

## **Auckland Council: Electric bicycle CBD trial**

This business case has been written to support the purchase of electric bicycles (e-bikes) as a trial for business travel by staff at Auckland Council's CBD offices.

The bicycles will be available for all staff to use via an outlook booking system. Staff, the Sustainability Champions, and particular teams which have expressed an interest in changing the way they travel will be consulted for experiences with the electric bicycles to determine their suitability for an expanded e-bike fleet.

This business case has been informed by staff consultation, the experiences of other organisations, and research into the utility and benefits of cycling and e-bikes for workplace travel.

### **Context**

Auckland Council's Travel Plan was launched in late 2015 to staff via a series of Journey Planning Expos at Council's largest corporate accommodation sites. Prior to launch the actions of the plan were reviewed by the PSA and staff feedback was sought and factored into the development of actions. The plan was endorsed by the Executive Leadership Team with the following aims:

- raise awareness of travel choices for employees commuting to and from work
- reduce single occupancy vehicle travel to council sites
- improve sustainability and reduce the carbon footprint of the organisation
- ensure more efficient business travel
- reflect ratepayers' and politicians' expectations of the organisation

A budget of \$deleted within the Property Department (now part of the Community Facilities department) was identified for the purchase of electric bicycles and was included in the actions of the travel plan. However, this funding was lost when the funds for the 2014/15 financial year were redirected into other initiatives within the Property Department.

\$deleted of unallocated funds with the travel plan budget have been identified for electric bikes and this document has been written to support the purchasing decision.

### **New, short procurement plan**

We propose that 7 – 8 bicycles are purchased for a CBD trial. The bicycles would be distributed as follows.

- Three in 135 Albert Street
- Three in 35 Graham Street.
- One to two in Bledisloe House.

We propose purchasing only one to two bikes for Bledisloe House as there is already one e-bike available for staff use.

These bicycles would be made available for all staff within each building for business related travel. Certain teams who have expressed interest in trialling e-bikes for CBD travel would also be encouraged to make use of the bicycles. These include individuals from Waste Solutions, Environmental Health, City Centre Design team, and Auckland Plan, Strategy and Research, amongst others.

Teams and individuals would be consulted for their experiences to quantify benefits and to resolve issues. This will allow us to build business cases for future expansion in the CBD and at our regional offices, and to determine whether e-bikes should complement or replace pedal bicycles.

### **Demand and support**

At the time of the 2013 survey of staff travel patterns 4% of staff thought Council should provide more electric bikes for workplace travel. Since the survey was conducted we have surveyed both CBD fleet users and invited all staff to comment on the (at the time) proposed actions of the travel plan.

To determine the potential of the proposed travel plan actions staff were asked to pick the actions they thought would be most effective. 9.56% of respondents to this question chose the creation of an e-bike fleet as one of the most effective actions for the travel plan to change travel behaviour.

In mid-2015 fleet users of Albert Street and Bledisloe House were questioned about their use and knowledge of our first electric vehicles. The locational breakdown of respondents was: 135 Albert Street (56%) and Bledisloe House (32%) and other (12%). In the same survey staff were asked about their likelihood of using an electric bicycle if they were made available through our fleet.

**Q.4A.** *How likely or unlikely are you to consider using an electric bicycle for short trips (around CBD and nearby suburbs) if they were included in the council fleet along with safety gear?*

Answer	Count	%
1 – not likely at all	55	35
2	17	11
3	20	13
4	23	15
5 – very likely	38	25
I don't know	2	1
<b>Total</b>	155	100

Of the 155 respondents 39% responded as likely to very likely to use an electric bicycle, indicating a significant level of support for electric bicycles amongst CBD Fleet users.

The purchasing of electric bicycles has the support of the Waitemata Local Board as an initiative to reduce the carbon footprint of the organisation and teams based in their home building of 35 Graham Street. Electric bicycles will likely be well suited to the consenting and compliance teams based in Graham Street as a low-cost alternative to electric vehicles, which could potentially provide greater access and mobility around the CBD and surrounding suburbs.

### **Alignment with the Auckland Council Travel Plan**

Bicycles and e-bicycles directly contribute to two aims of the travel plan.

- ensure more efficient business travel

People often tend to overestimate travel times by bicycle, however, when travel time is measured from start to finish, it can often be quicker on a bicycle than by motor vehicle (including distances up to 5km where roads are congested)<sup>1</sup>. When surveyed fifty-six percent of Copenhagen bike riders said that cycling is the fastest mode of transport for their purposes<sup>2</sup>. More people cycling potentially improves traffic flow so travel times are shorter, more predictable and reliable, and the transport network performs better. Bicycles are considered to impose 95 percent less impact on travel flow than an average car<sup>3</sup>.

Bicycles are ideal for urban journeys as they are smaller, can be lifted and parked almost anywhere with ease, potentially providing greater mobility than a car within the CBD and surrounding suburbs. The CBD and surrounding suburbs have recently seen significant investment in cycleways, such as the Grafton Gully, Nelson Street, and Beach Road cycle-ways, as well as shared paths and streets, and the recent installation of bus-lanes on Queen Street. These routes and the expanding network will allow shorter and safer journeys by bicycle.

