible features such as the ramps.



Questions?

Thank You For Listening

sensitivity

TAURANGA BUS STOP ACCESSIBILITY

Engineering New Zealand's Transportation Group

Alice Davies

Student Intern Jan/Feb 2022

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ABSTRACT

How does the disabled community of Tauranga experience the public bus system and their local bus stops? This research aims to investigate the hypothesis that the inaccessibility of bus stops in Tauranga negatively affects the local disabled community. This research is motivated by the noticeable need for easy-to-use bus stops in existing research and personal experiences of the disabled community. The aim is to support the 27% of Bay of Plenty residents who live with a limitation (Statistics New Zealand, 2013). The results discussed in this report were gathered through an online survey asking participants about their experience of Tauranga's bus facilities. The survey had 23 participants. This research was done under a short time restriction of 6 weeks, which limited the number of respondents. Recommendations for bus stop improvement were provided based on a review of technical guidance, previous research, and survey answers. The hypothesis was confirmed: bus stops in Tauranga do not meet Council's own accessibility standards, which has a negative impact on local disabled people. Recommendations include the Tauranga City Council publishing a design standard for all bus stops under their jurisdiction to ensure every bus stop is accessible. I also recommend the Bay of Plenty Regional Council who run the bus system and the Tauranga City Council who run the bus stop facilities collaborate to solve accessibility issues. Further bus stop accessibility research is also recommended to explore the problem in more detail and find design solutions for Tauranga bus stops. Overall bus stops in Tauranga need to be improved to address the accessibility needs of the local disabled community to give them safe and easy access to services they need.

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INTRODUCTION

Why is access to public transport so important for people living with disabilities and why is this research needed? Public bus services are a crucial service for people who have a disability that restricts them from driving. For disabled people who experience limitations around driving, the bus system allows them to access opportunities like work, education, medical appointments, shops, and social groups (Human Rights Commission, 2005). An individual living with a disability has the same rights as any New Zealander to access a vehicle available to the public (Human Rights Act, 1993). Public buses as a form of public transport, therefore, need to be accessible for anyone who is living with a disability.

Statistics New Zealand (2021) sheds light on the economic struggles faced by those with a disability. In their report Statistics New Zealand (2021) presents evidence that for New Zealand's disabled population the unemployment and underutilisation rates are greater than the non-disabled population. The link between experiencing a disability and having a lower income also contributes to the disabled population's need for accessible public transportation as it is a more economical transport solution compared to buying a car. This is especially necessary for a wheelchair user as a wheelchair accessible car is costly. An accessible bus system has the power to create opportunities and improve the well-being of the disabled community.

LITERATURE REVIEW

As a basis for this report, I have reviewed past New Zealand research of disabled people's experience of public transport. The Human Rights Commission's (2005) Accessible Journey report and Burdett et al.'s (2021) Transport Experiences of Disabled People report have been major influences in my research. These reports included a wide scope of New Zealand transportation as a whole. Although the accessibility of the public bus systems was included there was a space to specifically focus on public bus accessibility. I was also interested in focusing my research on bus facilities in my region the Bay of Plenty. I also reviewed Statistics New Zealand (2013) to gain insight into New Zealand's disability prevalence. To understand bus stop design and accessible design measures Tauranga City Council's (2010) Bus Stop Guidelines was also reviewed. The literature I reviewed gave me a wide understanding of the current information and issues of bus stop accessibility.

THE DISABLED POPULATION OF NEW ZEALAND

Statistics New Zealand's (2013) disability survey identified 24 per cent of New Zealanders as disabled, a total of 1.1 million people. I have observed that the lack of disability awareness in New Zealand has created a discourse that disabled people are a small minority. Statistics New Zealand (2013) is an important report because it highlights the number of disabled people as well as the range of disabilities among this group.

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This statistic shows that almost one-quarter of New Zealand's population are living with a disability, but what disabilities are included in this number? The Statistics New Zealand (2013) survey defined disability as a "long-term limitation (resulting from an impairment) in a person's ability to carry out daily activities" (p. 2). To be placed into this group participants of the survey had to self-report or have a caregiver report on their behalf a long-term limitation (Statistics New Zealand, 2013). This survey did not ask for proof of the limitation, such as a medical certificate or doctor's note. The options participants were given to select what type of limitation they experienced was hearing, vision, physical, intellectual, psychological/ psychiatric, and other (Statistics New Zealand, 2013). The option for other covered impairment of speaking, memory, learning, and developmental delay.

To compare this to other disability declaration documents, the Ministry of Social Development's (2020) Disability Allowance Medical Certificate categorises disabilities by subtypes. These subtypes are psychological or psychiatric conditions, immune system disorders, nervous system disorders, metabolic and endocrine disorders, cardiovascular disorders, substance abuse, sensory disorders, accident, and other disorders (Ministry of Social Development, 2020). To obtain a valid disability certificate one must have it filled out by a doctor with supporting evidence.

There is not one standard of what is a disability in New Zealand, but evidence shows that a large number of the population struggle with ongoing health limitations. This large group in our population deserve awareness and support throughout all aspects of life including public transport.

THE ACCESSIBLE JOURNEY

New Zealanders living with disabilities struggle to access public transportation services because of a lack of accessible design considerations. The Human Rights Commission's The Accessible Journey (2005) explores the difficult experiences of New Zealanders living with different disabilities using public transport. The personal accounts collected for this inquiry provided a wide range of experiences faced by people living with disabilities in New Zealand using transport. This insight was unique to this study. This inquiry also studied the issues faced by transportation providers, operators, regulators, planners, funders. The Human Rights Commission (2005) found many improvements were needed to make New Zealand's public transport more accessible and improve the wellbeing of the disabled community. This inquiry presented great insight into the experiences of people living with disabilities at the time. Now many years on there is space for a new inquiry to improve relevance. There is also the opportunity to conduct research specifically focusing on bus accessibility.

