Adult Cycle Training Monitoring

Final Report

Financial year 2014/15

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Contents

Summary

The Mayor's vision is that cycling in London will become an integral part of the transport network. It should be a normal part of everyday life, something people hardly think about and feel comfortable doing in ordinary clothes. The Mayor's aim is to double the number of people cycling in London by 2023.

Transport for London (TfL) supports the delivery of adult cycle training by funding boroughs to provide training to anyone who lives, works or studies in their borough. To understand the immediate and long-term effects of adult cycle training, a three stage evaluation programme began in April 2014. This programme aims to evaluate both the measurable effects of the training (such as Bikeability levels) and its effects upon perceptions (such as self-confidence and safety). For more detail on Bikeability levels, please see page 23.

A year into the monitoring programme, 8,768 sessions were delivered and at least 6,683 individuals completed the training (April 2014 to March 2015), there was clear evidence that cycle training had a positive impact. Those who completed cycle training felt safer (12 per cent pre-training vs. 56 per cent post-training), more confident cycling on London's streets (16 per cent pre-training vs. 60 per cent post-training) and were cycling more (19 per cent cycled at least once a week for leisure pre-training vs. 59 per cent post-training, similar results were observed for other journey purposes).

Results from the 12 month survey suggested that over time improvements in safety, confidence and frequency of cycling began to decrease, indicating a potential need for ongoing engagement, to ensure trainees retained the impact of training in the longer term.

The trainees' pre-cycle training experience/ skill level was assessed by their cycle training instructor during the training session. This assessment was based on what the instructor observed in relation to the outcomes of the Bikeability syllabus. Thirty-five per cent of trainees, who were assessed to be starting at a Bikeability level of 0/1, finished their training at level two and 11 per cent at level three. Of those participants who were assessed to be at a Bikeability level two standard before training, 55 per cent finished their training at level three.

Key findings

Previous research shows that cycle training has had a beneficial impact on trainees' feelings of confidence and safety when cycling on London's roads. It helps to address the main barrier to Londoners taking up cycling and cycling more, which is fear of being involved in a collision. Further evidence has shown that three quarters of those that attended cycle training felt more confident cycling on London's roads as a result of taking part (Attitudes to Cycling, Spring 2015).

Trainees generally had low feelings of safety before the training session – just 12 per cent felt safe before. Initially after training 57 per cent felt safe and although this tailed off

three months later (33 per cent felt safe) trainees were still significantly more likely to feel safe three months after training than before they took part. With confidence the picture was even more positive – 60 per cent felt confident cycling straight after training and 50 per cent of trainees felt confident three months later, increasing from 16 per cent before taking the course.

Alongside improvements in feelings of safety and confidence, there were also signs of positive behaviour change among trainees. For example, 39 per cent of trainees commuted by bike at least once a week a year after their training session, increasing from 19 per cent prior to training. Cycling for leisure purposes increased too – up from 19 per cent of trainees making leisure trips by bike before training to 32 per cent a year later. Linked to this, before taking the course just 34 per cent cycled for an hour a week, rising to 72 per cent after three months and still at 65 per cent a year later.

These findings were positive, but also suggested that there was scope for further development. Feelings of safety increased significantly initially after training, but fell back in the following three months. This may indicate that trainees needed to continue training, or attend a refresher course to maintain their Bikeability levels in order to cycle on some of London's busier roads and junctions. Group rides, sign-posting to further opportunities to cycle and positive reinforcement of the messages (eg through email) are other potential options to maintain cycling proficiency.

The initial enthusiasm to cycle for a range of purposes was transformed into action for many, but there were still trainees that said they would commute by bike after training but did not go on to do so. Further engagement post-training may help maintain the positive feelings generated by the training session and lead to behaviour change for some.

Key facts

Individuals trained

At least 6,683 individuals were trained across London between 1st April 2014 and 31st March 2015. This figure has been calculated by identifying and removing any records where the trainee name and email address is the same as another entry.

Figure 1: Number of Trainees by borough

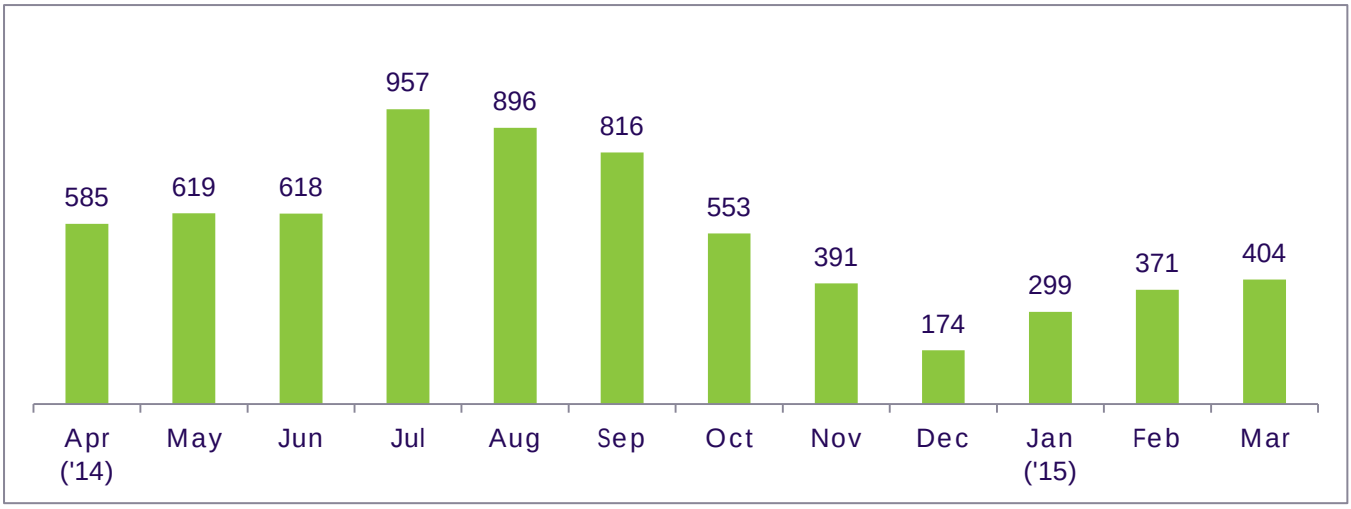
Borough	Individuals	Sessions	Borough	Individuals	Sessions
Barking & Dagenham	299	314	Hillingdon	0*	0*
Barnet	55	69	Hounslow	93	123
Bexley	28	40	Islington	171	224
Brent	140	224	Kensington & Chelsea	130	143
Bromley	417	417	Kingston-upon-Thames	77	136
Camden	283	283	Lambeth	591	932
City of London	94	114	Lewisham	140	155
City of Westminster	238	295	Merton	136	137
Croydon	370	706	Newham	260	482
Ealing	397	518	Redbridge	124	249
Enfield	266	325	Richmond	86	100
Greenwich	191	209	Southwark	359	500
Hackney	327	398	Sutton	34	34
Hammersmith & Fulham	151	151	Tower Hamlets	241	279
Haringey	315	438	Waltham Forest	261	325
Harrow	211	239	Wandsworth	80	86
Havering	118	123			

Base: at least 6,683 individual trainees from a total of 8,768 sessions. *Hillingdon data not included due to changes in provider during 2014/15

Seasonal differences

More individuals participated in cycle training during the Spring and Summer than in the Autumn or Winter.

