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Gonville Place Toucan Crossing – Analysis of Issues

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1 Is a Toucan crossing a pedestrian crossing or a shared crossing ?

1.1 *The County Council's view*¹.

"...one has to remember that this site is not a road but in essence, is a pedestrian crossing that can be used by cyclists riding."

1.2 *The Cambridge Cycling Campaign view*²

A Toucan crossing is not a "pedestrian" crossing, it is a **shared** crossing.

Gresham Road is a road, not a footpath. It has a TRO restricting motor vehicle access for the last few metres.

All cycle lanes and cycle tracks are highways, for the use of wheeled vehicles. The design principles are the same for a bicycle as for a lorry, only the dimensions change.

1.3 *What the guidance says*

1.3.1 Local Transport Note 01/04...³

"4.9.4 A Toucan crossing is an unsegregated signal controlled crossing for cyclists and pedestrians. Cyclists may use the crossing without dismounting."

1.3.2 Traffic Advisory Leaflet 10/93⁴

"...The report led to the development of a **shared**, unsegregated pedestrian / cycle signaled crossing, referred to as the TOUCAN."



2 Was there any need for a change from a parallel crossing?

2.1 *The County Council's view.*

"The crossing layout has been changed to current Department for Transport guidelines and practice for a combined Toucan crossing. The segregation was removed to allow cyclists from Gresham Road and Parkers Piece to perform the appropriate maneuver towards East Rd."

2.2 *The Cambridge Cycling Campaign view*

We are not aware of any reason for change to a crossing that was performing as satisfactorily as could be expected.

The parallel crossing, as existing, conformed to DfT guidelines for a parallel crossing. The Cycling Campaign is not aware of any pre-existing problems with this crossing that have been addressed by the changes made.

Parallel crossings and toucans with varying degrees of segregation exist elsewhere in Cambridge. The Cycling Campaign is not aware of any pre-existing problems with these crossings.

The right turn ban, while an unnecessary irritation, was not a major issue for cyclists. It was not widely observed, not enforced, and as far as we are aware, never resulted in any problems. The new crossing results in far greater conflict between modes than would theoretically have existed between pedestrians and right turning cyclists. The obvious solution to the "right turn ban" would simply have been to revoke it, taking before and after surveys to measure any impact.



*Regent St
Note the cyclist ignoring the left turn ban, creating no problems.
Also note the white van obstructing the pedestrian crossing and forcing pedestrians to use the cycle crossing*

2.3 *What the guidance says*

2.3.1 Local Transport Note 01/04...

1.1.5 ..an overarching principle that any new measures proposed for pedestrians and cyclists should represent a real improvement over the existing situation, particularly in terms of accessibility, and, where practical and appropriate, offer users a positive advantage over motor traffic.

4.9.6 A segregated pedestrian/cycle crossing is called a parallel crossing. Parallel crossings may be used in high pedestrian/cycle flow locations where the movements of pedestrians and cyclists are likely to conflict with each other.

2.3.2 Local Authority Guidance:

London⁵: "5.6.6 Parallel Cycle and pedestrian crossings. These crossings should normally be used where there is high demand by cyclists and / or pedestrians, thus reducing conflicts between the two modes on the crossing.. they are often preferable to Toucans".

Lancashire⁶: "...Where there is the volume of cycle traffic and pedestrian demand it is feasible to create two parallel crossings, one for pedestrians and one for cycle traffic."

2.4 *What the users say – quotes from petition signatories*⁷

- “.. This new crossing is a disgrace. Cyclists and pedestrians should be separated”
- “.. Making this route difficult would dissuade cyclists from using it.”
- “.. since the changes were made, the crossing has become so much more congested”
- “.. The new version of the crossing is clearly more dangerous”
- “.. on the old crossing, pedestrians had a clear idea of where to go... With the new crossing, most pedestrians decide that the obviously sensible route to get to the crossing is via the cycleway.”
- “.. Before these works, the crossing was generally pleasant to use. Now I consider it dangerous.”
- “.. The crossing was fine as it was before”
- “.. The crossing is now very awkward”
- “.. The changes clearly make this crossing less safe”
- “.. it really, really annoys me every day when I cycle across this unsafe inconvenient crossing that used to be so good.”
- “.. its a fine example of botched cycling infrastructure - and it needs to be fixed.”
- “.. someone in a position of authority at the County Council works department should be made to publicly apologise for the extraordinary waste of public money spent on replacing a perfectly serviceable and safe crossing with this idiotic, badly laid out, and unsafe arrangement.”
- “.. I am not sure what was wrong with the crossing before.”
- “.. I am really amazed at what was done to this crossing. I can't see any way in which it is better than what it replaced. It is worse for both pedestrians and cyclists. What a waste of time, effort and money !”
- “.. the changes have been ridiculous, particularly from a cyclist's standpoint.”
- “.. The original Gonville Place cycle / pedestrian crossing was, in my opinion, a very good example of highway design. The redesigned junction in contrast, must be one of the worst examples of highway design in Cambridge.”
- “.. What a pity this important crossing has been compromised. Is the designer of this altered facility a cyclist? Probably not!”
- “.. Although I do not live in Cambridge city I often use this route when cycling between my office and the city centre. The changes have made this crossing much less satisfactory.”
- “.. A perfectly good crossing with two minor faults was transformed to a seriously unpleasant crossing with many major problems and two major benefits completely removed.” Please could you restore what was a working crossing back to its original state. I'm astounded that money was wasted on the present one and whoever designed it must be permanently glued to their chair because no one who walks or cycles would have designed that.”
- “.. The revamped crossing at Gonville Place makes the situation much worse for both cyclists and pedestrians.”
- “.. I can only describe this crossing as a catalogue of errors.”
- “.. Now that the changes have been made, the crossing is a nightmare. It is unsafe, confusing, difficult to manouvre by bike and minor irritations have increased to major ones!”

- ".. Please could you restore what was a working crossing back to its original state. I'm astounded that money was wasted on the present one and whoever designed it must be permanently glued to their chair because no one who walks or cycles would have designed that."
- ".. There was no need for a change. The existing crossing worked as well as could be expected given the site constraints. The new crossing does not appear to have dealt with any of its shortcomings."

