

## Technical note

# Cycle Parking and Customer Growth Initiatives

in support of the Cycling and Micromobility Programme Business Case

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15 February 2022 - Version 0.1



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DOCUMENT No.		DATED	7 July 2021 2022
PREPARED BY		FILE REF	30.0
FILE NAME/LOC	<a href="https://aucklandtransport.sharepoint.com/sites/campbc2021/shared%20documents/cam%20abc-working%20drafts/2%20appendices/appendix%20g-%20cycle%20parking%20and%20customer%20growth%20initiatives%20technical%20note.docx">https://aucklandtransport.sharepoint.com/sites/campbc2021/shared documents/cam pbc - working drafts/2 appendices/appendix g - cycle parking and customer growth initiatives technical note.docx</a>		

# 1 Introduction

This technical note summarises the development of the alternatives progressed as cycle parking and customer growth initiatives in support of the CAM-PBC investment objectives and considers the potential funding range for these initiatives relative to investment in safe cycling facilities.

The CAM-PBC investment objectives are as follows:

- Contribute to reduction of deaths and serious injuries involving people using bikes and micromobility by 40% by 2031 (30%)
- Increase cycling and micromobility mode share by distance from 0.4% to 1.9%, contributing to the regional mode share aspiration of 7% by 2030 (30%)
- Increase the proportion of the population that can access key social opportunities within 15 minutes by safe cycling or micromobility to 40% by 2031 (30%)
- Increase the rate of delivery of safe cycling facilities on the Cycle and Micromobility Strategic Network by 15km per year by 2031 (10%)

Evidence consistently suggests that to maximise the benefits of the new infrastructure, an approach should be taken whereby a package of measures are implemented comprising a mix of “hard” and “soft” interventions that are complementary<sup>1</sup>. While the provision of safe and connected infrastructure alone can and does influence peoples travel choices, such interventions appear to be more effective when they form part of a comprehensive package of measures. By exploiting the synergies between different interventions, their impacts can be magnified<sup>2</sup>.

<sup>1</sup> Brook Lyndhurst, “Investing in Cycling & Walking: Rapid Evidence Assessment – A report for the Department for Transport” October 2016:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/606513/cycling-walking-rapid-evidence-assessment.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/606513/cycling-walking-rapid-evidence-assessment.pdf)

<sup>2</sup> Pucher, J. and Buehler, R. (2008) Making Cycling Irresistible: Lessons from The Netherlands, Denmark and Germany. Transport Reviews 28(4): 495-528.

Pucher, J., Dill, J. et al. Infrastructure, programs and policies to increase bicycling. Preventive Medicine, 50 (2010), pp. 5106-5125

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## 2 Development of cycle parking and customer growth initiatives

This technical note discusses the supporting measures that are categorised as cycle parking and customer growth initiatives.

Cycle parking and customer growth initiatives, such as marketing, events, activations, cycle skills training and bike hubs, were developed in parallel with network development through discussions with AT subject matter experts, research into local and international initiatives, and discussions with the project working group, project control group, and reference groups.

Customer growth initiatives apply a behavioural science approach to enhancing the customer experience, removing barriers to uptake and driving mode shift. Customer growth initiatives play a central role in meeting Auckland's mode change goals. In order to optimise outcomes, customer growth initiatives must be delivered alongside the development of a safe cycling network.

A behaviour change approach can help build community support for cycling projects, manage 'bikelash' and increase the number of people who engage in cycling related initiatives. The following phases sets out an example approach for prioritising and applying initiatives at certain stages across the lifetime of an infrastructure project.

Table 2-1 Applying customer growth initiatives across project stages – example only




Pre-Prime	Prime	Activate	Embed Change
Feasibility / Investigation	Consultation / Detailed Design	Construction	Completed Project
3 years to 1 year before construction	1 year before construction	1 year before opening	Opening to 3 years after
Build the foundation to enable future change: - Understand the community - Identify local champions and networks - Establish a bike hub - Connect with schools	Spark community interest: - Foster support for cycling - Build networks and support champions - Increase visibility of cycling - Drive engagement in consultation	Prepare people to ride: - Increase awareness of project - Build excitement for the new infrastructure - Prepare people to be able to ride	Drive usage: - Celebrate the opening - Remove barriers to cycling uptake - Enable a fantastic end-to-end user experience - Encourage on-going use

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### 3 Options assessment

The following presents a longlist of complementary initiatives that could support the investment objectives of the CAM-PBC. These have been brought forward from the Alternatives Assessment.

These are tried and tested methods that have proven to be successful locally and worldwide in encouraging cycling (and active travel more generally) and promoting cycle safety. Where appropriate, the expected benefits, disbenefits and uncertainties around each of the complementary initiatives are explored and an estimate of the potential impact against the CAM-PBC investment objectives is included. There is documented evidence demonstrating the impact of these measures and examples are provided in Appendix G-1. Caution should be applied when inferring results from foreign case studies in the Auckland context. Further, the nature of these interventions generally being implemented as a part of a broader package means that it is difficult to isolate the impact of individual measures.

Legend	
Expected benefits / disbenefits / uncertainties	
✓	Supports investment objective
+	Relevant co-benefit
?	Relevant uncertainty
X	Relevant dis-benefit
Potential impact	
	High impact against investment objectives
	Medium impact against investment objectives
	Low impact against investment objectives

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Table 3-1 Cycle parking and customer growth initiatives

ID	Initiative	Description	Expected benefits / disbenefits / uncertainties	Potential impact	Responsible parties
1	Cycle parking: RTN stations	Provide secure cycle parking at RTN stations	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports public transport uptake.</li> <li>? Greatest impact where there are safe and connected cycling facilities either side of stations.</li> </ul>		AT, AC
2	Cycle parking: schools	Provide sheltered cycle parking at key schools in line with Waka Kotahi guidance and AUP standards.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share</li> <li>? Greatest impact where there are safe and connected cycling facilities linking residential catchments to the schools.</li> </ul>		AT, Ministry of Education
3	Cycle parking: on-street	Provide cycle parking at metro, town, local and neighbourhood centres.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports retail.</li> <li>? Greatest impact where there are safe and connected cycling facilities radiating out from centres.</li> </ul>		AT
4	Cycle parking: residential	Trial in-street covered lockable cycle parking (e.g. bike hangars) in high density residential areas.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>? Greatest impact where there are safe and connected cycling facilities connecting high density residential areas to key destinations.</li> <li>? Ability to source the facilities.</li> </ul>		AT
5	Bike loan	A bike loan scheme delivered through schools and community bike hubs, and an e-bike loan scheme through businesses.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> <li>? Uncertainty around value for money.</li> </ul>		AT, WK

