TABS RESPONSE TO PAPER ‘Impact of offering cycle training in schools upon cycling behaviour: a natural experimental study’ by Anna Goodman, Esther M. F. van Sluijs, David Ogilvie, 2016

Extract
TABS questions the findings of Anna Goodman et al. that suggest that offering Bikeability in school has no short-term effect on cycling. TABS highlights research has shown that nearly half of parents and children report the child cycles more often after Bikeability than before, and have acquired a range of personal skills, such as better hazard perception, confidence and overall co-ordination. TABS raises some points about the accuracy and validity of some of the data Goodman et al. used, including non-validated questions; and assumptions about levels of participation and completion of Bikeability training amongst children at schools offering training. TABS offers explanations for why we believe there are some misunderstandings and misinterpreted evidence. TABS recommends that more robust evidence is collected about Bikeability and Bikeability Plus, in the form of randomised control trials.

Background
Anna Goodman and her colleagues offer an innovative and persuasive contribution to the growing literature on the effectiveness of cycle training for primary school children in England. Their paper presents the results of an observational, natural experimental study of 3336 10-11 year olds, based on statistical analysis of the Millennium Cohort Study (MCS) and Bikeability operational data. They conclude:

... we found no evidence that offering Bikeability in school had a short-term effect on cycling frequency in children. There was similarly no evidence that children who had been offered Bikeability in school were more likely to cycle independently of an adult, or of differential effects according to the child’s sex, socio-economic background, settlement type or whether they lived in a high-cycling area.

Introduction to Bikeability
Bikeability is the Government’s national cycle training programme that aims to develop skills and confidence for cycling on today’s roads. Currently around half of all primary schools in England offer Bikeability, mostly in combined Level 1 and 2 courses delivered over eight hours in years 5 and 6 by accredited National Standard Instructors. Children learn essential bike handling skills (Level 1)
before most (but not all) progress to learning how to ride on local roads with traffic (Level 2). Only when they have demonstrated all the learning outcomes at each level independently, competently, consistently and confidently are children awarded Bikeability badges and certificates. National standards for cycle training, developed by national cycling organisations with Government, delivered by National Standard Instructors: this is what makes Bikeability different from the plethora of local cycling proficiency training schemes it was designed to replace.

**TABS views on, and evidence for the effectiveness of Bikeability**

- Boys in England aged 11-16 still make more cycle trips than any other age group in the population,¹ and they face greatest risk of injury as a result. Most children who have a bike ride it in the streets near where they live.

- It is perhaps unrealistic to expect an eight-hour intervention for 10-11 year olds alone to turn these children into lifetime cyclists. The Bikeability Plus pilot in 2014/15 was a partial recognition by the Department for Transport that Bikeability was unlikely to achieve significant behavioural change.

- Cycle training is not a substitute for high-quality cycling infrastructure, and in an ideal world both would be available. However even in places where high quality infrastructure does exist - Amsterdam, Copenhagen, Milton Keynes, Stevenage - children are trained to cycle on the road because, however good the infrastructure, sooner or later they will encounter motor vehicles.

- By showing them what to do when this happens, Bikeability provides children who ride bikes with an important life skill.

- Recent research by Ipsos MORI² shows parents of children who have done Bikeability, and children themselves, are very satisfied with the results. A high proportion (87%) of all parents interviewed thought formal cycle training is important, and a similar proportion of parents and children reported improvements in how their children look behind, judge risks and signal when cycling on the road after Bikeability. Almost half (47%) of parents (and 45% of children) report the child cycles more often after Bikeability than before.

- We also know from recent research by the National Foundation for Educational Research³ that children who successfully complete Bikeability Level 2 training are significantly better able to perceive hazards and respond appropriately, demonstrate better road position, observation and understanding of priorities, and are significantly more confident cycling on the road after Bikeability than before, compared with untrained children. Moreover, these effects are sustained for several months after training.

To this extent we can say Bikeability achieves its most proximal objective: delivering the skills and confidence children need to cycle on the road.

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² *Research to Explore Perceptions and Experiences of Bikeability Training amongst Parents and Children, 2015* (Ipsos MORI for DfT, February 2016)

³ *Research into the impact of Bikeability training on children’s ability to perceive and appropriately respond to hazards when cycling on the road* (NFER for DfT, March 2015)
TABS views on Anna Goodman’s 2016 paper

- Anna Goodman’s 2016 paper addresses the wider purpose of Bikeability: to encourage more people to cycle more often. It does this by combining 2012 MCS survey data on children’s exposure to cycle training and cycling behaviour with 2010/11 and 2011/12 Bikeability operational data. In line with other studies comparing the cycling behaviour of trained and untrained children, MCS data alone show trained children cycle more often than untrained children.

- Bearing in mind possible differences in the characteristics of untrained and trained children, the 2016 paper includes only on MCS children leaving primary schools in 2012 (the calendar year in which their parents were surveyed) in which Bikeability was offered. She compares the cycling behaviour of MCS children in schools that offered Bikeability before their parents were interviewed in 2012 (the intervention group) with children in schools that offered training after their parents’ MCS were interviewed in 2012 (the control group). The assignment of MCS children in (academic) Years 5 and 6 to treatment and control groups was based on Bikeability operational data specifying the month and (financial) year in which training was delivered.

