

**Nextbike - Public bikes in New Zealand.
Wellington update and discussion paper.**



Prepared by Julian Hulls
Company Nextbike NZ Ltd
Contact +64 21 154 8371
Email julian@nextbike.co.nz
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Executive summary

Over the last 3 years Nextbike has proven that there is a demand for public bikes in Auckland, and New Zealand. The Auckland public bikes have been regularly used by both locals and visitors, with thousands of registered riders and the majority of all rides ridden for free, as one way trips. The findings from the last three years are supported by a large data base of all the rentals made over the period. This demonstrates that Nextbikes provide another mode of public transport and very effectively complements existing buses and train services. Indeed the availability of Nextbikes on a 24/7 basis and freedom to take any route, provide an additional public transport facility to bus and train services.. There are further benefits accruing from a public bike system, including that it is a healthy option, a contribution is made to congestion on public transport, and increasing the number of bike riders increases the profile and safety of bike users in general.

Unlike most countries with public bike schemes, New Zealand has a compulsory bicycle helmet law. Both Melbourne and Brisbane have tried to implement public bike scheme and provide subsidised helmets through selected local convenience stores, the bikes have been used very little. Helmets must be provided with each bike at the time of rental. Nextbike is the only company that can do this.

Whilst Nextbikes is able to offer opportunities for advertising or naming rights on its bikes, experience has shown it is not possible to operate a public bike rental system on a standalone commercial basis. Hence, as with buses and trains some public funding is required. This will require that any public body such as a city council, seek tenders for the provision of a public bike scheme. In Auckland, Auckland Transport wants to secure the benefits of a public bike system and has recently issued a request for Expressions of Interest for the provision of a public bike system. This is currently in progress.

In Wellington, Nextbike would recommend at least 250 bikes across a network of 40 rental stations through the central city. About 2/3rd of the costs to setup and run the system for 4 years would come from local government and the New Zealand Transport Agency. 1/6th of the costs come from selling the commercial naming rights and 1/6th bicycle rental charges. The Nextbike system can deliver a return of \$2.35 for every dollar invested by local government which is a high figure for public sector investments. Provision of a public bike rental system, is also a strong statement about a city's commitment to sustainability and innovation.

1 Background

Over the last 3 years Nextbike has proven that there is a demand for public bikes in Auckland, and New Zealand, for use by both residents and visitors, with 2500 registered riders and 55% of all rides ridden for free, as one way trips. The Nextbikes provide another mode of public transport. It is unique though because riders do not need to wait or be restricted to fixed routes, so they neatly complement existing public transport options. Nextbikes business model has relied on advertising partners to provide revenue to support operations but this has not provided an economically sustainable operation and Nextbike suspended operations in October 2010.

The bikes are easy to rent with a simple phone call to an automated hotline, that reads back the current lock code to the customer. The rental system also manages payment by credit card and regularly updates to show how many bikes are available at nearby locations.

Public bikes complement existing public transport that run on schedules and fixed routes.

The bike design has shown itself to be very reliable, strong and of little interest to thief's. In 3 years only 9 bikes have gone missing. The bike design has two spaces which advertisers can buy.

A lot of thought was given to helmets and how best to manage these. The Nextbike technology was chosen because it enabled a helmet to be secured along with the bike. The helmets have proven easy to clean and care for. Those riders that provide their own helmet can carry the rental helmet in the basket to their destination. It has become obvious that helmets must be provided with the bike, just like the seat and handlebars.

Over the last 3 years Nextbike has had an impressive list of advertising clients that want to be associated with such a positive project, and are prepared to pay for the privilege. These have included Hubbards Cereals, Resene Paints, Open Poly Technic, Contact Energy, Fullers Ferries and New World Supermarkets.

The first 3 years have proven so popular amongst locals and beneficial to the city image that Auckland Transport has issued a Request for Expression of Interest for the provision of a Public Bike Service. This is the first step towards Auckland purchasing and securing a large scale public bike service, in the same way that the 200 other cities around the world have done.

