

Nottingham City Council, Traffic Management
Department of Environment and Regeneration

Motorcycle Barrier Demonstration Event at Silverdale Walk,
Silverdale, Clifton, Nottingham 10th October 2007
Summary of Results



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1. Background

In Nottingham, public footpaths, bridleways, cyclepaths and other public places suffer abuse from unauthorised vehicles (consisting mainly of off-road motorcycles, quad bikes and more recently the “Mini Moto”). These machines cause safety concerns for local residents and users of the path network and open space network. To try and address these concerns the City Council have introduced restrictive barriers on access points at known hot spots. Although the barriers have been reasonably successful they also compromise, and in some cases actually deter, legitimate users of mobility chairs, pedal cycles and people using double buggy prams and push chairs. The Council have been both praised by residents suffering from the use of these unauthorised vehicles and at the same time criticised by some user groups for being reactive as opposed to proactive in trying to tackle the problem.

2. Aims of the demonstration

The information gained from the demonstration will help inform decisions on when to use a barrier and the best type of barrier to use for a particular location. The information will also provide the basis of a Policy to inform both Council officers and the public when the Council will introduce a barrier.

3. Survey methodology

Following discussions with Transport Initiatives (Cycling England), as part of their Professional Advice Programme to Local Authorities, a demonstration event was held in October 2007. Different types of user (walkers, cyclists and less able / mobility aid users) were invited along and asked what they thought of three different types of barrier in terms of their “ease of use” and their ability to negotiate a particular design of barrier. The ease of use would be considered against how effective a particular barrier was for deterring the motorcycles. After all, if the barrier is ineffective in deterring the motorcycles, then why install it? Key users groups were invited along to the demonstration along with the Nottingham Disability Advisory Group and Nottingham Local Access Forum.

4.0 The types of barriers used in the demonstration

Figure 1 – 3 show the 3 different types of barriers that were used in the demonstration event.

Figure 1: staggered (chicane) barriers



Figure 1 shows a cyclist negotiating the staggered (chicane) barriers: The barriers were set apart at a distance of between 1.5 metres (1500 mm) and 1.8 metres (1800 mm) between railings. This is wider than the DfT recommended 1.2 metre (1200 mm) spacing which allows mobility scooters and chairs to manoeuvre through the chicane. The legs of the barriers were placed on blocks so the width could be adjusted as and when necessary during the demonstration.