- The main difficulties with the paper concern known weaknesses in Bikeability operational data before 2013/14, and use of non-validated questions about cycle training and behaviour in the 2012 MCS survey, and the assumption that by attending schools offering formal cycling proficiency training children actually participate in and successfully complete Bikeability.

- It is unfortunate that the Bikeability operational data are discussed in a separate note rather than in the strengths and limitations section of the paper itself. The methodology assumes that MCS children attending schools in which Bikeability is offered participated in and successfully completed the training, thereby acquiring skills and confidence to cycle on the road. Yet in the study, 32% of parents of MCS children attending schools offering Bikeability answered ‘no’ to the question “Has [Child] ever done any formal cycling proficiency training such as ‘Bikeability’?”, while 28% of parents of MCS children attending schools not offering Bikeability answered ‘yes’ to the question. Regardless of whether parents answered ‘yes’ or ‘no’, all MCS children attending schools offering Bikeability in 2010/11 and 2011/12 (according to Bikeability operational data) were included in the study, and MCS children attending schools where Bikeability was not offered, but whose parents reported had been trained, were excluded from the study.

- The paper concedes that not all children in schools offering Bikeability participate in the training, but asserts that the correlation between Bikeability operational data and MCS parental report is sufficiently strong to validate the results. In the separate note accompanying the paper we find the following statement on Bikeability operational data.

The operational delivery data was compiled from a range of sources and providers, and some did not always provide data in the format in which it was requested. As a result, the organisation compiling the Bikeability delivery data has advised that some delivery data prior to 2013/14 “may not be 100 per cent accurate” (see http://bikeability.org.uk/download/494/). Having said this, the strong correlation that we observed between the operational data (‘whether the school had offered Bikeability’) and the MCS data (‘parental report as to whether their child had completed cycle training’) gives us reason to believe that this potential measurement error did not compromise the validity of the primary comparison in this paper.
• It is puzzling that the parents of 32% of MCS children attending schools offering Bikeability (according to operational data) reported their child had not received any formal training, while the parents of 28% of MCS children attending schools not offering Bikeability (according to operational data) reported their children had received formal training. If poor quality Bikeability operational data does not offer an explanation, what does?

TABS suggestions re. Goodman’s findings
• Bikeability grant funding is for the delivery of Bikeability training in schools, so it is unlikely than many of the 28% of MCS children whose parents reported they had participated in training did Bikeability. This is to be expected, because Bikeability is still only delivered in around half the primary schools in England, and non-Bikeability cycling proficiency training schemes were widespread in 2010/11 and 2011/12. For example in 2010/11, 70 of the 220 primary schools in Cambridgeshire still offered old-style Safer Cycling proficiency training, and the following year only 103 of the county’s schools offered Bikeability. Even in 2015/16, Norfolk County Council continues to offer old-style cycling proficiency training, and does not offer any Bikeability. Moreover, in 2012 the Bikeability brand was not very well recognised by parents. Bikeability brand research reveals that in 2012, 41% of parents who reported their child had been offered cycle training could not identify which cycle training scheme their child had been offered.

• The MCS question is therefore open to misunderstanding, and it is likely that some parents confused Bikeability with another cycling proficiency training offered by schools in their area. If some of the 28% of parents whose children attended schools in which Bikeability was not offered, it is likely that some of the 68% of parents whose trained children are included in the ‘intervention’ group also did not do Bikeability. Unfortunately we do not know how many.

• The paper concedes that not all MCS children in schools offering Bikeability were trained, and not all who were trained passed. This is important, because without having achieved all of the learning outcomes at Level 2, National Standard Instructors are unable to ‘sign off’ a child as having the skills and confidence to cycle on the road.

• We know from scheme-level operational data that even in areas where most schools offer Bikeability, not all children participate in or successfully complete the training. In Cambridgeshire, for example, currently 210 of the 220 (95%) primary schools offer Bikeability, but only 78% of children in these 2010 schools do the training, and only 61% of children in these schools achieve all of the outcomes at Level 2. It is worth noting that Cambridgeshire is one of the better areas: in other places far fewer than 78% of children do Bikeability in the schools in which it is offered.

4 It is worth noting that in 2012 two thirds of local authorities in receipt of DfT Bikeability grants did not report the school year in which training was delivered. Cycling to school: a review of school census and Bikeability delivery data (SDG for DfT, April 2012), p. 8.
5 https://www.gov.uk/guidance/the-national-standard-for-cycle-training,
6 Bikeability brand research survey 2013: summary of responses (SDG for DfT, 2013), figure 3.9.
TABS conclusion

Clearly, offering Bikeability in school is not the same as children successfully completing Bikeability. Stronger evidence focused on children who successfully complete the training is required to detect what are likely to be small behavioural change effects.

In an ideal world, this would take the form of a randomised control trial in which outcomes for children participating in Bikeability and Bikeability Plus interventions will be compared with controls comprising trained and untrained children. With funding for Bikeability secure through to the end of this Parliament, now is a good time for collecting robust evidence demonstrating the effectiveness of this important national programme.

TABS Board, April 2016