TRANSPORT EXPERIENCES OF DISABLED PEOPLE

In recent times, covid-19 has negatively affected the disabled community in New Zealand causing economic struggles, which have increased the need for accessible public transport. Burdett et al. (2021) used online surveys and workshops with members of the disabled community to explore the modern

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experience of public transport, including barriers to travel during covid-19 lockdowns. The researchers were inspired by the Accessible Journey report and believed that it was “the most significant inquiry into disability and the transport system” (Burdett et al., 2021, p. 26). This report explored transportation accessibility in 2021. Fifteen thousand disabled New Zealanders participated in this study. This created a very wide scope and a large representation of the disabled community of New Zealand. Burdett et al. (2021) had a heavy focus on the total mobility scheme which provides a subsidised accessible taxi service. The report also explored public transport such as buses and trains. This study was successful in exploring the wide range of transportation used by people living with a disability and how accessible they are. Burdett et al. (2021) concluded that there is a great need for inclusive access to public transport to address the way inaccessible transport is disadvantaging the disabled community and their quality of life.

BUS STOP GUIDELINES

What standard do bus stops in the Bay of Plenty need to meet and who dictates the standard? In New Zealand, there is no design standard for bus stops but the New Zealand Transport Agency has published a draft of bus stop guidelines. Every city council also publishes their bus stop guidelines. In Tauranga, the Tauranga City Council’s (2010) Bus Stop Guidelines draft is the only guideline available.

Tauranga City Council (2010) recognizes the Human Rights Commission (2005) Accessible Journey Report and uses the idea of the ‘accessible journey’ in the guidelines. “These guidelines promote a bus stop environment designed to provide for the ‘accessible journey’. The accessible journey covers all the steps needed for a person to get to their destination and return” (Tauranga City Council, 2010, p. 6). This document gives guidelines on bus stop design elements such as hardstand areas, seating, and Tactile Ground Surface Indicators (TGSIs) as well as the surrounding area (Tauranga City Council, 2010). Surrounding facilities such as pedestrian crossings and footpaths are included in the guidelines to acknowledge the whole journey of the bus user. This report is 12 years old now and is still only released in draft format, despite these limitations the information around accessibility is very good. The information and ideas line up with the needs of the disabled community in research such as the Human Rights Commission (2005) and Burdett et al. (2021).

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RESEARCH METHODS

This research focused on answering how does current bus stop design affect the disabled community and how could bus stop design be more accessible for disabled users. Qualitative data was collected through a survey to explore the experiences of the disabled community concerning bus stops. This was primary data collected specifically for this research. The survey was created online through Survey Monkey and was completed by participants online. It was open from the 14th of February to the 22nd of February 2022. The survey was distributed through disability services and organisations in the Bay of Plenty but was open to participants from all over New Zealand. The survey was distributed in this way in hopes of reaching people living with disabilities locally. The survey had 23 respondents. The data was then analyzed through Excel and graphs of the data were made. The 3 participants who responded to question one that they did not live with a disability were cleaned from the data. This allowed more accurate answers from the disabled community for the other questions. Questions 5 and 6 were open-ended but answers were easily categorized and were able to be presented in a graph. Questions 3, 8, and 9 were also open-ended and answers were harder to categorize so the most useful answers were presented.

Figures included with question 3's responses were sourced through Google Maps. Responses from question 3 that were descriptive enough to tell me where exactly the participants' nearest bus stop was located were included. I then chose to present 4 bus stops that ranged in standard to provided evidence of the inconsistency of bus stops included in the public Bay of Plenty Bay Bus routes. These images were retrieved on February the 21st 2022.

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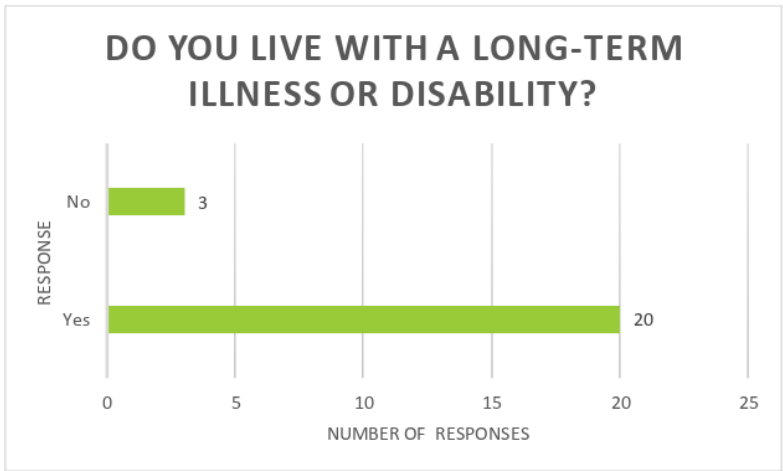
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RESEARCH RESULTS

QUESTION 1: DO YOU LIVE WITH A LONG-TERM ILLNESS OR DISABILITY?

20 out of 23 answered that they live with a long-term illness or disability. This can be seen in Table 0-1Error! Reference source not found. below. The 20 responses included mobility issues, limited walking, wheelchair user, and multiple responses of Cerebral Palsy, which are all disabilities that involve mobility issues. Responses also included disabilities related to cognition such as Autism and Down Syndrome. Spinal disabilities such as Spina Bifida, Multiple sclerosis, Scoliosis, and Tetraplegia were also reported.