Figure 2: K barrier

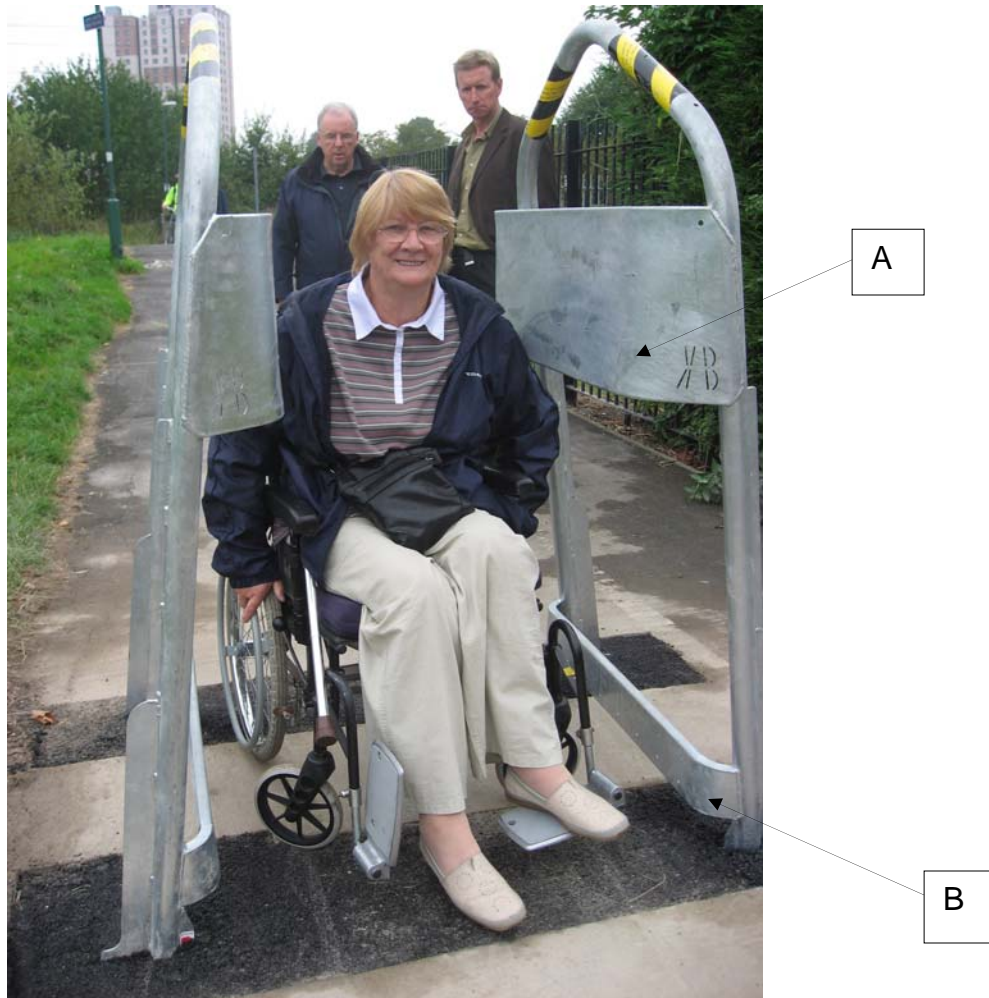


Figure 2 shows a manual mobility chair user negotiating the K barrier: The upper squeeze plates (marked A) are adjustable from 200 mm to 800 mm. The plates at ground level (marked B) can be adjusted from 921 mm to 1374 mm. The barrier stands 1615 mm from the ground. For the demonstration, the squeeze plates were set at 580 mm which was based on pre-event trials at one of the Nottingham shop mobility centres.

Figure 3: A frame barrier



Figure 3 shows a cyclist negotiating the A frame barrier: Once installed this barrier has a fixed distance of 330 mm at the top between the side plates, 1000 mm at the base (ground level) and stands 1500 mm from the ground. Currently this barrier has been installed at known hot spots across Nottingham.

5.0 Pre-event measurements (deciding on the distance of the adjustable plates for the K barrier)

A preset distance of 580 mm was used for the K barrier (figure 2). This was based on pre-trial measurements at Shop Mobility in Nottingham city centre. The distance used was considered suitable so the user of the mobility chair feels confident as they pass through the barrier and not intimidated by the possibility of getting stuck in the barrier.

6.0 Results from the Survey

40 questionnaires were completed over a period of 3 hours (13.00 hrs – 16.00 hrs). Users were asked to try the 3 different barriers (Figures 1-3) and then answer 12 questions. Questions 1-5 asked how people used the path network (walk, cycle, mobility chair or other); whether they considered themselves to have a disability; whether the disability affected how easily they could negotiate a barrier and whether a barrier would put them off using a particular path or route. Questions 6-12 asked whether they knew why the Council installed the barriers; whether there was an existing barrier that caused them a particular problem; whether there was a local hot spot / problem with motorcycles that needs addressing; what other measures the Council should employ before installing a barrier; who's responsible for tackling the problem (for example the Council or the Police) and would they liked to be involved in any future consultation. A copy of the questionnaire is attached at Appendix 1.

Figure 4:

