



Euston Tactile Workshop

November 21st 2014

A group of people interested in tactile paving and its application met at Friends House in Euston London on the 21st of November 2014 to discuss possible changes to the 'Guidance on the use of tactile paving surfaces' (tactile guidance) published by the Department for Transport.

The group included street users with sight loss, street designers, mobility trainers, traffic engineers, researchers and policymakers. Discussion was facilitated using scale tactile models depicting possible tactile paving layouts for the contexts discussed.

Three proposed amendments to the tactile guidance were unanimously agreed as well as two additional design requirements for controlled crossings not currently covered in the guidance. The first part of this document covers these amendments. References are all to the tactile guidance.

In addition a number of other ideas were put forward that did not receive unanimous agreement. These are covered along with the discussion around them in the third part of this document. The second part contains summaries of the contributions made by workshop participants speaking from their different perspectives.

The final part of this document contains recommendations for further actions arising from the workshop.

Relaxation of the requirement for the back edge of an area of blister paving to be perpendicular to the crossing direction and adoption of the ‘Westminster Curve’

Replaces:

“The back edge (of the section of tactile surface which extends across the dropped kerb) should be at right angles to the direction of crossing (Figure 3 page 29). This may not necessarily be parallel to the kerb.” 1.5.1.2 (p28)

With:

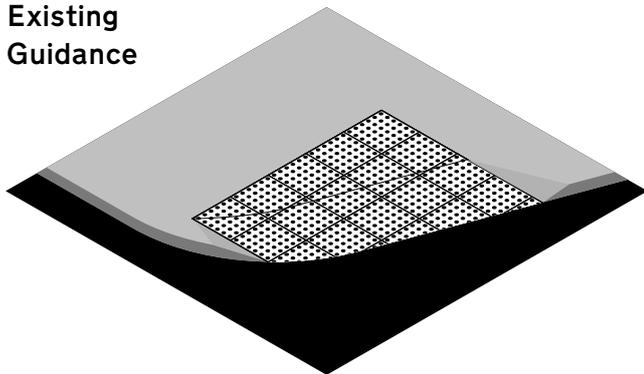
The back edge of a section of tactile surface delineating the boundary between the footway and carriageway should be parallel with the boundary and set back in the direction of crossing by a fixed distance (typically 800 mm or 1200 mm). In the event that the boundary includes a curved section this will result in the back edge of the tactile surface also including a curve.

This change should not affect the practice of laying the tactile surface so the blisters are aligned parallel to the direction of crossing nor the requirement for the provision of a stem at controlled crossing points 1.5.1.2 (p30).

