Would you consider using an electric bicycle (e-bike) to make work-related or personal trips?

Report on Survey and Focus Groups with TMR employees

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to

The Department of Transport and Main Roads
INTRODUCTION

Report objectives and scope

The objective of this research project was to identify the barriers and benefits to implementing an electric bike (e-bike) scheme with employees at the Brisbane offices of the Department of Transport & Main Roads (TMR). The findings will assist in better understanding movement patterns throughout the workday and in creating a tailored intervention that fits within the environment of the target population. The study encompassed two primary research tools, a survey and focus groups.

The survey, administered online, was designed to indicate the willingness of employees to participate in an e-bike scheme. The employees were considered to be the best people to assess what must be in place personally and within the worksite to offer a feasible scheme. The survey included a fixed set of questions, which were used to collect quantifiable information (e.g. the percentage of people who make work trips during the work day).

Focus groups were conducted to gain in-depth knowledge of issues faced by the employees in using e-bikes. Employees in the focus groups were asked a set of semi-structured questions to explore their opinions, attitudes, and travel patterns that could indicate whether they are likely to use an e-bike scheme.

Data collected in this research provides knowledge about what employees currently know about e-bikes and points to consider in delivering an e-bike scheme.
Methods

Participants were employees (> 18 years old) of Transport & Main Roads (TMR) who had their main office in Brisbane’s CBD. They completed a 15-minute online survey to obtain information about their current knowledge, interest and experiences with e-bikes.

To ensure compliance with TMR’s Privacy Policy and with QUT’s ethical approval process, TMR emailed the invitation to participate in the research to its employees and responses were de-identified and directly uploaded to the Queensland University (QUT) server. As agreed, the researchers were not privy to the names or any contact details of TMR employees with two exceptions: participants were asked to provide an email address if (1) they wanted to participate in a $50 draw of gift cards for participating in the survey or (2) they wanted to participate in a focus group as part of this research. Participants were informed that their identities would remain confidential.

All research was cleared through the Office of Research Ethics and Integrity (OREI) QUT.

Survey.

An email from TMR’s Deputy Director-General Policy, Planning and Investment Division, was sent to TMR employees (N=2000) at two TMR sites in Brisbane’s CBD to ask them to complete the survey. The email to employees contained the link to the survey.

The survey included questions on demographic characteristics (e.g. age, staff position, highest level of education) to characterise the sample. It also contained questions that assessed interest in and experiences with riding an e-bike, trips that participants would be willing to take by e-bike during the workday, distances that participants would be willing to travel by e-bike during the workday, barriers to riding an e-bike for work, and equipment and training required before riding an e-bike for work. Other questions asked more generally about current work-related travel.

At the end of the survey a participant was given the opportunity to be included in a draw for one of three $50 gift vouchers and to participate in a focus group. The survey took approximately 15 minutes to complete.
Focus Groups.

To understand the perspectives of employees with different levels of experience with riding bicycles and e-bikes in particular, separate focus groups or individual interviews were conducted based on employees’ identifying themselves as follows:

- e-bike riders: ‘I have e-bike experience (at least once fortnightly)’: individual interviews
- Transport riders: ‘I cycle for transport (at least once fortnightly)’: 2 focus groups
- Occasional rider: ‘I occasionally cycle (less than once fortnightly, but have some experience as a recreational cyclist)’: 1 focus group
- Not a rider: ‘I don’t cycle and have not used an e-bike (cycle less than once fortnightly, but have some experience as a recreational cyclist)’: 1 focus group

Due to scheduling issues with the few employees who were e-bike riders, these employees were individually interviewed. Given the interest in participation by transport riders, two focus groups were held with transport riders.

All interviews and focus group discussion were held at 61 Mary Street. Each lasted approximately 50 minutes. Participants received a catered lunch and a $20 Coles gift card.
SECTION 1: RESULTS OF SURVEY STUDY

A total of 395 TMR employees completed the survey. Respondents who were ineligible (not within the sampling frame or under 18 years of age, n=2) were excluded from the analysis. One respondent was removed because the person’s answering pattern indicated bogus responses (responding exactly the same way to a series of questions regardless of wording). The final data consisted of 392 respondents.

1.1 Interest among TMR employees in riding an e-bike for work

Almost half of respondents reported that they would be likely or highly likely to use an e-bike to make trips from TMR to other locations during the workday if a pool of e-bikes were made available at their TMR office (Table 1.1). About one-fifth of respondents in the sample were unsure about using an e-bike. More of the men (56%) than of the women (36%) responded that they would be likely or highly likely to use an e-bike.

Throughout this section, descriptive statistics will be presented separately between respondents who would be likely to use an e-bike (likely or highly unlikely), unsure about using an e-bike, and unlikely to use an e-bike (unlikely or highly unlikely).

Table 1.1. Probability of using an e-bike to make trips from TMR to other locations during the workday if a pool of e-bikes were available

<table>
<thead>
<tr>
<th></th>
<th>Total Respondents (N=392)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Likely or Highly Likely</td>
<td>180</td>
</tr>
<tr>
<td>Unsure</td>
<td>76</td>
</tr>
<tr>
<td>Unlikely or Highly Unlikely</td>
<td>136</td>
</tr>
</tbody>
</table>
1.2 Demographic characteristics of the sample

Half of respondents were men (51%). Over half of respondents (57%) were aged 35 to 44 years, and most (71%) had completed a tertiary degree. About half of respondents (53%) held clerical and administrative positions. No respondents held machinery operator, driver, or labourer positions. Most (67%) were employed at 61 Mary Street, Brisbane. The remaining 33% were employed at 313 Adelaide Street, Brisbane.

The employees most likely to use an e-bike were the men (61%), those aged 35 to 54 years (58%), those in clerical or administration positions (51%), and those who had completed a tertiary degree (36%) (Table 1.2).

<table>
<thead>
<tr>
<th>Sex</th>
<th>Likely to use an e-bike (n=180)</th>
<th>Unsure about using an e-bike (n=76)</th>
<th>Unlikely to use an e-bike (n=136)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Male</td>
<td>110</td>
<td>61.1%</td>
<td>36</td>
</tr>
<tr>
<td>Female</td>
<td>67</td>
<td>37.2%</td>
<td>40</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 to 34</td>
<td>49</td>
<td>27.2%</td>
<td>20</td>
</tr>
<tr>
<td>35 to 44</td>
<td>57</td>
<td>31.7%</td>
<td>27</td>
</tr>
<tr>
<td>45 to 54</td>
<td>48</td>
<td>26.7%</td>
<td>21</td>
</tr>
<tr>
<td>55 or more</td>
<td>26</td>
<td>14.4%</td>
<td>8</td>
</tr>
<tr>
<td>Current position at TMR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executive or Senior Officer</td>
<td>21</td>
<td>11.7%</td>
<td>4</td>
</tr>
<tr>
<td>Manager</td>
<td>24</td>
<td>13.3%</td>
<td>9</td>
</tr>
<tr>
<td>Professional</td>
<td>39</td>
<td>21.7%</td>
<td>17</td>
</tr>
<tr>
<td>Clerical and Administration</td>
<td>92</td>
<td>51.1%</td>
<td>43</td>
</tr>
<tr>
<td>Other a</td>
<td>3</td>
<td>1.7%</td>
<td>3</td>
</tr>
<tr>
<td>Location of employment at TMR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61 Mary Street</td>
<td>109</td>
<td>60.6%</td>
<td>53</td>
</tr>
<tr>
<td>313 Adelaide Street</td>
<td>67</td>
<td>37.2%</td>
<td>20</td>
</tr>
<tr>
<td>Highest education qualification completed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary School Certificate or less</td>
<td>12</td>
<td>6.7%</td>
<td>5</td>
</tr>
<tr>
<td>Certificate (Trade or Business)</td>
<td>12</td>
<td>6.7%</td>
<td>9</td>
</tr>
<tr>
<td>Associate Diploma</td>
<td>20</td>
<td>11.1%</td>
<td>5</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>70</td>
<td>38.9%</td>
<td>35</td>
</tr>
<tr>
<td>Postgraduate Degree</td>
<td>64</td>
<td>35.6%</td>
<td>22</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.1%</td>
<td>0</td>
</tr>
</tbody>
</table>

*Includes technical and trades positions.
1.3 Experience with and enjoyment of riding an e-bike

Just over a quarter of respondents who would be likely to use an e-bike had previously ridden an e-bike (Table 1.3). Almost all respondents who were unsure or would be unlikely to use an e-bike had never ridden an e-bike. Among respondents who had ridden an e-bike, most had positive experiences riding e-bikes although most had not ridden an e-bike within the previous year (Table 1.4).

Table 1.3. Experience in riding an e-bike

<table>
<thead>
<tr>
<th></th>
<th>Likely to use an e-bike (n=180)</th>
<th>Unsure about using an e-bike (n=76)</th>
<th>Unlikely to use an e-bike (n=136)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>n</strong> (%)</td>
<td><strong>n</strong> (%)</td>
<td><strong>n</strong> (%)</td>
</tr>
<tr>
<td>Previous experience in riding an e-bike</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>50 (27.8%)</td>
<td>5 (6.6%)</td>
<td>11 (8.1%)</td>
</tr>
<tr>
<td>No</td>
<td>130 (72.2%)</td>
<td>71 (93.4%)</td>
<td>125 (91.9%)</td>
</tr>
</tbody>
</table>

Table 1.4. Enjoyment and when an e-bike was last ridden among respondents who had previous experience riding an e-bike

<table>
<thead>
<tr>
<th></th>
<th>Likely to use an e-bike (n=50)</th>
<th>Unsure about using an e-bike (n=5)</th>
<th>Unlikely to use an e-bike (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>n</strong> (%)</td>
<td><strong>n</strong> (%)</td>
<td><strong>n</strong> (%)</td>
</tr>
<tr>
<td>Enjoyment in riding an e-bike</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>45 (90.0%)</td>
<td>4 (80.0%)</td>
<td>6 (54.5%)</td>
</tr>
<tr>
<td>No</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>1 (9.1%)</td>
</tr>
<tr>
<td>Undecided</td>
<td>5 (10.0%)</td>
<td>1 (20.0%)</td>
<td>4 (36.4%)</td>
</tr>
<tr>
<td>e-bike last ridden</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last 2 weeks</td>
<td>8 (16.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>In the last 3 weeks</td>
<td>1 (2.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>In the last 4 weeks</td>
<td>1 (2.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>More than a month ago, but in the last year</td>
<td>11 (22.0%)</td>
<td>2 (40.0%)</td>
<td>5 (45.6%)</td>
</tr>
<tr>
<td>More than a year ago</td>
<td>29 (58.0%)</td>
<td>3 (60.0%)</td>
<td>6 (54.5%)</td>
</tr>
</tbody>
</table>
1.4 Trips and distance willing to travel by e-bike for work

Respondents who would be likely to use or were unsure about using an e-bike were asked further questions about the trips and distance they might be willing to travel by e-bike, barriers to using an e-bike, and training or equipment they would require prior to using an e-bike.