Figure 2: Individual unique trainees by month



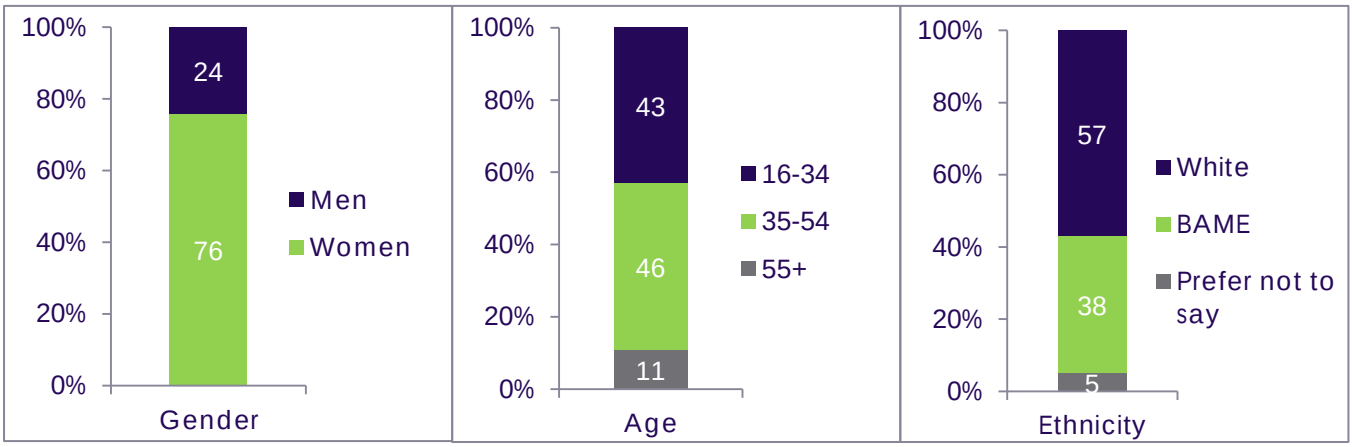
Base: 6,683 trainees

Demographics (based on survey 1 responses)

Demographic data has been derived from the survey responses. As not all trainees completed a survey, demographic data should only be viewed as a representation of those attending cycle training. For more information on the methodology, please refer to the method section.

Those answering the survey were more likely to be women. They were also more likely to be below the age of 55, with a roughly even proportion between those aged 16-34 and 35-54.

Figure 3: Demographic (survey 1 participants)

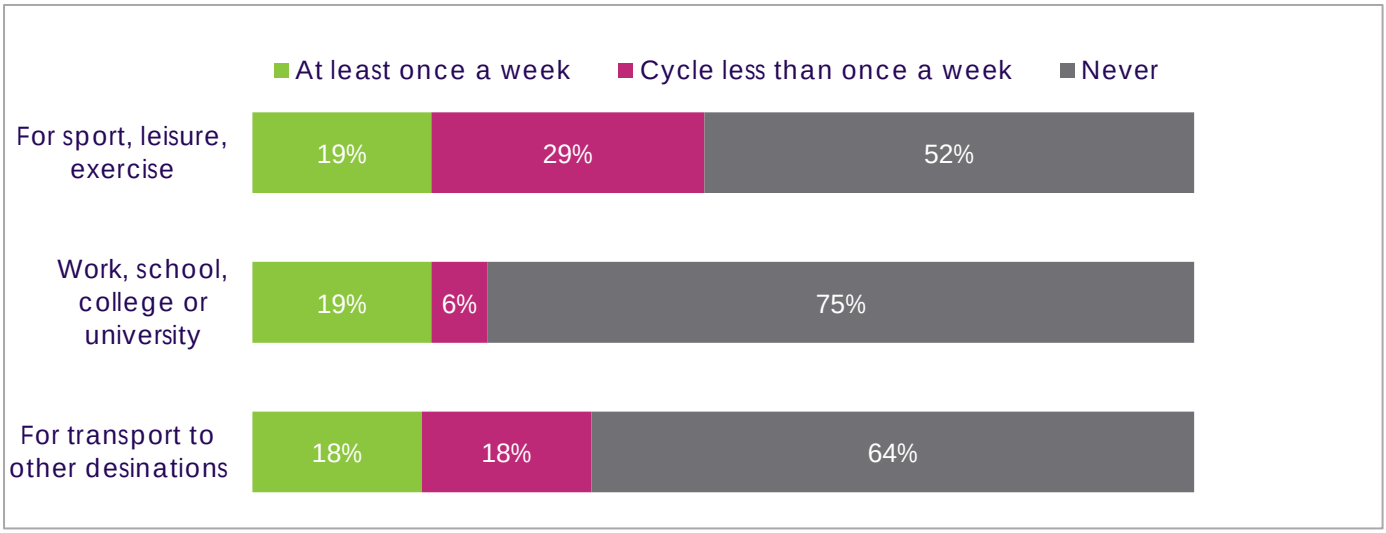


Base: all participants in Survey 1 (800)

Cycling levels before training

Around 1 in 5 trainees cycled at least once a week before training.

Figure 4: Cycling purposes before training



Q5, Q6 & Q7 (Survey 1): Before the training, on average, how often did you cycle and for what purpose? Base: all participants to Survey 1 (800)

Background

Cycling is a healthy and sustainable form of transport and in London it is often the fastest way to complete short journeys. However, many Londoners do not feel they have the confidence or skill necessary to cycle on the Capital's streets. It is expected that normalising cycling will help to achieve this.

The Mayor's vision is that cycling in London will become an integral part of the transport network. It should be a normal part of everyday life, something people hardly think about and feel comfortable doing in ordinary clothes. The Mayor's aim is to double the number of people cycling in London by 2023.

In addition to this, the Cycle Safety Action Plan (CSAP), adopted in 2014 committed TfL together with the London boroughs to doubling the number of adult cyclists receiving advanced safety skills training by 2020.

To help address this, Transport for London (TfL) support the delivery of cycle training by funding boroughs to provide training to anyone who lives, works or studies in their borough. To understand the immediate and long-term effects of the cycle training, a three stage evaluation programme began in April 2014.

This programme aims to evaluate how completing cycle training affects the attitudes and behaviours of those taking part in the short-term and long-term. It does this by looking at its impact on key attitudes (such as feelings of confidence and safety when cycling) and on key behaviours (such as frequency of cycling for different purposes and average time spent cycling). It also looks at changes in trainees' cycling ability (assessed using trainer-assigned Bikeability levels before and after training).

Methodology

Initially after training, trainees are invited to take part in the research through the email address they give to their trainers or when they book their training session online (please note not all trainees give an email address). During the first survey (survey 1) which participants are invited to initially after their training session, they are asked about their cycling attitudes and behaviour before and initially after training. Please note, the invite to the initial survey is sent automatically once the trainer has uploaded the details of trainees (usually within 5 days of the date of training).

They are then invited to complete two more follow-up surveys; one three months after the date of their initial training session (survey 2) and then another twelve months after (survey 3).

Figure 5: Survey summary

Survey name	Survey number	Invitation date
Initial survey	1	Initially after training
3 month	2	3 months after training
12 month	3	12 months after training

This report provides the results from the first 12 months of participant evaluation, analysing responses from training sessions between April 1st 2014 and March 31st 2015.

Of the 8,768 sessions we have on record for this one-year period, 4,842 had unique email addresses that survey invitations were sent to. One hundred and one trainees completed the 12 month survey. Below is the response summary:

Figure 6: Response rates

	Invited	Responded	Response rate (among all those invited to the initial survey)
Initial survey	4,842	800	17%
3 month survey	800	258	5%
12 month survey	258	101	2%

The participants were incentivised to take part by their inclusion in a prize draw to win an iPad.

Reporting note

It is important to note when interpreting results that there was some natural drop-off in response between surveys; ie when we compared survey one (initially after training) with surveys two (three months after training) and three (twelve months after training), some trainees did not go on on to answer the subsequent surveys and therefore the result for surveys two and three were reporting on smaller base sizes.

Please note throughout the report that references to 'before training' and 'after training,' both refer to results from the initial survey (survey 1).

Results were not looked at by boroughs individually as the number of trainees who had taken part in the research was below 50 for most boroughs. We have indicated throughout wherever a base size is low (below 50). Caution should be used when analysing results from sample sizes under 50 as these are not statistically robust enough produce any firm conclusions.

A table showing the number of trainees who completed the first survey by borough is included in the appendix (Figure 27).

Bikeability levels are referred to throughout the report, for more information on Bikeability levels please see page 23.

Attitude change

Findings from this report showed that the majority of trainees had low levels of confidence and did not feel safe cycling prior to taking part in cycle training. These were significantly improved by the training, particularly initially afterwards.