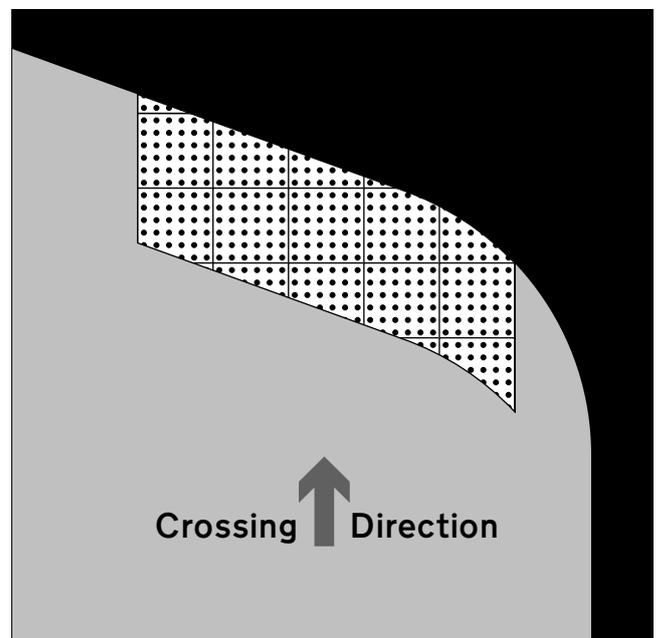
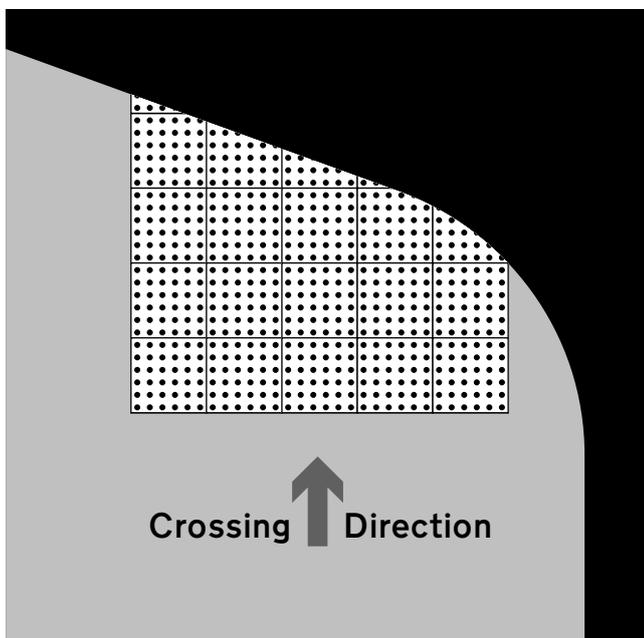
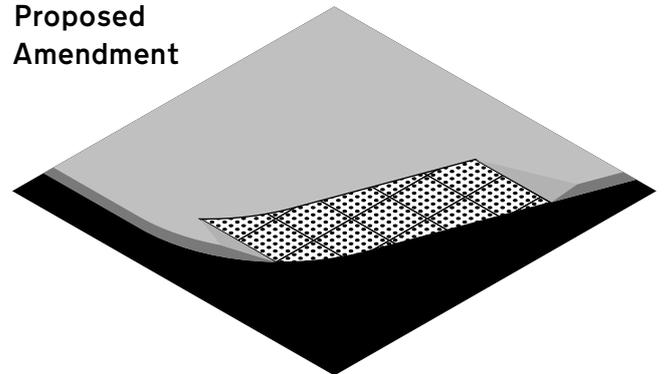
Justification:

It was acknowledged by workshop participants that the expansive trapezoidal areas of blister surface, created by the strict application of the perpendicular back edge rule at many irregular crossing points, were not providing the accurate orientation information many people with sight loss need to navigate. It was felt that the increase in accuracy and specificity that would be provided by a smaller, simpler area of blister surface would justify the loss of the information provided by the perpendicular back edge.

Existing Guidance



Proposed Amendment



Replacement of the requirement for blister paving at a controlled crossing to be red with a requirement for at least a 50% contrast ratio with the surrounding paving

Replaces:

“The red blister surface should be used at controlled crossings only... It is best to avoid using any other red material in the vicinity of a controlled crossing. Where this is unavoidable it will be necessary to provide a contrasting border around the blister surface contrasting in colour and tone. A border 150mm wide should provide sufficient contrast. Where there are conservation considerations an alternative colour for the tactile surface may be appropriate (see 1.5.6).”

1.5.1.1 (p28)

“Where the blister surface is provided at crossing points in conservation areas or in the vicinity of a listed building, some relaxation of the colour requirements may be acceptable. In these limited circumstances only, the tactile surface may be provided in a colour which is in keeping with the surrounding material.” 1.5.6 (p51)

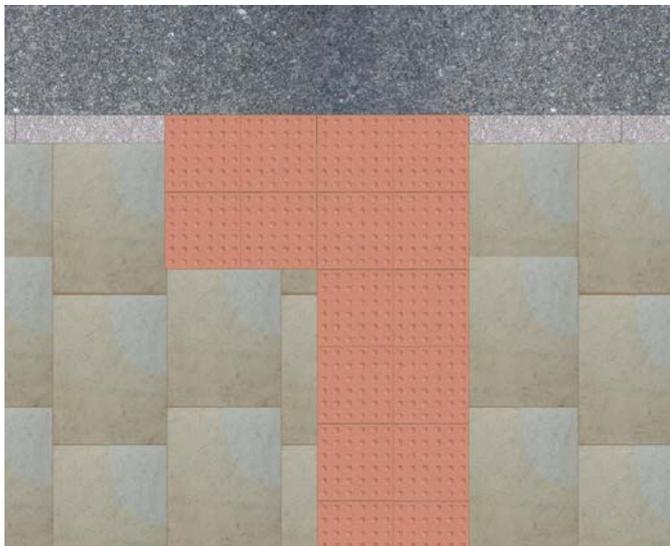
With:

The tactile surface used to indicate the presence of a controlled crossing should provide a contrast ratio of at least 50% to the surrounding paving in both wet and dry daylight conditions and when illuminated by the adjacent street lighting at night.