Most respondents who were likely to use an e-bike reported that they would be willing to make trips to meetings at other TMR (91%) and non-TMR locations and offices (65%) and to places for personal reasons (60%) (Table 1.5). Unsurprising, fewer respondents who were unsure about using an e-bike reported that they would be willing to make these trips by e-bike.

Most respondents (70%) who would be likely to use an e-bike reported that they would be willing to travel less than 10 km by e-bike (Table 1.5). Another 14% reported that they would be willing to travel between 10 km and 15 km, and 16% reported that they would be willing to travel 15 km or more. Among respondents who were unsure about riding an e-bike, most (67%) would be willing to travel less than 5km by e-bike. Another 33% would be willing to travel between 5 km and 15 km by e-bike, and none would be willing to travel 15 km or more by e-bike.
Table 1.5. Trips and distance that respondents would be willing to travel by e-bike, among respondents who would be likely to use, or unsure about using, an e-bike for trips from TMR during the workday

<table>
<thead>
<tr>
<th>Trips willing to travel by e-bike *</th>
<th>Likely to use an e-bike (n=180)</th>
<th>Unsure about using an e-bike (n=76)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Trips to meetings at other TMR sites and offices</td>
<td>164</td>
<td>91.1%</td>
</tr>
<tr>
<td>Trips to meetings at non-TMR sites and offices</td>
<td>117</td>
<td>65.0%</td>
</tr>
<tr>
<td>Trips to local TMR infrastructure</td>
<td>93</td>
<td>51.7%</td>
</tr>
<tr>
<td>Trips to university for studying</td>
<td>39</td>
<td>21.7%</td>
</tr>
<tr>
<td>Trips to places for personal reasons (e.g., lunch, shopping)</td>
<td>108</td>
<td>60.0%</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distance willing to travel by e-bike</th>
<th>Likely to use an e-bike (n=180)</th>
<th>Unsure about using an e-bike (n=76)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>1km to &lt;5km</td>
<td>71</td>
<td>39.4%</td>
</tr>
<tr>
<td>5km to &lt;10km</td>
<td>55</td>
<td>30.6%</td>
</tr>
<tr>
<td>10km to &lt;15km</td>
<td>25</td>
<td>13.9%</td>
</tr>
<tr>
<td>15km or more</td>
<td>29</td>
<td>16.1%</td>
</tr>
</tbody>
</table>

* The question is a multiple response set, meaning that respondents could select more than one response.

1.5 Barriers to traveling by e-bike for work

Respondents who were unsure about riding an e-bike reported more barriers to using an e-bike than did respondents who would be likely to use an e-bike. The most frequently reported barrier was a concern about riding in traffic (Table 1.6). This barrier was reported by 51% of respondents who would be likely to use an e-bike and by 80% of those who were unsure about using an e-bike.

The other main barriers (those reported by at least 30% of respondents) for those who would be likely to use an e-bike were insufficient cycling infrastructure (51%), an inability to carry passengers on an e-bike (49%), uncertainty about WorkCover arrangements (47%), incompatibility between work attire and using an e-bike (37%), no knowledge of other people who use an e-bike (34%), and a lack of bicycle parking bays at destinations (34%), and concern about theft of the e-bike (30%).
All but one of these main barriers were also main barriers for respondents who were unsure about using an e-bike: incompatibility between work attire and using an e-bike (68%), insufficient cycling infrastructure (55%), uncertainty about WorkCover arrangements (51%), no knowledge of other people who use an e-bike (51%), the inability to carry passengers with an e-bike (47%), and a lack of bicycle parking bays at destinations (36%). Only concern about theft of the bike at locations visited was not a main barrier (26% reported it to be a barrier).

Other main barriers for respondents who were unsure about using an e-bike (but not for those who were likely to use an e-bike) were: a preference for walking to travel for work (70%), trips are too short a distance to need an e-bike (53%), lack of knowledge about appropriate bicycle routes (51%), deficient knowledge of how to ride an e-bike (45%), unwillingness to use a helmet (38%), trips are too far a distance for an e-bike (38%), and difficulty in transporting the usual load with an e-bike (33%).

Table 1.6. List of 21 reasons that could discourage TMR employees from using an e-bike to make trips during the workday, among respondents who would be likely to use, or unsure about using, an e-bike at TMR for making trips during the workday

<table>
<thead>
<tr>
<th>Reason</th>
<th>Likely to use an e-bike (n=180)</th>
<th>Unsure about using an e-bike (n=76)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have concerns about riding in traffic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>32 17.8%</td>
<td>24 31.6%</td>
</tr>
<tr>
<td>Agree</td>
<td>60 33.3%</td>
<td>37 48.7%</td>
</tr>
<tr>
<td>Neutral</td>
<td>20 11.1%</td>
<td>7 9.2%</td>
</tr>
<tr>
<td>Disagree</td>
<td>39 21.7%</td>
<td>5 6.6%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>28 15.6%</td>
<td>2 2.6%</td>
</tr>
<tr>
<td>There is insufficient cycling infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>22 12.2%</td>
<td>15 19.7%</td>
</tr>
<tr>
<td>Agree</td>
<td>69 38.3%</td>
<td>27 35.5%</td>
</tr>
<tr>
<td>Neutral</td>
<td>34 18.9%</td>
<td>23 30.3%</td>
</tr>
<tr>
<td>Disagree</td>
<td>42 23.3%</td>
<td>9 11.8%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>12 6.7%</td>
<td>2 2.6%</td>
</tr>
<tr>
<td>I would be unable to carry passengers with an e-bike</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>20 11.1%</td>
<td>11 14.5%</td>
</tr>
<tr>
<td>Agree</td>
<td>68 37.8%</td>
<td>25 32.9%</td>
</tr>
<tr>
<td>Neutral</td>
<td>43 23.9%</td>
<td>22 28.9%</td>
</tr>
<tr>
<td>Disagree</td>
<td>27 15.0%</td>
<td>14 18.4%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>22 12.2%</td>
<td>4 5.3%</td>
</tr>
</tbody>
</table>
I am uncertain about WorkCover arrangement if using a bicycle for work trips

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>10</td>
<td>5.6%</td>
<td>12</td>
<td>15.8%</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>74</td>
<td>41.1%</td>
<td>27</td>
<td>35.5%</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>27</td>
<td>15.0%</td>
<td>21</td>
<td>27.6%</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>49</td>
<td>27.2%</td>
<td>12</td>
<td>15.8%</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>20</td>
<td>11.1%</td>
<td>4</td>
<td>5.3%</td>
<td></td>
</tr>
</tbody>
</table>

My work clothes are unsuitable for riding a bicycle

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>11</td>
<td>6.1%</td>
<td>17</td>
<td>22.4%</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>56</td>
<td>31.3%</td>
<td>35</td>
<td>46.1%</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>33</td>
<td>18.3%</td>
<td>16</td>
<td>21.1%</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>62</td>
<td>34.4%</td>
<td>6</td>
<td>7.9%</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>17</td>
<td>9.4%</td>
<td>2</td>
<td>2.6%</td>
<td></td>
</tr>
</tbody>
</table>

I don't know anyone else who rides e-bikes

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>7</td>
<td>3.9%</td>
<td>8</td>
<td>10.5%</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>54</td>
<td>30.0%</td>
<td>31</td>
<td>40.8%</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>26</td>
<td>14.4%</td>
<td>19</td>
<td>25.0%</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>57</td>
<td>31.7%</td>
<td>13</td>
<td>17.1%</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>35</td>
<td>19.4%</td>
<td>4</td>
<td>5.3%</td>
<td></td>
</tr>
</tbody>
</table>

There are no bicycle parking bays at locations I normally travel to and from my TMR office

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>16</td>
<td>8.9%</td>
<td>4</td>
<td>5.3%</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>45</td>
<td>25.0%</td>
<td>23</td>
<td>30.3%</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>53</td>
<td>29.4%</td>
<td>38</td>
<td>50.0%</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>48</td>
<td>26.7%</td>
<td>11</td>
<td>14.5%</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>18</td>
<td>10.0%</td>
<td>0</td>
<td>0.0%</td>
<td></td>
</tr>
</tbody>
</table>

There is risk of theft of the e-bike at locations I normally travel to and from my TMR office

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>7</td>
<td>3.9%</td>
<td>2</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>47</td>
<td>26.1%</td>
<td>18</td>
<td>23.7%</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>56</td>
<td>31.1%</td>
<td>35</td>
<td>46.1%</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>54</td>
<td>30.0%</td>
<td>18</td>
<td>23.7%</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>16</td>
<td>8.9%</td>
<td>3</td>
<td>3.9%</td>
<td></td>
</tr>
</tbody>
</table>

I prefer walking to make trips from my TMR office

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>4</td>
<td>2.2%</td>
<td>6</td>
<td>7.9%</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>46</td>
<td>25.6%</td>
<td>47</td>
<td>61.8%</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>77</td>
<td>42.8%</td>
<td>13</td>
<td>17.1%</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>38</td>
<td>21.1%</td>
<td>6</td>
<td>7.9%</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>15</td>
<td>8.3%</td>
<td>1</td>
<td>1.3%</td>
<td></td>
</tr>
</tbody>
</table>

I don’t know appropriate bicycle routes

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>2</td>
<td>1.1%</td>
<td>4</td>
<td>5.3%</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>41</td>
<td>22.8%</td>
<td>35</td>
<td>46.1%</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>32</td>
<td>17.8%</td>
<td>18</td>
<td>23.7%</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>71</td>
<td>39.4%</td>
<td>13</td>
<td>17.1%</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>34</td>
<td>18.9%</td>
<td>6</td>
<td>7.9%</td>
<td></td>
</tr>
</tbody>
</table>
Most trips I make from my TMR office are too far a distance for riding an e-bike

| Strongly Agree | 5 | 2.8% | 8 | 10.5% |
| Agree          | 33 | 18.3% | 21 | 27.6% |
| Neutral        | 39 | 21.7% | 13 | 17.1% |
| Disagree       | 70 | 38.9% | 31 | 40.8% |
| Strongly Disagree | 33 | 18.3% | 3 | 3.9% |