Safety

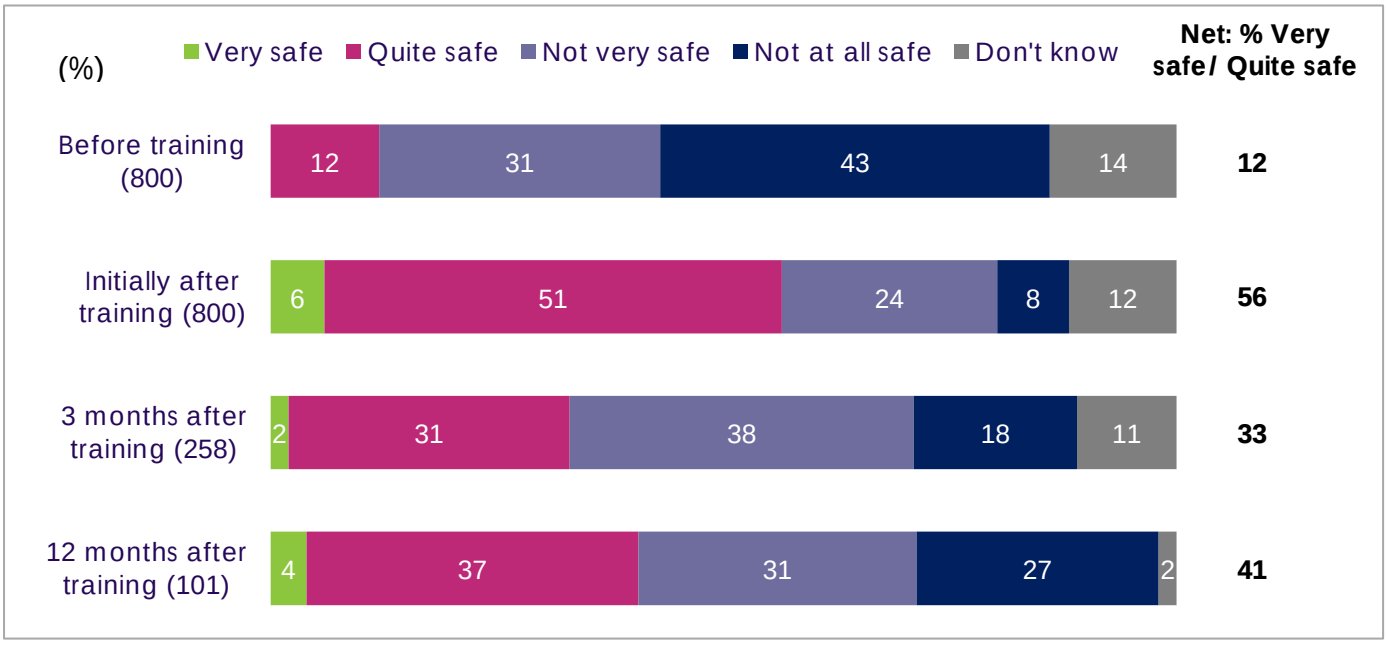
Feelings of safety when cycling were very low for trainees before taking the course – just 12 per cent felt 'safe' cycling before training, while 43 per cent felt 'not at all safe'.

Initially after training, feelings of safety increased significantly, with 56 per cent feeling 'safe' or 'very safe' and only eight per cent feeling 'not at all safe'.

This effect appeared to wane over time, as the proportion of trainees feeling 'safe' dropped to 41 per cent twelve months after training. However, even after 12 months' the percentage of trainees that felt safe was significantly higher than before training (an increase of 29 percentage points).

Despite these improvements, the proportion of trainees feeling 'very safe' remained relatively low initially after training, with only six per cent feeling 'very safe'. This could have indicated a need for trainees to progress further up the Bikeability levels so they felt safer tackling some of London's busier roads and junctions – 12 per cent of those at Bikeability level three after training felt 'very safe' compared to four per cent of those at level zero or one.

Figure 7: Feelings of safety



Q15, Q16 (Survey 1), Q7 (Survey 2), Q7 (Survey 3): How safe did/ do you feel when cycling on London's roads? Bases in brackets above.

Men were much more likely to feel safe cycling on London's roads, both before and after training. Though training had a very positive effect on feelings of safety, the change was similar for both men and women, maintaining the gap in attitude between them.

Figure 8: Feelings of safety by gender

% feeling very safe or quite safe	Men (191)	Women (606)
Before training	27	8
Initially after training	68	53
Percentage point change	+41	+45

Q. How safe did/ do you feel when cycling on London's roads? Bases in brackets above

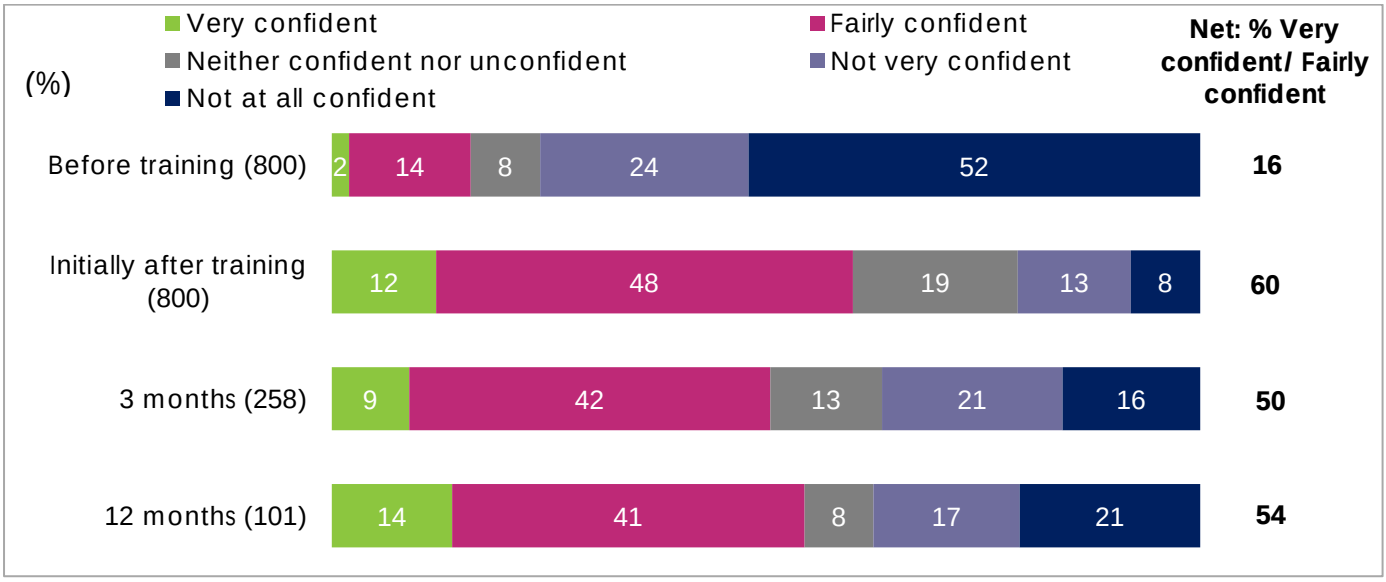
Indicates significant increase

Confidence

Confidence is another barrier to people taking up cycling or cycling more. Not only was confidence increased to a greater extent than feelings of safety, but confidence levels were more likely to be maintained in the longer-term.

Only 16 per cent of participants felt confident cycling on London's roads before they attended their first training session. This increased to 60 per cent feeling confident initially after training. Despite decreasing slightly from initially after training, there remained a significant increase versus before training after 12 months, with 54 per cent feeling confident.

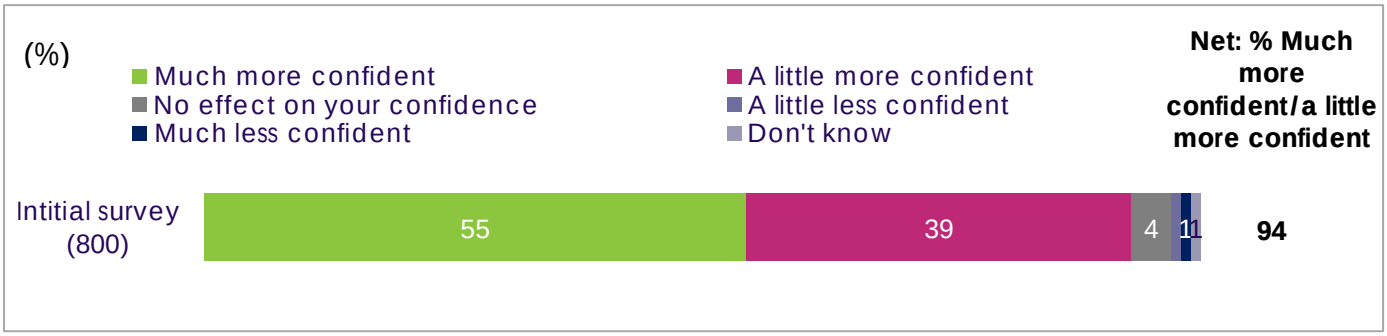
Figure 9: Feelings of confidence



Q12, Q13 (Survey 1), Q6 (Survey 2), Q6 (Survey 3): How confident did/ do you feel when cycling on London's roads? Bases in brackets above.