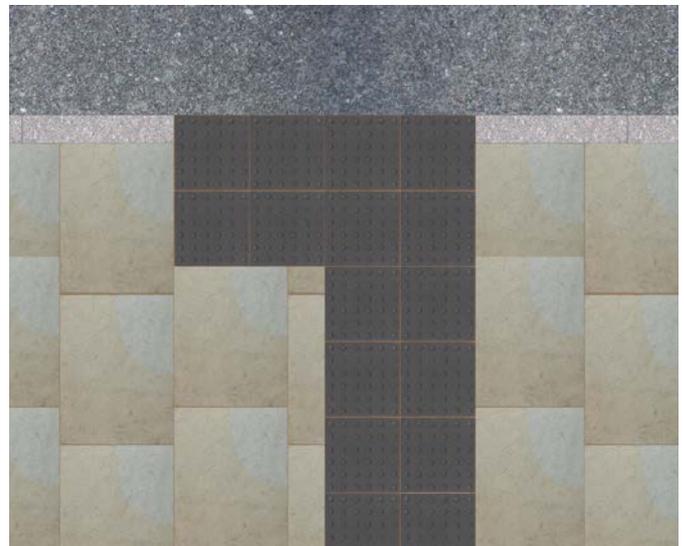
Justification:

Workshop participants felt that for the majority of street users with low vision colour contrast provided more assistance than the presence of a specific colour (particularly a colour so close in tone to common paving materials such as Yorkstone). Adoption of a specified minimum contrast ratio should ensure consistency in the presence of this contrast whilst providing designers freedom to design in sympathy to local context.

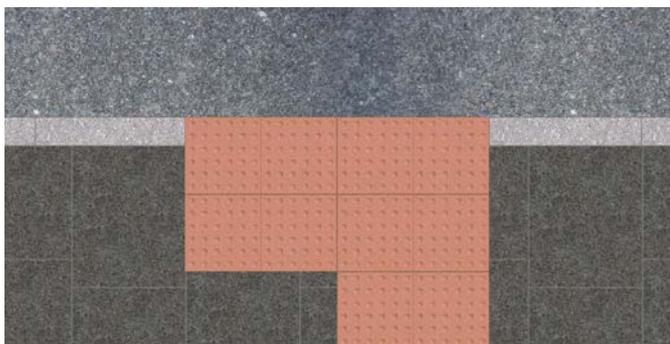
Mockup of ‘Red’ blister paving against Yorkstone - Contrast ratio 22%



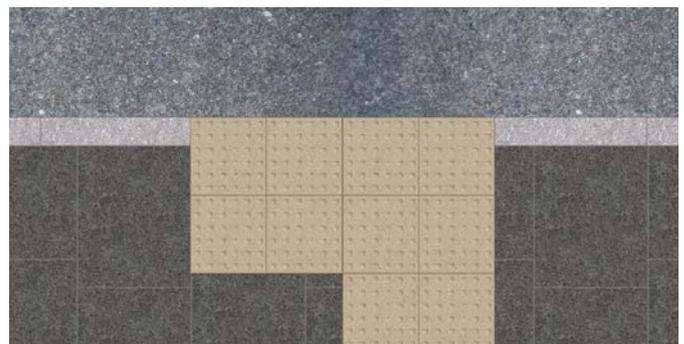
Mockup of ‘Charcoal’ blister paving against Yorkstone - Contrast ratio 69%



Mockup of ‘Red’ blister paving against ‘Black Flamed Granite’ - Contrast ratio 38%



Mockup of ‘Natural’ blister paving against ‘Black Flamed Granite’ - Contrast ratio 57%



Introduce a universal requirement for the boundary between carriageway and footway to be demarcated with tactile paving wherever they are at the same level

Replaces:

“Where an extensive area of the carriageway has been raised then it will not be appropriate to install the tactile surface along the full length. In those circumstances the tactile surface should be limited to the ‘crossing’ area (Figure 15 page 49), and the remaining raised carriageway either side of the tactile surface should maintain a level difference with the footway of at least 25mm high or have a continuous physical barrier, for example, planters, railings” 1.5.5.1 (p48)