- improve sustainability and reduce the carbon footprint of the organisation

A small reduction in short vehicle trips potentially generates significant reductions in carbon emissions. Shifting 5 percent of car trips to bicycle could reduce emission impacts by up to 8 percent<sup>4</sup>. Similarly, reducing trips by car can reduce the amount of other air pollutants.

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<sup>1</sup> From Australian Bicycle Council, National Cycling Strategy 2011-2016: Gearing up for active and sustainable communities, Austroads, p.8.

<sup>2</sup> Copenhagen City of Cyclists, Bicycle Account 2012, [www.kk.dk/cityofcyclists](http://www.kk.dk/cityofcyclists)

<sup>3</sup> New Zealand Transport Agency 2016, Benefits of investing in cycling in New Zealand Communities, p. 8.

<sup>4</sup> Australian Bicycle Council, National Cycling Strategy 2011-2016: Gearing up for active and sustainable communities, Austroads, p.9.

Cycling also provides a social benefit to the organisation. Regular aerobic exercise is known to cut the risk of heart disease, type-two diabetes, all types of cancer, high blood pressure and obesity<sup>5</sup>, and evidence shows that New Zealand communities with higher numbers of people cycling and walking, especially for transport purposes, have better health profiles than those in less active neighbourhoods.<sup>6</sup>

Electric bicycles have a lower barrier to entry for staff. They can cover greater distances and steeper gradients with little effort, making them ideal for business related travel, whilst introducing exercise into the workspace.

The purchase of e-bikes does not directly address the following aims. However, cycling is a low cost travel option, supporting sensible purchasing by the organisation, and by introducing staff to cycling through business travel we may incidentally raise awareness of their travel choices for commuting.

- reduce single occupancy vehicle travel to council sites
- reflect ratepayers' and politicians' expectations of the organisation
- raise awareness of travel choices for employees commuting to and from work

## **Safety**

Auckland Council have a set of cycling guidelines which all staff need to acknowledge via signed declaration and adhere to whilst riding a bicycle for business travel. These are available via the [travel plan walking and cycling page](#). Council provides staff with the required safety gear including a quality helmet for each bicycle and high-visibility vests as an optional extra to increase the visibility of our cycling staff.

Cycling advice and training is available and staff may request information at any time from [Travelplan@aucklandcouncil.govt.nz](mailto:Travelplan@aucklandcouncil.govt.nz)

## **Logistics**

Pedal bicycles are collected for maintenance by the Contracts & Supplier Performance team admin (Community Facilities) and are serviced at Torpedo 7, Great North Road. Servicing is annual or as required. Servicing is paid for through funds allocated by the Council travel plan. The purchase of e-bicycles will include a free six-month service contract which can be extended through the distributor. We propose a three month servicing cycle to follow at a cost of roughly \$1,000 per annum to Council. This will also be met by the travel plan budget.

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<sup>5</sup> World Health Organisation 2002 A Physically Active Life through Everyday Transport, Copenhagen, Denmark.

<sup>6</sup> Genter, J.A., Donovan, S. and Petrenas, B. 2008 Valuing the health benefits of active transport modes, NZTA Research Report 35

Bicycles are booked as pieces of equipment through an Outlook calendar. After booking a bike staff will receive an automatic reply with the location of the bicycle and the code to the bicycle lock.

It is proposed that Council establish a travel plan champion network or support sustainability champions to look after the bicycles and to report any issues to the travel plan team at each of our offices. These staff will be rewarded with morning teas and lunches through the bicycle servicing budget.

### **Proposed purchase**

Quotes were requested from five manufacturers covering eight models of bicycle. Prices ranged from \$1495 – \$2695.65 (net). The bicycle selected was the Ezee Sprint 7L.

<b>Manufacturer</b>	<b>Model</b>	<b>Spec</b>	<b>Weight</b>	<b>Supplier</b>	<b>Price per bike (net)</b>	<b>Total cost for seven bicycles</b>
Ezee	Sprint 7L	11ah (300W)	20kg + battery	Electric Bike Hub	\$2695.65	\$18,869.55

- Price includes setup and delivery and training of Council staff.
- Six months of free onsite maintenance/service with option to renew.
- Internal rear gearing.
- Hydraulic front disc brakes.

We were able to utilise the work of other Councils and agencies to make our purchasing decision. The Ezee Sprint 7L has been selected by five New Zealand Councils (New Plymouth, Palmerston North, Dunedin, Nelson and Hamilton) and the NZTA in Auckland and Wellington.

Palmerston North selected Ezee bikes for their safety, strength and for technical features such as the improved technology lithium battery and ease of use for cyclists of varying abilities.

### **Review**

Kilometres and bookings will be monitored by the travel plan coordinator and contract & supplier performance admin. Each bike will be fitted with an odometer and bookings will be monitored from Outlook to determine how often they are being utilised and how far they are travelling. Staff will be invited to share their experiences with the pedal and electric bicycles. The review will cover;

- Distances travelled.
- Number of bookings.
- User experience – travel time to destination.

- User experience - ease of mobility within the CBD and surrounding suburbs.
- User experience - ease of parking in the CBD and surrounding suburbs.
- If bicycles are replacing motor-vehicle trips.

This information will be utilised to determine the success of the bicycles and whether the fleet should be expanded.