3 Loss of width and segregation

3.1 *The County Council's view.*

"..nowhere in government guidance or best practice that I am aware of, does it suggest that a Toucan crossing should be segregated.."

"Unfortunately due to site constraints the current crossing area could not be increased" (*note.. the crossing width has in fact been halved by the changes, from its original width*).

"Lack of segregation is to encourage mutual interaction".

3.2 *The Cambridge Cycling Campaign view*

"Loss of segregation has made the crossing **unsatisfactory** for both pedestrians and cyclists."

The full width of the previous crossing should have been used, as at Queens Rd, to minimize conflict.

A number of parallel and parallel-toucan (notionally unsegregated, but "streamed") crossings exist in Cambridge, and other cities eg Queens Rd, Maids Causeway and Regent St, as well as the previous Gonville Place crossing arrangement. We are not aware of any problems arising at these crossings that negate the benefits gained through reduced conflict resulting from segregation.

Mutual interaction = mutual conflict.



*Regent Street
Segregated, parallel crossing
with automatic cycle
detection*



*Queens Road
Toucan with segregation on
crossing and immediate
approaches approach and
automatic detection*



*Maids Causeway
Toucan with segregation on
approach and automatic
detection*

3.3 *What the guidance says*

3.3.1 Local Transport Note 01/04...

4.9.5 Toucan crossings work best when the flow of either group of users wishing to cross is not too great. As flows increase, these crossings may experience operational difficulties. If so, pedestrian and cycle flows may be better served by parallel crossings, or entirely separate ones.

4.9.6 A segregated pedestrian/cycle crossing is called a parallel crossing. Parallel crossings may be used in **high pedestrian/cycle flow locations** where the movements of pedestrians and cyclists are likely to **conflict** with each other."

4.12.3 ... Care needs to be taken to minimise the potential for **conflict**, particularly at bus stops and where a route is likely to be used by older and/or disabled people. Such routes may be adjacent use or shared use, but especially on utility routes, there should be a **presumption in favour of physical segregation** unless conditions dictate otherwise.

3.3.2 Local Authority Guidance:

See section 2.3.2 for Local Authority guidelines. And...

London: 5.6.8 .. If some degree of segregation from pedestrians is required, this can be achieved by providing segregated paths up to the toucan, and if required, across them, by the use of coloured surface for the cycle side of the crossing.



*Hyde Park Corner Toucan crossing.
Pedestrian and cycle zones emphasised
with coloured surfacing to reduce conflict.*

3.4 What the users say – quotes from petition signatories

- ".. Cyclists and pedestrians should be separated, and it is a nightmare if anyone (cyclist or pedestrian) is crossing from the other side at the same time."
- ".. the crossing has become so much more congested"
- ".. due to the small roadside space for a very busy crossing, pedestrians and cyclists are forced to mingle tightly"
- ".. The current (new)layout means that there is no separation of pedestrians and cyclists, although there are separate cycle tracks on the Parker's Piece side."
- ".. The lack of segregation of the two users of the crossing means that pedestrians wandering obviously across the cycle lane on the South side of Parker's Piece (but North of the crossing) are more common and dangerous, both to cyclists and to themselves"
- ".. The crossing is now very awkward, with mixed pedestrians and cyclists, especially when busy."
- ".. cyclists and pedestrians are mixed up; pedestrians do not observe any sort of rule (such as keeping to the left) and so at busy times this has effectively been changed into a pedestrian crossing with bikes mixed in"
- ".. I am not sure what was wrong with the crossing before. It safely segregated pedestrians and cyclists and allowed a safe and speedy way between Parkers Piece and the Station and Queen Ann Terrace"
- ".. I use the crossing every day at peak times when the volume of cyclists and pedestrians is high and witness similar behaviour by pedestrians and cyclist, each trying to avoid the other as they try to cross... Only returning the crossing to its previous width will be sufficient to solve the current problems"
- ".. Because of the lack of delineation, nobody knows which part they're supposed to use and everyone gets thrown together. This leads to confusion and irritation for cyclist and pedestrian alike, as well as a more dangerous crossing."
- ".. The crossing is now narrower than it was before, and this results in increased conflict between cyclists and pedestrians."
- ".. everyone crosses in one place. During peak times, the crossing is a game of dodgems whether you are on foot or bike. It's simply a free for all with everyone vieing for space."
- ".. the reduction in size of the crossing is a serious flaw."
- ".. It is also confusing to know where to cross the street, both by bike and foot. I can see that I'm not the only one because everyone looks around to see what to

do. There are no longer any clear markings except on the Gresham road side which it is clearly marked for bikes. But bikes are funnelled into the same crossing as pedestrians."

".. The crossing is more cramped than before, with cyclists and pedestrians sharing the same space that was previously occupied by cyclists alone."

".. Loss of segregation has made the crossing unsatisfactory for cyclists. Pedestrians come along and stand in front of cyclists who are waiting in Gonville place, meaning that the cyclists cannot proceed without running over that pedestrian. On the north side, the arrangement encourages pedestrians to walk down the cycle lane instead of the footway, while the number of posts, kerbs and cobbles mean that cyclists going either way cannot pass them."

4 Loss of automatic detection of cyclists

4.1 *The County Council's view.*

"..nowhere in government guidance or best practice that I am aware of, does it suggest that cyclists should be detected automatically or early."

"The advanced cycle detection by loops at this crossing has been removed to ensure that the crossing operates in the safest possible manner for all users. A stage 2 road safety audit has been carried out on the possible provision of these loops which is considered inappropriate with the use of nearside pedestrian signals."



Detector loops are still in place at the Gonville Rd crossing. They need connecting into the new system.

4.2 *The Cambridge Cycling Campaign view*

"Automatic detection has been a very positive feature on many of Cambridge's crossings, reducing the gratuitous waiting period and improving convenience. At this crossing such detection has worked well over many years and its loss is a serious erosion of the quality of the crossing."