“Where the carriageway has been raised to the level of the footway around an entire junction, it is essential that visually impaired pedestrians are kept away from the radius by the use of continuous physical barriers, for example, guard railings (Figure 17 page 50).” 1.5.5.3 (p48)

With:

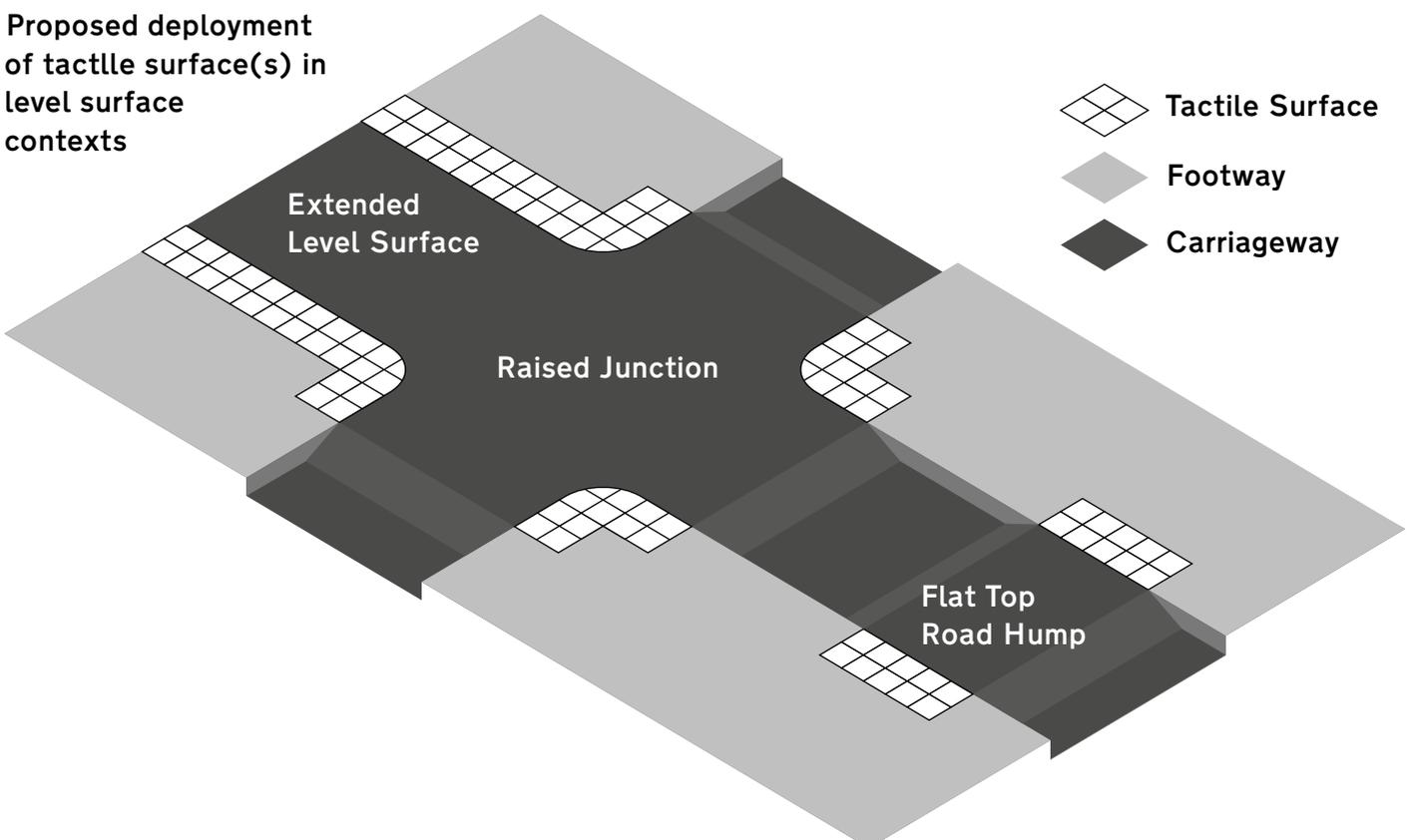
Wherever there is no level change between carriageway and footway the boundary between footway and carriageway must be delineated with a tactile surface. This rule should apply to any continuous barrier-free surface occupied by pedestrians and vehicles be that a flat top road hump, a raised side road or junction, or an extended level surface area.