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6	Bikes on public transport	Bikes on buses, trains, and ferries.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports public transport uptake.</li> <li>? Uncertainty around impact on bus operations.</li> </ul>		AT
7	Events and activations	Work in partnership with communities to deliver events and activities that promote safe cycling and activate the existing network.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Reduce DSIs involving people using bikes and micromobility.</li> </ul>		AT, AC
8	Pit Stops	Pop-up Pit Stop events to provide free bike safety checks, minor maintenance work and to engage customers.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT
9	Community led initiatives	Support community groups with the design, delivery and/or funding of their bike related activities.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT
10	Bike Hubs	Support the expansion of community bike hubs at key locations across the region to divert bikes from landfill, carry out basic repairs to make them safe and usable and distribute to local communities.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT
11	Bike Burbs	Support the expansion of community bike hubs at key locations across the region to divert bikes from landfill, carry out basic repairs to make them safe and usable and distribute to local communities.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT
12	Aotearoa Bike Challenge	A month-long annual festival of cycling taking place in February. Individuals, groups and businesses compete to log	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> </ul>		AT

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		rides.			
13	Community Bike Fund	Administer a contestable grant fund for non-profit groups to apply for community-based cycling events and activities.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT
14	Shared Path User Behaviours	A behavioural science-based approach to understanding user conflicts on the existing network and exploring non infrastructure-based responses.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> </ul>		AT
15	AT Mobile	Ongoing development of the walking and cycling functions of AT Mobile and Website journey planning tool.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> </ul>		AT
16	Skills Training in Schools	Grade 1: Provide basic off-road skills training to 5-6 children in schools. Grade 2: Provide basic on-road skills training to year 7-10 children in schools.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT, WK
17	Bikes in Schools	Support the expansion of Waka Kotahi Bikes in Schools by funding an Auckland coordinator.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT, WK
18	E-scooter training	Basic learn to scoot training session trialled in 2020/21. Report due August 2021.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Reduce DSIs involving people using bikes and micromobility.</li> </ul>		AT, AC
19	Business engagement	Workplace Travel Surveys, Accessibility Audits, Workplace Travel Plans. Personalised Journey Planning with cycling focused incentives such as: bike loan, bike buddies, bike trains on commuter routes and e-bike guided rides.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> </ul>		AT

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20	School based behaviour change initiatives	Optional school travel plans, bike trains, bike ambassador workshops and cycling and scooting promotions, events, and activities.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT
21	Bike repair stands	Install maintain and promote bike repair stands at key locations on the cycle network and at PT stations.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>+ Supports transport equity.</li> </ul>		AT, AC
22	Bikelash	Diffuse the dangerous and aggressive behaviour towards people on bikes, including threatening behaviour online, through a proactive approach.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Reduce DSIs involving people using bikes and micromobility.</li> </ul>		AT, AC, Police
23	Cycling resources for customers	Resources to enhance safe cycling such as reflective backpack covers, emergency lights and hard copy maps.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Reduce DSIs involving people using bikes and micromobility.</li> </ul>		AT
24	Cycle monitoring	Monitoring of trip numbers for people on bikes and micromobility devices across the network and where new facilities are delivered to gauge impact. Gather qualitative user information and track how perceptions change as a result of interventions.	<ul style="list-style-type: none"> <li>+ Important for benefits realisation and measuring impact (Removed as a standalone Customer Growth Initiative)</li> </ul>		AT
25	Mapping	Develop a comprehensive database and GIS layer of existing cycling infrastructure and produce an easy to understand map for the public.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> </ul>		AT, AC, WK, EP

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26	Wayfinding	Develop and implement a cycling wayfinding strategy	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Reduce DSIs involving people using bikes and micromobility.</li> </ul>		AT, AC, WK, EP
27	Strategic communications	Develop and implement a cycling comms strategy that proactively conveys the vision for public space in Auckland and sets the scene for how AT will talk about cycling.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Positive impact on rate of delivery of safe cycling facilities.</li> </ul>		AT, AC
28	Communications - Project specific activation & promotion	Media and stakeholder activation initiatives.	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Positive impact on rate of delivery of safe cycling facilities.</li> </ul>		AT, AC
29	Marketing Mode Shift and Safety	<p>Campaigns and promotional activity to:</p> <ol style="list-style-type: none"> <li>1. encourage the uptake of cycling and to increase the frequency and types of journeys taken by bike</li> <li>2. Increase the safety of people riding bikes</li> </ol> <p>Position sustainable modes so that they are viewed as a viable transport option for everyday journeys.</p>	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Reduce DSIs involving people using bikes and micromobility.</li> </ul>		AT
30	Marketing projects	<p>Campaigns and promotional activity to:</p> <ol style="list-style-type: none"> <li>1. Prime and increase positivity amongst residents in project areas.</li> <li>2. Increase the support for the building of cycling infrastructure.</li> </ol>	<ul style="list-style-type: none"> <li>✓ Positive impact on cycle mode share.</li> <li>✓ Positive impact on rate of delivery of safe cycling facilities.</li> </ul>		AT

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		3. Activate infrastructure on completion.	
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## 4 Recommendations

The following key considerations were taken into account when confirming the recommendations:

- Customer growth initiatives are fundamental to realising outcomes. Research shows initiatives that blend network development, customer growth initiatives, and policy changes have the greatest impact on uptake of people using bicycles and micromobility devices.
- Customer growth initiatives such as marketing, events and activations can help to normalise cycling, mitigate bike-lash (anti-cycling sentiment) and build community capacity for cycling initiatives.
- Customer growth initiatives such as activation events and marketing can prime communities and gain buy-in to cycling and micromobility projects, which will be critical in locations where push back is anticipated e.g. where car parking removal is required.
- Customer growth initiatives can help customers to overcome individual, social and cultural barriers to riding that infrastructure alone cannot achieve. Barriers can include access to bicycles, bicycle security, cycling skills, or even locating the cycle network. These can be particularly important in areas of transport and social deprivation, where some of these barriers may be more prevalent than other areas.
- Community-run bike hubs at key locations provide a platform for enhanced community participation and collaboration in cycling projects, build community capacity for cycling as well as diverting bicycles from landfill, making them safe and redistributing them to local people who cannot afford to purchase bicycles.
- Some existing customer growth initiatives, such as cycle skills training in schools, only meet a small percentage of the demand (approximately 15% of students) due to funding constraints. This presents an opportunity to quickly deliver cycling initiatives should funding become available.
- Cycle parking is fundamental to the success of the programme because a lack of secure cycle parking is a barrier to some cycling trips.
- Secure cycle parking at public transport stations is critical to enabling more multi-modal trips, supporting public transport uptake and helped to achieve regional mode shift goals.

To maximise the benefits of cycle network development, a package of cycle parking and customer growth initiatives is required. These are essential to achieving the objectives of the CAM-PBC. They include<sup>3</sup>:

- **Cycle parking** to be delivered by AT to support the uptake of cycling. Provide a combination of short-stay parking spaces targeting focal points for community interaction and long-stay parking spaces targeting rapid transit stations (on CAM-PBC strategic connections / focus areas).

<sup>3</sup> Not all customer growth initiatives are able to be capitalised. Additional OPEX will be required to enable delivery of all the customer growth initiatives and for their associated ongoing costs.

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- **Customer growth initiatives**, to be delivered by AT and partners:
  - **Campaigns and promotional activity** to prime and increase positivity amongst residents in project areas, increase the support for the building of cycling infrastructure, and activate infrastructure on completion.
  - **Marketing mode change and safety campaigns** to encourage the uptake of cycling and to increase the frequency and types of journeys taken by bicycle, increase the safety of people riding bicycles, and position active modes so that they are viewed as an equally viable transport choice.
  - **Bike Hubs** at key locations across the region to provide a platform for enhanced community participation and collaboration in cycling projects, build community capacity for cycling initiatives, divert bicycles from landfill, carry out basic repairs, and distribute bicycles to local people who cannot afford to purchase bicycles.
  - **Events and activations** in partnership with communities to promote safe cycling and activate the cycling network. Includes initiatives such as: Aotearoa Bike Challenge, Community-Led Initiatives, Guided Rides, Community Bike Fund, Gamification, Bike Burbs, Pit Stops.
  - **Enhanced digital experience** through development of cycling and micromobility functions of AT Mobile, website and mapping.
  - **Customer centred design approach** to understanding and improving customer journeys on the existing network. Includes ongoing issues such as user conflict on shared paths, addressing bicycle thefts, or threatening behaviour towards people on bicycles.
  - **Cycle skills training** to teach adults and children how to ride bicycles.
  - **E-scooter skills training** to teach basic training for adults to increase the uptake and safe use of the network.
  - **School engagement** to promote active modes through AT's school engagement programme, Travelwise. Includes school travel planning, bike trains, ambassador workshops, events and activities.
  - **Strategic communications** through the development and implementation of a strategic communications strategy that proactively conveys the vision and sets the scene for how AT will talk about cycling and micromobility.
  - **Project communications** including project specific media and stakeholder activation and promotion.

The scope of cycle parking and customer growth initiatives will be specified as part of the next stage business cases.

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## 5 Investment allocation

The investment allocation for cycle parking and customer growth initiatives is recommended to be approximately 7% of the capital investment, based off local evidence, including the Christchurch Long Term Plan 2018. This is considered an appropriate proportion noting the scale of the programme, local context, and the need to prioritise the delivery of safe cycling infrastructure due to Auckland's legacy of underinvestment in this regard.

Flexibility around the funding ratio of customer growth initiatives to capital expenditure on network development should be applied at the project level, as some projects may require a higher ratio, particularly in areas where social norms do not include cycling. Such changes will need to be agreed at the programme level.

Table 5-1 Indicative CAPEX allocation for cycle parking and customer growth initiatives

Initiative	Description	Funding from \$306 million	Funding from \$1 billion	Funding from \$2 billion
<b>Cycle parking</b>	At stations and schools where network development is being implemented. The cycle parking funding within the \$306 million scenario is intended to be kick start funding for cycle parking at stations. It is not expected to be enough to meet full demand at stations and key destinations.	\$1 million	\$17 million	\$34 million
<b>Customer growth initiatives</b>	To support project and programme level success, such as priming and activation events and initiatives before, during and after the delivery of safe cycle facilities to normalise cycling.	\$20 million	\$53 million	\$106 million
<b>Total</b>		\$21 million	\$70 million	\$140 million

The majority of customer growth initiatives are designed to maximise mode shift through addressing barriers to uptake, and in many cases are focused on the existing transport network and customers at large. Where initiatives are directly related to the development of new infrastructure, the costs can be capitalised. However, not all of the required customer growth initiatives can be delivered through capital expenditure (CAPEX) funding. In addition to what is set out in Table 5-2 Table 5-1 below, additional operational expenditure (OPEX) is required to deliver elements of the customer growth initiatives, to help to achieve the CAM-PBC investment objectives.