Almost all participants said that they felt more confident cycling as a result of their training.

Figure 10: Impact of training on confidence



Q14 (Survey 1). What effect did this cycle training have on your cycling confidence? Does it make you...? Base in brackets above

As with safety, men were much more likely to feel confident cycling on London's roads compared to women, before and after training. There was a large increase in the proportion feeling confident after training among men and women. For women there was a slightly stronger increase in the proportion feeling confident after training, but overall confidence was still lower than among men.

Figure 11: Feelings of confidence by gender

% feeling very confident or fairly confident	Men (191)	Women (606)
Before training	32	10
Initially after training	72	55
Percentage point change	+40	+45

Q12, Q13 (Survey 1): How confident did/ do you feel about cycling on London's roads? Bases in brackets above

Indicates significant increase

Participants expressed the improvements they experienced following the training.

"After completion I felt much more confident and more aware of the dangers of cycling and how to stay safe. It also made me a better motorist."

Woman, Waltham Forest

"I did become more confident on my own and as a driver."

Woman, City of Westminster

Some said that their driving ability also improved as a result of the training.

Despite improvements, some trainees still expressed concerns about the safety of cycling on London's roads:

"My training instructor was excellent but even the best instructor in the world cannot make the roads any safer."

Man, Kingston-upon-Thames

"The cycle training was great. I just wish London was safer for cyclists"

Woman, Waltham Forest

Behaviour change

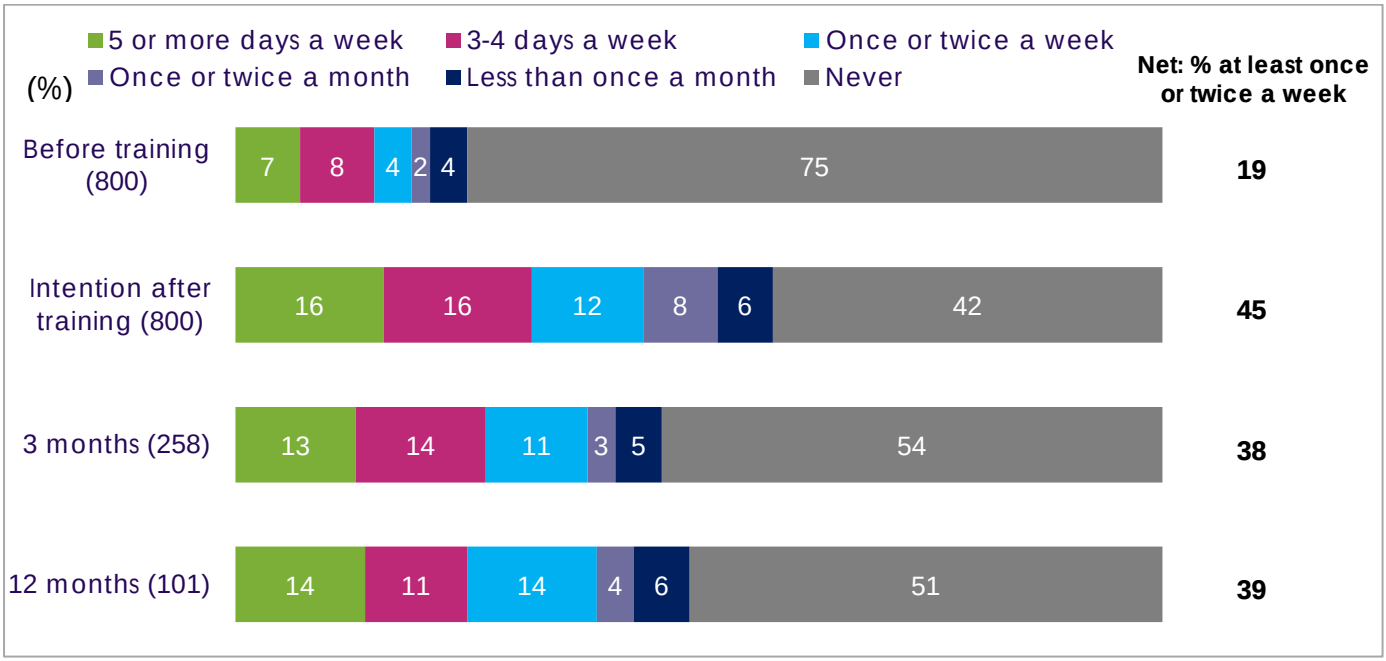
Alongside improvements in confidence and safety, there were also signs of positive behaviour change, with a greater proportion of participants having access to a bike, increased frequency of cycling and a wider range of journeys[1].

Types of journey

Commuting journeys

Before training, only 19 per cent of trainees commuted at least once a week by bike and three quarters never cycled to work or their place of education. Initially after training, trainees showed a strong intention to commute by bike (45 per cent at least once a week). This intention was largely carried out three months and twelve months after training, where 38 per cent and 39 per cent of trainees respectively commuted by bike at least once a week.

Figure 12: Frequency of commuting trips



Q6 (Survey 1), Q10 (Survey 1), Q3 (Survey 2), Q3 (Survey 3): How often do you cycle/ intend to cycle to get to work, school or college or university? Bases in brackets above.

[1] The change in the commuting behaviour of trainees did not take into account any other modes of transport they may have needed or wanted to commute by eg van or taxi drivers, or they may not have needed to travel to work as they worked at home.

Men were more likely than women to commute at least once a week by bicycle before training (32 per cent to 15 per cent). This gap closed, when participants were asked three months after their training; 42 per cent of men and 37 per cent of women commuted regularly by bicycle. Women benefited greatly from training in this respect, as the proportion commuting regularly increased 22 percentage points from before training to three months afterwards.

Age was also a factor, but to a lesser extent. Younger trainees (below 55) were more likely to commute both before and after training and also had a higher percentage intending to do so frequently after training. The lower levels of commuting by bike among those aged 55+ may be explained by some trainees being retired or not needing to commute.

Figure 13: Frequency of commuting trips by gender and age

% commute by bicycle at least once a week	Men (191)	Women (606)	16-34 (341)	35-54 (364)	55+ (89)
Before training	32	15	22	18	11

% commute by bicycle at least once a week	Men (73)	Women (184)	16-34 (109)	35-54 (111)	55+ (37)*
3 months	42	37	48	35	22

Q6 (Survey 1), Q3 (Survey 2): How often do you cycle to get to work, school or college or university? Bases in brackets above *Low base size

Indicates significant increase

There were also some participants who spontaneously expressed that they intended to or had increased cycling for commuting purposes as a result of the training:

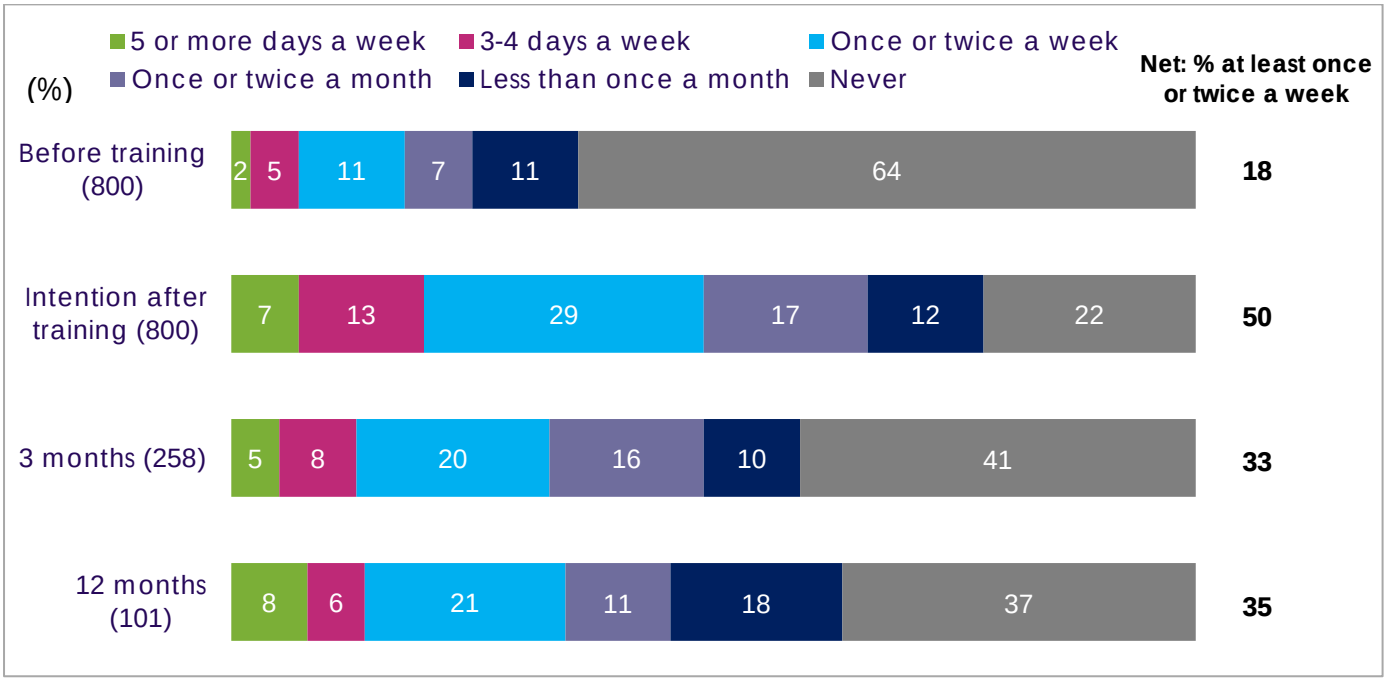
> *"I am ready to buy a bike and start commuting to work."*
>
> *Woman, Kensington & Chelsea*