Justification:

Workshop participants agreed that there needed to be a simple, unambiguous rule to prevent the appearance of un-delineated level surfaces (for example where designers implemented the raised junction treatment described but omitted the guard railings).

There was extensive discussion regarding the tactile surfaces that should be used to accomplish this delineation in different contexts with no final agreement. Workshop participants were divided between two options (see subsequent discussion section) however all felt that a rule requiring some form of tactile delineation in these contexts was a step forward with regard to the current situation and so worth making at this point. It is anticipated that further work will be carried out to determine the best combination of tactile surfaces to use in each context.

Proposed deployment of tactile surface(s) in level surface contexts



Require push-button boxes at both sides of controlled crossings to have tactile rotating cones

These amendments do not replace any section of the 'Guidance on the use of tactile paving surfaces' but cover an area that workshop participants would like to see included in future guidance - crossing push-button boxes.

In many local authorities it is standard practice to only install tactile rotating cones at right-hand push-button boxes even when boxes are installed on both sides of a controlled crossing. Workshop participants felt that boxes on both sides would make busy crossings easier to use for people with sight loss, particularly long cane users.

Euston Amendment 4b

Require push-button boxes at controlled crossings to carry tactile arrows indicating the direction of crossing

Workshop participants felt that tactile arrows on push-button boxes (as deployed in Israel) could present a more effective way of indicating crossing direction than the back edge of an area of tactile paving.

It was felt that the addition of these arrows could compensate for any navigational information lost as a result of implementing Amendment 1 whilst providing additional information to those not able to orientate themselves using the blister alignment.

Illustration of tactile arrow UK push-button box



Tactile arrow on push-button box in Tel Aviv



Workshop presentations summary

Workshop participants were invited to give presentations on various aspects of the use and implementation of tactile paving based on their personal and professional experiences. Their contributions are summarised below.

1 Barriers to mobility Guide Dogs Policy Team

People with sight loss need an environment that is sympathetic to their needs in order to be able to travel independent ly.

“As a person with sight loss I would like to go to places that I don’t know but where the infrastructure is consistent”

Barriers to independent mobility include:

- Noisy Environments
- Places where a lot is going on (crowded etc)
- Temporary obstacles (roadworks etc)
- Areas with little or no tactile information (large open areas)
- Not knowing where it is safe to walk / Finding safe places (lack of demarcation)

2 Guide dog user’s perspective

“I enjoy going to places I have not explored before”

Where the road and pavement merge it is difficult to cross, when everything is flat the dog doesn’t know what to do.

“In my area I know because we’ve done training there”

Roadworks, cyclists, bins, trees on the road, these are all also barriers.

“We want to get out there and do things but we can’t get out there sometimes”

3 Long cane user’s perspective

“I know Bromley Centre intimately but I still found so many issues as I started losing my sight”.

These issues would not exist if the Local Authority consulted properly.

“It has been an uphill struggle in my own area to learn to navigate streets I know well”

Consistent and widespread use of both blister and guidance paving has been accomplished all over the world, even in Ho Chi Minh City. “Why don’t we manage it in London?”

4 Rehab worker’s perspective

Speaking from the perspective of a rehab officer who works delivering Long Cane training and also mobility training to people who don’t want to use a mobility aid and prefer to rely on their residual vision.

4.1 Things tactile paving does

“It’s an invisible wall, an intangible part of the street furniture. You don’t bump into it but you get the signal”.

Tactile gives you options:

- Follow the tactile (like you would follow the building line)
- Turn away from it (like you might the kerb) Keep walking past it (again like you might with the kerb if crossing the road)
- You can use it as a transition point (from the pavement into the road).
- Crossing it means stepping into a different situation.

4.2 How we teach people to use tactile paving

There are seven types of tactile paving in the guidance but few rehab workers know what they mean.

“I teach tactile paving in context”. Users learn it as part of a route - “This piece of tactile paving means this as part of this route”.

“Some rules I do teach”:

- Corduroy at the top and bottom of steps
- Blister at crossings

4.3 What tactile paving does not do that we would like it to

- It does not present consistency
- It does not present logic in its application
- The system needs simplification
- There needs to be tighter control/’enforcement’ of its use
- Wider consideration needs to be made of people with sight loss in the design of streets - “Don’t design a street and then just throw in some tactile paving and think everything will be better.”