Most trips I make from my TMR office are too short a distance to need an e-bike

| Strongly Agree | 1 | 0.6% | 10 | 13.2% |
| Agree          | 34 | 18.9% | 30 | 39.5% |
| Neutral        | 39 | 21.7% | 15 | 19.7% |
| Disagree       | 71 | 39.4% | 18 | 23.7% |
| Strongly Disagree | 35 | 19.4% | 2 | 2.6% |

I don’t want to wear a helmet

| Strongly Agree | 6 | 3.3% | 6 | 7.9% |
| Agree          | 29 | 16.1% | 23 | 30.3% |
| Neutral        | 21 | 11.7% | 8 | 10.5% |
| Disagree       | 69 | 38.3% | 27 | 35.5% |
| Strongly Disagree | 53 | 29.4% | 11 | 14.5% |

I don’t know how to ride an e-bike

| Strongly Agree | 5 | 2.8% | 5 | 6.6% |
| Agree          | 22 | 12.2% | 29 | 38.2% |
| Neutral        | 31 | 17.2% | 11 | 14.5% |
| Disagree       | 40 | 22.2% | 16 | 21.1% |
| Strongly Disagree | 82 | 45.6% | 15 | 19.7% |

It would be difficult to transport my usual load with an e-bike

| Strongly Agree | 3 | 1.7% | 6 | 7.9% |
| Agree          | 19 | 10.6% | 19 | 25.0% |
| Neutral        | 28 | 15.6% | 24 | 31.6% |
| Disagree       | 89 | 49.4% | 21 | 27.6% |
| Strongly Disagree | 41 | 22.8% | 6 | 7.9% |

I don’t feel safe on an e-bike

| Strongly Agree | 4 | 2.2% | 5 | 6.6% |
| Agree          | 18 | 10.0% | 15 | 19.7% |
| Neutral        | 29 | 16.1% | 29 | 38.2% |
| Disagree       | 45 | 25.0% | 19 | 25.0% |
| Strongly Disagree | 81 | 45.0% | 7 | 9.2% |

I prefer driving a vehicle to make trips from my TMR office

| Strongly Agree | 1 | 0.6% | 3 | 3.9% |
| Agree          | 16 | 8.9% | 10 | 13.2% |
| Neutral        | 38 | 21.1% | 19 | 25.0% |
| Disagree       | 60 | 33.3% | 27 | 35.5% |
| Strongly Disagree | 65 | 36.1% | 17 | 22.4% |
The weather is not suitable for e-bikes

<table>
<thead>
<tr>
<th>Response</th>
<th>Likely</th>
<th>Likely %</th>
<th>Unsure</th>
<th>Unsure %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>0</td>
<td>0.0%</td>
<td>2</td>
<td>2.6%</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
<td>7.8%</td>
<td>9</td>
<td>11.8%</td>
</tr>
<tr>
<td>Neutral</td>
<td>30</td>
<td>16.7%</td>
<td>27</td>
<td>35.5%</td>
</tr>
<tr>
<td>Disagree</td>
<td>70</td>
<td>38.9%</td>
<td>28</td>
<td>36.8%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>66</td>
<td>36.7%</td>
<td>9</td>
<td>11.8%</td>
</tr>
</tbody>
</table>

I don’t like riding a bicycle

<table>
<thead>
<tr>
<th>Response</th>
<th>Likely</th>
<th>Likely %</th>
<th>Unsure</th>
<th>Unsure %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>2</td>
<td>1.1%</td>
<td>2</td>
<td>2.6%</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
<td>5.6%</td>
<td>16</td>
<td>21.1%</td>
</tr>
<tr>
<td>Neutral</td>
<td>9</td>
<td>5.0%</td>
<td>5</td>
<td>6.6%</td>
</tr>
<tr>
<td>Disagree</td>
<td>51</td>
<td>28.3%</td>
<td>28</td>
<td>36.8%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>108</td>
<td>60.0%</td>
<td>23</td>
<td>30.3%</td>
</tr>
</tbody>
</table>

The terrain is not suitable for e-bikes

<table>
<thead>
<tr>
<th>Response</th>
<th>Likely</th>
<th>Likely %</th>
<th>Unsure</th>
<th>Unsure %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>1</td>
<td>0.6%</td>
<td>1</td>
<td>1.3%</td>
</tr>
<tr>
<td>Agree</td>
<td>8</td>
<td>4.4%</td>
<td>9</td>
<td>11.8%</td>
</tr>
<tr>
<td>Neutral</td>
<td>19</td>
<td>10.6%</td>
<td>27</td>
<td>35.5%</td>
</tr>
<tr>
<td>Disagree</td>
<td>75</td>
<td>41.7%</td>
<td>27</td>
<td>35.5%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>77</td>
<td>42.8%</td>
<td>11</td>
<td>14.5%</td>
</tr>
</tbody>
</table>

I have a medical/clinical condition that prohibits me from cycling

<table>
<thead>
<tr>
<th>Response</th>
<th>Likely</th>
<th>Likely %</th>
<th>Unsure</th>
<th>Unsure %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>1</td>
<td>0.6%</td>
<td>1</td>
<td>1.3%</td>
</tr>
<tr>
<td>Agree</td>
<td>5</td>
<td>2.8%</td>
<td>3</td>
<td>3.9%</td>
</tr>
<tr>
<td>Neutral</td>
<td>8</td>
<td>4.4%</td>
<td>5</td>
<td>6.6%</td>
</tr>
<tr>
<td>Disagree</td>
<td>43</td>
<td>23.9%</td>
<td>28</td>
<td>36.8%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>121</td>
<td>67.2%</td>
<td>39</td>
<td>51.3%</td>
</tr>
</tbody>
</table>

1.6 Required equipment, features and training for riding an e-bike for work

The main requirements for riding an e-bike were similar between respondents who would be likely to use an e-bike and those who were unsure about using an e-bike (Table 1.7). Those reported by at least 30% in one of the groups were: having a secure e-bike lock (likely: 90%; unsure: 84%), a secure bicycle park at the destination (likely: 78%; unsure: 88%), a helmet provided (likely: 76%; unsure: 80%), a basket or pannier bag available to carry goods (likely: 78%; unsure: 74%), e-bike lights ((likely: 61%; unsure: 55%), bicycle tyre pumps at TMR (likely: 58%; unsure: 45%), maps of cycling routes to common destinations (likely: 52%; unsure: 58%), lockers at TMR ((likely: 43%; unsure: 41%) and at destinations (likely: 32%; unsure: 30%), and reflective vests (likely: 34%; unsure: 42%).
About three-quarters of respondents in both groups responded that they would need training on how to charge and operate the electrical system on the e-bike. As expected, more respondents who were unsure about using an e-bike than respondents who were likely to use an e-bike reported that they would need knowledge on the distance and range capabilities of e-bikes (72% vs 60%), training on how to ride an e-bike (66% vs 48%) and training on how to ride in traffic (50% vs 28%), and route planning assistance (49% vs 36%).

Table 1.7. Features, equipment, and training that respondents reported that they would require before using an e-bike, among respondents who would be likely to use, or unsure about using, an e-bike at TMR for making trips during the workday

<table>
<thead>
<tr>
<th>Features/Equipment</th>
<th>Likely to use an e-bike (n=180)</th>
<th>Unsure about using an e-bike (n=76)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure e-bike lock</td>
<td>162 (90.0%)</td>
<td>64 (84.2%)</td>
</tr>
<tr>
<td>Secure bicycle park at the destination</td>
<td>141 (78.3%)</td>
<td>67 (88.2%)</td>
</tr>
<tr>
<td>A basket or pannier bags to carry goods</td>
<td>140 (77.8%)</td>
<td>56 (73.7%)</td>
</tr>
<tr>
<td>Helmet</td>
<td>136 (75.6%)</td>
<td>61 (80.3%)</td>
</tr>
<tr>
<td>e-bike lights to see and to be seen</td>
<td>109 (60.6%)</td>
<td>42 (55.3%)</td>
</tr>
<tr>
<td>Knowledge on the distance and range capability of e-bikes</td>
<td>108 (60.0%)</td>
<td>55 (72.4%)</td>
</tr>
<tr>
<td>Pumps at TMR</td>
<td>105 (58.3%)</td>
<td>34 (44.7%)</td>
</tr>
<tr>
<td>Maps showing less stress cycling routes to common destinations</td>
<td>93 (51.7%)</td>
<td>44 (57.9%)</td>
</tr>
<tr>
<td>Lockers at TMR</td>
<td>77 (42.8%)</td>
<td>31 (40.8%)</td>
</tr>
<tr>
<td>Route planning assistance</td>
<td>65 (36.1%)</td>
<td>37 (48.7%)</td>
</tr>
<tr>
<td>Reflective vests</td>
<td>62 (34.4%)</td>
<td>32 (42.1%)</td>
</tr>
<tr>
<td>Lockers at the destination</td>
<td>57 (31.7%)</td>
<td>23 (30.3%)</td>
</tr>
<tr>
<td>Other</td>
<td>14 (7.8%)</td>
<td>3 (3.9%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Training</th>
<th>Likely to use an e-bike (n=180)</th>
<th>Unsure about using an e-bike (n=76)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training to charge and operate the electrical system on e-bikes</td>
<td>136 (75.6%)</td>
<td>59 (77.6%)</td>
</tr>
<tr>
<td>Training to ride e-bikes</td>
<td>86 (47.8%)</td>
<td>50 (65.8%)</td>
</tr>
<tr>
<td>Training to ride in traffic</td>
<td>50 (27.8%)</td>
<td>38 (50.0%)</td>
</tr>
<tr>
<td>Other</td>
<td>6 (3.3%)</td>
<td>1 (1.3%)</td>
</tr>
</tbody>
</table>

* The question was a multiple response set, meaning that respondents could select all responses that applied.
1.7 Current travel of TMR employees during the workday

All respondents were asked to report on current trips that they made from their offices during the workday. During a typical month at work, 70% of respondents (Table 1.8) made at least one trip during the workday from their primary TMR office to other places in Brisbane. The most common places to visit were other TMR locations and offices for meetings, followed by various places for non-work purposes, and non-TMR locations and offices for meetings (Table 1.9).