Automatic detection should:

- Detect approaching cyclists and register a demand. If no demand was registered in the previous cycle then the lights should be timed to change to green so that the cyclists does not need to stop - as for road traffic.
- Prolong the green phase if a cyclist is detected approaching the crossing while it is on green. The green phase is incredibly short - only 7 seconds, compared to 1 min 45 seconds for the nearby road junction, and does not allow anybody to join the crossing smoothly. ie as for road traffic.

Automatic detection loops are used successfully at other crossings around Cambridge eg Maids Causeway (Toucan), Queens Rd (Toucan) and Regent St (Parallel). They were formerly used, without problems at Gonville Place.

The very short (7 second) green phase at Gonville Place makes it very difficult for approaching riders to join a group already on the crossing without doing so against a red light. Research has shown that this increases the risk of a crash, and it also creates antagonism. At the nearby Pelican crossing, which has a longer waiting period, a staggering 93% of users crossed against a red light in two counts (8 and 9 November 2006). It is vital that waiting times are kept to a minimum if the crossing is to work safely and successfully, and proper use of loop detectors can help achieve this.



Lyndwode Rd is a model cycle crossing, and is featured in "Cycle Friendly Infrastructure" ⁸. The signals operate exactly as a normal road junction, relying solely on detector loops - no push buttons. Kerbs are also laid as a minor road junction.

An open request for information on the “dangers” associated with use of automatic cycle detection, was posted on the Institution of Civil Engineers and Cycle England Local Authority Practitioners’ discussion groups. We received **NO** adverse responses, only responses supporting the use of advance detection. See section 4.5 below.

4.3 What the guidance says

4.3.1 Traffic Advisory Leaflet 4/98⁹

Three of the four trial sites (including Maids Causeway in Cambridge) had induction loops for automatic cycle detection.

Trial Conclusion: “Inductance loops may offer some value to cyclists”.

4.3.2 Local Transport Note 01/04...

4.9.7 ... The cycle phase may be called by push buttons, loop detectors, microwave detectors, or a combination of these.

4.3.3 Building Research Establishment EP76 2006. (for Essex CC)¹⁰

Box 15. Provide unidirectional cycle detector loops in correct locations.

4.3.4 Local Authority Guidance:

Lancashire: Detection of cycle traffic may be by induction loop or microwave detector.

London: 5.6.4 ..Wait times for cyclists should be minimized, including by the use of cycle detection where feasible.

4.4 What the Safety Audit¹¹ says

The stage 3 Safety Audit makes no mention of automatic detection. The accident record of the crossing is good, with only one collision involving injury to a cyclist and one collision involving injury to a pedestrian in the 5 years from Jan 200 - Dec 2005. The severity of injury is not recorded. The Safety Audit does not give any details of these collisions, and does not conclude that the use of advanced cycle detection, or other features of the previous crossing layout contributed in any way to these two collisions.

4.5 Responses on the “dangers” of automatic detection received from the Institution of Civil Engineers¹² and Cycle England Local Authority Practitioners’¹³ discussion groups:

- The use of detector loops to minimise delays to cyclists approaching signal controlled crossings was considered to be best practice when we drafted CFI2 and hence formed part of that guidance. I am certainly unaware of any body of evidence that suggests this is in any way hazardous or we would not have included it and therefore still consider that this is a cycle-positive measure to be encouraged.

Alex Sully, Co-author of Cycle Friendly Infrastructure v 2.

- From observation it certainly appears to me that the longer the delay the more incidents there are of risky crossing behaviour by frustrated cyclists and pedestrians. I wonder if Patrick [Lingwood] or others know of any studies from abroad that show a correlation between longer delay and higher accidents at signal crossings? (I'm assuming none have been carried in the UK).

David Kemp Cycling Officer Suffolk County Council

- I do not have data for cyclists (at least without looking), but as it happens I produced a paper for Bedfordshire arguing for shorter pedestrian delay times at signalised crossings. The relevant research I quoted was

Austin (199?) Tracz and Tarco stated that pedestrians who violated the signals had 8 times the risk of an accident than those who did not. Grayson (1987) showed that for pedestrian facilities that were within 20m of a junction, the risk associated with crossing within 50m of the facility was over 4 times greater than if the pedestrians used the crossing.

TfL 2006 Pedestrians at each type of crossing were asked how often they crossed at that crossing against the green man. Levels of self-reported non-compliance with the crossing were similar at both Pelican (39%) and Puffin crossings (41%).

Martin 2005 Various authors (Reading *et al*, 1995; Keegan and O'Mahoney, 2003; and Catchpole, 2003) found that shorter signal cycle times resulted in better compliance by pedestrians. It is highly plausible that a reason for poorer compliance with longer cycle times is that pedestrians become frustrated if they have to wait a long time and when they have to wait a long time to cross a road it increases the probability of acceptable gaps emerging in traffic.

Austin et al. (199?) Improving pedestrian priority in UTC systems, for Road Safety Division of DoT.

TfL (2006) Puffin Pedestrian Crossings in London: Collisions, Road User Behaviour, and Pedestrian Perceptions

Martin A (2005) Factors Influencing Pedestrian Safety: A Literature Review, TRL unpublished report

Patrick Lingwood. Bedfordshire CC Walking and Cycling Officer

- the council where I live, which will remain nameless, is doing something similar: increasing waiting times for pedestrian/cyclist crossings and using miniroundabouts as the solution for everything, never mind that they are anathema to the two vulnerable groups.

I have serious reservations about this approach for a number of reasons, but chiefly safety: a pedestrian was killed at one of the crossing sites because they couldn't be bothered to wait, and they have increased the waiting time, and this will only encourage peds/cyclists to take more risks.

Richard Burton, Transport Planner

- I can't immediately see why cycle detection loops should present any special danger.

Andrew Fraser Stirling (Safety Auditor)

4.6 What the users say – quotes from petition signatories

".. I also think the automatic detection should be reinstated"

".. Lack of auto-detection is a loss, as it used to work well."

".. I particularly support the use of detector loops."