5 Impact of a quieter environment Guide Dogs Policy Team

Tactile information is important but so is audio information. Vehicle sounds can give a great deal of information (speed, direction etc)

Environments are getting quieter (hybrid/electric vehicles etc).

Without controlled crossing points with audible/tactile information on priority travel will become more difficult.

“Traffic sound enables me to make a decision on the state of traffic ahead.”

6 The designer’s perspective Traffic engineer/street designer

With the current provision of tactile paving both the quality and consistency is poor.

There is consistency in the application of corduroy at the top and bottom of stairs and blister at platform edges but everything else is highly variable.

“Highway engineers are lampooned for mindlessly following published guidance so how did we get here?” (with tactile paving)

“The guidance applies to one footway component and aspires to be simple, logical and consistent, yet is 85 pages long.”

We have shorter guidance on more complex things.

The start of the guidance is good - ‘1.1 Blister is to mark a transition’ - that is very clear

“There are too many quite sensible questions designers could ask that it doesn’t answer. That’s why people don’t respect it.”

- Tactile is a kerb substitute, but it is 800 or 1200mm wide.
- Blister is used for the stem of a controlled crossing and to mark the edge.
- Controlled crossings have bold road markers, belisha beacons, yellow boxes, zigzags. “Does the pale red really help people spot it?”

TfL interviewed disabled people about what helps them in the street.

Smooth, even pavement was the most popular response.

People with sight loss rated tactile paving as three out of a possible score of 14.

Good guidance has to:

- Be simple and brief
- Reduce the types of tactile paving in use
- Allow the use of more guidance path
- Help rather than hinder designers
- Have information about how real people really use tactile paving

7 The safety perspective

Road safety auditor/risk consultant

Road safety auditors are also confused. They try to apply the guidance as “that’s the best we’ve got”

Common issues:

- Tactile paving on a curved corner means you can not tell where the crossing point is.
- ‘L’s can overlap at crossing points (The tail of one runs into the other, or even into the area marking the edge.
- “Massive overkill” in the use of tactile paving, very large areas that indicate little
- ‘T’s instead of ‘L’s at zebra crossings.
- ‘T’s and ‘L’s at uncontrolled crossings.
- Overly wide crossing points.
- Kerbs that are not quite fully flush.
- Tactile paving laid up the slopes to the sides of a dropped kerb.
- Massive extents of fully flush kerb with a tiny spot of tactile that helps you find the crossing point but does not stop you stepping into the road.
- Raised entry treatments/traffic tales at side roads without tactile demarcation are very unsafe.
- Do we need to be aligning lines of blisters to the lines on the opposite side of the crossing?
- Should we include tactile paving at the central island of a two stage crossing?

“It is 2014”, the guidance could include video clips to help people understand how people use blister paving.

Cyclists on segregated vs unsegregated ‘shared use’ paths - “People who are respectful will be. People who are not respectful will not be. No matter if there is a line and some tactile”.

Cyclists have experienced life changing injuries because of the use of corduroy on cycle paths.

“I don’t think the corduroy on cycle areas are any use”

Workshop discussion summary

8 Mental Mappers vs Explorers

There was extensive discussion about what the tactile paving system as a whole could be expected to deliver. The most striking part of this conversation was a possible conflict between the needs of people who would be experiencing a piece of tactile paving in context, as part of a route they were already had a mental map of versus those who experienced it in an unfamiliar area.

This conflict was brought into focus by discussion of the use of guidance paving. A run of guidance paving can provide a great deal of assistance to some people, for example a long cane user navigating a pedestrianised area who would be able to use it to avoid obstructions on the building line. In this context the user would be familiar with the guidance paving, what it was signifying and where it lead. In contrast to another person with sight loss visiting the area for the first time the guidance paving would be of much less use and could be misleading if read as corduroy, that could be indicating the presence of stairs, or the boundary between footway and carriageway.