Table 1.8. Number of employees who made at least one trip during the workday from their primary TMR office to other places in Brisbane during a typical month at work

<table>
<thead>
<tr>
<th>Made at least one trip during the workday</th>
<th>Total Respondents (N=392)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>274 69.9%</td>
</tr>
<tr>
<td>No</td>
<td>118 30.1%</td>
</tr>
</tbody>
</table>

Table 1.9. Places visited, among respondents who made at least one trip during the workday from their primary TMR office to other places in Brisbane during a typical month at work

<table>
<thead>
<tr>
<th>Locations</th>
<th>Respondents (n=274)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meetings at other TMR sites and offices</td>
<td>223 81.4%</td>
</tr>
<tr>
<td>Meetings at non-TMR sites and offices</td>
<td>146 53.3%</td>
</tr>
<tr>
<td>Local TMR infrastructure</td>
<td>72 26.3%</td>
</tr>
<tr>
<td>University for studying</td>
<td>11 4.0%</td>
</tr>
<tr>
<td>Place for non-work purposes (e.g., lunch, shopping)</td>
<td>190 69.3%</td>
</tr>
<tr>
<td>Other destinations</td>
<td>57 20.8%</td>
</tr>
</tbody>
</table>

* The question is a multiple response set, meaning that respondents could select more than one response.
1.7.1 Travel of TMR employees to other TMR locations and offices.

Among TMR locations and offices listed by respondents, the top three locations were all located within the Brisbane CBD (Table 1.10). The most common location was 313 Adelaide Street, followed by 61 Mary Street and 1 William Street. Almost two-fifths travelled to 313 Adelaide Street and about one-third to 61 Mary Street.

Table 1.10. Top five TMR locations and offices visited, among respondents who made at least one trip during the workday from their primary TMR office to another TMR location or office during a typical month at work

<table>
<thead>
<tr>
<th>TMR site or office*</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>313 Adelaide Street</td>
<td>87</td>
<td>39.0%</td>
</tr>
<tr>
<td>61 Mary Street</td>
<td>70</td>
<td>31.4%</td>
</tr>
<tr>
<td>1 William St</td>
<td>35</td>
<td>15.7%</td>
</tr>
<tr>
<td>Carseldine</td>
<td>25</td>
<td>11.2%</td>
</tr>
<tr>
<td>Nerang</td>
<td>14</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

* The question is a multiple response set with open ended response. Respondents were allowed to input up to 3 different locations.

Most other TMR locations and offices visited were between 1 and 5 km from a respondent’s primary TMR office (Table 1.11). The majority of TMR locations and offices were visited less than once per week. When travelling to other TMR locations or offices, most respondents walked, used the TMR motor pool, or rode a bus with walking the most common (Table 1.12).

Table 1.11. Relationship between frequency and distance of travel to TMR locations and offices, across 362 locations (including duplicates) listed by respondents

<table>
<thead>
<tr>
<th>Frequency</th>
<th>≤1km (n=73)</th>
<th>&gt;1km &amp; &lt;5km (n=170)</th>
<th>≥5km (n=119)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Less than 1 time per week</td>
<td>57.5%</td>
<td>55.3%</td>
<td>76.5%</td>
</tr>
<tr>
<td>1 time per week</td>
<td>26.0%</td>
<td>27.7%</td>
<td>16.0%</td>
</tr>
<tr>
<td>2 to 4 times per week</td>
<td>13.7%</td>
<td>11.8%</td>
<td>5.0%</td>
</tr>
<tr>
<td>5 to 8 times per week</td>
<td>0.0%</td>
<td>4.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Daily</td>
<td>2.7%</td>
<td>1.2%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>
Table 1.12. Modes of transport used to travel to TMR locations and offices

<table>
<thead>
<tr>
<th>Transport*</th>
<th>Respondents (n=223)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>TMR Motor Pool: car/van/ute</td>
<td>84</td>
</tr>
<tr>
<td>Bus</td>
<td>58</td>
</tr>
<tr>
<td>Train</td>
<td>40</td>
</tr>
<tr>
<td>Ferry</td>
<td>1</td>
</tr>
<tr>
<td>Walking</td>
<td>187</td>
</tr>
<tr>
<td>Pedal bicycle</td>
<td>17</td>
</tr>
<tr>
<td>e-bike</td>
<td>1</td>
</tr>
<tr>
<td>Motorcycle/scooter/moped</td>
<td>2</td>
</tr>
<tr>
<td>Private car/van/ute</td>
<td>23</td>
</tr>
<tr>
<td>Taxi/maxi taxi/Uber</td>
<td>31</td>
</tr>
<tr>
<td>Carpool</td>
<td>11</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
</tr>
</tbody>
</table>

*The question is a multiple response set with open ended response. Respondents were allowed to input up to 3 different locations.

1.7.2 Travel of TMR employees to non-TMR locations and offices.

The top five non-TMR locations and offices visited by respondents were located within or near the Brisbane CBD (Table 1.13). The most common non-TMR location that respondents visited was Fortitude Valley, followed by the 1 William Street and George Street offices.

Table 1.13. Top five non-TMR locations and offices visited, among respondents who made at least one trip during the workday from their primary TMR office to a non-TMR location or office during a typical month at work

<table>
<thead>
<tr>
<th>Non-TMR Site or Office*</th>
<th>Respondents (n=146)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Fortitude Valley</td>
<td>19</td>
</tr>
<tr>
<td>1 William Street</td>
<td>15</td>
</tr>
<tr>
<td>George Street</td>
<td>13</td>
</tr>
<tr>
<td>Southbank/South Brisbane</td>
<td>10</td>
</tr>
<tr>
<td>Brisbane City Council</td>
<td>9</td>
</tr>
</tbody>
</table>

* The question is a multiple response set with open ended response. Respondents were allowed to input up to 3 different locations.
Most non-TMR locations and offices were between 1 and 5 km from the respondents’ primary TMR offices (Table 1.14). The majority of non-TMR locations and offices were visited less than once per week. Similar to the modes to transports used to get to TMR locations and offices, most respondents walked, rode a bus, or used the TMR motor pool to get to non-TMR locations and offices with walking the most common (Table 1.15).

**Table 1.14. Relationship between frequency and distance of travel to non-TMR locations and offices, across 193 locations (including duplicates) listed by respondents**

<table>
<thead>
<tr>
<th>Distance</th>
<th>≤1km (n=62)</th>
<th>&gt;1km &amp; &lt;5km (n=92)</th>
<th>≥5km (n=39)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Frequency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 time per week</td>
<td>37 59.7%</td>
<td>55 59.8%</td>
<td>28 71.8%</td>
</tr>
<tr>
<td>1 time per week</td>
<td>13 21.0%</td>
<td>23 25.0%</td>
<td>6 15.4%</td>
</tr>
<tr>
<td>2 to 4 times per week</td>
<td>8 12.9%</td>
<td>10 10.9%</td>
<td>4 10.3%</td>
</tr>
<tr>
<td>5 to 7 times per week</td>
<td>0 0.0%</td>
<td>1 1.1%</td>
<td>1 2.6%</td>
</tr>
<tr>
<td>8 or more times per week</td>
<td>0 0.0%</td>
<td>2 2.2%</td>
<td>0 0.0%</td>
</tr>
<tr>
<td>Daily</td>
<td>4 6.5%</td>
<td>1 1.1%</td>
<td>0 0.0%</td>
</tr>
</tbody>
</table>

**Table 1.15. Modes of transport used to travel to non-TMR locations and offices**

<table>
<thead>
<tr>
<th>Respondents (n=146)</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TMR Motor Pool: car/van/ute</td>
<td>37</td>
<td>25.3%</td>
</tr>
<tr>
<td>Bus</td>
<td>38</td>
<td>26.0%</td>
</tr>
<tr>
<td>Train</td>
<td>23</td>
<td>15.8%</td>
</tr>
<tr>
<td>Ferry</td>
<td>2</td>
<td>1.4%</td>
</tr>
<tr>
<td>Walking</td>
<td>100</td>
<td>68.5%</td>
</tr>
<tr>
<td>Pedal bicycle</td>
<td>13</td>
<td>8.9%</td>
</tr>
<tr>
<td>e-bike</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td>Motorcycle/scooter/moped</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td>Private car/van/ute</td>
<td>8</td>
<td>5.5%</td>
</tr>
<tr>
<td>Taxi/maxi taxi/Uber</td>
<td>20</td>
<td>13.7%</td>
</tr>
<tr>
<td>Carpool</td>
<td>7</td>
<td>4.8%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

*The question is a multiple response set, meaning that respondents could select more than one response.
1.7.3 Travel of TMR employees to TMR infrastructure.

There was a diverse range of local TMR infrastructure sites that respondents reported that they visited during the workday. The top three locations were Buranda, Hemmant, and King George Square, but each of these locations were only listed by three respondents (Table 1.16).

Table 1.16. Top five local TMR infrastructure sites visited, among respondents who made at least one trip during the workday from their primary TMR office to a local TMR infrastructure location during a typical month at work

<table>
<thead>
<tr>
<th>Local TMR infrastructure*</th>
<th>Respondents (n=72)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Buranda</td>
<td>3</td>
<td>4.2%</td>
</tr>
<tr>
<td>Hemmant</td>
<td>3</td>
<td>4.2%</td>
</tr>
<tr>
<td>King George Square</td>
<td>3</td>
<td>4.2%</td>
</tr>
<tr>
<td>Roma Street</td>
<td>2</td>
<td>2.8%</td>
</tr>
<tr>
<td>Southbank/South Brisbane</td>
<td>2</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

*The question is a multiple response set with open ended response. Respondents were allowed to input up to 3 different locations.

Most local TMR infrastructure sites were more than 5 km from a respondent’s primary TMR office (Table 1.17). The majority of local TMR infrastructure sites were visited less than weekly. The TMR motor pool was the most popular mode of transport to get to local TMR infrastructure sites, followed by walking and riding the bus (Table 1.18).