> *"Without the training I think it is highly unlikely that I would have opted to commute by bike to work or pick it as my transport option as often as I do."*
>
> *Woman, Southwark*

Utility trips

There was also a strong increase in the frequency of trainees cycling for personal errands or to visit friends and family (utility trips) post-cycle training. Eighteen per cent cycled at least once a week for utility trips before training, increasing to half of trainees intending to cycle at least once a week for this purpose after training; 33 per cent and 35 per cent went on to do so three months and twelve months later respectively.

Figure 14: Frequency of utility trips (eg personal errands, visiting friends or family)



Q7 (Survey 1), Q11 (Survey 1), Q4 (Survey 2), Q4 (Survey 3): How often do you cycle/ intend to cycle for transport to other destinations eg to the shops / visiting friends or family? Bases in brackets above.

Men were more likely to make utility trips by bicycle than women, both before and after training. As with commuting, there was a significant increase in the percentage of women cycling for utility trips after training and the overall gap between men and women was slightly smaller as a result.

Unlike those under the age of 55, participants over 55 were more likely to carry out utility trips by bike than they were to commute.

Figure 15: Frequency of utility trips by gender and age

% utility cycling at least once a week	Men (191)	Women (606)	16-34 (341)	35-54 (364)	55+ (89)
Before training	29	15	20	16	19

% utility cycling at least once a week	Men (73)	Women (184)	16-34 (109)	35-54 (111)	55+ (37)*
3 months	41	29	37	30	32

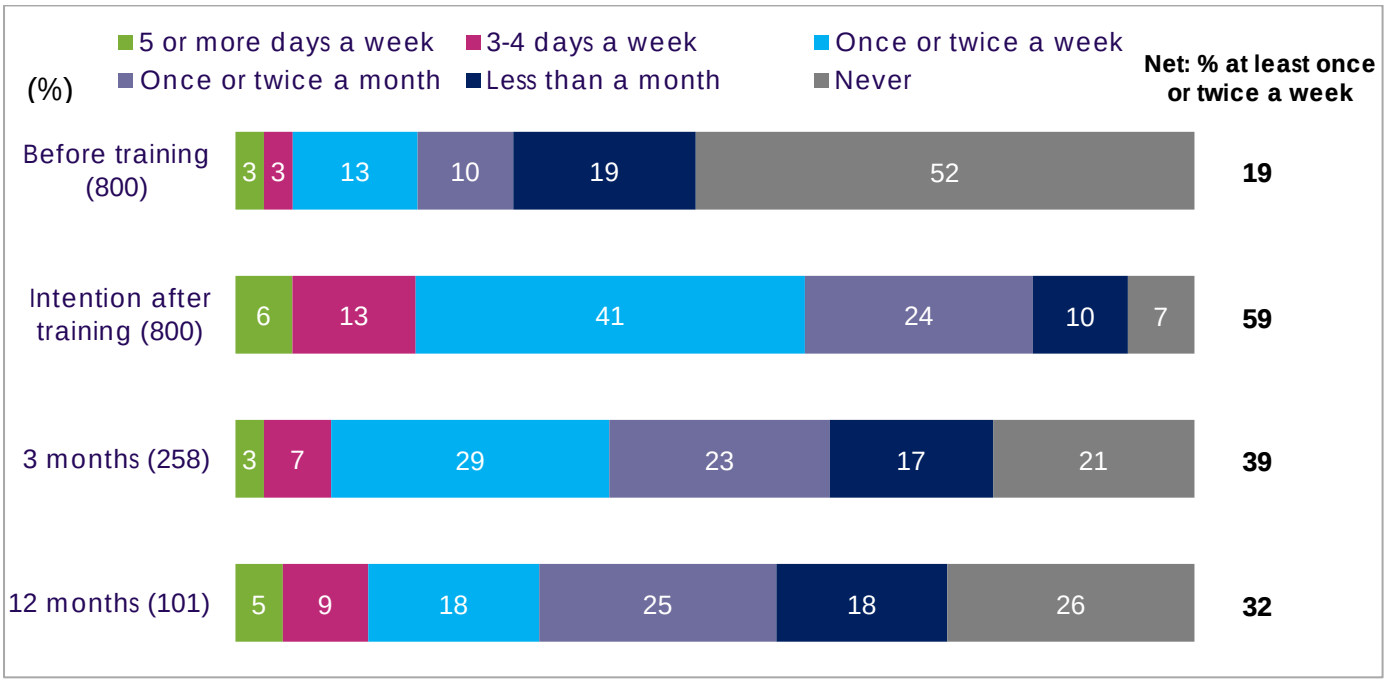
Q7 (Survey 1), Q4 (Survey 2): How often do you cycle for transport to other destinations eg to the shops / visiting friends or family? Bases in brackets above *Low base size

Indicates significant increase

Leisure journeys

Leisure journeys also showed a positive increase. Straight after training, there was great enthusiasm for cycling for leisure purposes; 59 per cent said they intended to cycle once a week or more for this purpose, compared with 19 per cent doing so before training. Three months later, the proportion cycling for leisure was 39 per cent, more than double what it was prior to training. Despite decreasing slightly three months after training, there remained a significant increase versus before training after 12 months, with 32 per cent cycling at least once a week for this purpose.

Figure 16: Frequency of leisure cycling



Q5 (Survey 1), Q9 (Survey 1), Q2 (Survey 2), Q2 (Survey 3): How often do you cycle/ intend to cycle for sport, leisure or exercise? Bases in brackets above.

As with other journey types, men were more likely to cycle regularly for leisure than women before they attended training (31 per cent vs. 16 per cent) and after training (44 per cent vs. 36 per cent). As with other journey types, the proportion of women cycling regularly for leisure significantly increased after training. Although cycling levels were still higher among men after training, the gap between men and women was much smaller.

Those over 35 were more likely to cycle at least once a week for leisure purposes before taking part in training. This increased significantly among all age groups after three months and remained marginally higher among those over 55.