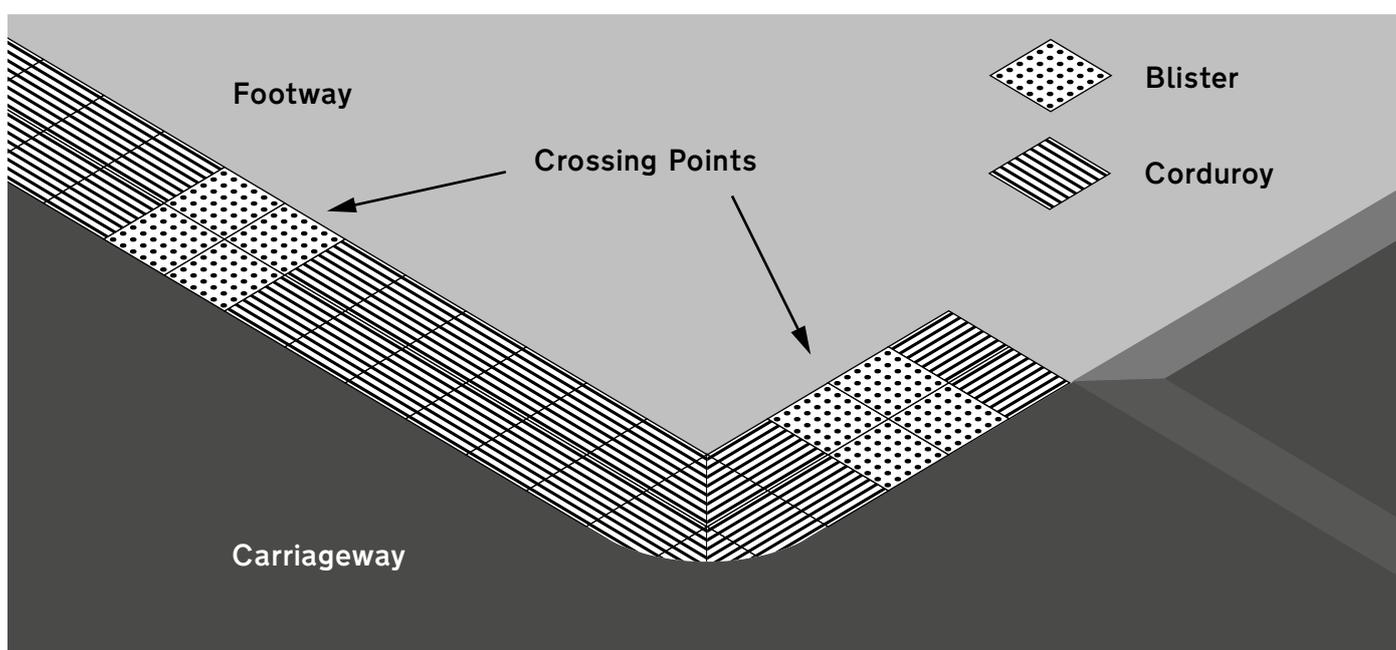
The key question is whether the additional benefit provided to the long cane user in this example (and potentially a larger number of people with sight loss who confine their independent movements to routes they know well) justifies the potential confusion that may be caused to the person who is navigating a route they do not know (a member of a smaller group of people with sight loss). We should not be creating a system that confines people with sight loss to routes they are familiar with but equally we must acknowledge the needs of the less able and ensure we meet them.

9 Demarcation of level surfaces that are not controlled crossings

Amendment 3 introduces an explicit rule that any boundaries between carriageway and footway where both are at the same level must be demarcated with tactile paving.

Workshop participants were divided over the most appropriate combination of tactile surfaces used to achieve this demarcation in different contexts.

Deployment of cuorduroy and blister paving at a level surface area without a controlled crossing as described in 9.1



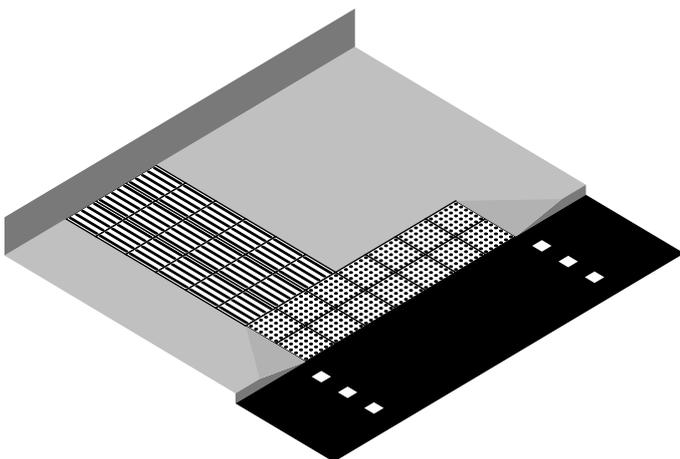
9.1 Corduroy and Blister

Some participants felt that the practice of using corduroy to delineate a boundary that is not a designated crossing point (established at Exhibition Road and subsequent level surface areas) should be adopted as a standard. Designated informal crossing points would be continue to be indicated by areas of blister paving but any surrounding level area would be demarcated with corduroy. In this layout the areas of blister would be performing primarily a navigation function and users would need to be aware that in this context the corduroy indicated a carriageway boundary rather than stairs.