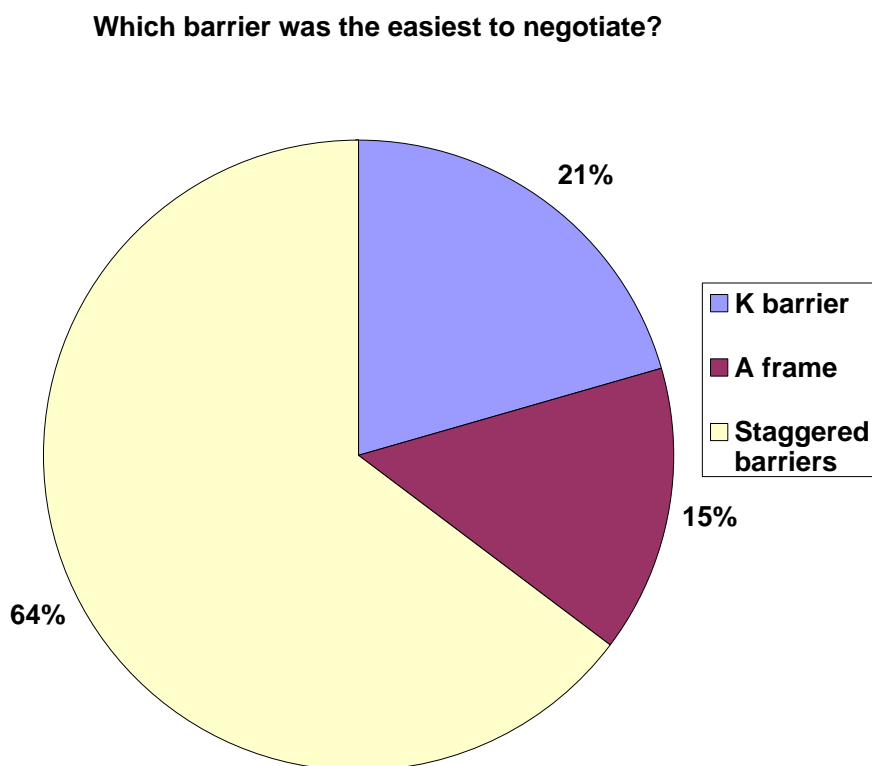


Figure 4 shows, overall, which one of the 3 barriers people found the easiest to use. 64% preferred the staggered barriers. Cyclist preferred this barrier because they did not have to dismount when passing through.

Figure 5:

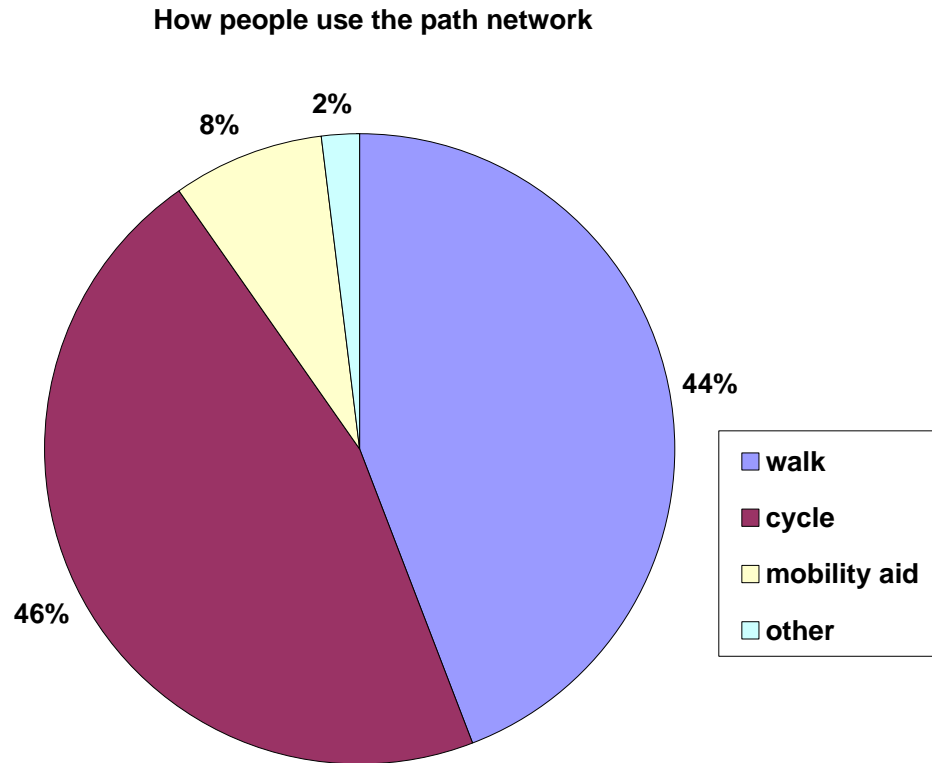


Figure 5 shows that 46% of people who attended the event mainly cycle when using the path network, 44 % mainly walk, 8% use a mobility aid and 2% use another form of transport (on this occasion the motorcycle)

Figure 6:

Would a barrier put people off using a path / route?