".. The detector loops were great: they made me feel much safer as a woman cycling home alone late at night, because by changing the lights they enabled me to keep cycling and not have to stop and wait at a crossing located next to a big empty open space."

".. I always enjoy using the few crossings in Cambridge that have detector loops for bicycles. Please install more of them, don't take them away from us!"

".. automatic cycle detection loops. There is no logical justification for removing these. They improve the crossing and do not affect pedestrians adversely."

".. Loss of automatic detection of approaching cyclists. Automatic detection has been a very positive feature on many of Cambridge's crossings, reducing the gratuitous waiting period and improving convenience. As far as I am aware there are no positive reasons for its removal, other than perhaps bloody-mindedness on the part of individuals involved in the decision making process."

5 Obstruction by posts generally

5.1 *The County Council's view.*

".. The two central bollards (Gresham Rd side) and the pole bearing the cycle track sign (Parkers Piece side) will be removed.

5.2 *The Cambridge Cycling Campaign view*

The number of posts on the Gresham Road side is simply unacceptable. They are an obstruction for users with prams, pushchairs, wheelchairs and ordinary pedestrians.

They must surely be a hazard for partially-sighted people. They are far from an "accessible, barrier-free environment". There are some twelve posts/bollards, with two obstructing the pedestrian footways, one of which is even placed directly next to a fence.



Entrance to Gresham Road - a forest of posts, poles and bollards forces pedestrians into the cycle track.

None of these bollards are needed. Careful placing of the signal posts would stop drivers entering: The proliferation of posts and bollards reduces the width available to users, space where people should be able to walk or cycle.

On the Parker's Piece side, again the sheer number and arrangement of unnecessary posts makes the crossing awkward for cyclists to negotiate, and a hazard for blind and partially sighted pedestrians. The position of the request button and indicator lights here encourage people to wait on the wrong side of the track, further complicating the manoeuvre, adding to the amount of conflict, and increasing the time needed to clear the crossing.

The new button on the Parker's Piece side at the point where the cycle track merges to the waiting point is not in the position that cyclists are expected to stop, nor is it in a position where cyclists can see the crossing lights (so would not use it). It makes the width of the track even more difficult for those with trailers.



A similar forest of posts on the Parkers Piece side, with pedestrians completely blocking the cycle track

5.3 What the guidance says

5.3.1 Local Transport Note 02-04 ¹⁴

9.6 Street furniture

9.6.1 The selection and design of adjacent or shared facilities should aim to **avoid street furniture obstructing the facility across its width, including any boundary verges**. The dimensions given in 6.2 should be taken as the available width clear of road signs, lamp posts, benches, bins, etc.

9.6.2 **Bollards** can be a particular problem for cyclists. They may be difficult to see, especially in poor light, and are more likely to go unnoticed if their presence is not expected. Bollards should not be placed along the length of a cycle track although they may be justified at entry points to prevent access by motor vehicles. They should always have reflective bands fitted, especially where there is little or no street lighting, unless they support reflective signs facing in both directions. More information on the design and placement of street furniture is available in *Inclusive Mobility*, DfT 2002.

5.3.2 Sustrans National Cycle Network Guidelines and details. ¹⁵

Fig 5.6 Note 8. Care should be taken in the **positioning of poles**, any guard railing and other street furniture, so as not to create **conflict** by constricting movements.

5.3.3 Local Authority Guidance:

Refer to the crossing diagrams included in the Lancashire, London, Lincolnshire¹⁶, Essex (BRE EP76) and Sustrans guides. In all cases the crossings are shown to be free of any bollards and posts other than the minimum required to support the signal heads and request buttons - ie 4 total for the crossing, one in each corner, placed out of the manoeuvring paths of users.

5.4 What the users say – quotes from petition signatories

".. the town-side indicator/button in the centre of the cycle way serves no evident purpose, and its pole is purely an obstruction."

".. In addition, the positioning of the various posts makes it awkward to turn onto the correct cycle track on Parker's Piece having crossed Gonville Place"

".. it is almost impossible to do the left turn from the Gresham Road direction, around the chicane of posts"

".. Why are there thirteen bollards/obstructions on one side, one of which is next to a fence? This is far from the accessible, barrier free environment that walkers and cyclists should expect."

".. My wife uses a two-seater bike trailer for our young kids and finds the new posts a real obstacle."

".. The sheer number and arrangement of unnecessary posts makes the crossing awkward for cyclists to negotiate, and a hazard for blind and partially sighted pedestrians"

".. The arrangement of posts seems to make it difficult or impossible to get a wheelchair or pushchair around the pavement between Gresham Rd and Gonville Place. Many are duplicates or are superfluous. Why put bollards hard against the kerb on Gresham Rd? They serve no purpose other than to reduce the width available to users, this is space that people should be able to walk or cycle in."

6 Obstruction of the cycle track by the north side signal head post

6.1 *The County Council's view.*

"The Primary signal head pole position is located in accordance with DfT guidance and good practice."

6.2 *The Cambridge Cycling Campaign view*

The signal head post on the Parker's Piece side is particularly bad. The pole is an obstruction in exactly the place where cyclists would expect to turn.

The signal poles on the Gresham Rd side are also badly positioned, obstructing the footway.

6.3 *What the guidance says*

See section 5.3 above. The advice is the same for signal head posts as for other posts and street furniture..

Refer to the crossing diagrams included in the Lancashire, London, Lincolnshire, Essex (BRE EP76) and Sustrans guides. In all cases the crossings are shown to be free of any bollards and posts other than the minimum required to support the signal heads and request buttons - ie 4 total for the crossing, one in each corner, placed out of the manoeuvring paths of users.

Section 12.4 of the DfT "Puffin Good Practice Guide" ¹⁷ illustrates how offset or cranked poles should be used to achieve carriageway clearance without placing the pole too far back from the kerb.

Examples of cranked pole use can be seen at a number of Toucan Crossings in Cambridge, eg Trumpinton Road and Chesterton Road.

Examples where poles have been positioned correctly so that they do not interfere with cyclists' turning movements can be seen at the Perne Road Toucan crossing, and other locations.