9.2 Single Surface

Some participants felt that a simpler rule where a single tactile surface was used to delineate any footway/carriageway boundary where pedestrians could not explicitly establish priority over vehicles was preferable in this context. If pedestrians were not any safer crossing at a particular point there was no reason to differentiate that point from the surrounding area (following the argument that level surfaces are created to give pedestrians additional priority over vehicles). This surface could be blister or corduroy (depending on the balance of available evidence) but should be applied consistently.

Controlled crossing stem in guidance paving as described in 10.2



10 Usage and treatment of stems

There was widespread agreement that the geometry of stems (or tails) used to indicate the presence of controlled crossing points needed addressing. Since the publication of 'Manual for Streets' numerous crossing points have been moved closer to junctions than was ever envisaged when the guidance on the use of tactile paving was written. This has resulted in stems overlapping one another and in some cases the area of blister demarcating the footway/carriageway boundary. In addition the proliferation of raised side road entry treatments and raised junctions have made it easy to mistake the area of blister marking the boundary of a side road for a controlled crossing stem and visa-versa.

Participants agreed that a consistent set of rules was required for the application of stems but ones that were flexible enough to deal with real-world site conditions. Two propositions were put forward for amendments that could help achieve this but none were agreed unanimously.

10.1 Stem position flexibility

Some participants felt that if Amendment 4a was adopted, in situations where there were two push-button boxes or at Zebra crossings, designers could be allowed the flexibility to position the stem on whichever side gave the best possibility of connecting to the building line and not interfering with another area of tactile paving rather than only on the right. This view was not held by all participants.

10.2 Stem in guidance paving

Some participants felt that some of the confusion created by intersecting tactile areas around controlled crossings could be mitigated by using guidance paving in stems and reserving the blister for the footway/carriageway boundary. This would have the additional effect of bringing the UK more in line with practice in Australasia and East Asia. There was some concern that the adoption of this option in combination with option 9.1 could create confusing situations for those unable to quickly and easily distinguish the guidance paving from the corduroy used to mark the carriageway/footway boundary away from a crossing point.

Recommendations for further actions

11 Stem geometry session

The issue of stem geometry at controlled crossings on complex junction layouts was not resolved within the workshop but it was felt by some participants that it could be if discussions took place with reference to specific layouts. It is recommended that a session be conducted on this including designers working on live schemes and with tactile models of a series of actual layouts to facilitate discussion. The objective of such a discussion would be to create a set of rules that maximise the legibility of controlled crossings in all junction conditions.

12 Interface with cycling infrastructure session

There was strong disagreement amongst workshop participants about the usefulness of the tactile paving configuration recommended by the tactile guidance for use in areas where cyclists and pedestrians are in close proximity. There was agreement however that the area needed addressing quickly as a large amount of cycle infrastructure is going to be installed over the next year, much of which will bring cycles and pedestrians closer together. A session dedicated to this issue is recommended bringing some of the workshop participants together with designers of cycling schemes and those responsible for the published design guidance to establish a way forward.

13 New research

The reconciliation of the use of blister, corduroy and guidance paving proved impossible in the workshop because there were too many unanswered questions about the mobility of the UK population with sight loss.

These include the prevalence of those who can quickly and easily detect the difference between corduroy and guidance paving amongst the population, what the population currently understands these paving types to mean and how they use them, the fraction of the population who stick to known routes versus those who regularly take routes that are unfamiliar.

Better evidence in these areas will make the decisions set out in 9 and 10 much easier to make. It is recommended that this research be a combination of qualitative in-situ shadowing and rigorous quantitative surveys and potentially laboratory tests.

Written, illustrated and designed by Ross Atkin

Many thanks to all of those who gave their time, ideas and energy to participate in the workshop.

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