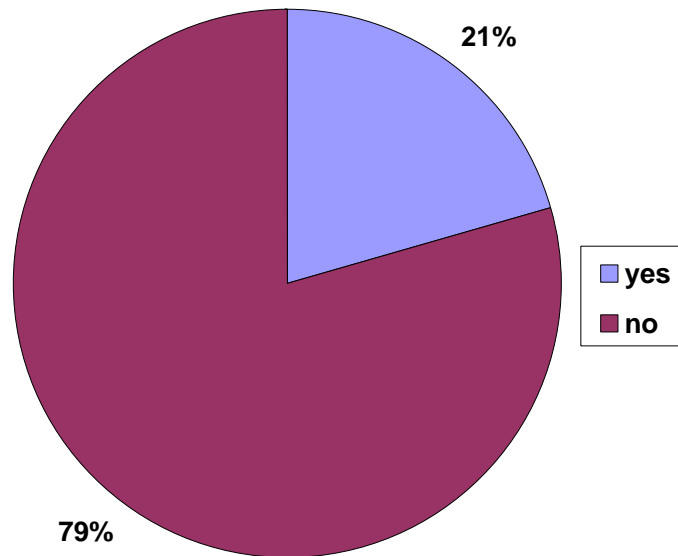


Figure 6 shows that on the day the majority (79%) of path users said they would not be put off using a particular path or route by any of the barriers.

Figures 7, 8 and 9 show the results from figure 5 split into the different types of users (walkers, cyclists and mobility aid users)

Figure 7:

Those who mainly walk and would be put off by a barrier

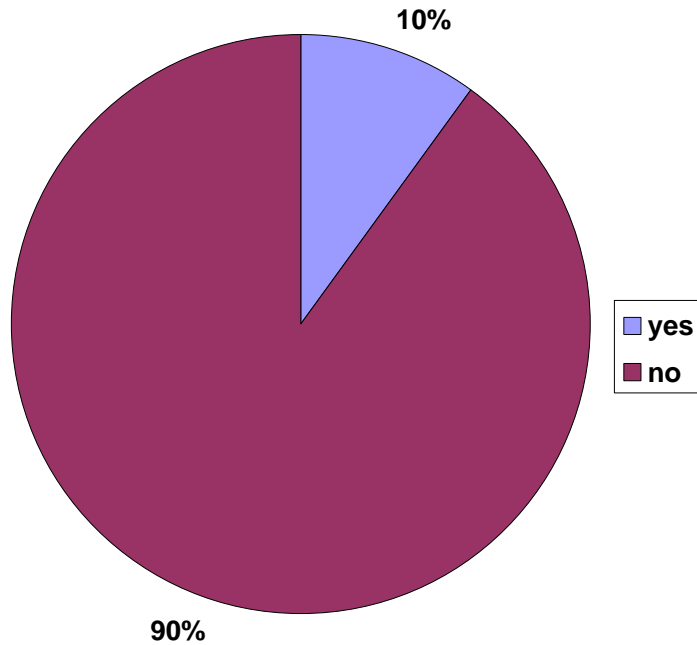


Figure 7 shows that 90% of walkers who attended the event would not be put off by any of the barriers when deciding to use a particular path or route. One of the walkers stated they would be put off by the narrowness of the A frame and they found the K barrier the easiest to negotiate.

Figure 8:

Those who mainly cycle and would be put off by a barrier

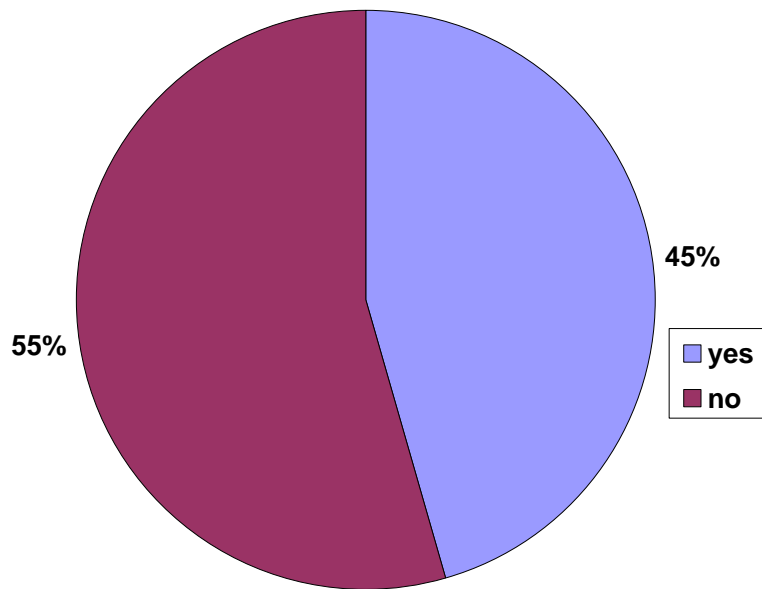


Figure 8 shows that 55% of cyclists who attended the event would not be put off by any of the barriers when deciding to use a particular path or route.