Further examples of the use of cranked poles can be viewed in TRL Report 277 ¹⁸ "Pedestrians' and Cyclists' attitudes to Toucan Crossings". Plates 1 and 2



The signal head pole sits right in the middle of the cycle track, creating a major obstacle.

Solution - relocate and use an offset or cranked pole.



Perne Road Toucan.

Note how the pole is positioned so that it does not obstruct the cycle track.

Design Manual for Roads and Bridges Vol 6 Section 3 Part 5 TA 90/05. The minimum radius for a tight (10 kph) bend is 4m. This is not achievable with the current arrangement."

6.4 What the users say – quotes from petition signatories

".. There is also not enough space when crossing from the Gresham Road side to turn into the cycle lane (the corner is too sharp), and it is necessary to cross into the wrong lane, which is very dangerous and inconvenient for anyone in the correct lane (coming from Parkers Piece)."

".. on the route into town, it is frequently impossible for cyclists to perform a sharp left turn to stay on the correct side of the cycleway - to do so requires an empty crossing, allowing a wide arc to be taken. For cyclists with wider or longer vehicles, it is generally impossible"

".. In addition, the positioning of the various posts makes it awkward to turn onto the correct cycle track on Parker's Piece having crossed Gonville Place"

".. it is almost impossible to do the left turn from the Gresham Road direction, around the chicane of posts"

".. when coming from Gresham Rd, once across the Road Its impossible to turn left as the angle is far too sharp and there is a post in the way"

".. crossing from Gresham road to parkside, I am expected to make a sharp left turn around a post in order to stay in the lane that one assumes is the bike lane. I have decided not to try it anymore after nearly ploughing into the post on numerous occasions and losing my balance. Again, you only have to stand and watch to see that many people have problems with that."

".. The signal head post on the north side is particularly bad, making that tight left hand bend even more difficult. The position of the request button and indicator lights here also encourage people to wait on the wrong (ie right hand) side of the track, further complicating the manoeuvre, adding to the amount of conflict, and increasing the time needed to clear the crossing."



Cranked poles in use on the Chesterton Road Toucan crossing

7 Use, orientation and approach visibility of the nearside crossing indicators

7.1 *The County Council's view.*

"The current Department for Transport guidance recommends the provision of nearside pedestrian display units. On each right hand push button post at this site an over height display unit has been provided (at approximately 2m in height) to ensure that all users can see at least one of the display units. The nearside units have been installed on the right hand side so that pedestrians & cyclists also look towards oncoming traffic. The operation of the new form of crossing with nearside signals enables the removal of the flashing amber / blackout signal at crossings with far sided pedestrian signal heads which has led to **ambiguity and intimidation** of those using the crossing. Vehicles are now held on a red until the crossing is clear."

"Drivers and cyclists alike should always take all necessary care on the approach to a crossing and be prepared to stop if the lights change."

7.2 *The Cambridge Cycling Campaign view*

There is no visual crossing indicator on the opposite side of where people are waiting to cross. There is a general look of bewilderment by users of the crossing as a result, and people are thus slow to realise when they are able to cross. The only signal heads are small, are low on their posts and can be largely obscured by pedestrians and other cyclists. They face inwards rather than facing approaching cyclists...

Principle complaints:

- The crossing indicators are oriented so that they cannot be seen at all by approaching cyclists.
- The crossing indicators are often obscured by waiting pedestrians.
- The position of the crossing indicators encourages pedestrians to stand in front of cyclists, and in the path of oncoming riders.
- The absence of farside crossing indicators takes the eye away from oncoming cyclists and pedestrians, increasing the likelihood of a mid crossing collision.



Approaching Gresham Road, cyclists cannot see crossing indicators



Approaching from Parkers Piece, cyclists cannot see crossing indicators



Drivers on the other hand have a clear view of the crossing indicators.

See how this car has pulled right onto the crossing, despite being "held" on red, and despite the presence of a cyclist trying to get to the other side, because the driver can see that the crossing indicator has turned red.

Flashing amber had its faults but was better than this !

This is much more likely than a collision with a motor vehicle, particularly in view of the increased crossing conflict generated by the new arrangement.

- The green phase is unreasonably short and does not extend to cover people joining the back of the queue.
- The audible signal is barely audible.
- The crossing indicators are turned towards waiting drivers, so that they can see that the extremely short green phase has finished. This has led to an increased perception of harassment.

The crossing indicators are turned **AWAY** from approaching cyclists, but **TOWARDS** approaching drivers. Approaching cyclists cannot see whether or not the crossing is on green. The green phase is **unreasonably short** (only 7 seconds - compared to 1 min 45 seconds for the nearby road junction - insufficient for many to reach the opposite side), and is not configured to extend to cover riders joining the back of a stationary queue, as it would do with motorised traffic. Riders therefore need to know immediately whether or not to join the crossing.

Waiting drivers on the other hand have a clear view of the crossing indicators, as they are turned to face the oncoming traffic stream. Drivers therefore receive contradictory messages. They are held on red, but they can see the crossing indicators are also on red. They therefore start creeping forward, harassing people still on the crossing. This completely undermines the removal of the "flashing amber" phase - one of the principle reasons behind the development of the Puffin style crossing.

Many users have complained about the "short crossing time". They are not aware that drivers are being held on red, and because those drivers can see the crossing indicators, they are not waiting for the traffic lights to turn green.

Users were timed making the crossing on the morning of 9 November 2006. Crossing times varied from 6 seconds to 18 seconds. In the majority of cases where both pedestrians and cyclists were crossing together it took between 10 and 15 seconds for the crossing to clear. In a number of cases vehicles started crossing before cyclists and pedestrians had reached the kerb.

7.3 What the guidance says

7.3.1 Department for Transport Puffin Crossing Good Practice Guide

With farside pedestrian signals, pedestrians have to look away from approaching traffic to see the pedestrian signal. When pedestrians look at a nearside Puffin pedestrian display they are also aware of approaching traffic. Seeing the approaching traffic and the pedestrian display at the same time should help to reduce accident risk.



