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Active Travel Measures

The Homesteads Ward

Purpose

To consider the proposal to provide a cycle route that will connect the Homestead Ward with neighbouring areas, crucial amenities / facilities and cycle routes

Background

- Thurrock Council has been awarded funding under the Government's Tranche 2 Active Travel scheme for the provision of new infrastructure to enhance cycle facilities in accordance with Cycle Infrastructure Design guidance document LTN 1/20.
- The Council have identified 5 separate areas where the funding could potentially be spent.
- This report considers the request for the Homesteads area (centred along Branksome Avenue) to be reviewed for treatment under this scheme.

Public Engagement exercise

- Prior to progressing the feasibility design for the Active Travel Schemes, a Public Engagement exercise was undertaken on all 5 schemes being put forward
- The period of the Public Engagement was 18 February to 21 March 2021.
- In the set questions Homesteads Active Travel Route (previously known as Branksome Avenue scheme) received a 68.9% of “approve” / “strongly approve” to be taken forward by the Council.
- In the open question for comments and suggestions there were 45 different answers with diverse and sometimes opposite views.

Public Engagement exercise

- However, the five main issues concerning residents were:
- 1) Vehicles speeding in Branksome Ave (21),
- 2) Rat running (8),
- 3) Worries about speed bumps/humps to be installed (7),
- 4) Complaints about the limited information of the measure provided on the consultation (6) – it must be noted there were no details at that stage
- 5) Safety concerns (5).

- Other concerns clearly come from the point of view of drivers as worries about parking spaces, road conditions or misuse of funds, whilst others come from the point of view of cyclist with worries of dangerous driving (3), inadequate parking (2), need of network connection (1) and crossing points (1).

Is the proposed route appropriate?

- The Homesteads estate in Stanford-le-hope is a large residential area with few retail/leisure facilities, no schools and with no bus route running through it.
- A cycle route passing through this ward will provide the residents safe connection from the Homesteads estate with the desired locations nearby and to the ongoing cycle network (both existing and planned).

Does the area and proposed route meet the requirements set out in LTN 120 for a suitable route

- This is a crucial consideration because if the route does not meet the standards required by LTN 1/20 then it should not be implemented using the Active Travel Tranche 2 funding.
- Should the scheme be implemented and is subsequently reviewed and found not to meet the standards the DfT may ask for the money to be returned. They may also:-
  - Reduce or remove the Active Travel grant funding for Thurrock
  - Remove the opportunity for Thurrock to take part in any future bids
  - Make a reduction of grant funding of the ITB Capital allocation and annual Maintenance budget and potentially other funding resources
- LTN 1/20 has 5 key Core Design principles which 1.5.1 states “represent the essential requirements to achieve more people travelling by cycle or on foot, based on best practice both internationally and across the UK”

What are the core principles of LTN 1/20?

- 1) Coherent
- 2) Direct
- 3) Safe
- 4) Comfortable
- 5) Attractive

Figure 1.1: Core design principles

Accessibility for all				
Coherent	**Direct**	**Safe**	**Comfortable**	**Attractive**
				
DO Cycle networks should be planned and designed to allow people to reach their day to day destinations easily, along routes that connect, are simple to navigate and are of a consistently high quality.	**DO** Cycle routes should be at least as direct – and preferably more direct – than those available for private motor vehicles.	**DO** Not only must cycle infrastructure be safe, it should also be perceived to be safe so that more people feel able to cycle.	**DO** Comfortable conditions for cycling require routes with good quality, well-maintained smooth surfaces, adequate width for the volume of users, minimal stopping and starting and avoiding steep gradients.	**DO** Cycle infrastructure should help to deliver public spaces that are well designed and finished in attractive materials and be places that people want to spend time using.
				
DON'T Neither cyclists or pedestrians benefit from unintuitive arrangements that put cyclists in unexpected places away from the carriageway.	**DON'T** This track requires cyclists to give way at each side road. Routes involving extra distance or lots of stopping and starting will result in some cyclists choosing to ride on the main carriageway instead because it is faster and more direct, even if less safe.	**DON'T** Space for cycling is important but a narrow advisory cycle lane next to a narrow general traffic lane and guard rail at a busy junction is not an acceptable offer for cyclists.	**DON'T** Uncomfortable transitions between on-and off carriageway facilities are best avoided, particularly at locations where conflict with other road users is more likely.	**DON'T** Sometimes well-intentioned signs and markings for cycling are not only difficult and uncomfortable to use, but are also unattractive additions to the street scape.