Of the 45% of cyclists who would be put off by a barrier, 2 cyclists stated they preferred the staggered barriers because they didn't have to dismount, 1 stated they found the K barrier the hardest to negotiate because of the long side plates and 1 found the K barrier the easiest to negotiate because they could cycle straight through due to the handlebar clearance.

Figure 9:

Those who use a mobility aid and would be put off by a barrier

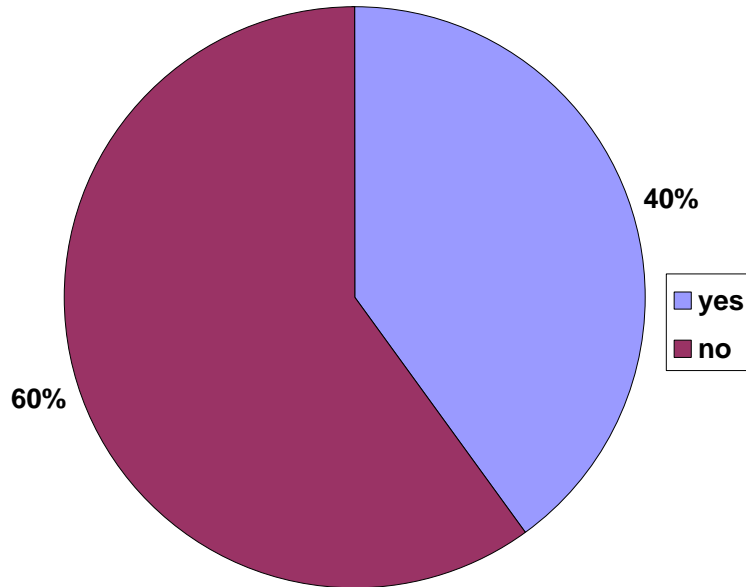


Figure 9 shows that 60% of mobility aid users who attended the event would not be put off by any of the barriers when deciding to use a particular path or route.

Of the people who indicated they were disabled, 60% would not be put off using a particular path or route by any of the three barriers (unless of course they could not physically get through it to continue their journey). One person was a carer of someone who used a manual mobility chair. The carer found the K barrier the easiest to negotiate because there was plenty of headroom (see Figure 3 above). They found the staggered barriers the most difficult to negotiate, but this depended on the distance the staggered barriers were set apart.

From the 40% who would be put off by a barrier, 1 person was a carer of someone who used an electric mobility scooter. The carer found the staggered barriers the easiest to negotiate due to their distance apart and the A frame and K barrier were equally the most difficult because they were both at least 100 mm too narrow at the top. This type of mobility chair (which had been specially adapted) could not physically pass through either the K barrier or the A frame. Also from the 40%, 1 person used a manual wheel chair and found the staggered barriers the easiest to negotiate because there were no height restrictions and found both the A frame and K barrier the most difficult due to the

height of the barriers at shoulder level (see figure 2) which made pushing the wheels of the chair much more difficult.

7.0 The effectiveness of the different barriers for controlling motorcycles

Figure 10:



Figure 10 shows an experienced “off road” motor cross rider negotiating the A frame. This machine is perhaps larger (in height) than the average motorcycle that you would encounter on a public path, but still gave a good indication of how easy or difficult the rider found a particular barrier.

Out of the K barrier and A frame, the motorcyclist indicated that the A frame was the most difficult to negotiate due to the plates being narrower at the top of the barrier and it took several attempts to get through successfully. Figure 10 shows that the rider had to dismount to get through the barrier. The motorcyclist found the K barrier (which was set at 580 mm) reasonably easy to negotiate by weaving the handlebars through. The staggered barriers were the easiest to negotiate. The "Mini Moto" type machine seems to be proving popular in many areas and due to their miniature size, these machines are virtually impossible to control using any type of barrier.

8.0 Other comments from the consultation

Summary of comments received from a disabled tricycle user after the demonstration event. (This user found the K barrier the easiest to negotiate due to the more upright sides which gave more clearance for the handlebars).