Table 5-2 Indicative CAPEX overview for customer growth initiatives

Initiative	CAPEX per year for \$306 million	CAPEX per year for \$1 billion
<b>Marketing Projects</b>	\$350k per year + \$100k per project.	\$500k per year + \$100k per project.
<b>Communications - Project specific activation &amp; promotion.</b>	\$50k per year	\$150k per year
<b>Opening Events</b>	\$15k (per project)	\$15k (per project)
<b>Bike Hubs</b>	\$100k (per project per year)	\$100k (per project per year)

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<b>Events and Activations</b>	\$50k (per project per year)	\$100k (per project per year)
<b>Digital Experience</b>	\$500k per year	\$2m per year
<b>Total per year</b>	\$900k per year + \$115k per project + \$150k per project per year	\$2.65m per year + \$115k per project + \$200k per project per year
<b>Total for 10-year programme</b>	\$9.0m + \$115k per project + \$150k per project per year	\$26.5m + \$115k per project + \$200k per project per year

Table 5-3 Indicative OPEX overview for customer growth initiatives

Initiative	OPEX per year for \$306 million	OPEX per year for \$1 billion
<b>Marketing Mode Change and Safety</b>	\$1.1m	\$2.2m
<b>Cycling &amp; Micromobility Comms Strategy</b>	\$0.5m	\$0.5m
<b>Bike Hubs</b>	\$0.6m	\$2.0m
<b>Events and Activations</b>	\$0.5m	\$1.5m
<b>Bike Loan</b>	\$0.4m	\$0.8m
<b>Customer Centred Design Approach</b>	\$0.3m	\$1.0m
<b>Cycle Skills Training</b>	\$2.0m	\$6.0m
<b>E-Scooter Skills Training</b>	\$0.2m	\$0.6m
<b>Schools Engagement</b>	\$0.6m	\$1.8m
<b>Total per year</b>	\$6.2m per year	\$16.4m per year
<b>Total for 10-year programme</b>	\$62m	\$164m

The capital expenditure for cycle parking was determined based on the estimates below, following confirmation of the CAM-PBC preferred programme.

Table 5-4 Indicative CAPEX overview for cycle parking

AUP zone / RTN station	PBC sites	Estimated quantity	Total CAPEX
<b>Sheffield stands (or similar)</b>			
<b>Business – Metropolitan Centre Zone</b>	Henderson, Manukau, New Lynn, Takapuna	240	\$312k
<b>Business – Town Centre Zone</b>	Māngere East, Avondale, Milford, Papatoetoe, Otahuhu	150	\$195k
<b>Business – Local Centre Zone</b>	Approximately 3 sites	24	\$32k
<b>Business – Neighbourhood Centre Zone</b>	Approximately 10 sites	20	\$26k
<b>Sheltered bike parking at rapid transit stations</b>			
<b>Train stations</b>	Otahuhu, Onehunga	2	\$320k
<b>Total</b>			
<b>\$306 million</b>			<b>\$885k</b>

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<b>\$1 billion</b>	<b>\$2.89m</b>
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Assumptions for calculating cycle parking CAPEX:

**Sheffield Stands**

- \$1,300 per Sheffield Stand (excludes OPEX of about 10%).
- Only assumes provision in the zones listed.
- Business – Metropolitan Centre Zone: 60 Sheffield Stands per area (1 Sheffield Stand on each side of the road every 50m for 1.5km per zone).
- Business – Town Centre Zone: 30 Sheffield Stands per area (1 Sheffield Stand on each side of the road every 50m for 0.75km per zone).
- Business – Local Centre Zone: 8 Sheffield Stands per area.
- Business – Neighbourhood Centre Zone: 2 Sheffield Stands per area.
- Density of Sheffield Stand provision based on desktop review of Karangahape Road spacing.
- Assumes that there is some existing provision at these locations and that the CAM-PBC will not retrofit entire areas (e.g. Metro Centres) to an optimal standard.
- Assumes no provision in Business – Mixed Use Zone, however some contingency has been added to allow for provision in such areas where required.

**RTN stations**

- Cost per unit: \$160,000 for a glass shelter with 8 Sheffield stands (for 16 bikes) (includes CCTV, excludes OPEX of about 10%).
- RTN station provision: CAM-PBC to fund 1 shelter per station.
- Provision from CAM-PBC intended as a “kick-starter” – not intended to meet 100% demand.

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## 6 Conclusions

Evidence suggests that in order to maximise the benefits from the development of urban cycle networks, the delivery of infrastructure should be supported by a package of cycle parking and customer growth initiatives.

The recommended customer growth initiatives represent the best opportunities to support the investment objectives of the CAM-PBC. They are also readily implementable by boosting funding to existing AT programmes. The indicative package demonstrates what could be achieved at the programme level when 7% of the capital funding is allocated to cycle parking and customer growth initiatives.

Additional OPEX is required to deliver elements of the customer growth initiatives, to help to achieve the CAM-PBC investment objectives.

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# Appendix G-1 – Evidence

ID	Customer Growth Initiatives	Evidence for effectiveness against investment objectives:
Customer Growth Initiatives		
1	Bike Parking: RTN stations	<ul style="list-style-type: none"> <li>A study from Copenhagen shows that the provision of bike parking at rapid transit stations is associated with an increase in cycling to access the rapid transit system.               <p>The study highlighted the benefits of providing bike parking at both the origin station and destination station for peoples’ journeys, particularly in contexts where the ability to transport bikes on rapid transit is restricted by regulations or capacity constraints. This allows people to permanently store a bike at a destination station to allow them to, for example, cycle the final mile from a rapid transit station to their workplace.</p> <p>The study also highlighted the benefits of providing covered bike parking, particularly at destination stations, to allow people to store their bikes overnight or for long periods of time without the risk of damage from weather:</p> <p>Halldórsdóttir, K., Nielsen, O. A., &amp; Prato, C. G. (2017). Home-end and activity-end preferences for access to and egress from train stations in the Copenhagen region. <i>International Journal of Sustainable Transportation</i>, 11(10), 776-786.</p> <p><a href="https://www.researchgate.net/profile/Otto-Nielsen-2/publication/317784624_Home-end_and_activity-end_preferences_for_access_to_and_egress_from_train_stations_in_the_Copenhagen_region/links/59e47373458515393d60e64d/Home-end-and-activity-end-preferences-for-access-to-and-egress-from-train-stations-in-the-Copenhagen-region.pdf">https://www.researchgate.net/profile/Otto-Nielsen-2/publication/317784624_Home-end_and_activity-end_preferences_for_access_to_and_egress_from_train_stations_in_the_Copenhagen_region/links/59e47373458515393d60e64d/Home-end-and-activity-end-preferences-for-access-to-and-egress-from-train-stations-in-the-Copenhagen-region.pdf</a></p> </li> <li>A study from Denmark found that the presence of covered bike parking at an RTN station increases the likelihood of cycling by a factor of 2.9 (Halldórsdóttir et a., 2017)               <p><a href="https://www.tandfonline.com/doi/abs/10.1080/15568318.2017.1317888">https://www.tandfonline.com/doi/abs/10.1080/15568318.2017.1317888</a></p> </li> <li>A recent literature review established that the “vast majority” of papers found a positive relationship between bicycle parking supply and cycling levels or the stated likelihood to cycle to access PT. (Heinen &amp; Buehler, 2019, p. 7).               <p><a href="https://eprints.whiterose.ac.uk/143013/1/Bicycle%20parking%20paper%20revision3%20final.pdf">https://eprints.whiterose.ac.uk/143013/1/Bicycle%20parking%20paper%20revision3%20final.pdf</a></p> <ul style="list-style-type: none"> <li>Martens (2007) surveyed the impacts of improved bike parking at both rail stations and bus stops in the Netherlands, in the context of specific pilot projects during the 1990s to improve integration of bicycling with public transport. He found significant increases in both public transport use and bicycling, but mainly for bicycle trips between home and the suburban rail station (access trip) and far less for bicycle trips between the terminal station and the activity end of the trip (egress trip)</li> </ul> <p>Martens K., Promoting Bike and Ride: The Dutch experience. <i>Transp. Res. Part A</i>, 41 (2007), pp. 326-338</p> </li> <li>The total number of bicycle trips in London doubled between 2000 and 2008. During this period, over 65,000 bike parking spaces were installed of which 15,000 have been at London schools, and over 5,000 additional spaces at public transport stops.               <p>Transport for London, <i>Cycling in London: Final report</i>, Transport for London, London (2008). Accessible at: <a href="http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycling-in-london-final-october-2008.pdf">http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycling-in-london-final-october-2008.pdf</a></p> </li> </ul>