This document identifies the major issues that both Nextbike and Auckland Council have identified to date. It goes onto discuss the best solution to produce a successful public bike scheme in New Zealand.

2 Issue appraisal

This is an explanation of the major issues that have been identified by both Nextbike and Auckland Council and that would need to be addressed to make a public bike network successful in a New Zealand city.

If Nextbike had tried to operate its public bike service funded solely by advertising, in Wellington, it is very likely that similar concerns would have arisen.

2.1 Nextbike concerns



2.1.1 No incentive to focus on building rider and trip numbers

To date the business has received 90% of its revenue from advertising customers and used this to fund the bike rental operation. The bike rental costs have been structured so that they model successful, European schemes. This means that each riding customer gets one ride up to 30 mins a day for free, after that they are charged \$4 per hour up to a maximum of \$16 for 24 hours. The majority of rides were free and ridden one-way. To encourage riding would be bad for business. It is for this reason that public bike services are funded by local government.

The ideal structure would enable the bike system operator to concentrate on promoting bike use and increasing system utilization rather than pursuing advertising revenue. This will lead to a new public transport option providing congestion relief for current public transport modes, multi modal transport trips, a mode shift towards walking and cycling and a more sustainable city environment.

Majority of rides are free, one-way rides. Auckland Transport wants to secure the benefits of a public bike system and has issued an Expressions of Interest

Normally rides are free on public bikes so the systems need to funded by local government to get the benefits of increased bicycle transport.

2.1.2 4 independent regulatory documents manage the Auckland Council and Nextbike relationship.

At present Nextbike is operating in Auckland under a selection of governing instruments:

- Resource Consent
- License to Occupy
- Street Trading License
- Signage Dispensation

These instruments cost considerable amounts of time and money to gain, are not able to be independently updated and the terms and conditions within each were created with little or no consultation with Nextbike. Nextbike agreed to the terms set out in the initial Resource Consent, however the business has evolved and the operating norms are better understood by both parties.

The primary document for managing the relationship has become the Street Trading License 2009. The initial pricing and terms and conditions for this were set by Auckland City Environments with no negotiation, and based on coffee carts. Nextbike had to protest these in order to create a more realistic operating regime.

This has meant that in order to meet the:

- public demand for bikes
- usage patterns
- low carbon operating practices
- budget constraints

Nextbike has found itself in breach of these governing documents. Auckland City Environments has shown patience in this regard which has been appreciated. It has enabled Nextbike to gain a detailed understanding of how public bikes can be operated successfully and at minimal cost to the Council.

Ideally there would be a Tender process to award the contract and one regulatory document, agreed and issued at the time the Tender is awarded.

2.1.3 Poorly spread existing rack locations.

According to Auckland Regional Transport Authority (ARTA) there are fewer than 300 bike racks in the region, most of which are concentrated in the central business district. Best practice for public bike rental will typically see racks located every 300 meters across high density living/workplaces and town/city centres, and adjacent to public transport hubs, and tourist attractions. The spread of racks in Auckland needs to be increased to provide a network of pickup and drop off locations within the central city and suburbs.

A successful public bike network would have its own dedicated locations evenly and logically spread across an operational area.

2.1.4 Insufficient racks per location

Typically where existing racks are located they are in groups of 2 and occasionally 3 or 4. In addition the governing documents stipulate that Nextbike can only occupy 50% of the racks at a given location. To act as transport hubs, the public need to be sure that there will be bikes to pickup and/or space to drop bikes at their start point or destination.

Rack locations must be well spread across a variety of sites and have sufficient places to meet demand.



Figure 1 Two Nextbikes and two racks on Queen street, Auckland

In theory each Council bike rack can hold 2 bikes – 1 on each side. Nextbike has observed that when bikes are spaced 1 per rack:

- members of public are better able to secure their own bikes to the racks
- customers are more likely to return and secure the bike properly
- bikes and helmets get damaged less
- it is easier for customers to remove the bikes from the rack
- it displays the advertising more clearly, which helps to defend its value, and enables Nextbike to achieve breakeven with a smaller fleet

Experience shows that each location ideally needs an average of 6 bikes with the ability to hold up to 12 bikes, and that the rack should be for the exclusive use of the public bikes.