"The staggered barriers at the trial were very close together and I found them very difficult to get around. On my way home I found several staggered barriers, and I was able to manoeuvre through all of these without too much difficulty, and found them easier than the K-frame barrier".

"The A-frames are particularly difficult when approaching uphill because it forces you to set off uphill from a complete stop, I find the A-frames installed at another site much harder to get through than the presumably-identical A-frame at the at the demonstration event where it's basically flat and the approach is in-line".

"I'm sure the Old Coach Road staggered barrier is narrower than the ones I encountered this afternoon on the way home from the event but the trial one seemed narrower still. So much so that I think it might have been impossible to get through if there had been a side wall or fence to enclose the barrier. However, the concrete 'feet' sticking out definitely made it much more difficult, so I'm not sure how I would have found it if the feet hadn't been sticking out as much.....It all seems more complicated than it did at first!"

Figure 11:



Figure 11 shows the model of Tricycle used during the event.

Summary of comments from a keen motorcyclist (and owner of a motor crosser) who attended the event

“The existing A frame is the most difficult to pass through with a motorcycle. The motorcycle used at the event was a large example of an off-road bike. We got it through the A frame barrier, but with difficulty. Smaller bikes, little scooters and mini-motos go through the A frame design reasonably easily, however it really slows them down, to the point of stopping, making it easy to get caught by the police at this point.”

However, this [A frame] design does present difficulties for some kinds of wheelchairs I'm told".

"The other two designs [K barrier and the staggered barrier] were quite ineffective against motorcycles. The staggered barrier in particular was so easy I could virtually ride my big road bike through, almost without stopping. Of course wheelchairs got through these lesser barriers more easily".

Summary of comments from Sustrans Ranger who attended the event

"I attended the barrier event yesterday. There were 3 barriers on display and comments were required on each. The A frame and K barrier required the cyclist to dismount but the staggered barrier could be ridden around. Also on the trail were a couple of motorbikes, an off road bike and road model [which helped gauge the effectiveness of the different barriers for controlling motorcycles]".

"It is illegal for motorcycles to use a footpath or cycle way but the Police do not prosecute therefore it seems up to the Local Authority to deter this illegal use.....A well organised event and encouraging to see those responsible seeking outside comments".

9.0 Conclusions

Overall, those that attended the event thought it was a great success; an opportunity to bring different people with different mobility problems together including those that face the difficulties of negotiating a barrier on a day to day basis and those that deal with requests to install them and with the complaints for their removal.

The results from the questionnaires show that some general statements and views are misconceptions. For example, before the event some people had expressed the view that most users (whether cycling, walking, or using a mobility aid) would be put off using a path by having to negotiate a barrier on their journey, for example having to slow down and dismount from their cycle or wiggle their handle bars or a walker having to turn sideways to fit through the barrier. On the day 79% of people stated that they would not be put off using a path or route (as long as they could physically get through it) by any of the barriers. Of these, 90% mainly walked when using the network, 55% cycled and 60% used some form of mobility aid.

When asked which of the three barriers were the easiest to negotiate 64% of people thought the staggered barriers were the easiest, 21% the K barrier and 15% the A frame. The motorcyclist found the A frame the hardest to negotiate.

It is almost impossible to cater for every type and model of cycle and every type of user and to install a barrier that suits everyone. The information from the event supports the view that it is very important to carryout pre-consultation before any decisions are taken to install a barrier, which will help determine the most suitable (and least suitable) type