Table 0-1: Survey Question 1



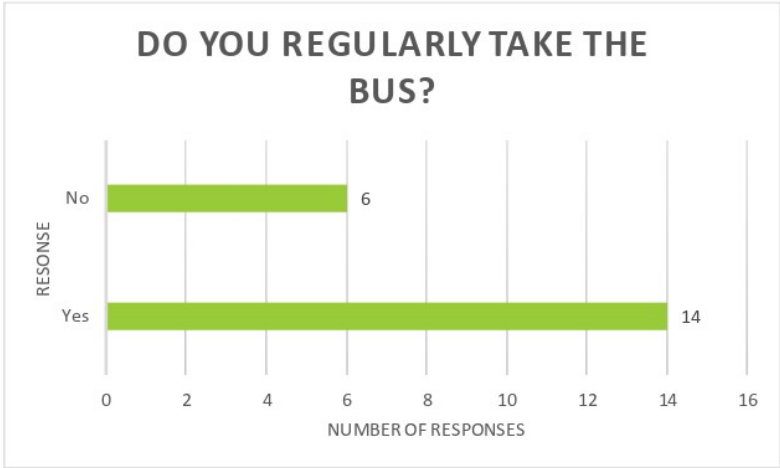
QUESTION 2: DO YOU REGULARLY TAKE THE BUS?

From question 2 onwards only the responses of the 20 participants who responded yes to question 1 will be presented.

All 20 participants responded. 14 participants responded yes and 6 participants responded no, as seen in Table 0-2Error! Reference source not found. below. Most who responded no said this was because they own a car. One participant responded, “ramps are too narrow. buses inside not roomy enough for turning. People sitting in wheelchair bays”. Another responded that there are “no buses in my town”.

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Table 0-2: Survey Question 2



QUESTION 3: WHERE IS YOUR NEAREST BUS STOP? (PLEASE GIVE A DESCRIPTION)

This was an open-ended question. All 20 participants responded to this question. The answers gave examples of bus stops in the Bay of Plenty.

One participant responded that their nearest bus stop is on Watling Street in Tauranga. Google (n.d. -c) is presented below as Figure 1 to show the quality of the bus stop the participant described in their response.



Figure 1: Watling Street Bus Stop

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One participant responded that their closest bus stop is Carmichael Road in Tauranga. A photo of this bus stop Google (n.d.-a) is presented below in Figure 2.



Figure 2: Carmichael Road Bus Stop

Two participants responded that their nearest bus stop was the Farm Street bus stop in Mount Maunganui. Google (n.d.-b) which is presented in Figure 3 below.



Figure 3: Farm Street Bus Stop

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One participant responded that their nearest bus stop is on Gravatt Road opposite Pak n Save Papamoa. To review the bus stop mentioned by the participant Google (n.d.-d) is included below as Figure 4.



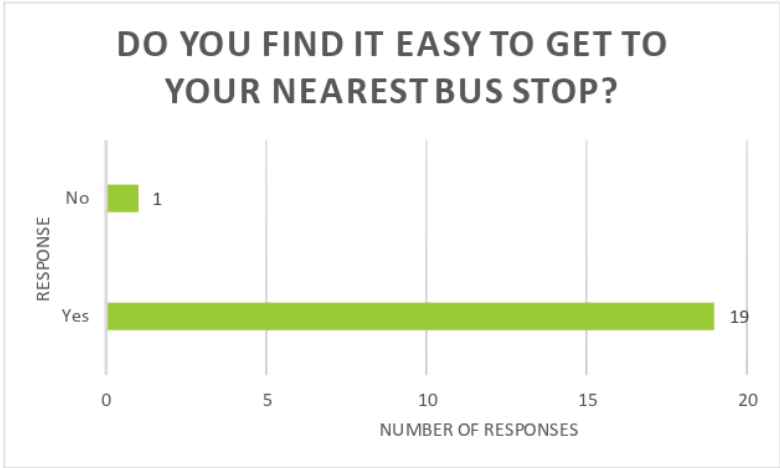
Figure 4: Gravatt Road Bus Stop

QUESTION 4: DO YOU FIND IT EASY TO GET TO YOUR NEAREST BUS STOP? YES OR NO (PLEASE EXPLAIN WHY)

Nineteen out of 20 participants responded yes. The 1 participant that responded no explained that “it’s over 50 km away”. These results can be seen in Table 0-3 below. A participant that responded yes also stated in the no explanation space that “the bus that goes past my place is on limited hours and [I] have nearly a 20 min walk to the bus”.

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Table 0-3: Survey Question 4

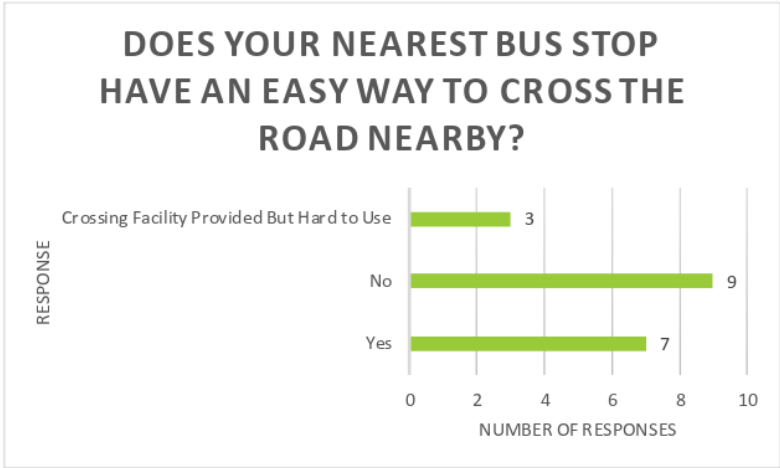


QUESTION 5: DOES YOUR NEAREST BUS STOP HAVE AN EASY WAY TO CROSS THE ROAD NEARBY?

This was an open-ended question that allowed participants to give explanations. Nineteen out of 20 participants responded. Nine participants' responses aligned with no. Another 7 participants' responses aligned with Yes. Three participants' responses suggested that there was a crossing facility but it was hard to use. Responses are shown in Table 0-4 below.