2.1.5 A to B rides result in the starting locations getting depleted and the end locations increasing in bike numbers.

From time to time Nextbike needs to be able to occupy 100% of the racks at a given location. This enables temporary loading of bikes at locations that are typical start locations and build up of bikes at more popular return locations. Nextbike moves bikes to the high parts of town using a removals truck.

Experience shows that typically each location needs an average of 6 bikes with the ability to hold up to 12 bikes, and that the rack should be for the exclusive use of the public bikes.

2.1.6 250 Nextbike fleet for extensive public transport network

Nextbike has a fleet of 170 bikes in Auckland. After 3 operating seasons Nextbike would initially recommend a fleet of at least 250 bikes to provide a reasonable network of bikes and locations across a typical New Zealand city centre. Given the size of New Zealand cities it is unlikely that there would be need for a system with more than 1000 bikes.

2.2 Auckland council concerns

These concerns are likely to have arisen in Wellington if Nextbike had tried to operate a public bike scheme funded solely by advertising.



2.2.1 Government subsidy of a privately run business

For the last 3 years Nextbike has funded itself by selling advertising, and the only concession from the city council has been the use of bike racks that were installed for the general public. In the 201 cities globally that have public bike rental systems, the normal model for ownership and operation is that a private company owns and operates the public bike rental system, and in all the cases it has been possible to investigate, public support is provided for either setup, operations, or most often both of these. This is similar to the funding mechanism for other modes of public transport.

Ideally the local government would decide there was a need for a public bike network and issue a Tender for the provision of this service, in the same way that other public transport is bought.

Public bikes are another form of public transport and need to be tendered for and funded in similar ways

2.2.2 Bike must have helmets

With the Nextbike system, locked helmets are provided with each bike and are released together with the bike. So whenever a customer rents a bike, a helmet is available. Nextbike has used the Bell Yukon helmet. This particular model is designed to:

- Australian and New Zealand safety standards
- Designed with bicycle rental in mind
- Easily fitted to a wide range of head sizes, 54cm-61cm
- Has a hard plastic external shell to withstand small knocks and scrapes
- 17 ventilation holes to keep the head cool
- Easy to clean with an antibacterial spray after each use

Nextbike has customised the helmet with an additional loop of plastic coated, 4mm diameter steel wire. This loop is used to secure the helmet, to the bike and rack using the lock that secures the bike. This customisation does not affect the way the helmet fits or its ability to protect the customers head.



Figure 2 Helmet security loop

In Australia, which has similar helmet laws, systems were launched in Melbourne and Brisbane that required users to bring their own helmet or purchase a subsidised one from a number of agreed vendors. These approaches have actively discouraged riders from renting the bike. It was revealed in January 2011 that the state Government of Victoria is having to consider spending an extra \$2m AUD to provide more subsidised helmets over the next 2 years in Melbourne for the fleet of 500 bikes. This means that each bike needs the equivalent of \$2500 NZD per bike per year to provide helmets.

The Nextbike helmet solution for Auckland costs just \$28 per bike per year.

In countries with helmet laws, they must be provided with each bike at the time of rental. Nextbike is the only company that can do this.

2.2.3 Urban designers concerned about footpath clutter from bicycles

There have been some expressions of concern from the Urban Design Teams that a big increase in bike numbers, whether through Nextbike or private bikes locked to racks or street furniture, could look untidy and obstruct the footpath.

Nextbikes look very tidy when stored on well designed racks, and help to promote cycling as a transport option. The racks that the Council currently use – Sheffield staples or Lollipops work well for short term parking, but can become untidy when subjected to certain weather conditions or to the behaviour of late night revellers. These racks also significantly increase the damage to the bikes.