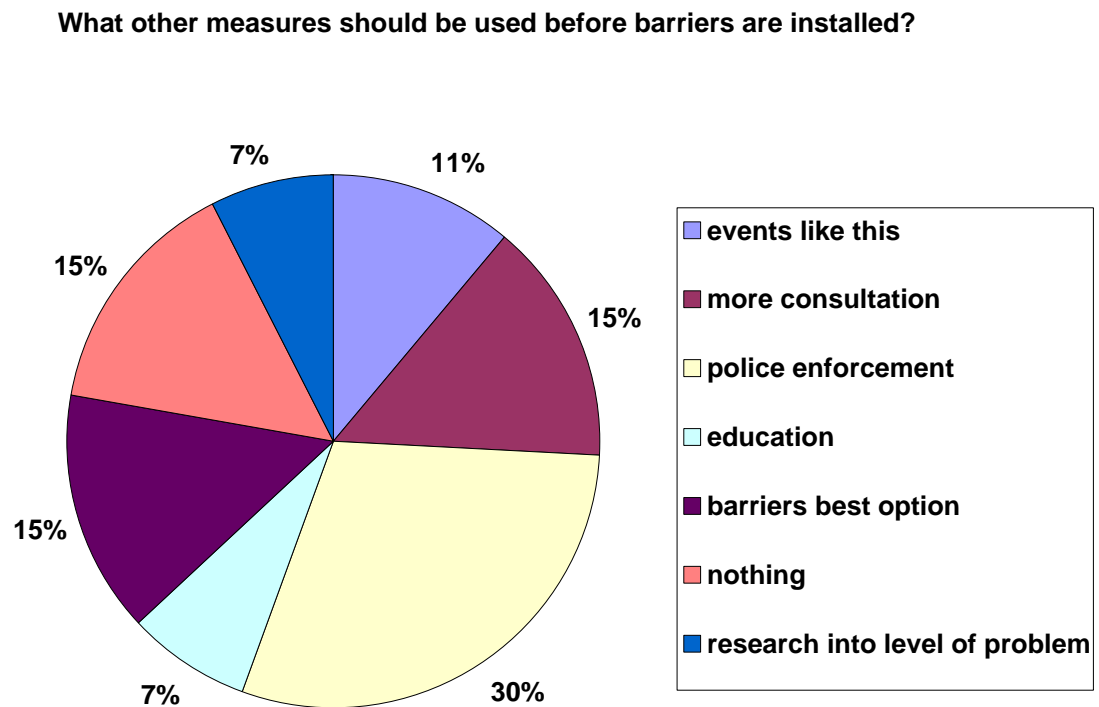
of barrier for a particular site, local circumstances and expected users, either local or from further a field.

Consideration should also be given to factors such as whether a path that is being considered for a barrier(s) serves local health facilities such as a hospital, doctor's surgery or residential care home and whether the path is used by people who rely on a mobility chair or other mobility aid. Consideration should also be given to the distance between each barrier and the number of barriers used along a particular route. Some cyclists have indicated that too many barriers along a particular route may become tedious and may put them off using a particular path or route.

Most people agreed that some form of control was needed especially where public safety has been identified.

Figure 12 shows what most people thought when asked what other measures should be used before a barrier is installed. 30% believe that the Police should take more enforcement action to control unauthorised vehicles before barriers are installed, 15% believe more barriers should be used, another 15% more consultation, a further 15% believe in doing nothing, 11% believe more events like this, 7% believe there should be more research into the problem and the remaining 7% better education.

Figure 12



10 Changing the methodology (what we would do different next time)

Any future questionnaires should include a question about the type or model of cycle that people generally use when using the network. This will help build a picture on the range of difficulties that people may encounter with different types of cycle (i.e. seat height, handlebar width) and inform any decision on the most appropriate barrier for a particular location. During the event two members of staff were on hand to help people complete questionnaires. To capture more data, any future events will need additional staff to explain the purpose of the event and help complete the questionnaires.

APPENDIX 1

QUESTIONNAIRE USED FOR THE EVENT

1. Generally, how do you make use of the path network?

Walk Cycle Mobility aid

Other.....

2. Do you consider yourself to have a disability?

Yes No

If yes, does your disability affect how easily you can negotiate a particular barrier?

Yes No

If yes, please give details.....

.....

3. Which barrier did you find the easiest to negotiate?

K Barrier A Frame Staggered

Why?.....

.....

.....

4. Which barrier did you find the hardest to negotiate?

K Barrier A Frame Staggered

Why?.....

.....

5. Would a barrier put you off using a particular path / route?

Yes No

6. Do you know why the Council install barriers?

Yes No

7. Is there a particular path that you think we should install a barrier on?

Yes No

If yes, please give the location.....

8. Is there a particular path that you think we should remove a barrier from?

Yes No

If yes, please give the location.....

.....

9. before installing a barrier, what other actions or measures do you think the Council should employ to address the problems?

.....

.....

10. do you think the problem with motorcycles is the responsibility of

the Council the Police both

other.....

11. Would you like to be included in any future consultation?

If yes please complete your contact details below

Name.....

Address.....

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Tele.....

Email.....

12. Please include any other comments below

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THANK YOU FOR YOUR TIME