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2	Bike Parking: schools	<ul style="list-style-type: none"> <li>Research conducted by Mackie (2009) found that the presence of bike parking at primary schools in New Zealand was identified as a priority from student focus groups. <a href="https://www.australasiantransportresearchforum.org.au/sites/default/files/2009_Mackie.pdf">https://www.australasiantransportresearchforum.org.au/sites/default/files/2009_Mackie.pdf</a></li> <li>A study in Cyprus found that the existence of bike parking at secondary schools significantly affected the choice to use a bicycle (p. 158) (Kamargianni and Polydoropoulou (2013). <a href="https://28716f27-42ea-4260-ac26-48e00a153449.filesusr.com/ugd/16813a_a957c314a554412a99940bbf40523b42.pdf">https://28716f27-42ea-4260-ac26-48e00a153449.filesusr.com/ugd/16813a_a957c314a554412a99940bbf40523b42.pdf</a></li> <li>The total number of bicycle trips in London doubled between 2000 and 2008. During this period, over 65,000 bike parking spaces were installed of which 15,000 have been at London schools, and over 5,000 additional spaces at public transport stops. Transport for London, Cycling in London: Final report, Transport for London, London (2008). Accessible at: <a href="http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycling-in-london-final-october-2008.pdf">http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycling-in-london-final-october-2008.pdf</a></li> </ul>
3	Bike Parking: on-street	<ul style="list-style-type: none"> <li>Each square metre allocated to bike parking generated \$31 per hour, compared to \$6 generated for each square metre used for a car parking space (<a href="https://www.tandfonline.com/doi/full/10.1080/07293681003767785">https://www.tandfonline.com/doi/full/10.1080/07293681003767785</a>)</li> <li>The total number of bicycle trips in London doubled between 2000 and 2008. During this period, over 65,000 bike parking spaces were installed of which 15,000 have been at London schools, and over 5,000 additional spaces at public transport stops. Transport for London, Cycling in London: Final report, Transport for London, London (2008). Accessible at: <a href="http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycling-in-london-final-october-2008.pdf">http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycling-in-london-final-october-2008.pdf</a></li> </ul>
4	Bike parking: residential	<ul style="list-style-type: none"> <li>A 2012 study showed a relationship between the presence of bicycle parking in the residential setting and the likelihood of cycling. The lack of convenient and secure bike parking at home was found to reduce the likelihood of being more advanced on the "stages of change model" towards cycling. p. 14. Nkurunziza, A., Zuidgeest, M., Brussel, M., &amp; Van Maarseveen, M. (2012). Examining the potential for modal change: Motivators and barriers for bicycle commuting in Dar-essalaam. Transport Policy, 24, 249–259. <a href="https://eprints.whiterose.ac.uk/143013/1/Bicycle%20parking%20paper%20revision3%20final.pdf">https://eprints.whiterose.ac.uk/143013/1/Bicycle%20parking%20paper%20revision3%20final.pdf</a></li> </ul>
5	Bike loan	<ul style="list-style-type: none"> <li>A study of tax-free loans to purchase bicycles found that 48% of those who had not owned a bicycle in over 7 years had started cycling on a weekly basis: <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/606513/cycling-walking-rapid-evidence-assessment.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/606513/cycling-walking-rapid-evidence-assessment.pdf</a></li> <li>A study from Eugene, Oregon shows that a bike loan programme for university students resulted in a greater uptake in cycling among participants in the programme: Armstrong, E. P. (2010). Bike Sharing: A Randomized Study Evaluating the University of Oregon Bike Loan Program. Doctoral dissertation, University of Oregon. <a href="https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/10619/Armstrong_E_Price_mpa2010sp.pdf?sequence=1">https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/10619/Armstrong_E_Price_mpa2010sp.pdf?sequence=1</a></li> <li>Randers, Denmark's sixth largest city completed a trial period (2016) in which residents of a town and surrounding villages were given access to fleets of electric bikes. As detailed by the Danish Cycling Embassy, the project has since seen 21% of participants buy their own electric bike, while 26% use their own bike more for commutes. 56% of</li> </ul>