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Table 0-4: Survey Question 5



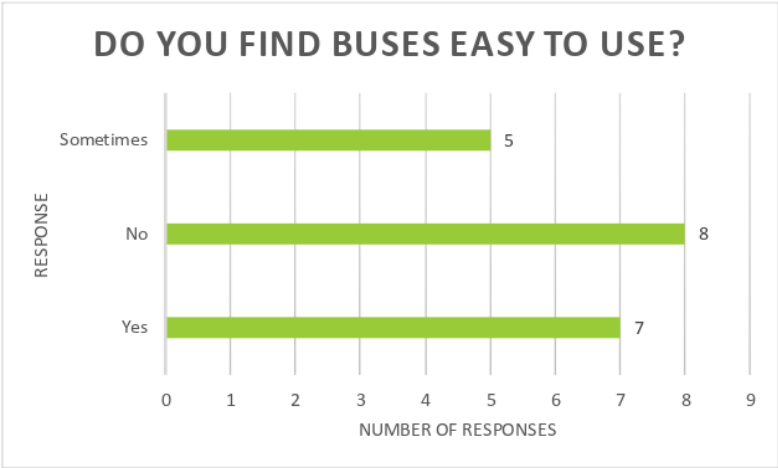
QUESTION 6: DO YOU FIND BUSES EASY TO USE?

This was an open-ended question. Twenty participants responded of whom 7 participants responded yes. Eight participants responded no. Five participants responded sometimes. These results can be seen in Table 0-5.

One participant who responded no provided some explanation to their answer. “I find it hard to use the buses because my chair is too wide so navigating in them is difficult. Also, I can’t press the stop buttons on the bus, not even the disability ones meaning I can’t use the buttons to stop the bus. I do have a mobility dog that can speak (bark) if I need to, but the bus drivers are not always very helpful. One time, a bus driver said to a caregiver of mine, that I wasn’t allowed to travel on the bus by myself (I know that I am allowed to travel on the bus by myself”.

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Table 0-5: Survey Question 6



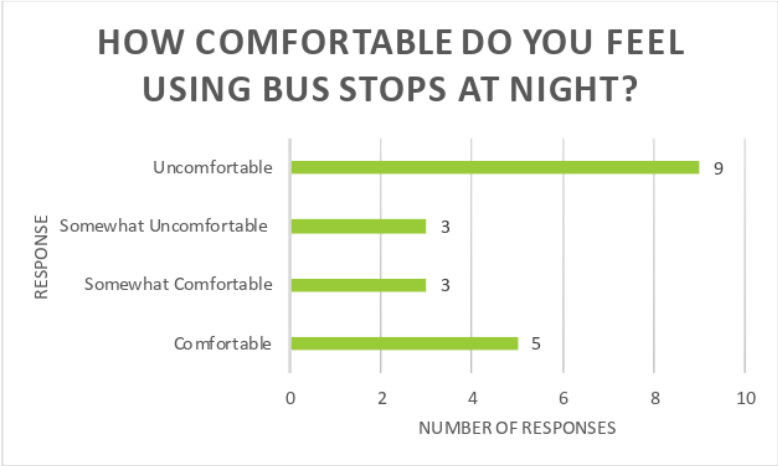
QUESTION 7: HOW COMFORTABLE DO YOU FEEL USING BUS STOPS AT NIGHT?

Twenty participants responded to this question. Results to this question were mixed, with 5 participants responding comfortable and 3 participants responded somewhat comfortable. Three participants

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responded somewhat uncomfortable and 9 participants responded uncomfortable. These results are presented in Table 0-6.

Table 0-6: Survey Question 7



QUESTION 8: HAVE YOU FOUND SOME BUS STOPS EASIER TO USE THAN OTHERS? IF SO, PLEASE EXPLAIN WHAT MADE IT EASIER TO USE.

This was an open-ended question. Twenty participants responded. Some responses gave examples of features that make using the bus easier or more accessible for the participant. Useful responses included "clear space around," "lights in the areas," and "access via footpath and no curbs". Responses also included "yes, the ones that are officially designated as bus stops with proper shelters" and "the town bus stops and the base as the bus can drop to the ground". One participant responded "Hamilton bus supposed to kneel. When working easy, not always working, bus drivers sometimes stop to [sic] far away from [sic] curb. During covid restrictions had to entre bis [sic] though [sic] rear door. Kneel not available so I wasn't able to use buses". Another participant responded, "Yes some bus stops are easy, and some have trees blocking the view and the bus goes straight past unless I stand near the road".

QUESTION 9: IS THERE ANYTHING ELSE YOU WOULD LIKE TO SAY ABOUT BUS STOPS OR TAKING THE BUS IN YOUR AREA?

This was an open-ended question. All 20 participants responded. These responses included things participants would like to have at their bus stop or on buses. As well as things they struggle with when using their local bus stops and buses.

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COMPLAINTS

Some responses were complaints participants had. These included complaints about their nearest bus stop “it doesn’t have any cover if it’s raining” and “uneven/steep curbside ramp access for powerchairs”. One participant mentioned regional bus travel, “I cant [sic] take a buses fron [sic] Hamiltom [sic] to ther [sic] regions as intercity buses are NOT freindly [sic] to mobility challenged persons”. Another response mentioned rural bus access “I live rural the bus is shit for people with disabilities”.

SUGGESTIONS

Some responses were suggestions for how the bus system could be better. These included “all bus stops should have shelter, wanting [sic] for a bus when it is raining with no shelter is not fun” and “I would like 24 hour bus service and buses that run in the weekends”. One participant said, “I love it when I use them but also feel all buses need tie downs for wheelchairs”. Another participant’s suggestion was “an automatic system on the buses to allow the ramp to come out flat to the footpath would be better than what they have now. Wider ramps as the power wheelchairs are alot [sic] bigger now. Turning space inside the bus needs to be bigger. There were 2 of us in chair [sic] trying to get on one bus and it was so difficult to fit us both in the space”.