Putting request buttons and the display unit at the kerb encourages cyclists to wait across the footway, making it difficult for people to pass.



[Comment... but by drawing the view away from people crossing from the opposite side, the danger of a mid crossing collision is increased. This is particularly true at cycle and Toucan crossings as cyclists cover the ground faster.]

The flashing amber sequence used at Pelican crossings can encourage **aggressive driver behaviour**. With Puffin facilities this problem is minimised because a steady red signal, similar to traffic displays at junction traffic signals, is displayed to drivers when pedestrians are crossing.

[Comment... where waiting drivers can see that the crossing indicators are on red, but people are still on the crossing, the chances of aggressive behaviour are increased, not decreased. It is vital that drivers cannot see the crossing indicators.]

7.4 What the users say – quotes from petition signatories

".. as a pedestrian, I am particularly distressed at the omission of "flashing red/green men" visible **across** the road - the road-side indicators are not very visible when the crossing is crowded."

".. As a cyclist, I am distressed at the same absence because it makes it impossible to plan one's actions as one approaches the crossing - the road side indicators are generally **not** visible from a distance."

".. The current sound indicator which lets both cyclists and pedestrians know when to cross is quieter than the old crossing's beeper. With the sound of traffic it's sometimes almost impossible to hear the beeps, which, combined with the unclear light signals invites people to ignore the lights completely and is a recipe for disaster ."

".. I couldn't believe that there weren't any proper traffic lights to look at to see if they were on green or red as I was approaching the crossing."

".. Approaching by cycle from either side on the cycle lane, it's very, very difficult to know if it's OK to cross or not as the signal light for pedestrians / cyclists is very small and hard to see. I've found myself cycling out not really knowing if it's OK to cross. There needs to be absolutely clear signalling..."

".. At busy times, this bottleneck can leave cyclists dangerously marooned in the middle of the road when the lights show green to road traffic."

[Comment... the traffic lights of course remain red, but the writer doesn't know that because the crossing lights have also turned red - and drivers can see them too!]

".. The other one of us found himself perplexed by the lack of regular lights for cyclists when he rode up to it for the first time since the redesign."

".. I never know where I should look to see if it's safe to cross. Sometimes people are standing in front of the new lights. If you are cycling up, it is natural to look at the traffic lights. I find the new lighting system very confusing."

8 Management of the works

8.1 *The Cambridge Cycling Campaign view*

The same report to Councillors states that the “disruption from construction” would be “minimal” and that the work was expected to last for “3 weeks”.

All in all, the short link at the end of Gresham Road seems to have been disrupted almost continuously since the latter end of last year. Users have endured obstruction by Contractors' vehicles associated with the adjacent 'Greshams' development, holes being dug and left open for the same. Most recently the crossing itself has been dug up for around two months for the conversion to a toucan.

For much of the time the crossing has been closed completely, forcing cyclists to dismount, squeeze along the very narrow remaining footway (past pedestrians and cyclists coming the other way) and then join the busy inner ring road in order to continue their journey.

It is difficult to believe that a busy road junction would have been treated in this manner, or that motorists would tolerate such chronic disruption. We ask why the works were not coordinated to minimise the time that this busy link was disrupted, and why the work was not organised to maintain access throughout?

The work was badly managed, causing considerable disruption for months, without any explanation or instruction for users.

9 Other complaints raised by petitioners:

9.1 *Obstruction of the crossing by queuing traffic*

In common with many crossings of heavily congested roads, this crossing suffers obstruction by queuing vehicles. This has been exacerbated by the fact that the overall crossing width is half that of the previous arrangement, and can now be completely blocked by a single vehicle.



Possible solutions:

- Restore the crossing to its original width.
- Highlight pedestrian and cycle paths across road by coloured surfacing.
- Yellow hatched box. And...
- Light violation cameras.

“.. Yesterday I was negotiating the crossing with my 9 year old daughter, we were weaving in between cyclists and pedestrians, and I was sympathising with the tandem riders coming from the Parker's Piece side towards us whose path was blocked by a car after they had moved well over to the left side of the crossing to allow room for oncoming road crossers.”

“.. One other point concerning this crossing that frustrates me is the fact that traffic can sit in the road over the crossing after the lights have changed, especially at bust times, making it difficult for both pedestrians and 'cyclists to cross. Would it be possible to have this stretch of the road made into a yellow box? There might be regulations against this, of course, but trying to thread your way, on bike or on foot through bumper-to-bumper stationary traffic is

unnerving at best and must be almost impossible for disabled and blind pedestrians."

9.2 *Difficulty joining and leaving the road*

The original crossing had protective islands on either side of the crossing. These allowed riders to wait in safety to perform a right turn at the crossing. These islands were removed in order to extend the queuing lanes for traffic backing up from the Hills Road junction.

Cyclists wishing to turn right are now very exposed. There is nowhere to wait safely in the center of the carriageway, and there is no means to come off the roadway on the south (Gresham Rd) side to wait on the pavement.

When the queuing lane was extended, the lane widths were also reduced to 3m. This is an extremely uncomfortable width for cyclists as it allows vehicles to force their way past but does not allow sufficient space to do so safely. As a result, a cyclist waiting at the kerb will be in the path of other cyclists carrying straight on, who are being squeezed by traffic trying to pass - three vehicles all within a reduced width lane.

This arrangement is deeply unsatisfactory and has made Gonville Place a very unpleasant environment for cyclists. It is now a barrier and deterrent to cycling, in much the same way as Mill Lane.



The original crossing had central islands, protecting cyclists waiting to turn right. Traffic lanes were wide enough to prevent squeezing



Now traffic lanes are too narrow and make a very intimidating environment for cycling. There is nowhere for cyclists to wait to turn right.

10 From the Cambridge City Council Walking and Cycling Strategy and Action Plan...

Pedestrian and cyclist desire lines will inevitably overlap to a considerable extent and potential conflicts must be identified so that issues can be addressed and any measures taken to avoid or reduce any such conflict.