Table 1.17. Relationship between frequency and distance of travel to local TMR infrastructure, across 87 locations (including duplicates) listed by respondents

<table>
<thead>
<tr>
<th>Frequency</th>
<th>≤1km (n=14)</th>
<th>&gt;1km &amp; &lt;5km (n=19)</th>
<th>≥5km (n=54)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Less than 1 time per week</td>
<td>8</td>
<td>57.1%</td>
<td>10</td>
</tr>
<tr>
<td>1 time per week</td>
<td>2</td>
<td>14.3%</td>
<td>6</td>
</tr>
<tr>
<td>2 to 4 times per week</td>
<td>3</td>
<td>21.4%</td>
<td>1</td>
</tr>
<tr>
<td>5 to 7 times per week</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>8 or more times per week</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
</tr>
<tr>
<td>Daily</td>
<td>1</td>
<td>7.1%</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 1.18. Modes of transport used to travel to local TMR infrastructure sites

<table>
<thead>
<tr>
<th>Transport</th>
<th>Respondents (n=72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>TMR Motor Pool: car/van/ute</td>
<td>36</td>
</tr>
<tr>
<td>Bus</td>
<td>13</td>
</tr>
<tr>
<td>Train</td>
<td>9</td>
</tr>
<tr>
<td>Ferry</td>
<td>4</td>
</tr>
<tr>
<td>Walking</td>
<td>21</td>
</tr>
<tr>
<td>Pedal bicycle</td>
<td>9</td>
</tr>
<tr>
<td>e-bike</td>
<td>2</td>
</tr>
<tr>
<td>Motorcycle/scooter/moped</td>
<td>1</td>
</tr>
<tr>
<td>Private car/van/ute</td>
<td>4</td>
</tr>
<tr>
<td>Taxi/maxi taxi/Uber</td>
<td>6</td>
</tr>
<tr>
<td>Carpool</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
</tr>
</tbody>
</table>

* The question is a multiple response set, meaning that respondents could select more than one response.

1.7.4 Travel of TMR employees to a university for study.

Few respondents reported making trips during the workday to a university for study (Table 1.19). Four universities were listed, but almost all respondents who made trips during the workday to a university for study went to Queensland University of Technology.

Table 1.19. Top five universities visited, among respondents who made at least one trip during the workday from their primary TMR office to a university for study during a typical month at work

<table>
<thead>
<tr>
<th>University</th>
<th>Respondents (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Queensland University of Technology</td>
<td>10</td>
</tr>
<tr>
<td>University of Queensland</td>
<td>2</td>
</tr>
<tr>
<td>Griffith University</td>
<td>1</td>
</tr>
<tr>
<td>TAFE Southbank</td>
<td>1</td>
</tr>
</tbody>
</table>

* The question is a multiple response set with free response. Respondents can input up to 3 different locations.
Most universities were less than 5 km from a respondent’s primary TMR office (Table 1.20). One university was more than five kilometres away. Most universities were visited less than once per week. Most respondents walked to their university. When a different transport mode was used, the most popular options were bus, train, pedal bicycle, and motorcycle/scooter/moped (Table 1.21).

Table 1.20. Relationship between frequency and distance of travel to universities, across 11 locations (including duplicates) listed by respondents

<table>
<thead>
<tr>
<th>Distance</th>
<th>≤1km (n=4)</th>
<th>&gt;1km &amp; &lt;5km (n=6)</th>
<th>≥5km (n=1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Less than 1 time per week</td>
<td>2</td>
<td>50.0%</td>
<td>3</td>
</tr>
<tr>
<td>1 time per week</td>
<td>0</td>
<td>0.0%</td>
<td>2</td>
</tr>
<tr>
<td>2 to 4 times per week</td>
<td>2</td>
<td>50.0%</td>
<td>1</td>
</tr>
<tr>
<td>&gt;5 to 7 times per week</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1.21. Modes of transport used to travel to universities for study

<table>
<thead>
<tr>
<th>Transport *</th>
<th>Respondents (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>TMR Motor Pool: car/van/ute</td>
<td>1</td>
</tr>
<tr>
<td>Bus</td>
<td>3</td>
</tr>
<tr>
<td>Train</td>
<td>2</td>
</tr>
<tr>
<td>Ferry</td>
<td>0</td>
</tr>
<tr>
<td>Walking</td>
<td>9</td>
</tr>
<tr>
<td>Pedal bicycle</td>
<td>2</td>
</tr>
<tr>
<td>e-bike</td>
<td>0</td>
</tr>
<tr>
<td>Motorcycle/scooter/moped</td>
<td>2</td>
</tr>
<tr>
<td>Private car/van/ute</td>
<td>1</td>
</tr>
<tr>
<td>Taxi/maxi taxi/Uber</td>
<td>0</td>
</tr>
<tr>
<td>Carpool</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
</tbody>
</table>

* The question is a multiple response set, meaning that respondents could select more than one response.
1.7.5 Travel of TMR employees for non-work purposes

Among respondents who travelled to places in the workday during a typical month at work for non-work purposes, the top five most popular places were Queen Street, CBD, Southbank/South Brisbane, Fortitude Valley, and the Myer Centre (Table 1.22).

Table 1.22. Top five destinations visited for non-work purposes, among respondents who made at least one trip during the workday from their primary TMR office to a non-work related destination during a typical month at work for personal reasons

<table>
<thead>
<tr>
<th>Destination (non-work)*</th>
<th>Respondents (n=190)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Queen Street</td>
<td>52</td>
</tr>
<tr>
<td>Brisbane City/CBD</td>
<td>36</td>
</tr>
<tr>
<td>Southbank/South Brisbane</td>
<td>22</td>
</tr>
<tr>
<td>Fortitude Valley</td>
<td>14</td>
</tr>
<tr>
<td>Myer Centre</td>
<td>14</td>
</tr>
</tbody>
</table>

* The question is a multiple response set with free response. Respondents can input up to 3 different locations.

Most destinations visited for non-work purposes were less than 5 km from a respondent’s primary TMR office (Table 1.23). Most destinations within 1 km of the primary TMR office were visited two to four times per week. Most destinations that were between 1 and 5 km away were visited once per week or less. The majority of respondents walked to these destinations (Table 1.24). When other transport was used, respondents tended to use public transport, with buses and trains being the most popular modes.

Table 1.23. Relationship between frequency and distance of travel to destinations for non-work purposes, across 290 locations (including duplicates)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤1km (n=140)</td>
</tr>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Less than 1 time per week</td>
<td>25</td>
</tr>
<tr>
<td>1 time per week</td>
<td>36</td>
</tr>
<tr>
<td>2 to 4 times per week</td>
<td>50</td>
</tr>
<tr>
<td>5 to 7 times per week</td>
<td>7</td>
</tr>
<tr>
<td>8 or more times per week</td>
<td>1</td>
</tr>
<tr>
<td>Daily</td>
<td>21</td>
</tr>
</tbody>
</table>
Table 1.24. Modes of transport used to travel to places for non-work purposes

<table>
<thead>
<tr>
<th>Transport*</th>
<th>Respondents (n=190)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>TMR Motor Pool: car/van/ute</td>
<td>5</td>
</tr>
<tr>
<td>Bus</td>
<td>49</td>
</tr>
<tr>
<td>Train</td>
<td>24</td>
</tr>
<tr>
<td>Ferry</td>
<td>5</td>
</tr>
<tr>
<td>Walking</td>
<td>166</td>
</tr>
<tr>
<td>Pedal bicycle</td>
<td>16</td>
</tr>
<tr>
<td>e-bike</td>
<td>1</td>
</tr>
<tr>
<td>Motorcycle/scooter/moped</td>
<td>2</td>
</tr>
<tr>
<td>Private car/van/ute</td>
<td>12</td>
</tr>
<tr>
<td>Taxi/maxi taxi/Uber</td>
<td>11</td>
</tr>
<tr>
<td>Carpool</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>

* The question is a multiple response set, meaning that respondents could select more than one response.

1.8 Summary

Overall, these findings suggest that TMR employees are receptive to using e-bikes for travel from their TMR offices. There were a number of barriers though that would need to be addressed, in order to make e-bike use attractive to them.
SECTION 2: RESULTS OF FOCUS GROUP STUDY

A total of 395 TMR employees completed the survey. Of these employees, 31 participated in a focus group or individual interview: 3 e-bike riders (ride an e-bike at least once fortnightly), 16 transport riders (ride for transport at least once fortnightly), 7 occasional riders (ride less than fortnightly and mostly for recreation), and 5 employees who did not ride.

2.1 Current transport modes of employees

Participants were asked to report on their current transport modes for travel between their Brisbane offices to other locations around Brisbane. Participants reported that their transport mode depended on the distance travelled and what was convenient. For short trips, most reported that they walk. In all discussions, participants mentioned that the easiest way to travel to the other main TMR offices in the CBD was by walking. Modes used for slightly longer distances were public transport and the free CBD loop bus. One participant reported:

Most of the buildings aren't that far apart. Walking is fairly easy to do. If [the location] happens to be slightly further, we got the free loop bus. A combination of the two seems to work.

For just a few participants, the free City Cycle scheme or a personal bicycle was used for travel that was a little too far to go on foot. One participant said, “Sometimes I ride Citycycle if it's sort of just outside of walking range, but not quite far enough to need a car.”

For farther distances (outside the CBD) use of a TMR pool vehicle was often mentioned. Some participants reported though that they would use their personal motor vehicle for these trips.

2.2 Willingness to use other transport models

Participants were asked whether they would be willing to change transport modes that they use to get from their TMR offices to other locations during the workday. Across focus groups, there was an interest in changing to riding a bicycle. However, in all groups as well, there were participants who reported that their current modes were the best options for them.
Based on the discussions with participants, the following discussion is divided into the two main themes: walking around the CBD is the best option and riding an e-bike could replace walking and some other travel modes.

2.2.1 Walking around the CBD is best option.
Participants agreed that walking was the best model for short trips. Some participants reported that walking to other nearby locations was likely to be more convenient and faster than riding an e-bike, particularly if the time that it would take to access and park a bicycle was included in the travel time. A participant commented:

I don't think walking is that hard, personally, for me. I'll probably stick to walking particularly if there is a booking system or something you have to deal with to get a bike. Unless the bikes are directly outside the office and we've got to just grab one, I would probably just walk.

Some participants were concerned about where to park an e-bike, and the trouble in locating a place to park it could make riding an e-bike less convenient that walking.

You’ve got to find a place to leave it [e-bike] securely and all that sort of thing. So, I’d probably still like walking.

The inconvenience of taking a bicycle was experienced by a transport rider:

I have ridden for a meeting from here [Mary Street], to 313 Adelaide, and it was a little bit inconvenient because I took my own bike from here, and then I had to take a backpack because I don't have storage on the sides, and then I had to be putting my notepads and pens and everything into my backpack, and then I had to take my lock with me, so I could lock it up because I didn't know where else can I end up. When I got to 313, I was like, where is the parking? Ended up putting it on I think a sign post of some sort...I don't like going through the admin to sign up just to go in once or twice in a month or so [into the bike parking]. After doing that once I was like, just make sure I allow enough time to walk, because I don't need my helmet, my lock, backpack, all those things, and then you're walking up to a meeting carrying everything else with you. It's a bit of an inconvenience at that point.
2.2.1 Riding an e-bike could replace walking and some other travel modes.