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DISCUSSION

RESEARCH FINDINGS INTERPRETATION

QUESTION 1

Question 1 “do you live with a long-term illness or disability? No, yes (Please name the condition)”, gave an insight into the types of disabilities and illnesses participants have. This data helped me interpret other question responses. When analyzing the responses to question 6 “do you find buses easy to use?” reviewing the participants who responded no and what they responded to this question. Four participants who responded that they use a wheelchair answered question 6, 2 answered no, 1 answered, sometimes, and one answered yes. I can therefore conclude that most wheelchair users find it difficult to use the bus. The 3 participants who responded no were cleaned from further data. All answers from these participants have been analyzed in case this answer was a mistake, or the participant had an illness but did not identify themselves as a disabled person. All 3 participants' answers to other questions did not describe any experience with an illness or disability or suggest any struggle using public transport.

QUESTION 2

Question 2 “Do you regularly take the bus? Yes, no (please explain why)” allowed participants to respond yes or no and add a short explanation for why they selected no. Most participants responded yes. This response informed me that most of the participants were able to respond from a regular experience of the bus system. Most participants who responded no indicated on question 1 that they are wheelchair users. This implies that wheelchair users prefer to use private transport rather than taking the bus. One participant who responded no mentioned bus ramps. “Ramps are to [sic] narrow. buses inside not roomy enough for turning. People sitting in wheelchair bays”. Issues with bus ramps were mentioned by participants throughout the survey questions. In question 9 one participant stated, “uneven/steep curbside ramp access for powerchairs” were an issue. Another question 9 response was “an automatic system on the buses to allow the ramp to come out flat to the footpath would be better than what they have now. Wider ramps as the power wheelchairs are alot [sic] bigger now”. Issues with ramps came up again in question 6, no response.

“Probably because I do not use that often enough, I haven't worked out my systems. Actually accessing the buses probably the hardest. Presently getting from the footpath onto the bus. Ramps are too steep for me, prefer level entry from a platform would be perfect! This is the same at Bayfair. while the ramps and the kneeling buses make it easier to get on and actually possible. Slopes can be tricky to navigate from the vehicle and around the ends of ramps”.

The bus stop referred to as Bayfair is present in question 3's results as Figure 3. All these responses provide evidence that wheelchair users struggle to use Tauranga bus stops and bus services. These findings support my hypothesis.

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QUESTION 3

Question 3 “do you regularly take the bus? Yes, no (please explain why)” allowed me to review Bay of Plenty bus stops and provided examples of how vast the quality of bus stops are. I included bus stops that show the spectrum of only a bus stop pole to a bus stop with shelter, seating, real-time information, hardstand area, footpath connectivity, and more. These examples show the lack of implementation of the Tauranga City Council (2010) Bus Stop Guidelines. These bus stops also show the need for a standard bus stop design that is implemented to make sure all bus stops in the Bay of Plenty are accessible for disabled users.

Watling Street - 1 participant responded that their nearest bus stop is on Watling Street in Tauranga. This bus stop is an example of a very poor-quality bus stop. Many other bus stops mentioned as responses for question 3 were similar to this bus stop. This bus stop has only a bus stop sign on a pole. It also has no bus stop road markings or connection to a footpath.

Carmichael Road - 1 participant responded that their closest bus stop is Carmichael Road in Tauranga. This bus stop is of poor quality but is more accessible than the Watling Street bus stop in Figure 1. What makes this bus stop more accessible than that bus stop is the connection from the footpath to the hardstand area.

Farm Street - 2 participants responded that their nearest bus stop was this Farm Street bus stop in Mount Maunganui. This bus stop is an example of a bus stop that is more accessible than the last two examples but is also not achieving the design guidelines in the Tauranga City Council (2010). This bus stop has seating as well as a real-time information sign. Although this bus stop has many features that support accessibility it does not have any shelter facilities.

Gravatt Road - 1 participant responded that their nearest bus stop is on Gravatt Road opposite Pak n Save Papamoa. This bus stop is an example of a well-designed bus stop and incorporates many design features in the Tauranga City Council (2010) bus stop guideline. There are still improvements needed at this bus stop for it to align with the Tauranga City Council (2010) guideline such as the installation of Tactile Ground Surface Indicators.

QUESTIONS 4 & 5

Question 4 “do you find it easy to get to your nearest bus stop? Yes, no (please explain why)” allowed me to review how accessible participants found the journey to their nearest bus stop. This also allowed me to see if the Tauranga City Council were meeting their (2010) guideline goal of having an accessible journey to bus stops for the public. The high number of yes responses to this question was surprising. Question 5 “does your nearest bus stop have an easy way to cross the road nearby?” gave me insight into how accessible pedestrian crossing facilities are, as a part of the accessible journey to local bus stops. Although most responses to question 4 were that they did find it easy to get to their nearest bus

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stop, most responses to question 5 were that there was no crossing facilities or an inaccessible crossing. According to the Tauranga City Council (2010) guideline, a crossing facility is a part of the journey to get to the bus stop so therefore if there is no crossing facility the bus stop is not accessible. The difference in responses for these questions could be due to participants not considering crossing facilities as a part of accessing bus stops. This misconception was observed in this response “it’s not something I really thought about, across the road often throughout Papamoa there are a lot of cutdown driveways which make and [sic] relatively easy”. This participant still considered it easy to cross the road to their nearest bus stop from private driveways. Private driveways are not pedestrian crossings and therefore not a safe way to access a bus stop. The Tauranga City Council should be providing safe crossing facilities. This participant is a wheelchair user and that is why they mention cutdown driveways, which I assume is suggesting the kerb ramps at the driveways are easier to navigate than whatever crossing facility is available. This is a good example of how small design features such as kerb ramps make a difference for people living with disabilities.