Figure 17: Frequency of leisure trips by gender and age

% leisure cycling at least once a week	Men (191)	Women (606)	16-34 (341)	35-54 (364)	55+ (89)
Before training	31	16	16	22	22

% leisure cycling at least once a week	Men (73)	Women (184)	16-34 (109)	35-54 (111)	55+ (37)*
3 months	44	36	38	39	43

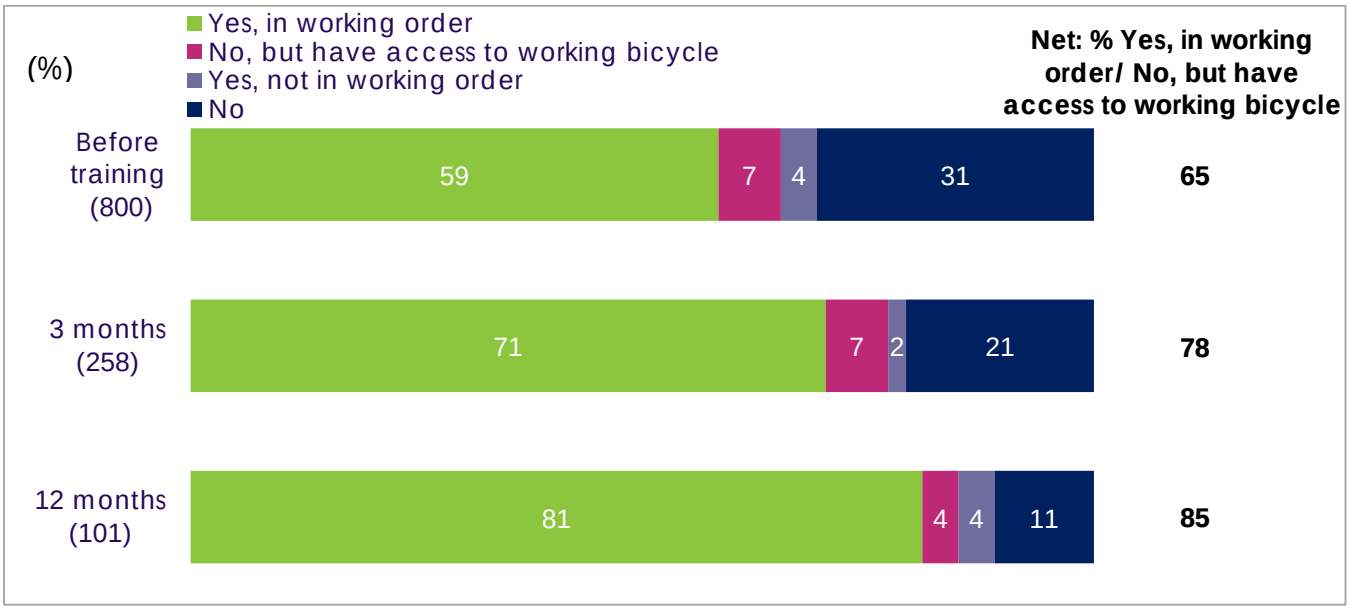
Q5 (Survey 1), Q2 (Survey 2): How often do you cycle for sport, leisure or exercise? Bases in brackets above. *Low base size

Indicates significant increase

Ownership or access to a bicycle

The proportion of participants that owned or had access to a working bicycle increased over time, from 65 per cent initially after training to 78 per cent three months after training and 85 per cent twelve months later. This positive trend indicated that the increased confidence and cycling frequency trainees experienced after training was also encouraging them to invest in bikes and other cycling equipment.

Figure 18: Ownership or access to a bicycle



Q4 (Survey 1), Q1 (Survey 2), Q1 (Survey 3): Do you own a bicycle? Bases in brackets above.

One trainee suggested that trainers could also advise on appropriate and affordable equipment.

> *"Funds are low so cannot afford to purchase a bicycle. Even if I could, I wouldn't know which one to buy (this advice should be built into the cycle training programme)."*
>
> *Woman, Enfield*

White trainees were more likely than BAME trainees to own or have access to a bicycle both before and after training. However, there was an increase for both groups in bicycle ownership or access three months after their initial training session.

Figure 19: Ownership or access to a bicycle by ethnicity

% own or have access to a working bicycle	White (454)	BAME (303)
Before training	77	50

% own or have access to a working bicycle	White (172)	BAME (78)
3 months	87	56

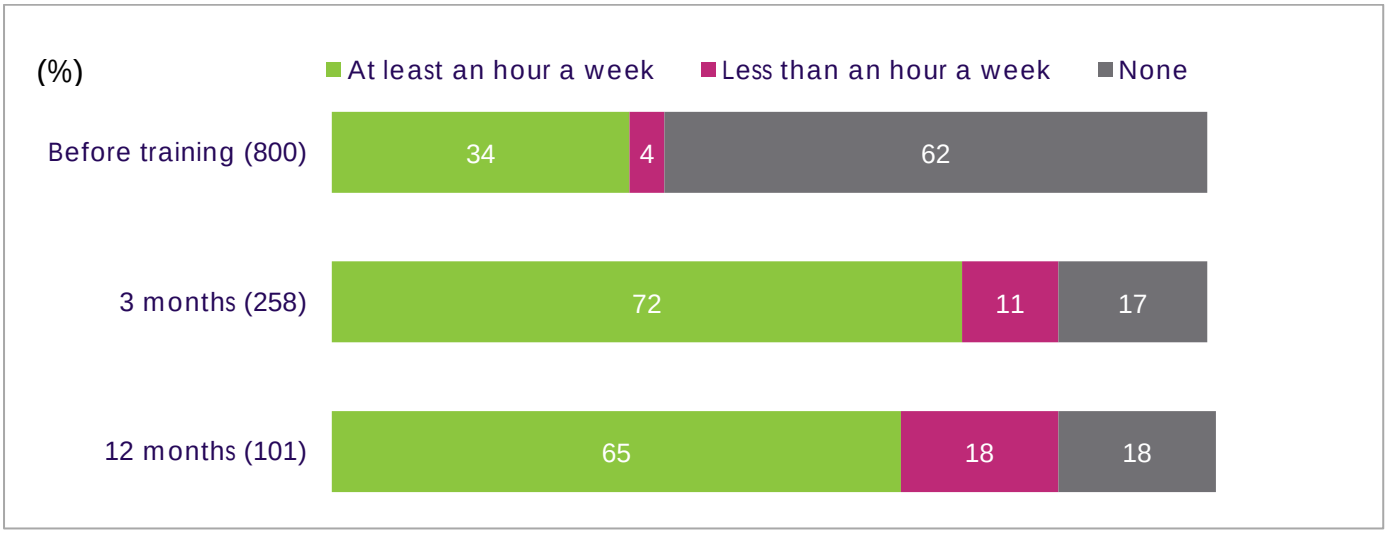
Q4 (Survey 1), Q1 (Survey 2): Do you own a bicycle? Bases in brackets above

Indicates significant increase

Average time spent cycling

Before training only 34 per cent of participants cycled at least an hour a week on average. This proportion more than doubled when asked three months after the initial training date. Despite decreasing slightly from three months after training, there remained a significant increase versus before training after 12 months, with 65 per cent cycling at least an hour a week.

Figure 20: Time spent cycling



Q8 (Survey 1), Q5 (Survey 2), Q5 (Survey 3): How much time in total did/ do you spend cycling a week? Bases in brackets above.

Men were more likely to cycle for at least one hour a week before training but there was little difference across age groups. Time spent cycling a week increased significantly across all groups from before training to three months afterwards. Three months after

training those over 55 were less likely to cycle for at least one hour a week. The gap between men and women cycling was smaller three months after training.

Figure 21: Time spent cycling by gender and age

% cycling at least one hour a week	Men (191)	Women (606)	16-34 (341)	35-54 (364)	55+ (89)
Before training	46	31	34	35	36

% cycling at least one hour a week	Men (73)	Women (184)	16-34 (109)	35-54 (111)	55+ (37)*
3 months	78	70	76	70	68

Q8 (Survey 1), Q5 (Survey 2): How much time in total did/ do you spend cycling a week? Bases in brackets above

Indicates significant increase

Health Economic Assessment Tool (HEAT) analysis

The Health Economic Assessment Tool (HEAT) is used by public sector bodies to estimate the health and economic benefits of investment in cycling and walking. In this section we applied the tool to Cycle Training Monitoring data in order to approximate the potential impact of the programme so far.

For more information on HEAT analysis and how to interpret the data, please refer to the appendix and see the official website: http://www.heatwalkingcycling.org/

Summary of HEAT analysis

If we assumed that 80 per cent of the change in cycling behaviour can be attributed to the Cycle Training programme, the HEAT analysis suggested that 7.26 deaths per year were prevented by the intervention, with an average annual benefit of £2.34m and a cost benefit ratio of 2.26: 1 (ie every £1 spent on cycle training results in £2.26 benefit).

If the proportion of benefit attributable directly to the training was lower (at 70 per cent), there were still substantial benefits achieved.

Figure 22: HEAT calculation of annual benefit and cost-to-benefit ratio

	Per cent of change in cycling attributable to the training		
	70%	80%	90%
Average number of deaths per year prevented by the investment – for this population	6.35	**7.26**	8.17
Average annual benefit reached	£2,051,000	**£2,344,000**	£2,637,000
Benefit to cost ratio	1.98: 1	**2.26: 1**	2.55: 1

Fuller details of the results are found in the appendix of this report.