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		<p>those taking a bike out were using it to commute between three and five days per week and despite a slight increase in journey time for those in rural parts, feedback was largely positive on the experience. 91 percent approved of electric bikes. Of those who of those who took advantage of the pedal-assist bikes, three quarters were women, while 70% were aged 35 to 54. Furthermore, participants who tried an e-bike reportedly ditching the car more often – down 11% since before the trial begun.</p> <p><a href="https://cyclingindustry.news/five-key-cities-where-cycling-is-taking-modal-share-from-cars/">https://cyclingindustry.news/five-key-cities-where-cycling-is-taking-modal-share-from-cars/</a></p>
6	Bikes on public transport	<ul style="list-style-type: none"> <li>A study of bike-train users in the Netherlands showed that people are “especially willing to cycle to a station with longer bicycle time (or bicycle parking time) when by doing so they can avoid a transfer in their train trip thereafter.” (van Mil et al., 2020, p.1). <a href="https://link.springer.com/article/10.1007/s12469-020-00240-2">https://link.springer.com/article/10.1007/s12469-020-00240-2</a></li> <li>In 2010, Waka Kotahi commissioned a report into the effects of providing bike racks on urban buses. In Auckland, the benefit-cost ratio was 8.9, with an estimated 634,130 annual bike-on-bus trips made. At peak, the report estimated that 511 (mean) bikes on buses trips would be made (p. 35). <a href="https://www.nzta.govt.nz/assets/resources/research/reports/418/docs/418.pdf">https://www.nzta.govt.nz/assets/resources/research/reports/418/docs/418.pdf</a></li> </ul>
7	Events and activations	<ul style="list-style-type: none"> <li>A study of Victoria’s ‘Ride to Work Day’, found that approximately 20% of those participating in the event are riding to work for the first time. Additionally, 27% of those first-time cycle commuters had formed a habit - still riding to work five months after the event. “Over 80% of first-timers indicated that the event had a positive impact on their readiness to ride to work with 57% indicating that it influenced their decision to ride.” (Rose &amp; Marfurt, 2007, p. 351). <a href="https://www.sciencedirect.com/science/article/abs/pii/S0965856406001236">https://www.sciencedirect.com/science/article/abs/pii/S0965856406001236</a></li> <li>In Bogotá, Colombia, the Ciclovía events are a catalyst for encouraging users to cycle for transport. While leisure cycling is the predominant type in Ciclovía events, a report notes that “...previous studies conducted in Bogotá found that those who reported participating in Ciclovía were more likely to use bicycles for transportation.” <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3558786/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3558786/</a></li> </ul>
9	Community led initiatives	<ul style="list-style-type: none"> <li>A study which focused on the Greater Toronto area shows that working with a variety of community groups to deliver cycling mentorship programmes had a positive impact on the frequency that participants cycled.  The majority of participants in the programme were recent migrants to Canada or recently settled refugees, and the programme aimed to equip them with the skills, knowledge and confidence to cycle safely.  By the end of the programme, participants cycled an average of an additional 1.8 days per week to access shopping and an additional 1.35 days per week to access education or employment:  Kearns, M., Ledsham, T., Savan, B., &amp; Scott, J. (2019). Increasing cycling for transportation through mentorship programs. <i>Transportation research part A: policy and practice</i>, 128, 34-45. <a href="https://www.tcat.ca/wp-content/uploads/2019/08/Kearns-Ledsham-Savan-Scott-2019-Increasing-Cycling-for-Transportation.pdf">https://www.tcat.ca/wp-content/uploads/2019/08/Kearns-Ledsham-Savan-Scott-2019-Increasing-Cycling-for-Transportation.pdf</a></li> <li>In Sydney, the Cycling Connecting Communities project provided engagement and marketing initiatives at the local level. These initiatives included cycle training courses, distributing cycle maps, and organising group rides. By comparing an area of Sydney that had this intervention with one that didn’t, researchers found “...significantly higher rates of cycling in the intervention area (32.9%) compared with the comparison area (9.7%) amongst those aware of the project.” (Rissel et al., 2010, p. 1).</li> </ul>

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		<a href="https://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-7-8">https://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-7-8</a>
10	Bike Hubs	<ul style="list-style-type: none"> <li>Bike hubs in New Lynn and Henderson, Auckland won a National Transport Award at Waka Kotahi NZ Transport Agency's On the Go Awards in March 2021. The awards acknowledge the dedication and contribution of projects that support a healthier, cleaner and safer transport system, with the hubs receiving the 'Shifting the Dial' award at the event. Despite the challenges of COVID-19 related lockdowns, the two west-based bike hubs along with the Glen Innes hub received almost 9000 visitors last year, fixing and restoring nearly 3000 bikes.              <a href="https://ourauckland.aucklandcouncil.govt.nz/news/2021/03/delight-at-bike-hub-award-win/">https://ourauckland.aucklandcouncil.govt.nz/news/2021/03/delight-at-bike-hub-award-win/</a> </li> <li>The On the Go Supreme Award was won by Rebicycle Ekerua, a collective that 'upcycles' donated second-hand bikes into safe, practical commuter bikes to gift or loan to people who need them. It's a community-led initiative that gives back to the community, preventing useful resources ending up in the landfill, reducing transport carbon emissions and enabling free healthy transport options. Over 2000 bikes have been repaired and donated since the scheme began.              <a href="https://www.nzta.govt.nz/walking-cycling-and-public-transport/cycling/cycling-awards/on-the-go-awards-2021/">https://www.nzta.govt.nz/walking-cycling-and-public-transport/cycling/cycling-awards/on-the-go-awards-2021/</a> </li> <li>Local hubs and encouragement for local community involvement are integral to creating an accessible, positive and supportive environment, which promotes and sustains cycling, and cycling behaviour change through programming and events. The development of a community-based approach to program implementation encourages embeddedness - a sense of program ownership in the community.                        Sloman, L., Cairns, S., Newson, C., Anable, J., Pridmore, A., Goodwin, P. (2010). The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Summary Report, United Kingdom Department for Transport.         </li> </ul>
11	Bike Burbs	<ul style="list-style-type: none"> <li>Bike Burbs are a grassroots movement of community-led groups who come together around a vision of their neighbourhood as a bike-friendly place. Bike burbs aim to encouraging a supportive social community, forming friendships and helping to build people's confidence to bike. Such as through family-friendly group rides, meetups like bikes n beers, community bike maintenance, helping kids bike to school (e.g. a bike train), or bike-related events.              <a href="http://www.bikeauckland.org.nz/bikeburbs/">www.bikeauckland.org.nz/bikeburbs/</a> </li> <li>Local hubs and encouragement for local community involvement are integral to creating an accessible, positive and supportive environment, which promotes and sustains cycling, and cycling behaviour change through programming and events. The development of a community-based approach to program implementation encourages embeddedness - a sense of program ownership in the community.                        Partnerships with multiple community organizations enhance exposure and visibility, foster program sustenance, and may lead to greater results.                        Sloman, L., Cairns, S., Newson, C., Anable, J., Pridmore, A., Goodwin, P. (2010). The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Summary Report, United Kingdom Department for Transport.                        C. Cooper, Successfully changing individual travel behavior: Applying community-based social marketing to travel choice. Transportation Research Record: Journal of the Transportation Research Board, 2021 (1) (2007), pp. 89-99         </li> </ul>