For some participants, switching from walking to riding a bicycle for workday travel was appealing because it would allow them to more easily carry work materials. Participants mentioned the need to carry laptops, office supplies, as well as more bulky items, such as those for doing “a facilitation job”. One participant noted:

*If you have to carry a lot, like a laptop and this stuff... it [walking] can be a little bit difficult when you're carrying something for 20 minutes.*

Participants who had witnessed other people on e-bikes or had ridden an e-bike commented that switching from walking to using an e-bike would allow them to arrive at their destinations ‘fresh’ during summer as noted by these comments:

*During summer here in the city, I will surely use [an e-bike]. Because just walking with this heat...you’re already sweating.. The e-bike would be a big help for that, I would say. I would definitely choose it instead of walking.*

*I was riding with a couple of people...they had an e-bike... I got there sweaty and they got there fresh.*

*Really important [to ride an e-bike] if you're going for meetings. You don't want to turn up all sweaty and flustered.*

Although most participants viewed walks to other TMR office buildings to be an acceptable length, one participant mentioned that the travel time required to walk between TMR buildings was taking too much of her workday now that she had moved from working full-time to part-time:

*I do find the time to walk there and back is a big chunk of my work week. I work part-time. A 20-minute walk there and a 20-minute walk back is frustrating...The main factor is the time...of that walk. Addressing that would be a good thing.*
Some participants, including participants who were not currently riding a bicycle regularly, said that an e-bike with good carrying capacity and with easy check-out and check-out procedures could potentially address these issues with walking to locations that are about 15 or 20 minutes from their offices, such as the other TMR office.

Some transport riders welcomed the opportunity to ride a bicycle during the day. One transport rider said:

_“I love riding and I'd like more options to ride. There's great facilities. You can get around the city without having to be on really congested roads...”_

Some occasional riders also welcomed the opportunity to ride during the day, particularly for longer trips, if the conditions of travel suited them. For example, participants wanted to ride on good bikeways and be able to put the e-bike on the train:

_“Because I want to ride to the train station to catch the train. It’d be nice to take the bike on the train, but during the peak hours you can’t.”_

_“I would consider a bike if there is a good bike track to go the right way, say down to the Valley.”_

### 2.3 Experiences and feelings about riding a bicycle in Brisbane

Participants shared their past experiences with and feelings about riding a bicycle in Brisbane’s CBD. These experiences and feelings could influence their willingness to use e-bikes.

Most participants reported that the cycling infrastructure is very good up to the point at which a rider reaches the CBD but that the CBD itself is unsafe for riding a bicycle. Not surprising, participants who were transport riders were more comfortable riding a bicycle in the CBD than were occasional riders or employees who were not currently riding a bicycle. One transport rider noted the difference between her level of comfort and those of less experienced riders:
You’ve got most of us who are most comfortable interacting with traffic, who have got quite a load of cycling experience. When I look at friends who haven’t cycled as much, I know they don’t feel as comfortable seeing very light traffic, let alone the heavy traffic, you…encounter in the city.

But even transport riders expressed concerns with riding in the CBD. Specific streets seen as particularly hazardous for bicycle riders were mentioned as noted here:

I do find this particular area here with Mary Street to have a lot of buses, particularly in the afternoon. You have to pick the time when [leaving] because sometimes there’s a lot of people [who] line up on the footpath, lots of traffic.

I do dread having to ride along Adelaide Street… It’s the scariest part of the ride. I mean you might look at it, oh it’s a two lane road, not too much traffic, but yes it’s the bus street so it’s got buses going left and right and they’re pulling out near stops…It’s quite a stressful part. The rest of my ride is really nice.

One transport rider reported that the footpaths in the CBD are full of pedestrians, sandwich boards and sidewalk furniture (“and drop offs and ramps that are dreadful”), all of which make riding on footpaths in the CBD impossible during the day. Likewise, a participant who did not cycle reported:

On my walk from Central [Train Station] in the mornings, I have seen people on bikes through the mall or along Albert Street, and it looks really painful trying to get between pedestrians. So, I think you would still have to choose your footpaths in that you would want to be going down the quieter streets in the CBD because otherwise, it would be slower absolutely.

Occasional riders commented about how unsafe Brisbane CBD is for riding a bicycle:

Female: Brisbane, which I think is very unfriendly for active transport at that. It’s the worst city I’ve ever lived in ever.
Male: It’s the worst part of any rider is getting to the city part. You have buses. They don’t look. Buses, cabs, they all don’t look. They just drive. Once you’re in the city, it’s just a free for all. They [cyclists] can’t do footpaths because there are pedestrians everywhere and it’s too hard to move. It's almost just get-off time.

A female occasional rider reported how she copes with riding a bicycle in the CBD:

I found when I’m in the city on a bike, that you turn it into a scooter instead. When I've actually come through the city, I like sitting on one pedal and then scooter it along. If I'm going along the sidewalk…I don't know why, but pedestrians find that less threatening and feel you're in more control. They seem to be not as upset…I've had people abuse me when I've been on the side walk.

Both male and female participants who were not bicycle riders expressed feelings of fear and lack of confidence in riding in the CBD. Participants commented;

For me, I've got a fear barrier [for]... just riding normally, not even dealing with the anxiety that would come with trying to find the building and negotiate traffic in the city, and obviously, my fitness level if it wasn't flat and everything, so I know that there's some barriers for me...

“I'm not at all confident riding on roads. All the back streets’ fine, but busy roads never…I'm always looking for a bike path or a quiet suburban street, that's fine. I only live about 5 km out of the CBD and would love to ride to and from work just as a mode of transport that builds my health at the same time … I don't do it. It doesn't matter how many of my colleagues have done routing for me. All options from where I live involve busy roads...That is a real barrier for me- the concept of mingling with traffic, I find that very frightening.

In summary, riding a bicycle in the CBD during the day was viewed as unsafe by many participants. Some transport cyclists and e-bike users were willing to ride in the CBD during the day, but most participants were concerned about doing so.
2.4 Experiences and feelings about riding an e-bike in Brisbane

Employees who were regularly riding an e-bike were asked about their experiences with, and feelings about, riding an e-bike.

2.4.1 Positive experiences with riding an e-bike.

All three e-bike riders shared positive experiences with riding their e-bikes. These riders were using e-bikes to commute to work or make other utility trips. The main reason for buying the e-bike appeared to be a lack of fitness to ride a pedal bicycle up hills or the required distances to get to destinations, and the e-bike overcame these barriers. One female participant said:

*I was unfit and 50 years old. I take [the e-bike] to go to work and back. It’s 18k one way. I go daily accept in the rain.*

One, who had not ridden a bicycle before purchasing an e-bike, reported that the e-bike made it possible to ride a bicycle because “the hills are a real killer” and the e-bike allowed him to “gain some fitness”. Two other e-bike riders reported that they also rode pedal bicycles, but the nature of their lives currently made the e-bike attractive for utility trips. One of these riders explained:

*When I was single at or just out of uni and really had a lot of time and I was really pumped about getting a lot of exercise and then riding everywhere it was sort of a badge of honour. But now I suppose now my focus is on my work, on the house and the marriage and I guess I only have so much energy and I guess the e-bike just makes it easier with the amount of hills and the distance. I don’t think it’s replaced my regular bike per se. It’s just a different stage for people-- the bike may have lost its appeal and the e-bike could give it more appeal.*

Positive outcomes of riding an e-bike that were discussed included enjoying the ride, getting some exercise, and being outdoors. Comments included:

*I went and tried a couple [of e-bikes], and I thought it was so fun and enjoyable to ride a bike again and I’m like, yah, I definitely want to do this. So, then I told*
everyone I got one...It’s great. You come to work in a great mood. You have had a bit of exercise and you’ve been in the sunshine, and you are slightly more in control of your trip then if you are to catch the train, and you can leave [work] when you want to.

I chose the e-bike over the motorbike for health purposes. I work pretty long hours and I probably wasn’t getting as much exercise as I should so the e-bike allows me to get some fitness in. Even on the days that I have an early meeting I can ride the bike in and fit in the hills and meet my health goals, and I feel great the rest of the day, and it takes as much time to ride the train.

One participant mentioned that it also saves money on commuting:

It saves money. It was $1700 for my daughter’s e-bike and mine was $2200. It’s over $100 a fortnight for the bus so in 1 year, I made back the money I spent on the bike.”

2.4.2 Negative experiences with riding an e-bike.

Participants also discussed negative experiences with riding their e-bikes. These included adjusting to how an e-bike handles, the need for pre-planning before getting on an e-bike, the cost of purchasing and maintaining an e-bike, the changing e-bike technology, and contending with other road users.

One participant explained that he had to learn how to handle an e-bike:

There is some adjustment when you are learning to ride one. Because most are limited to 25-kms an hour so if you are going faster than that the engine cuts out and that’s a bit disconcerting the first few times and also the frame is much heavier is fine while the engine is going is fine but it does mean you have to be more careful in the corners...I would probably recommend going on a few rides with them [new e-bike riders] to start until they familiarise themselves with it.
Others discussed the need for pre-planning before riding an e-bike, including the need to make sure the e-bike is charged:

The first time I used the e-bike I was a fair way from home and got a flat… I thought I could get home on the charge I had, but I was a little short and I had to push it and it’s really heavy. So now I always make sure it’s charged. These were both early lessons that no longer happen.

There’s a bit more preplanning with riding the e-bike, but I just pack the night before and I did buy panniers to carry my clothes, I have an extra lock, a tyre repair kit, and I have added extra lights including chucking one onto my helmet and I wear a trendy yellow reflective vest on my way home at night.

The expense of purchasing and maintaining the e-bike was also discussed by several e-bike riders, one of whom said:

The main thing is the cost. It just makes for a very expensive asset compared to a regular bike. If something stops working, then you are basically just left with a very heavy bike that you need to get to a shop to fix. If something happens on your way to work, say halfway, then you are stuck with a heavy bike and what do you do?

Because e-bikes are expensive, e-bike riders expressed concerns with keeping them safe. Several discussed using multiple locks when storing them and only riding the e-bike for utility trips when they know there is secure storage for the e-bike at their destination. One participant commented:

I put two locks on the e-bike… You would need an angle grinder to cut it off and then cable with plastic through the front wheel. I lock it up every time. My e-bike is pretty expensive and I belong to a book club in West End, and I always take public transport [to the book club] because I don’t want to leave it on the street in this area. I know it doesn’t makes sense, but I just won’t leave it on the street in that area.