Context

It is important to remember that the HEAT analysis provides estimates and that each input has a margin of error associated with it. The following points should be considered when interpreting the findings from the HEAT analysis:

- The survey inputs were based on the 800 trainees that completed the initial survey and the 258 trainees that completed the three month survey. The results from the survey completed at three months were based on a smaller base size than the initial

survey due to a natural drop off in the number of trainees responding, therefore the results at three months were only indicative of behaviour change at this stage.

- The survey inputs based on the 800 responding trainees were the average total minutes spent cycling per week specified at Q8 survey 1 (before training) and Q5 survey 2 (three months after training).

  The average minutes a week cycled before training was 74.49 (from a base of 800).

  The average minutes a week cycled three months after training was 173.81 (from a base of 258).

- The benefit estimations were only for the year since the monitoring of the cycle training began (April 2014 – March 2015). When this analysis is applied to more years of training, there is a larger population to apply this to and the data can be more accurate.

- The cost of the programme was estimated at £1,000,000, with the cost per adult trained being roughly £150, multiplied by the minimum number of trainees (6,683).

National standards syllabus for cycle training level (Bikeability levels)

All cycle training participants are taught the national standards syllabus for cycle training. It is a progressive syllabus that requires participants no matter what their perceived skill level to begin at the most basic level and progress through the syllabus demonstrating the national standards outcomes. The syllabus is broken down into four 'Bikeability' levels; zero, one, two and three. Participants are provided with feedback post session as to which outcomes they have demonstrated well and areas that require further improvement.

Based on what they observed during the training session cycle trainers estimate the participants' level of skill, knowledge and experience prior to training in the context of the national standards syllabus. This was done to gauge the types of cyclists who are attending training as well as to demonstrate the improvement in skill level trainees achieve as a result of the training. In order to summarise this data we have broken it down across four levels, including zero which represents a complete beginner.

The levels of Bikeability training:

- **Level 0:** Do not know how to cycle
- **Level 1:** Learn to control and master your bike in an off-road environment
- **Level 2:** Learn to cycle on-road and deal with traffic on short journey's such as cycling to school
- **Level 3:** Learn to tackle a wider variety of more challenging road and traffic conditions (suitable for competent secondary aged and above cyclists)

Please refer to the appendix for a full breakdown of Bikeability levels and training outcomes achieved.

There was clear evidence of skill improvement with 46 per cent of trainees moving from a level zero or one to a level two or three. Furthermore, 55 per cent of trainees that were at a level two moved to a level three.

Figure 23: Overall Bikeability levels after training, by the level they were at before training

Level moved to:	Trainees at level 0/1 before training (n=682)
0/1 after training	**54%** (n=369)
2 after training	**35%** (n=241)
3 after training	**11%** (n=72)

Level moved to:	Trainees at level 2 before training

	(n=98)
2 after training	**45%** (n=44)
3 after training	**55%** (n=54)

Bikeability levels provided by the trainers. Base: (n=799 trainees). Please note one trainee was removed from the Bikeability level calculation because their Bikeability level decreased after training.

Feelings of safety and confidence increased among those with higher Bikeability levels.

Figure 24: Feelings of safety by Bikeability levels after training

(%)	Level 0/1 after training (369)	Level 2 after training (285)	Level 3 after training (145)
Net: Safe	38	66	85
'Very safe'	4	4	12
'Quite safe'	34	62	72

Q16 (Survey 1): How safe do you feel when cycling on London's roads? Bases in brackets above.

Figure 25: Feelings of confidence by Bikeability levels after training

(%)	Level 0/1 after training (369)	Level 2 after training (285)	Level 3 after training (145)
Net: Confident	38	70	94
'Very confident'	5	10	32
'Quite confident'	32	60	62

Q13 (Survey 1): How confident do you feel when cycling on London's roads? Bases in brackets above.

Appendix

Figure 26: Boroughs and their training providers 2014/15

	Boroughs
In-house	Bexley, Bromley, Camden, Greenwich, Hackney, Hillingdon, Islington, Kingston upon-Thames, Lewisham, Merton, Richmond, Sutton, Wandsworth
Bikeworks	Hammersmith & Fulham, Tower Hamlets
Cycle Training UK	City of London, Ealing, Brent
Cycling Instructor	Barnet, Croydon, Haringey
Cycle Experience	Harrow, Hounslow, Redbridge
Cycle Training East	Havering
Cycle Confident	City of Westminster, Enfield, Kensington & Chelsea, Lambeth, Newham, Southwark, Waltham Forest
Vandome Cycles	Barking and Dagenham

Figure 27: The number of trainees who completed the initial survey by borough

Barking & Dagenham	11	Greenwich	24	Lambeth	32
Barnet	9	Hackney	43	Lewisham	14
Bexley	0	Hammersmith & Fulham	30	Merton	23
Brent	25	Haringey	41	Newham	16
Bromley	62	Harrow	15	Redbridge	5
Camden	104	Havering	22	Richmond	0
City of London	14	Hillingdon	0	Southwark	25
City of Westminster	9	Hounslow	15	Sutton	4
Croydon	35	Islington	18	Tower Hamlets	46
Ealing	46	Kensington & Chelsea	25	Waltham Forest	24
Enfield	25	Kingston-upon-Thames	12	Wandsworth	26

Base: all participants (800)

Profile

Figure 28: Profile of participants for each survey

%	Men	Women	16-34	35-54	55+	White	BAME
Initial Survey (800)	24	76	43	46	11	57	38
3 month (258)	28	71	42	43	14	67	30
12 month (101)	33	67	42	46	13	61	35

Bases in brackets above

Bikeability

Figure 29: Bikeability level before training

% Before training	Total (799)	Men (191)	Women (605)	16-34 (341)	35-54 (363)	55+ (89)	White (453)	BAME (303)
Level 0	20	16	21	21	19	17	11	31
Level 1	66	65	66	63	67	69	70	59
Level 2	12	15	12	14	11	9	16	7
Level 3	2	5	2	1	2	6	3	2

Bases in brackets above. Please note one trainee was removed from the Bikeability level calculation because their Bikeability level decreased after training.

Figure 30: Bikeability level after training

% After training	Total (799)	Men (191)	Women (605)	16-34 (341)	35-54 (363)	55+ (89)	White (453)	BAME (303)
Level 0	2	1	3	2	3	2	1	4
Level 1	44	39	45	39	47	48	31	61
Level 2	36	31	37	38	35	30	43	25
Level 3	18	29	15	21	15	19	25	10

Bases in brackets above. Please note one trainee was removed from the Bikeability level calculation because their Bikeability level decreased after training.

Evaluation set-up

Inviting the trainees to take part in our surveys required the trainers themselves to upload trainees' details to a centralised online portal system. To make sure that there were no unforeseen barriers to this process, we conducted an initial pilot with a smaller number of boroughs and training providers. Therefore, the time period which this report covered included the very first stages of the evaluation where this process was trialled, before rolling out the process to all boroughs and training providers across London.

The boroughs and training providers usually organise the uploading of data in such a way that one person will be responsible for liaising with Future Thinking; while they in turn make sure their team of trainers are uploading the trainee information to us.

To keep the boroughs and training providers engaged in this process, Future Thinking created a reporting portal that is updated hourly and can show up-to-date evaluation results for cycle training across London. The accessibility of this system and the way in which it allows users to manipulate the data and access the information they need, may have encouraged trainers and therefore trainees, to take part.

HEAT analysis method

The HEAT analysis produces outputs based on data from the survey and other sources.

From the survey we have inputted:

- The number of trainees in Year 1 (April 2014 – March 2015) of the course: 6,683
- Average time spent cycling before and after training
- Average number of days spent cycling per year before and after training

Pre-training data includes feedback from trainees who took part in the pre-training survey and post-training data are taken from all trainees who took part in the three month survey. As the research progresses we will have a more robust sample for comparison with trainee responses to the 12 months survey, currently we have 101 responses.

For other inputs we have used:

- Mortality rate, calculated from ONS data[2] (573.25 deaths per 100,000 people)
- The future discount rate used by the Treasury of 3.5 per cent[3]

We have also estimated the scale of change that can be attributed to the cycle training itself – calculations are based on a range of inputs for impact: 70, 80 and 90 per cent.