Convenience: routes should be direct and continuous so that walking and cycling are fast, credible, alternatives to the car for short journeys. Waiting times at signalled crossings should, for example, be kept to a minimum and complicated manoeuvres and interruptions avoided.



11 From the Cambridge County Council Walking and Cycling Strategy 2001-2006...

3.2 Although the benefits of walking and cycling for individuals, the community and the nation as a whole are significant, there are barriers to overcome to help reverse their decline nationally. The detractors may include:

- tensions between cyclists and pedestrians

Initiatives that can encourage cycling and walking

- provision of good quality, convenient and safe facilities
- ensuring that all changes to the highway are considered for their potential to improve the environment for pedestrians and cyclists

4.0 Vision and Policies

4.1 Our vision for walking and cycling in Cambridgeshire is to maintain and encourage walking and cycling as attractive and practicable alternatives to the private car and as enjoyable, safe and healthy activities in their own right. The key objectives are:

- an increase in the number of journeys undertaken by bicycle

Making it easier to cycle

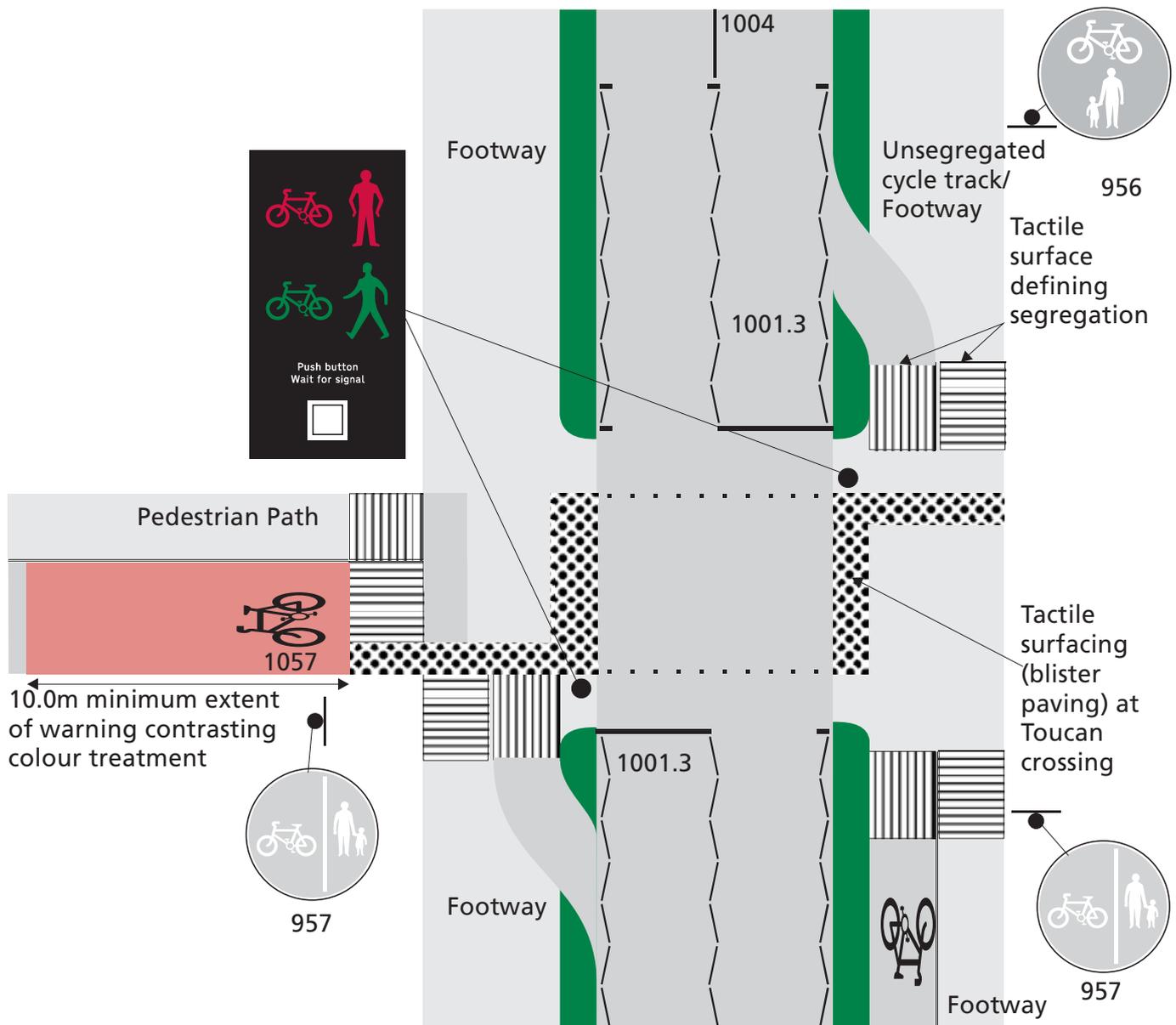
4.4 The National Cycling Strategy published in 1996 highlighted the potential of cycling as a flexible, relatively cheap and environmentally friendly way to travel with important health benefits for people of all ages. Our Cycling Strategy will help provide better provision for cyclists:

- in the design of road junctions and in the way the highway is allocated.