Figure 3 Close-up of Nextbike specific rack and sign

Nextbike has its own design of bike rack which holds the bikes firmly upright and hence tidily. It is designed expressly for the good management of the bikes, and to present biking as an attractive and sustainable transport option. The design also reduces theft, bike damage, cost of installation and through being dedicated to Nextbike, reduces confusion with public racks. These racks could be placed in car parking spaces. 12 Nextbike racks require a space 8.4m long by 1.8m wide, approximately 3 car parks per rental station.

2.2.4 Council concerned about the proliferation of advertising

The primary concern comes from the visual confusion of every bike with a different advert. Historically Nextbikes have carried advertising as the means of funding the public bike system; this approach ensures the Council gets the maximum return with the minimum investment. It is noted that advertising often provides a significant part of the funding of most public bike schemes globally, although this is not always directly on the bikes.

Nextbike would suggest that a naming rights partner be found for the bikes as a way of reducing the Opex. It maybe that the Council uses the space to promote its own brand or events.

3 Best practice for public bike provision

Central Wellington needs a public bike network with at least 40 rental stations and 250 bikes. Any less and there is insufficient supply of bikes and destinations. The pickup and drop off locations need to be close to other transport modes to allow multi modal transport journeys and close to large centers of employment, study and residence.

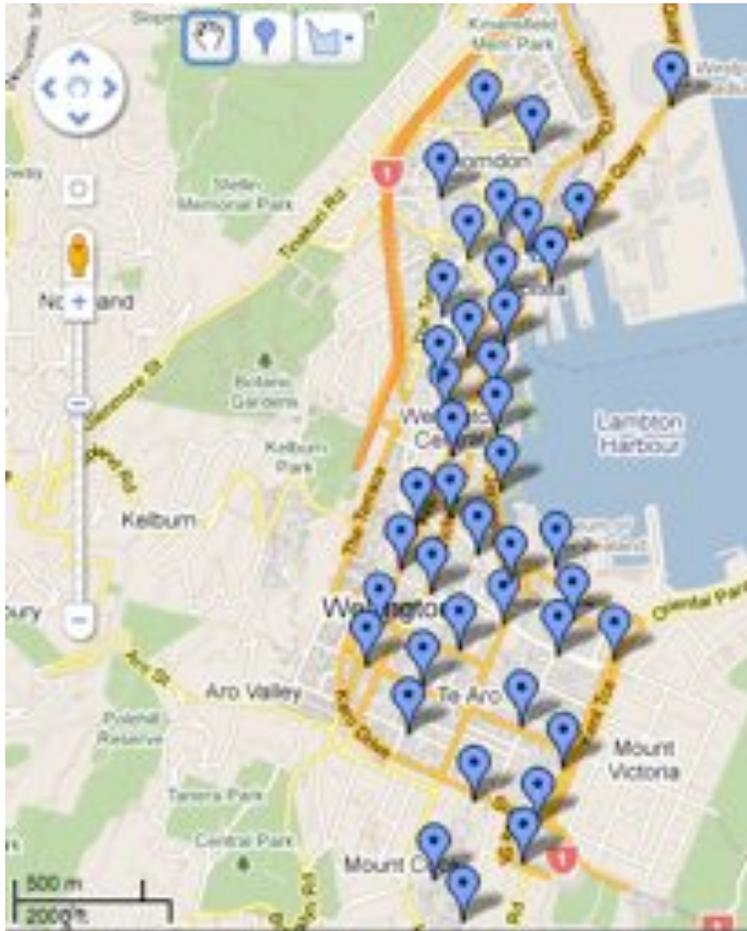


Figure 4 Indicative spread of rental stations*

*Markers are indicative and are only meant as an indication of spread and density

The primary role of the company that provides the service is to promote the bikes as a means of transport and to ensure as many Wellingtonians use the service as possible. This company would also manage the maintenance and supply levels of the bikes at the rental stations.