[2] ONS data (2013): http://data.london.gov.uk/dataset/birth-and-death-rates-ward

[3] UK Treasury discount rate for public sector appraisal: The Green Book: Appraisal and Evaluation in Central Government (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf)

HEAT estimate – 70 per cent of change in cycling behaviour attributed to cycle training

Reduced mortality as a result of changes in cycling behaviour

The average amount of cycling per person per year has **increased** between your pre and post data.
This change results in a **decrease** in the average mortality risk for your population of cyclists of: **23 %**

However, the number of individuals cycling has not changed.
In both your pre and post data there are 6,683 individuals who regularly cycle

You have chosen to assess the benefits of **70 %** of this change in reported levels of cycling

Taking this into account, the number of deaths per year that are prevented by this change in cycling is: **6.35**

Economic value of cycling

Currency: GBP, rounded to 1000

The value of statistical life applied is: **3,229,000 GBP**	
*Based on a **5** year build up for benefits, a **0** year build up for uptake of cycling, and an assessment period of **1** years:*	
the average annual benefit, averaged over **1** years is:	**2,051,000 GBP**
the total benefits accumulated over **1** years are:	**2,051,000 GBP**
the maximum annual benefit reached by this level of cycling, per year, is:	**20,509,000 GBP**
This level of benefit is realised in year **6** when both health benefits and uptake of cycling have reached the maximum levels.	
When future benefits are discounted by **3.50 %** per year:	
the current value of the average annual benefit, averaged across 1 years is:	**1,982,000 GBP**
the current value of the total benefits accumulated over 1 years is:	**1,982,000 GBP**

Benefit–Cost Ratio

The total costs of:	**1,000,000 GBP**
Should produce a total saving over **1** years of:	**1,982,000 GBP**
assuming **5** year build up of benefits, **0** years build up of uptake, and discounting of **3.5 % per year**	
The benefit to cost ratio is therefore:	**1.98:1**

HEAT estimate – 80 per cent of change in cycling behaviour attributed to cycle training

Reduced mortality as a result of changes in cycling behaviour

The average amount of cycling per person per year has **increased** between your pre and post data.
This change results in a **decrease** in the average mortality risk for your population of cyclists of: **23 %**

However, the number of individuals cycling has not changed.
In both your pre and post data there are 6,683 individuals who regularly cycle

You have chosen to assess the benefits of **80 %** of this change in reported levels of cycling

Taking this into account, the number of deaths per year that are prevented by this change in cycling is: **7.26**

Economic value of cycling

Currency: GBP, rounded to 1000

The value of statistical life applied is: **3,229,000 GBP**	
*Based on a **5** year build up for benefits, a **0** year build up for uptake of cycling, and an assessment period of **1** years:*	
the average annual benefit, averaged over **1** years is:	**2,344,000 GBP**
the total benefits accumulated over **1** years are:	**2,344,000 GBP**
the maximum annual benefit reached by this level of cycling, per year, is:	**23,439,000 GBP**
This level of benefit is realised in year **6** when both health benefits and uptake of cycling have reached the maximum levels.	
When future benefits are discounted by **3.50 %** per year:	
the current value of the average annual benefit, averaged across 1 years is:	**2,265,000 GBP**
the current value of the total benefits accumulated over 1 years is:	**2,265,000 GBP**

Benefit–Cost Ratio

The total costs of:	**1,000,000 GBP**
Should produce a total saving over **1** years of:	**2,265,000 GBP**
assuming **5** year build up of benefits, **0** years build up of uptake, and discounting of **3.5 % per year**	
The benefit to cost ratio is therefore:	**2.26:1**

HEAT estimate – 90 per cent of change in cycling behaviour attributed to cycle training

Reduced mortality as a result of changes in cycling behaviour

The average amount of cycling per person per year has **increased** between your pre and post data.
This change results in a **decrease** in the average mortality risk for your population of cyclists of: **23 %**

However, the number of individuals cycling has not changed.
In both your pre and post data there are 6,683 individuals who regularly cycle

You have chosen to assess the benefits of **90 %** of this change in reported levels of cycling

Taking this into account, the number of deaths per year that are prevented by this change in cycling is: **8.17**

Economic value of cycling

Currency: GBP, rounded to 1000

The value of statistical life applied is: **3,229,000 GBP**	
*Based on a **5** year build up for benefits, a **0** year build up for uptake of cycling, and an assessment period of **1** years:*	
the average annual benefit, averaged over **1** years is:	**2,637,000 GBP**
the total benefits accumulated over **1** years are:	**2,637,000 GBP**
the maximum annual benefit reached by this level of cycling, per year, is:	**26,369,000 GBP**
This level of benefit is realised in year **6** when both health benefits and uptake of cycling have reached the maximum levels.	
When future benefits are discounted by **3.50 %** per year:	
the current value of the average annual benefit, averaged across 1 years is:	**2,548,000 GBP**
the current value of the total benefits accumulated over 1 years is:	**2,548,000 GBP**

Benefit–Cost Ratio

The total costs of:	**1,000,000 GBP**
Should produce a total saving over **1** years of:	**2,548,000 GBP**
assuming **5** year build up of benefits, **0** years build up of uptake, and discounting of **3.5 % per year**	
The benefit to cost ratio is therefore:	**2.55:1**

HEAT reporting notes (copied from HEAT website)

- Please bear in mind that HEAT does not calculate risk reductions for individual persons but an average across the population under study. The results should not be misunderstood to represent individual risk reductions. Also note that the Value Statistical Life does not assign a value to the life of one particular person but refers to an average value of a "statistical life".
- It is important to remember that many of the variables used within this HEAT calculation are estimates and therefore liable to some degree of error.
- You are reminded that the HEAT tools provide you with an approximation of the level of health benefits. To get a better sense for the possible range of the results, you are strongly advised to rerun the model, entering slightly different values for variables where you have provided a "best guess", such as entering high and low estimates for such variables.

Additional notes

- The reports in the appendix above automatically calculate the built-up benefit over 5 years. We do not include this calculation in our main reporting as our data only covers one year.
- The average cycling figures from cycle training monitoring before and after are not in the same format as the inputs that HEAT use, so calculations were made to transfer from an average weekly duration of cycling to an average daily duration of cycling calculating the number of days cycled from cycle training monitoring frequency of cycling questions.

For more information on HEAT analysis and how to interpret the data, see the official website: http://www.heatwalkingcycling.org/

National standards cycle training outcomes – A summary of level competencies

Level 0

0.0 No outcomes achieved

Level 1

1.1 Demonstrate understanding of safety equipment and clothing
1.2 Carry out simple bike check
1.3 Get on and off the bike without assistance
1.4 Start off and pedal independently
1.5 Stop without help
1.6 Ride along independently (for at least a minute)
1.7 Make the bike go where they want
1.8 Use gears (where present)
1.9 Stop quickly with control
1.10 Manoeuvre safely to avoid objects
1.11 Look all around, including behind (without loss of control)
1.12 Signal right and left
1.13 Share space with pedestrians and other cyclists **(Not compulsory)**

Level 2

2.1 Trainee has achieved all of level 1
2.2 Start an on-road journey
2.3 Finish an on-road journey
2.4 Be aware of potential hazards
2.5 Understand how and when to signal intentions to other road users
2.6 Understand where to ride on roads
2.7 Pass parked or slower moving vehicles
2.8 Pass side roads
2.9 Turn left into minor road
2.10 Make a U-turn
2.11 Turn left into a major road
2.12 Turn right into a major road
2.13 Turn right from a major to minor road
2.14 Demonstrate decision-making and understanding of safe riding strategy
2.15 Demonstrate a basic understanding of the Highway Code
2.16 Decide where cycle infrastructure can help a journey and demonstrate correct use **(Not compulsory)**
2.17 Go straight on from minor road to minor road at a crossroad **(Not compulsory)**
2.18 Use mini-roundabouts and single lane roundabouts **(Not compulsory)**

Level 3

3.1 Trainee has achieved all of level 2
3.2 Preparing for a journey
3.3 Understanding advanced road positioning
3.4 Passing queuing traffic
3.5 Hazard perception and strategy to deal with hazards
3.6 Understanding driver blind spots, particularly for HGV's
3.7 Reacting to hazardous road surfaces
3.8 How to use roundabouts **(Not compulsory)**
3.9 How to use signalised junctions **(Not compulsory)**
3.10 How to use multi-lane roads **(Not compulsory)**
3.11 How to use both on and off road cycle infrastructure **(Not compulsory)**
3.12 Dealing with vehicles that pull in and stop **(Not compulsory)**
3.13 Sharing the road with other cyclists **(Not compulsory)**
3.14 Cycling on roads with a speed limit above 30 mph **(Not compulsory)**
3.15 Cycling in bus lanes **(Not compulsory)**
3.16 Cycling in pairs or groups **(Not compulsory)**
3.17 Locking a bike securely **(Not compulsory)**