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12	Aotearoa Bike Challenge	<ul style="list-style-type: none"> <li>A study from Denver highlights the potential benefits of bike-to-work day events (which are similar to some aspects of the Aotearoa Bike Challenge), particularly in regard to their ability to involve a diverse range of participants, including people who do not usually cycle.  These types of events also provide an opportunity to both encourage continued uptake of cycling and to identify barriers which prevent people from cycling more regularly.  Piatkowski, D., Bronson, R., Marshall, W., &amp; Krizek, K. J. (2015). Measuring the impacts of bike-to-work day events and identifying barriers to increased commuter cycling. <i>Journal of Urban Planning and Development</i>, 141(4), 04014034. <a href="https://ascelibrary.org/doi/abs/10.1061/(ASCE)UP.1943-5444.0000239">https://ascelibrary.org/doi/abs/10.1061/(ASCE)UP.1943-5444.0000239</a></li> <li>A study of Victoria's 'Ride to Work Day', found that approximately 20% of those participating in the event are riding to work for the first time. Additionally, 27% of those first-time cycle commuters had formed a habit - still riding to work five months after the event. "Over 80% of first-timers indicated that the event had a positive impact on their readiness to ride to work with 57% indicating that it influenced their decision to ride." (Rose &amp; Marfurt, 2007, p. 351).  <a href="https://www.sciencedirect.com/science/article/abs/pii/S0965856406001236">https://www.sciencedirect.com/science/article/abs/pii/S0965856406001236</a></li> <li>In San Francisco, bicycle counts remained 25.4% higher one month after a "Bike to Work" event.  LAB, Bike to Work events in selected US Cities, League of American Bicyclists, Washington, DC (2008)</li> </ul>
13	Community Bike Fund	<ul style="list-style-type: none"> <li>Local hubs and encouragement for local community involvement are integral to creating an accessible, positive and supportive environment, which promotes and sustains cycling, and cycling behaviour change through programming and events. The development of a community-based approach to program implementation encourages embeddedness - a sense of program ownership in the community.  Sloman, L., Cairns, S., Newson, C., Anable, J., Pridmore, A., Goodwin, P. (2010). The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Summary Report, United Kingdom Department for Transport.</li> </ul>
14	Shared Path User Behaviours	<ul style="list-style-type: none"> <li>A study conducted by Mackie Research and ViaStrada (2021) found that double yellow or a continuous white line improves lane keeping on shared path corners. However, it noted that this also results in an increase in average speed. For speed reduction, the study recommends more significant markings that are repeated along the pathway.  Thorne, R., van Mierlo, M., Mackie, H., Koorey, G., Raja, A. (2021). Shared Path Behaviour Change Markings: Field test evaluation. A report for Waka Kotahi NZ Transport Agency.</li> </ul>
15	AT Mobile	<ul style="list-style-type: none"> <li>In Berlin, the total number of bicycle trips almost quadrupled from 1975–2001 (275% increase); bicycle share increased from 5% of trips in 1990 to 10% in 2007; 38% decline in serious cycling injuries 1992–2006. During this period they introduced a bicycle trip planning site which tailors routes to range of preferences.  Pucher J., Buehler R. At the frontiers of cycling: Policy innovations in the Netherlands, Denmark, and Germany. <i>World Transp. Policy Pract.</i>, 13 (3) (2007), pp. 8-57</li> </ul>
16	Skills Training in Schools	<ul style="list-style-type: none"> <li>A study by the University of Otago found that cycle training in schools significantly increased cycling-related knowledge of participants, from 21.5% 'excellent' knowledge pre-training, to 69.2% post-training (p. 10). Along with this increase in knowledge, the study found that participants were 41.8% 'very confident' cycling on the road pre-training, to 54.9% post-training (p. 13).  <a href="https://www.otago.ac.nz/active-living-2017/otago664089.pdf">https://www.otago.ac.nz/active-living-2017/otago664089.pdf</a></li> <li>Cycling education is mandatory in schools in Germany, The Netherlands, Denmark –</li> </ul>