One participant also discussed the changing e-bike technology and expressed concerns that government policies about e-bikes are not adapting quickly enough to these changes.
The legislation is not keeping up with the [e-bike] technology. I have bought the most powerful at the time but the legislation is not keeping up.

The e-bike riders, like other bicycle riders, complained about other road users: car drivers, pedestrians, and other cyclists. When asked about the negatives of riding an e-bike, one participants said:

*Pedestrians, motorists and other cyclists. Pedestrians wear ear pods and walk 3-4 abreast. I try not to be a clique cyclist, but I find the reaction hostile on the footpaths.*

Another said:

*Cyclists are inconsiderate. Cars hate you and are not sensitive to dooring. Being in a bus behind a cyclist is inefficient.*

### 2.5 Willingness to switch some work-related trips to e-bike trips if TMR had a pool of e-bikes

Given that some participants were interested in making trips by e-bike, participants were asked to indicate their willingness to switch modes for some workday travel if a TMR pool of e-bikes was available and to discuss factors that would influence their willingness. The general consensus was that e-bikes would be welcome under certain conditions.

Most focus groups re-iterated that decisions to use an e-bike had to consider trip distance, convenience of using the e-bike, and confidence in riding the e-bike in the CBD, as discussed earlier. In terms of distance, the e-bike did not appear to be a good option for most short walking trips. However, some participants commented that it would be useful for slightly longer distanced. For example, several participants mentioned that travel by e-bike to ‘the Valley’ or to Southbank would be more direct than taking public transport. Convenience of using an e-bike was a key theme in all focus groups and all discussions of e-bikes. An e-bike would only be convenient if getting access to the bike, parking it at destinations, and returning it were easy. Current bicycle riders were more open to the idea of using e-bike than those who were not, which appeared to be related to confidence in riding a bicycle in the
CBD as participants who were not currently riding bicycles were open to the idea of riding an e-bike but were concerned about riding in the CBD.

Other considerations were changes in weather (what to do with the e-bike if the weather turned bad?) and wearing work attire appropriate for riding an e-bike (how to deal with sweat, wearing high heels, or wearing business attire). In addition, participants in a transport rider focus group queried what to do with e-bikes after the e-bike was used to travel to meetings held early in the morning or late in the day. Participants reported that they would typically go to early morning meetings straight from home and go directly home after late meetings. So, they suggested that the e-bike scheme would need to allow employees to ride e-bikes to commute to and from home to avoid the inconvenience of returning the e-bike to the main TMR office after meetings away from the office.

The transport rider group also had concerns about safety issues for inexperienced riders. A participant in that group said:

I can see some of the difficulties…it comes around to that experience thing. If you're not physically having to put effort into the bike, you are more likely to come into corners or more challenging situations at a faster speed than you normally would. Because you're not having the skills, you've just probably got extra speed and it gives you less time to really make the safety critical decisions.

One novel idea of participants who were not current bicycle riders was allowing employees to use an e-bike to get familiar with how to ride them and/or for recreation during lunch. One participant suggested:

The bikes could be used, say, in the botanical gardens until your get more confident.

Another participant said that riding an e-bike for lunch could provide health benefits:

For workplace, health, and well-being there are people who love to ride...People could go out and just get half an hour oxygen or something in their lunch break, might be really beneficial to parts of the organization.
That group suggested running a pilot with just a few bicycles to measure demand for the e-bikes.

A current e-bike user reported that he would use an e-bike for certain work trips:

*If there were e-bikes for use I may use it for site visits, just depends where the site is: in the inner city. Yes.*

In summary, participants across focus groups expressed interest in riding e-bikes, but they would only be willing to ride e-bikes for workday trips under certain conditions: if they found the procedures for using one were simple, the trip was an appropriate distance for riding it (not too short but not too long), the purpose of the trip ‘allowed’ for the mode of travel to be e-bike (e.g., to a site visit or to locations in which high heels or full suits would not be expected attire), and there was a safe way to travel through the CBD to destinations by e-bike. Suggestions were made to offer a pilot program and to expand the e-bike scheme to include recreational trips and commuter trips.

2.6 Processes, gear and training needed if an e-bike scheme were offered

Participants across groups discussed requirements if an e-bike scheme were offered. Three themes emerged: required processes, required and suggested gear for the e-bike and required training.

2.6.1 Required processes.

Notably, participants across groups were clear that the process of accessing an e-bike and parking it would have to be easy and preferably the scheme would be free to use. A particular concern was accessing end-of-trip facilities quickly and easily. Participants noted:

*If it was a facility there you could just park [the e-bike] in and you didn't have to do anything and then someone else takes it and you get another one. The infrastructure exists. It’s just giving people access to it because I think most of the buildings in the city have end of trip facilities that have a secure gate on them.*
I like the idea of having the e-bikes that have the access to the end of trip facilities on the bike so they can then just get in there without security calling or being threatened.

I can’t see myself using one for office visits unless I could actually access the end of trip facilities for that office, which at the moment they are very strict about that. I would not feel comfortable leaving it locked up on the street, particularly if I had to sign a waiver I wouldn’t want to be stuck with the bill for a new wheel or something was stripped while I was in a meeting.

Participants made positive comments about the end of trip facilities at TMR offices that would support an e-bike scheme. One participant noted:

Facility services are fantastic though. Like nice bike racks. Compared to where I was in the valley, 313[Adelaide] is better, I think. More locker space is the main thing and easier in and out access.

The key would be to make access to the facilities hassle-free. As noted by a participant who worked at 61 Mary Street:

It's not like you can just turn up [to the end of trip facilities on Mary Street]. It's four swipe cards. Swipe four times between entering and getting upstairs. [You have to] show your ID swipe card so they won't need to swipe if they've seen your ID. Put your bike up. Swipe to the first exit to the locker rooms. Swipe into the showers and then swipe up to the elevator. Then swipe into my floor as well...There's no push button to get out, which is probably the most annoying. You're all geared up, ready to go and then you go, "Oh."...It's actually why I stopped riding for a long time. Just too much effort. Just couldn't be bothered.

Another consideration mentioned by participants was maintenance of the e-bikes. There had to be a service that maintained the bikes and kept them charged, to make them readily available and to prevent trouble in route to other locations. Participants also suggested a service that would pick up e-bikes when they are not returned to the main TMR office, like
done for CityCycles. This would occur if the e-bike broke down or the weather turned bad. One participant suggested:

> You leave it, lock it, and someone will come and get it.

### 2.6.2 Required and suggested gear on e-bikes.

Participants across groups also noted requirements for the e-bike itself. Overall, it would need to be fit for purpose and ‘designed for all weather’. Specifically, the e-bike would need lights, mud guards, weatherproof panniers that could hold typical bulky work materials, a secure lock, and adjustable handlebars and seat to accommodate different employees. One participant also suggested having ‘wipes” in the pannier, in the event that fingers get oily from doing basic maintenance. One notable issue was the need for a helmet scheme. Some participants were not keen to share helmets with other people, and one participant suggested caps for individual employees to wear on their heads under the helmet:

> If you're going to use this shared helmet that you also bring...a cap thing that you can fold up in your bag. You put it over your head, a covering for the helmet. A lace or a supplied disposable covering....

There were also discussions about how GPS could be useful for data gathering and tracking of the e-bikes.

> You could have a GPS built into it so that you know where the e-bike is. It could be helpful in terms of collecting data about where it's going...just so TMR knows how it’s being used, and if people are going from point A to point B a lot, who and when people seem to be going this dodgy way, then we need to recommend a different way. Or, there could be ways to help with safety, by having GPS on it, seeing how it's being used, and where there seems to be issues with how people are traveling.”
One participant suggested that GPS could be used for checking that an e-bike is available and charged and available for use:

*You don't want to get down there and go, Oh, it's not charged. Or you don't want to get down there and be, it's not here. I guess your GPS could help with that by going, oh, I'm coming downstairs. There's three available. They're all charged. I'm good to go.*

### 2.6.3 Required and suggested training for using e-bikes.

Participants in all focus groups agreed that skills training or induction to e-bike use is a must, as well as how to handle minor repairs (changing a flat tyre, put a chain back on the bike if it comes off) while in transit and the importance of knowing the best route to take by e-bike. The induction could be in person or online and should discuss ‘safety stuff’. It should also help build confidence. One participant noted:

*Some sort of training session to build confidence. Because I think there are at least half of us in this room. Might be more... Obviously, there are a lot of people in this department who are very confident on bikes, but for those who aren’t, I think they might need a little bit of help to cross that threshold.*

Others talked about the need for help in safe route planning and that TMR may want to consider requiring e-bike users to use only certain routes:

*Maybe there is recommended or required paths you can take...They [TMR] couldn't probably approve every route that you're going to, but if you're going this direction, generally can follow this path or whatever.*
SECTION 3: CONCLUSIONS

This report sought to provide insight into the feasibility of an e-bike scheme within the workplace through two primary data sources, a survey and focus groups. The primary objective was to identify the barriers and benefits to implementing an electric bike (e-bike) scheme with employees at the Brisbane offices of the Department of Transport & Main Roads. This required also assessing individual movement patterns throughout the workday in order to better understand trip behaviours and their capacity to replace modes of travel. Each of these objectives is related to the potential for e-bikes to tap latent demand for bicycle transportation and to increase frequency of riding and distances travelled by e-bike.

3.1 Main findings of survey to TMR employees

The analysis included 392 TMR employees working in two Brisbane TMR locations. Most (67%) worked at 61 Mary Street with the remainder (33%) working at 313 Adelaide Street. Half of respondents were male (51%), and over half (57%) were between the ages of 35 and 54. Only 17% reported that they had ever ridden an e-bike. However, almost half (46%) of respondents reported they would likely use an e-bike during the workday if TMR made e-bikes available to employees. Another 20% of respondents were unsure.

Most respondents who reported that they would likely use e-bikes if they were available to employees were men (61%). Most respondents (70%) who would be likely to use an e-bike reported that they would be willing to travel for short trips (less than 10 km). Only 13% were willing to travel 10-14 km, and 16% were willing to travel 15 km or more by e-bike. The most popular trip to take by e-bike would be to other TMR locations and offices (91% of respondents likely to use an e-bike) with 65% of these respondents willing to use an e-bike to travel to non-TMR locations and offices.