QUESTION 6

Question 6 “do you find buses easy to use?” was a way to get participants to reflect on their overall experience of using the bus system. This was an open-ended question that allowed respondents to describe why they do or do not find buses easy to use. One of the responses that were sorted into the ‘sometimes’ category said “yes except for access to bus stop [sic] in certain areas. Like crossing a main rd [sic] and too many curbs in way”. The response presented in the question 6 results section described the accessibility of buses rather than bus stops. Although this response was not about bus stops it gave me insight into where this research could extend and how accessibility is an issue throughout a bus passenger’s journey. A key issue raised in this response is the treatment disabled bus users get from bus drivers. The Human Rights Commission (2005) also found that many negative experiences of their participants were due to maltreatment from bus drivers. One of their participants stated, “I have been disturbed by the discriminatory attitudes displayed by both the local bus companies (at all levels) and the local regional council” (Human Rights Commission, 2005, p. 26). This quote summarises the experiences I have observed in my research and past literature. The results of this question support my hypothesis, that the inaccessibility of bus stops negatively affects disabled people.

QUESTION 7

Question 7 “how comfortable do you feel using bus stops at night? Comfortable, somewhat comfortable, somewhat uncomfortable, uncomfortable”. The responses gave me insight into how safe participants felt using bus stops. Design that promotes bus stop safety is also part of accessible bus stop design. At night safety measures such as adequate lighting and visibility as bus stops become more essential for bus users. Tauranga City Council’s (2010) guideline includes guidelines for lighting and bus stops that are clear from visual obstacles to make bus users feel safe. The answers to this question found that most participants were uncomfortable using a bus stop at night. This implies that the design

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safety features the Tauranga City Council's (2010) guideline recommends are not being applied in design. A response to question 8 about what makes a bus stop easier to use which was "lights in the areas" also aligns with the responses to this question.

QUESTION 8

Question 8 "have you found some bus stops easier to use than others? If so, please explain what made it easier to use". This question gave me insight into what specific features participants found made bus stops accessible for them. These responses informed my recommendations for the improvement of bus stop accessibility. The specific features mentioned by participants like sufficient lighting and access to bus stops from footpaths are all things the Tauranga City Council's (2010) guidelines describe as being a part of an accessible bus stop. When participants bring up these features that the guideline states should be available it provides evidence of how the Tauranga City Council is not meeting their guidelines. One participant responded that it is helpful when buses kneel, but they have found that buses kneeling systems are not always working. This issue should be addressed by bus maintenance protocols. Bus maintenance is the role of the Bay of Plenty Regional Council as well as the bus drivers.

QUESTION 9

Question 9 "is there anything else you would like to say about bus stops or taking the bus in your area?" allowed participants to elaborate on any of the questions or add any insight into their personal experience with taking the bus. The responses to this question were sorted into complaints and suggestions. The suggestions and complaints that participants raised were similar to the responses to question 8, which gave me an indication of what key bus stop features are missing. One participant raised the issue of interregional travel inaccessibility. Interregional bus travel is currently run privately. Regional Councils do not look after interregional bus travel. These buses often are much taller to provide room for luggage which creates stair access for passengers. Stair access onto these buses has made them inaccessible for the disabled community who cannot use stairs. The inaccessibility of interregional bus travel affects the disabled community's ability to access services outside of their region. Another respondent said that accessibility is an issue for them as they live rurally. Lack of nearby access to public bus services and disabled-person friendly bus facilities for people living in rural areas was a problem also found in the Human Rights Commission (2005) report and Burdett et al.'s (2021) research.

OVERALL

My research problem of local bus stop infrastructure not being accessible for the disabled community was represented in my research findings. The results indicate that most disabled people have struggled when using and accessing bus stops. These results also support my hypothesis that the inaccessibility of bus stops in Tauranga negatively affects the disabled community in Tauranga. Through the survey

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questions, participants expressed struggles they faced when using bus stops and offered recommendations on how bus stops, and the bus system could be more accessible. Many of the issues raised in the survey by the participants have design solutions found in Tauranga City Council's (2010) bus stop guidelines. The survey responses reveal the inconsistency of bus stops and how bus stops in the Bay of Plenty do not align with the Tauranga City Council (2010) guideline. The results also align with the past studies of Burdett et al. (2021) and the Human Rights Commission (2005) that highlighted the struggles faced by disabled people using public transport. The findings of my research imply that there is a need for bus stop accessibility improvement.

RESEARCH FINDINGS IMPLICATIONS

These results build on existing evidence of public transport inaccessibility in New Zealand found in the Human Rights Commission (2005) study and Burdett et al.'s (2021) study. This report highlights public bus inaccessibility in Tauranga/ Mount Maunganui and the Bay Bus system run by the Bay of Plenty Regional Council. The findings presented in this report confirm that the Tauranga City Council's (2010) Bus Stop Guidelines have not been implemented since the release of the guidelines 12 years ago. The wide range of bus stop quality affects the disabled community's access to bus stops as well as their usability. Through the survey responses, participants described features of bus stops that make bus stops easier to use for them. Every single suggestion or complaint mentioned by the participants has a solution described in the Tauranga City Council (2010) guideline. This implies that the guideline has presented a good bus stop design that supports accessibility and addresses the needs of disabled bus users. The lack of prioritization of this guideline and the disabled community is what has created an inaccessible and hard to use the bus system in the Bay of Plenty. Even with the release of the Statistics New Zealand (2013) Disability Survey results that reported that 27 per cent of the Bay of Plenty were identified as disabled, the local disabled community is still not a priority in public facility design.