12 References

- 1 Letter from T Bedding / R de Ville to M Lucas-Smith 18 September 2006
- 2 Letters from Cambridge Cycling Campaign to A Wallace 25 August 2006 and to R de Ville 26 September 2006, plus various communications from campaign members.
- 3 Local Transport Note 01/04. Policy, Planning and Design for Walking and Cycling Department for Transport.
- 4 Traffic Advisory Leaflet 10/93. "Toucan" - An unsegregated crossing for pedestrians and cyclists. Department for Transport.
- 5 London Cycling Design Standards. Transport for London.
- 6 Lancashire - the cyclists' county. A code for planning, designing and maintaining roads and tracks for cyclists. Lancashire County Council 2005.
- 7 <http://www.camcycle.org.uk/campaigning/issues/gonvillecrossing/quotes/>
- 8 Cycle Friendly Infrastructure DfT 1996
- 9 Traffic Advisory Leaflet 4/98 "Toucan Crossing Development" DETR
- 10 Building Research Establishment Report EP 76. Designing for Cyclists. Essex County Council 2006.
- 11 Stage 3 Safety Audit ref G526 / Safety Audits / 1000
- 12 <http://knowledgelists.ice.org.uk/SCRIPTS/WA-ICEUK.EXE?A2=ind0610&L=streets-I&T=0&X=31063A32E31A0B7C85&Y=a.massie%40hannahreed.co.uk&P=2851>
- 13 <http://groups.yahoo.com/group/cycle-planning/message/5916>
- 14 Local Transport Note 02/04. Adjacent and Shared Use Facilities for Pedestrians and Cyclists. Department for Transport.
- 15 National Cycle Network. Guidelines and Practical Details - Issue 2. Sustrans / Arup
- 16 Providing for Cyclists - Lincolnshire County Council. May 2003.
- 17 Puffin Good Practice Guide. Department for Transport 2006. http://www.dft.gov.uk/stellent/groups/dft_roads/documents/page/dft_roads_612264.pdf
- 18 Transport Research Laboratory. Report no 277. Pedestrians' and Cyclists' attitudes to Toucan Crossings. 1996

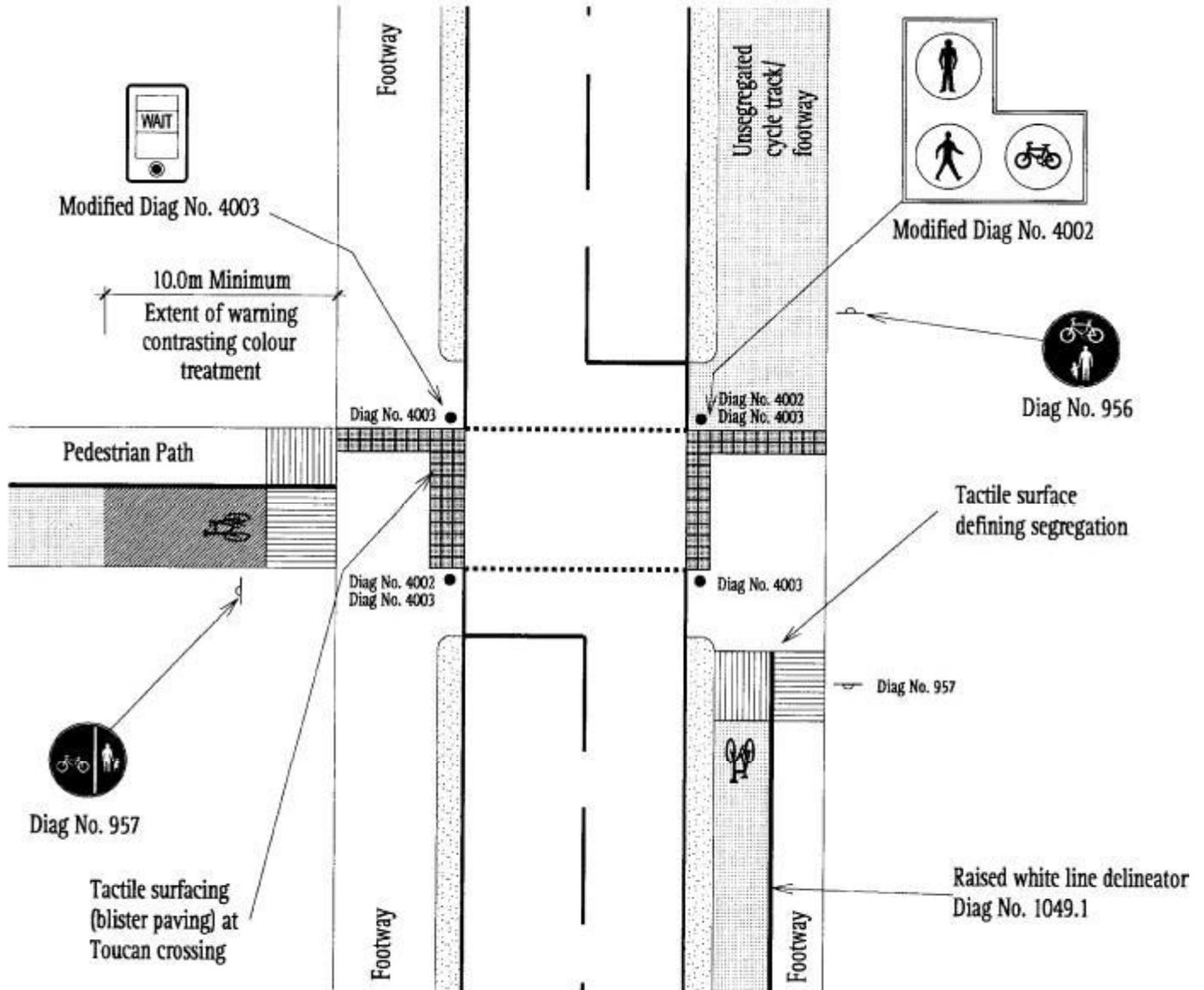
Figure 6.4.5 Toucan crossing layout



Notes

- 1) Ensure that consideration is given to all moves that cycle traffic will make onto and off the cycle track.
- 2) Toucans are unsegregated but often the approaches are segregated. As the indicator units are usually positioned on the right hand side, and the stem of the "L" would be on this side, optimum layout relative to all users can be difficult to achieve.
- 3) The blister paving layouts should be based on DfT Guidance Note on the use of Tactile Paving Surfaces
- 4) Consideration should be given to the default green being for the cycle and pedestrian crossing.
- 5) Across a wider road a staggered central island may be provided and, where cyclists are catered for should be 4m wide.
- 6) A Toucan crossing within a signalised junction should be provided with farside indicators (Dia 4003.5).

Toucan Crossing – Figure 5.6



Note: The blister paving layouts have been taken from the Disability Unit Draft Guidance Note, Guidance on the Use of Tactile Paving Surfaces