The most frequently reported barrier for both those who would likely use and those who were unsure if they would use an e-bike was a concern about riding in traffic. Other barriers for at least 30% of respondent who were likely to use e-bikes and at least 30% of respondents who were unsure were: insufficient cycling infrastructure, an inability to carry passengers on an e-bike, uncertainty about WorkCover arrangements, incompatibility between work attire and
using an e-bike, no knowledge of other people who use an e-bike, and no bicycle parking bays at locations frequented. Moreover, 30% of respondents who were likely to use an e-bike reported that theft of the e-bike at the locations they visit would also be a barrier. Over 30% of respondents who were unsure that they would use an e-bike reported additional barriers: preference for walking to make trips, no knowledge of appropriate bicycle routes, most workday trips are too far or too short a distance to use an e-bike, not wanting to wear a helmet, no knowledge of how to ride an e-bike, and difficulty in transporting their usual load with an e-bike.

Required equipment for riding an e-bike was similar between respondents who were likely to use an e-bike and those who were unsure. Over 30% of respondents in these two groups reported that required equipment were: having a secure e-bike lock, a secure bicycle park at the destination, a helmet, a basket or pannier bag for carrying goods, lights, pumps, maps for safe cycling routes, lockers at trip origin and destination, and reflective vests. Respondents also reported that they would need route planning assistance, knowledge of the distance and range capability of e-bike, and training on how to change and operate an e-bike’s electrical system and on riding an e-bike. Half of respondents who were unsure that they would use an e-bike also wanted training in how to ride in traffic (versus <30% of respondents who were likely to use an e-bike).

Travel behaviour during a typical month for the majority of respondents (70%) included at least one trip during the workday from their primary office with the most common places to visit being other TMR locations and offices for meetings (by 81% of respondents who made at least one trip in a typical month), followed by various places for non-work purposes (by 69%), and non-TMR locations and offices for meetings (53%). Most TMR locations and offices that were visited were 1-5 km from a respondent’s primary TMR office and were visited less than once per week. When travelling to other TMR locations or offices, most respondents walked.

The most common non-TMR location that respondents visited was Fortitude Valley, followed by 1 William Street and George Street offices. Most non-TMR locations and offices were between 1-5 km from a respondent’s primary TMR office and were visited less than once per week. Most respondents walked to non-TMR locations and offices. Similarly, most destinations visited for non-work purposes were less than 5 km from a respondent’s primary
TMR office, were visited 1-4 times per week and the majority of respondents walked to these destinations.

Overall, respondents were receptive to using e-bikes for travel from their TMR offices. There were a number of barriers though that would need to be addressed, in order to make e-bike use attractive to employees.

3.2 Main findings of focus groups with TMR employees

Thirty-one TMR employees participated in a focus group for further discussion about current transport behaviours and modes, experiences and feelings with and about cycling, and e-bike experiences and knowledge.

Most focus group participants indicated an interest in switching some work-related trips to e-bike trips under specific conditions. For shorter distances (around the CBD) walking would continue to be the preferred mode; however, some participants agreed that e-bikes would be useful for slightly longer distances rather than taking public transport. Across all focus groups participants agreed that the decision to use an e-bike would need to consider trip distance, convenience of using the e-bike (e.g., getting access to the bike [speedy check out], secure parking at destinations, an easy drop off) and confidence in riding the e-bike.

An innovative idea arose from participants who were not current bicycle riders of allowing employees to use an e-bike to get familiar with how to ride an e-bike and/or for recreation during lunch, which could provide some health benefits and self-efficacy for riding the e-bike.

One focus group suggested that the CBD locations of TMR may not be the best location to introduce e-bikes. They mentioned that the distances from the two TMR locations and from these locations to other locations in the CBD were not far enough for most employees to consider riding an e-bike for travel for work trips. The suggestion was made that other TMR locations may be better, and they suggested Caloundra, where there are two TMR locations that are far enough away from each other for e-bikes to be efficient but not too far.
Focus group participants reported potential benefits of using an e-bike for them. These would include the ability to more easily carry work related supplies (e.g., laptops, office supplies) via a basket or panniers, arriving at destinations ‘fresh’ rather than sweaty, and ability to more easily ride up hills and longer distances than by a pedal bicycle.

Focus group participants also expressed concerns. These mirrored those found in the survey study and included concerns about where to park an e-bike and how safe the parking would be, lack of bicycle infrastructure in the CBD and more generally concern with cycling in the CBD and concern about riding in work attire. Other concerns for e-bike use included changes in weather or having a flat tyre or other issues in route. Participants queried whether in these circumstances they could leave the e-bike for a maintenance crew to pick up later. Another concern was what to do with e-bikes after the e-bike was used to travel to meetings held early in the morning or late in the day. Participants who typically go to early morning meetings straight from home or go directly home after late meetings queried whether they could take the e-bike home overnight in order to use it for such meetings.

Participants also noted specific equipment requirements, including the need for the e-bike to be fit for purpose and ‘designed for all weather’. The e-bike would require lights, mud guards, weatherproof panniers that could hold bulky work materials, a secure lock, and easily adjustable seat height and handlebars to cater to a variety of leg and torso lengths. Another critical concern was the need for a helmet scheme. All participants had concerns about e-bike breakdowns and the ongoing need for maintenance. All groups agreed that an induction for e-bike use or a skills training would benefit all e-bike subscribers. Some focus group participants mentioned that some employees would require help in safe route planning and that TMR may want to consider requiring e-bike users to use only certain routes.

Overall, as found for survey respondents, focus group participants were receptive to riding an e-bike for trips from their workplace during the workday although the opportunity to use e-bikes for work trips would be limited as many destinations are within easy walking distances. However, some participants reported that even for short trips in the CBD, they would like to have e-bikes available to help with carrying work materials and decreasing the chance of arriving sweaty in summer months, but only if e-bikes were easy to check in and out and parking was safe. For somewhat longer trips, the findings suggest that e-bikes would be useful. These findings are in line with the survey results, which showed that 48% of
respondents who were likely or unsure if they would ride an e-bike reported that they would consider using an e-bike to travel 1-10 km from their office. Also equipment, training, and workplace processes would need to be put in place to make the use of e-bikes simple, safe and efficient.

3.3 Main findings of individual interviews of TMR employees who currently ride an e-bike for commuting purposes

Three TMR employees who currently ride an e-bike for commuting purposes participated in individual interviews for further discussion about current transport behaviours and modes, adoption of the e-bike, and e-bike experiences.

The participants had similar responses; however, the two female participants, but not the male participant, said the original purchase was for health purposes and they have achieved health benefits (e.g. weight loss, strength) by riding an e-bike. They also said that they had achieved greater self-confidence with riding in traffic as they were regularly riding their e-bikes to and from work. The male participant reported that for personal reasons (e.g., having a young child), he no longer had the time to ride his pedal bicycle the distance required to get to work.

All three e-bike users rode their e-bikes from home directly to their workplace (10 - 30 km or 20 - 60 mins) and reported that they could get to work in the same amount of time it would require to take public transport. Each of them also reported the e-bike was more reliable than taking public transport and they would not be able to make the journey on a regular pedal bike due to the distance and hills.

When asked about the possibility of using an e-bike during the day, all three were not receptive. Two preferred to walk due, at least in part, to the logistical concerns of getting through the city on a bicycle during the day, and the third reported that she does not travel from her office building for work during the workday.
3.4 Summary

The data from survey respondents and focus group participants indicate that employees at TMR, including some who are not currently regularly riding pedal bicycles, are receptive to using e-bikes for travel from their TMR offices. There was some interest among survey respondents and focus group participants in using e-bikes for short trips (under 1 km), but the use of these bikes was more appealing for trips of a moderate length (1-10 km). Survey respondents noted that most of their trips during the day were to other offices, either TMR or non-TMR offices, or for non-work purposes. These trips were typically visited one or less times per week and were 1-5 km in distance away. Therefore, it is not likely that one employee would be checking-out an e-bike daily. Rather, an employee is likely to use one infrequently. There were a number of barriers that would need to be addressed, in order to make e-bike use attractive to employees. Key will be to make e-bike cycling safe, convenient, easy, and enjoyable.

Overall, these results suggest limited score for change, even among current e-bike users. A small pilot study could, however, allow employees to experience the positives of using e-bikes, particularly if the aim of the pilot were to encourage more employees to give them a go rather than allowing a few keen employees to dominate their use. Given that e-bikes are still novel to most people, allowing employees to trial them could subsequently influence travel behaviour in ways that they would not have contemplated.

We do not expect that travel mode will shift for long trips. For short trips, we expect travel mode will shift some, mostly among some employees who already have experience cycling in the city. For trips of moderate duration, 1-10 km, there is the most scope for change, again mostly among employees with city cycling experience. Given the many barriers, it appears that e-bikes will be most useful for travel in which the fewest barriers are present. These would include trips by experienced cyclists; trips where end-of-trip facilities are already available at destinations; work/lunch breaks, which would allow employees to increase their physical activity and/or trial e-bikes; and commuting trips, to allow employees to trial e-bike travel.
3.5 Recommendations

Following are key practical recommendations from this research for decision makers:

- Before a pilot project goes forward, collect data that would further inform the project. This could include gathering data about e-bike ownership, e-bike usage, and factors associated with these across Queensland. Data on the use of e-bike schemes at other workplaces should also be collected. These data should specifically include how those workplaces have addressed the barriers discussed by TMR employees for this project. Also suggested are interviews with e-bike vendors about suitable e-bikes and charging facilities for use at TMR.

- There is limited potential to trial e-bikes in the CBD workplaces; however, a regional location may be worth further investigation. Therefore, we recommend that TMR conduct a similar study with employees at other locations, but first evaluate a suitable location. The location should be close enough to other TMR locations for easy e-bike access and should be in areas with suitable cycling infrastructure.

- Consider a pilot project in the regional location identified with just a few bikes but have the bikes well-outfitted (e.g., safety gear, carrying capacity and monitoring capabilities). Combine information online with classes to prepare employees to use the e-bikes. The pilot would be evaluated on interest and need for additional e-bikes.

- Engage cycling champions at the identified regional TMR sites to promote e-bike use during the workday.

- Be flexible in how the e-bikes are used by employees (e.g., allow them to use the e-bikes for both work and non-work purposes and to be stored at employees’ residences overnight).

- Evaluate the use of the e-bikes to measure how often they are being used, by which employees, for what purpose and for what length of trip.

- Evaluate the experiences that employees have with using the e-bikes, including the processes of checking them in and out, the ride itself including perceptions of safety, and the experiences with storing them at the destinations they visit.