This additional public transport network complements very well the investment made in traditional bus and train networks with bike rental stations being located within those networks. It also adds a further dimension, because it offers users freedom from fixed schedules and fixed routes.

Public bike networks can be built and operated very cost effectively, when compared to other modes of public transport. It is common for the revenue to fund the public bike networks to come from a number of sources:

- Local government. This could be from the City Council, Regional Council, New Zealand Transport Agency or District Health. Or a combination of all of these. Typically 2/3rd of the costs comes from this source.
- Naming rights. The goodwill and feel good associated with public bikes lends itself to selling the naming rights to a corporate partner. Typically 1/6th of the costs comes from this source.
- Rentals. It is normal for riders to get 30mins of free use a day, so the revenue from this source is lower than other modes of public transport. Typically 1/6th of the costs comes from this source.

Over the last 3 years Nextbike has kept the New Zealand Transport Agency informed to ensure public bikes are recognised and accepted as public transport. Michelle McCormick, Public Transport Planning Manager, NZTA has indicated that they would welcome an approach from a New Zealand city on how to fund public bikes.

3.1 Indicative costs

Nextbike NZ can provide and operate a 250 bike network across 40 rental stations, for use 24 hours a day 365 days of the year, for the life (4 years) of the bikes, for the following costs:

Capex	
Bikes, helmets, signs and racks	\$590,000
Project managing rollout and marketing	\$265,000
Total capex	\$855,000
Opex	
Local government contribution, per year	\$600,000
Naming rights, per year	\$150,000
Rentals, per year	\$169,000
Total Opex	\$919,000
Total cost to local government for 4 years	\$3,255,000

It would be usual for these sorts of services to be put out for Tender. Nextbike NZ would be interested in Tendering for these services.

3.2 Rate of use of public bikes

It is not appropriate to rely solely on the Nextbike usage rates in Auckland over the last 3 years, for the reasons set out in Section 2.1.1, to estimate how often bikes would be used when they are publicly funded. Even so many days had 45% of the 100 bikes being used and 55% of all trips being ridden one way and for free.

The most popular systems in the world, Dublin and Barcelona regularly have every bike being used 5 times a day with over 90% of trips being one way free trips. In Barcelona this equates to 25,000 rides a day.

In New Zealand the low level of current use of private bicycles for transport, helmet laws, funding and regulatory frameworks that favour cars mean that it would be realistic for a more conservative usage rate with a publicly funded bike scheme. Nextbike would suggest that in the first 4 years the usage rate would be on average 0.5 trips per bike per day, growing to an average of at least 1 trip per bike per day.

3.3 Return on investment for public bikes

Using NZTA calculators, data from the way that Nextbikes were used in Auckland and overseas, see Section 3.2, it can be shown that there is a \$2.35 return for every dollar invested in a public bike scheme like that set out in Section 3.1. These benefits come from:

- Travel time savings
- Increased safety of cycling from increased awareness of bikes on the road
- Health benefits of active transport

In New Zealand with a local government backed system each bike is used once every 2 days, and typically travels 1.9km per trip. With good promotion and urban design policies that favour active transport it is possible to increase the bike usage further.

This is an impressive rate of return for any transport project, but the monetary return to the city is greater still as it sends a very public message about how innovative and forward thinking the City Council is, as well as an obvious statement about its wish to promote new transport options in a time of ever increasing costs for petrol.

3.3.1 Transport network benefits

Public bikes provide an entirely new mode of public transport that frees customers from fixed routes and timetables. With the Nextbike system, rental stations can be easily added to new or existing train stations and key bus stops to allow easy multi modal transport trips.

Public bikes help to make other modes of public transport even more attractive.

The Nextbike system can deliver a very impressive return and shows just how serious the city is about sustainability and innovation

It is unlikely that public bikes will be used by customers to get fit, but we have regularly heard from customers who have used Nextbikes a number of times and then decided to purchase their own bike for commuting and exercise.

The Nextbikes will help to keep healthy active transport modes top of mind in the wider Wellington population.