STUDY LIMITATIONS

The limitations found while conducting this research include time constraints and small sample sizes. This research project was completed over six weeks. This time constraint limited the time the survey was able to be open to collect responses. The small number of responses means that the results cannot generalize the disability communities' experiences. The sample size also restricted the number of disabilities this research was able to include. It was beyond the scope of this study to review the quality of all local bus stops. The figures retrieved from Google Maps have limitations as the map might not be accurate due to the unknown amount of time passing since the images were taken.

RECOMMENDATIONS

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RECOMMENDATIONS FOR FUTURE RESEARCH

This report is a small research project compared to what is possible to research about bus accessibility for the disabled community. My suggestions for future research include exploring the inaccessibility of interregional bus travel and how buses that connect New Zealand regions could be more usable for the disabled community. As well as conducting further studies reviewing bus stop quality and consistency are needed to highlight the inconsistency of accessible bus stops in New Zealand. I also believe from my research there should be a study that explores other country's accessible transport design solutions to find out what are the best design solutions available and how New Zealand transport facilities could become more accessible.

RECOMMENDATIONS FOR IMPROVING BUS STOP ACCESSIBILITY

From the survey responses along with past research, I have provided recommendations to improve bus stop accessibility in the Bay of Plenty. These recommendations are,

- A program of works to upgrade every Tauranga bus stop to Tauranga City Council's own design standards
- A bus stop design standard that every bus stop must meet.
- Disability awareness training for public transport facility designers.
- Disability awareness and support training for bus drivers that includes the disabled community to create direct communication between bus drivers and disabled bus users.
- A public transportation team that includes employees from the Bay of Plenty Regional Council as well as the Tauranga City Council. This would promote connectivity between the bus system and bus stop facilities.
- To address the inaccessibility of interregional travel, the regional council's transport teams should have open communication to work out how interregional bus travel could be improved.
- The Bay of Plenty Regional Council should review the standard of buses as well as the maintenance procedures of accessible features such as the ramps.

CONCLUSION

Overall, this research has found that the disabled community in the Bay of Plenty experience many difficulties accessing and using public bus stops. The findings proved my hypothesis that the

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inaccessibility of bus stops in Tauranga negatively affects the disabled community in Tauranga. This research has contributed to past research by providing Bay of Plenty specific research. This study also has a detailed focus on the public bus system while other past studies have been wider looking at all public transport. This research has been in support of the disabled community in hopes of increasing awareness of the need for accessible public design. I hope this research can inspire those in transport design to consider how bus stop design affects disabled users.

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APPENDICES

SURVEY QUESTIONS

1. Do you live with a long-term illness or disability? No, yes (Please name the condition)
2. Do you regularly take the bus? Yes, no (Please explain why)
3. Where is your nearest bus stop? (Please give a description)
4. Do you find it easy to get to your nearest bus stop? Yes, no (Please explain why)
5. Does your nearest bust stop have an easy way to cross the road nearby?
6. Do you find buses easy to use?
7. How comfortable do you feel using bus stops at night? Comfortable, somewhat comfortable, somewhat uncomfortable, uncomfortable
8. Have you found some bus stops easier to use than others? If so, please explain what made it easier to use.
9. Is there anything else you would like to say about bus stops or taking the bus in your area?

Public Transport Arotake Tuarua Patronage Insights



Patronage Summary

- **578k** boardings during the quarter (down 5.3% on PY)
- The Bus Network Refresh connecting Tauranga City with the Mount, Pāpāmoa and Te Puke was implemented 15 November 2021
- The Hub in Whakatāne became operational on 15 November 2021

Regional Patronage Trend Comparison



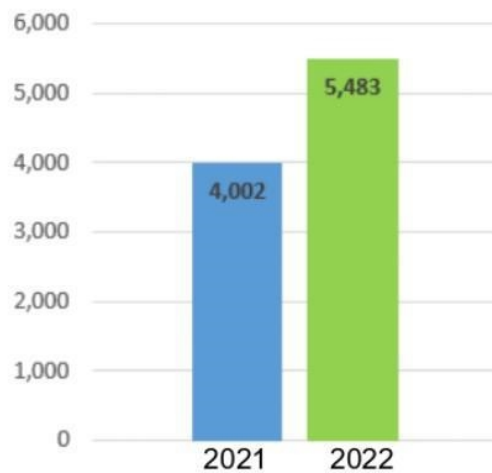


School Fare Free Trials

First 14 Days of 2022 school year

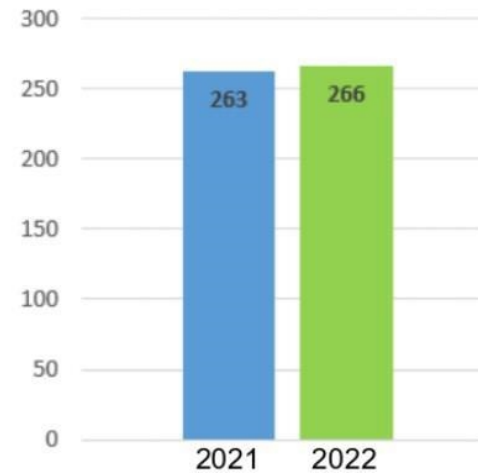
Rotorua School
Patronage

↑ 37%



Whakatane - Ohope
School Patronage

↑ 1%





PT Arotake Additions

Page 13 – Tertiary & Commuter trial route level information

	2022		
	Budgeted Cost	Estimated Waka Kotahi Subsidy per PAX	Estimated Local Share per PAX
Route 101 Whakatāne-Tauranga	\$167,715	\$65.85	\$31.47
Route 102 Rotorua-Tauranga	\$89,976	\$25.34	\$12.15
Route 103 Katikati-Tauranga	\$101,473	\$37.34	\$17.89
Route 104 Murupara-Rotorua	\$90,166	\$62.99	\$24.33
Route 105 Tauranga-Rotorua	\$89,956	\$20.77	\$9.88