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		<p>countries where many cities have high bicycle mode share.</p> <p>Pucher J., Buehler R. At the frontiers of cycling: Policy innovations in the Netherlands, Denmark, and Germany. <i>World Transp. Policy Pract.</i>, 13 (3) (2007), pp. 8-57</p>
17	Bikes in Schools	<ul style="list-style-type: none"> <li>Joint research conducted by Mackie Research, the University of Auckland and ACC found that the Bikes in Schools programme has resulted in significant increases in the number of children cycling. Comparing baseline schools with schools that had received Bikes in Schools facilities, more students had ridden a bike in the last week (78% compared to 48%). <a href="https://www.sciencedirect.com/science/article/abs/pii/S2214140518302615">https://www.sciencedirect.com/science/article/abs/pii/S2214140518302615</a></li> <li>A short-term evaluation of the Bikes in Schools programme in 2018 showed that "...Bikes in Schools increased biking to school in two Auckland schools – a further 37-41 students biked to school after Bikes in Schools was implemented..." (Hawley et al., 2018, p. 6). <a href="https://bikeon.org.nz/wp-content/uploads/2018/04/Preliminary-Report-Short-term-Evaluation-of-Bikes-in-Schools-March-2018-Executive-Summary-5th-April-2018.pdf">https://bikeon.org.nz/wp-content/uploads/2018/04/Preliminary-Report-Short-term-Evaluation-of-Bikes-in-Schools-March-2018-Executive-Summary-5th-April-2018.pdf</a></li> </ul>
20	School based behaviour change initiatives	<ul style="list-style-type: none"> <li>The Safe Routes to School Program in Marin County, California, is working to promote walking and biking to school. Using a multipronged approach, the program identifies and creates safe routes to schools and invites communitywide involvement. By its second year, the program was serving 4665 students in 15 schools. Participating public schools reported an increase in school trips made by walking (64%), biking (114%), and carpooling (91%) and a decrease in trips by private vehicles carrying only one student (39%).  Staunton C.E., Hubsmith D., Kallins W. Promoting safe walking and biking to school: The Marin County success story. <i>Am. J. Public Health</i>, 93 (2003), pp. 1431-1434</li> </ul>
22	Bikelash	<ul style="list-style-type: none"> <li>A study from Australia shows that aggressive and/or harassing behaviour from drivers acts as a deterrent to people cycling.  A survey of cyclists within the state of Victoria showed that 65% had experienced some form of harassment from drivers during the previous year:  Fishman, E., Washington, S., &amp; Haworth, N. (2012). Understanding the fear of bicycle riding in Australia. <i>Journal of the Australasian College of Road Safety</i>, 23(3), 19-27.  <a href="https://eprints.qut.edu.au/53981/53/32364068.pdf">https://eprints.qut.edu.au/53981/53/32364068.pdf</a></li> </ul>
23	Cycling resources for customers	<ul style="list-style-type: none"> <li>The total number of bicycle trips in London doubled between 2000 and 2008. During this period, over 3 million copies of TfL/LCC bike route maps were distributed free of charge.  Transport for London, <i>Cycling in London: Final report</i>, Transport for London, London (2008). Accessible at: <a href="http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycling-in-london-final-october-2008.pdf">http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycling-in-london-final-october-2008.pdf</a></li> </ul>
24	Cycle monitoring	<ul style="list-style-type: none"> <li>In Odense, Denmark, bicycle share of trips share of trips increased from 23% in 1994 to 25% in 2002; 80% increase in bicycle trips 1984–2002; 29% decline in injuries 1999–2004. During this time a comprehensive monitoring programme was established to assist network planning.  Fietsberaad, 2006. <i>Continuous and integral: The cycling policies of Groningen and other European cycling cities</i>. Amsterdam: Fietsberaad. Accessible at: <a href="http://www.fietsberaad.nl/library/repository/bestanden/Publication">http://www.fietsberaad.nl/library/repository/bestanden/Publication</a></li> </ul>
26	Wayfinding	<ul style="list-style-type: none"> <li>In Paris, the bicycle share of trips within City of Paris increased from 1% in 2001 to 2.5% in 2007. During this time they delivered a uniform directional street signage for cyclists and a developed a bicycle map and website to provide advice for best bicycle</li> </ul>

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		<p>routes within Paris.</p> <p>City of Paris, Paris a velo: Le bon plan, La Mairie de Paris, France (2009) Accessible at: <a href="http://www.paris.fr/portail/deplacements/Portal.lut?page_id=2&amp;document_type_id=2&amp;document_id=66229&amp;portlet_id=21994">http://www.paris.fr/portail/deplacements/Portal.lut?page_id=2&amp;document_type_id=2&amp;document_id=66229&amp;portlet_id=21994</a>.</p>
28	Operational communications	<ul style="list-style-type: none"> <li>In Portland, Oregon, the share of workers commuting by bicycle rose from 1.1% in 1990 to 1.8% in 2000 and 6.0% in 2008. Number of workers commuting by bicycle increased 608% from 1990 to 2008, while the number of workers increased only 36%. The number of bicycles crossing four bridges into downtown increased 369% from 1992 to 2008. Number of reported crashes increased only 14% over same period.</li> </ul> <p>Education and marketing events are conducted year-round and during the SmartTrips program each summer. City-wide and neighborhood bicycle maps provided for free.</p>
29	Marketing and promotion	<ul style="list-style-type: none"> <li>A local media or community-led marketing campaign to promote cycling as a mainstream activity, undertaken by “normal, everyday people,” without the need for special clothing, expensive equipment or limited to purpose built facilities can also help to establish cycling as a transportation rather than merely recreational activity.</li> </ul> <p>M. Daley, C. Rissel, Perspectives and images of cycling as a barrier or facilitator of cycling. <i>Transport Policy</i>, 18 (1) (2011), pp. 211-216</p> <ul style="list-style-type: none"> <li>A compelling media and marketing presence, combined with a clear, concise and consistent program identity have proven integral to cycle promotion program success.</li> </ul> <p>C. Cooper, Successfully changing individual travel behavior: Applying community-based social marketing to travel choice. <i>Transportation Research Record: Journal of the Transportation Research Board</i>, 2021 (1) (2007), pp. 89-99</p> <p>R. Lavizzo-Mourey, J.M. McGinnis, Making the case for active living communities, <i>American Journal of Public Health</i>, 93 (9) (2003), pp. 1368-1388</p> <p>C. O'Fallon, <i>Bike Now: Encouraging Cycle Commuting in New Zealand – Research Report 414</i>, N.Z.T. Agency, Wellington, New Zealand (2010), p. 190</p> <p>L. Yang, S. Sahlqvist, A. McMinn, S. Griffin, D. Ogilvie, Interventions to promote cycling: Systematic review. <i>British Medical Journal</i>, 341 (2010), p. 5293 <li>In Portland, Oregon, the share of workers commuting by bicycle rose from 1.1% in 1990 to 1.8% in 2000 and 6.0% in 2008. Number of workers commuting by bicycle increased 608% from 1990 to 2008, while the number of workers increased only 36%. The number of bicycles crossing four bridges into downtown increased 369% from 1992 to 2008. Number of reported crashes increased only 14% over same period.</li> <p>Education and marketing events are conducted year-round and during the SmartTrips program each summer. City-wide and neighborhood bicycle maps provided for free.</p> <p>City of Portland, 2008b. <i>Portland's 2008 bicycle friendly community application</i>, Portland, OR.</p> </p>

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