3.3.4 Urban design benefits

Bicycles for transport provide a non threatening, no noise or pollution mode of transport that makes it easy for users to recognise friends, colleagues and other human beings. This adds to the sense of community and helps to make the streets a more attractive place to live. This is increasingly confirmed by the accelerating uptake of public bike rental systems in 200 major cities around the world.

A public bike service will complement the urban design work being implemented to encourage more walking and better transport choices around Wellington.

3.3.5 City image

Public bicycles cause the lowest amount of pollution of any public transport mode, help to reduce congestion and increase the attractiveness of city centres as places to live and spend time. Public rental bikes are a very strong and high profile statement of a city's commitment to sustainable development. This is very fitting for the "Positively Wellington" brand.



Figure 6 2010 Sustainable Business Network Award for Nextbike

In 2010 Nextbike won the Sustainable Business Network Award, Northern Region, for Small and Emerging Business. This was in recognition of the work done to promote cycling and public bikes in major cities.

Public bikes will help to position Wellington as a city that cares about its environment and vibrancy and one that is working hard to become the most liveable city in the world.

4 Discussion and opportunities

Over the last few months Nextbike has spoken with a selection of local politicians, city officers and managers and cycle advocates in the Wellington Region.

- Wellington City Council
 - Cr Andy Foster
 - Paul Barker
 - Stavros Michaels
- Wellington Regional Council
 - Cr Paul Bruce
 - Cr Peter Glensor
 - Jill Beck
 - Simon Kennett
- Cycle Action Network
 - Patrick Morgan

There is a definite sense that a public bike scheme is desired and would be successful in Wellington. During the course of these discussions a number of issues specific to Wellington were raised, these included:

4.1 Significant cost to implement and run a public bike scheme.

Nextbike can run and install a 250 bike network, available 24/7 for 4 years for \$3.2 million of public money. This is excellent value for an entirely new public transport network that complements the weakness of fixed routes and limited schedules for buses and trains. This cost could be shared between a number of local and central Government areas, in particular:

- Wellington City Council
- Greater Wellington Regional Council
- New Zealand Transport Agency
- Health Sponsorship Council

4.2 Political leadership required

If funding is to come from a number of sources it will be vital to have a political leader to bring the parties together and ensure timely delivery.

4.3 Bikes to be denied access to new trains at peak times

The new trains have insufficient space for bikes, and yet bike access to train stations increases the catchment area by a factor of 9. Having public bikes available throughout the central business district will allow commuters to pickup a bike and continue their trip by bike.

In Europe it is common for one political leader to support a public bike launch and help draw the parties together.

4.4 Wellington Long Term Plan available for public consultation in September (TBC)

It will be important to get public bikes identified in the Wellington City and Greater Wellington long term plans to ensure the project happens in the next three years. This would likely be a feasibility study and a separate project to fund a tender.

4.5 Public bikes will require a higher rate of subsidy than other public transport

Nextbike would require approx 2/3^d subsidy, were buses typically require 1/2 subsidy. In contrast however public bikes offer unparalleled flexibility of route and schedule for the user, and typically 85% of all rides are free. A significant part of the cost in the first 4 years is to market the bikes to locals and the subsidy level is likely to come down once a critical mass of users is established. Economies of scale can also bring the subsidy level towards 1/2.

4.6 Wellington too windy for bikes with advertising panel

The action of the legs pedalling in front of the advertising panel ensures any cross winds are broken up. On days when Wellington is particularly windy it is likely that users who feel unsafe will return a bike at the nearest stand or will choose to walk

4.7 Wellington doesn't have enough space on the footpath for rental stations

In the instance where there is no space for a rental stations on the footpath it would be appropriate to use a small number of car parking spaces.

4.8 Public bike scheme would need to be tendered

It would be usual for these sorts of services to be put out for Tender. Nextbike NZ would be interested in Tendering for these services.

Prior to tendering it maybe appropriate to do feasibility study to independently understand the key requirements of a successful public bike scheme in Wellington.