Page 14 – Breakdown of punctuality & missed trip complaints by route

Regions	Route Combined	Sum of Tickets
TGA Urban	40 - Welcome Bay	17
	1 - Pyes Pa	10
	CT - Crosstown	10

Page 23 – Appendix 3 – Patronage by Route / Month

	Route	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	2021 Total	Jan 22	Feb 22	2022 Total
Tauranga Urban Unit - Tauranga Urban	1	10,351	7,409	7,703	8,397	11,661	9,121	54,642	7,028	9,911	16,939
	2B					8,251	12,732	20,983	10,208	13,742	23,950
	2W					6,478	10,870	17,348	9,243	10,254	19,497

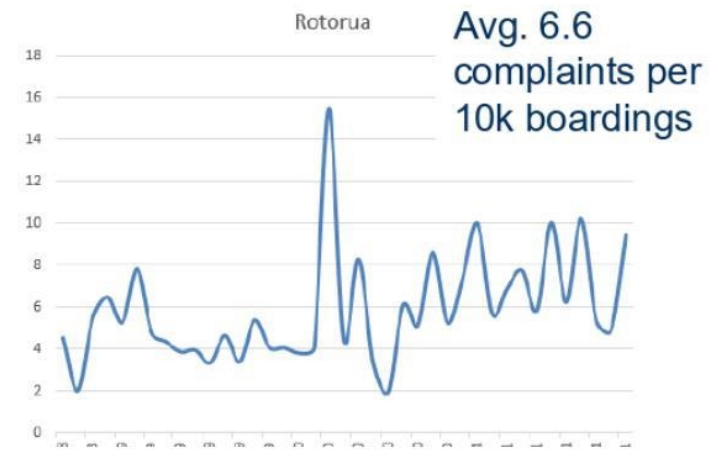
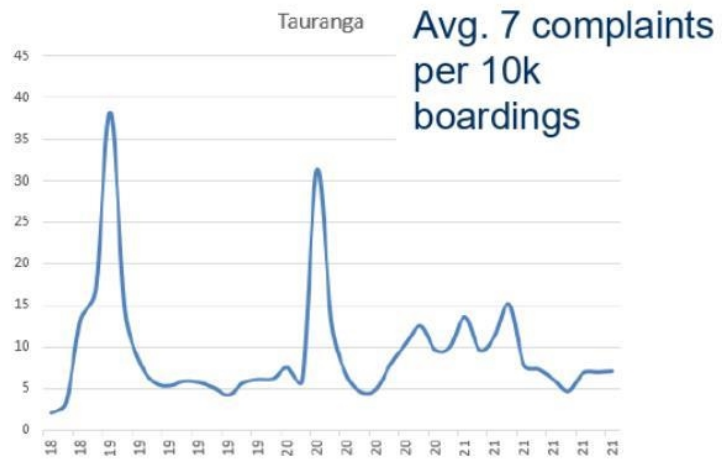


Customer Experience

Customer Contact

- **3.5k** Transport Calls received by the Council (37% of total calls received)
- **1.5k** after hours Transport Calls to Tauranga City Council (72% of total a/h calls)

Complaints per 10k Boardings - Trend



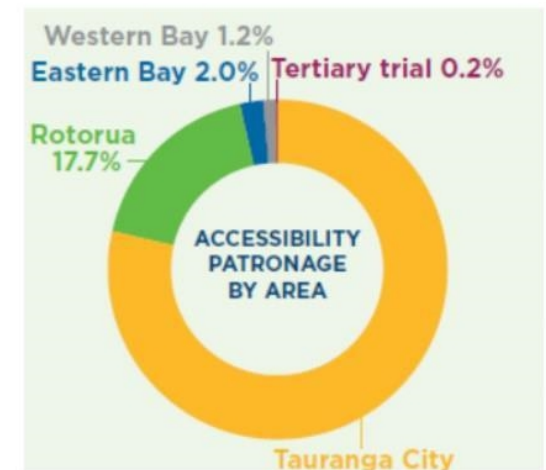
Total Mobility & Accessibility

Total Mobility

- **15,665** TM trips taken during the quarter, a 14% increase on quarter 1
- **3746** registered Total Mobility scheme members at 31/12/2021
- **167** new applications received in the Oct–Dec period.

The Accessibility Concession

- **18,572** accessibility concession trips taken
- **199** Applications processed and accepted during the quarter
- **1218** applications processed since go-live on 1 July 2021





Financial Performance

Operating Revenue at end of qtr 2 **\$0.7m lower** than budget, FY forecast is \$3.0m lower than budget due to:

- lost fare revenue during COVID estimated at **\$0.4m**. Waka Kotahi have confirmed additional assistance to cushion these impacts up to 30 June 2022
- Waka Kotahi have not approved funding for Rotorua's optimisation 'A Balanced Approach' resulting in lower than planned fare revenue of **\$0.6m**
- The Western Bay of Plenty Transport Systems Plan is deferred resulting in lower than planned subsidies of **\$2.0m**

Operating Expenditure at end of qtr 2 **\$0.9m lower** than budget, FY forecast is \$3.7m lower than budget, primarily due to:

- WBOP Transport Systems Plan (full year budget \$2.0m) has been deferred and Rotorua's optimisation 'A balanced approach' (full year cost \$1.6m) has not been approved by Waka Kotahi.
- Cost savings as a result of the Tauranga network refresh are

SUMMARY OF FINANCIAL PERFORMANCE

	YEAR TO DATE \$000			
	BUDGET	ACTUAL	VARIANCE	
Operating revenue	20,060	19,396	(664)	Lower
Operating expenditure	19,990	19,046	944	Lower
Total operating surplus (deficit)	70	350	280	Favourable
Capital revenue	425	0	(425)	Lower
Capital expenditure	513	1	512	Lower