Coherent

- LTN 1/20 (4.2.4) requires the proposed new route to link with other destinations and suitable facilities.
- By extending the length of the cycle route from the core road of Branksome Avenue, via Morley Hill to the north east and First Avenue / Dunstable Road to the south west, and with a cycle route also introduced on Third Avenue then the route can be formed to give connectivity of the Homesteads to the wider cycle network and local facilities.

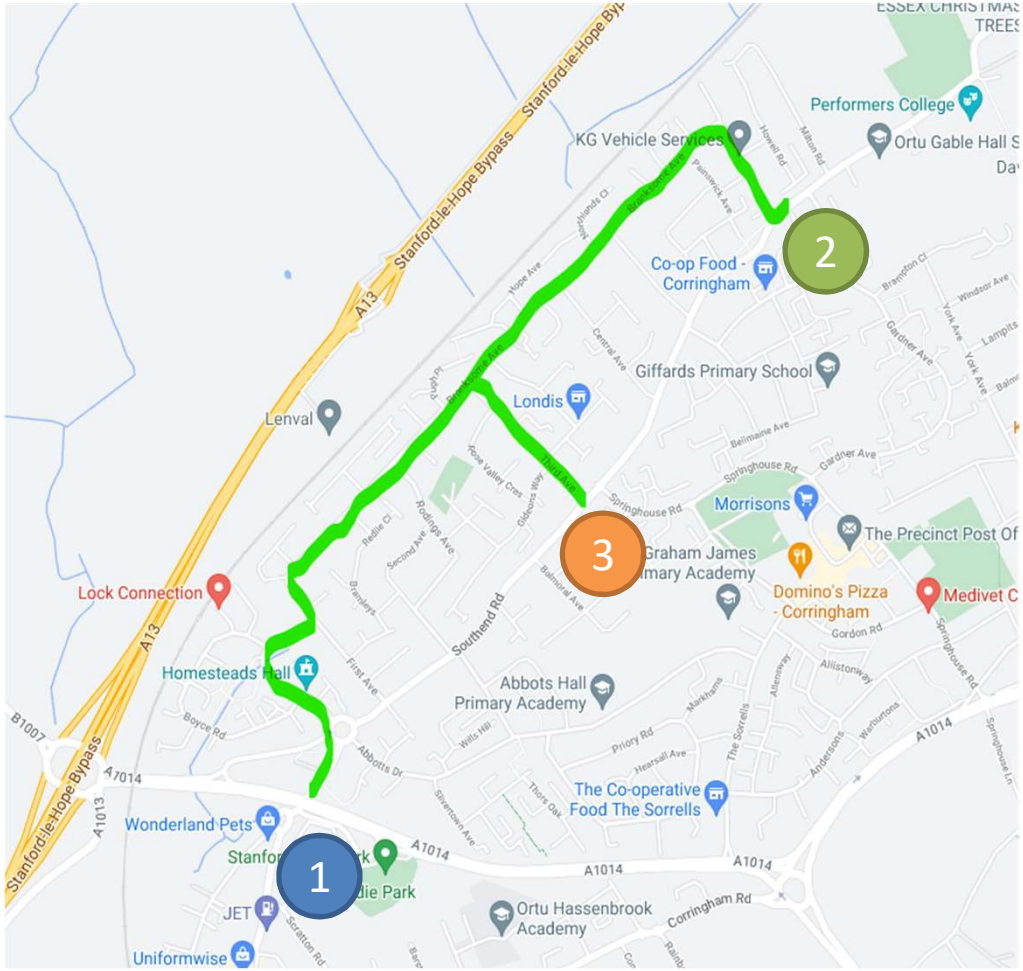
As indicated on the plan: -

- To the southwest the route connects to Southend Road and on to Stanford-le-hope town centre and Station, along with providing direct connection to the proposed cycle route through the forthcoming development sited between Victoria Road and A13, which when completed will provide off road connection to the station.

- To the northeast – the exit from Morley hill connects the area with Southend Road towards Gable Hall School and future development of connections to National Cycle Route 13 and out of borough connection to Basildon and areas beyond

- By including Third Avenue within the scheme will provide safe access out to Southend Road and connectivity to Springhouse Road, local schools and access to Corringham Town Centre.

- On that basis it can be confirmed that (subject to scheme design) the Homesteads Active Travel Measures could be considered to meet the requirement for Coherent.



Direct

- LTN 1/20 (4.2.7) says Cycle routes should be at least as direct – and preferably more direct – than those available for private motor vehicles.

- On that basis the proposed route, whilst providing a safer alternative for cyclists than Southend Road, if considering the route wholly on the basis as an essential part of the cycle journey from Stanford town centre/station towards Lampits Hill, then it would not meet the criteria. 4.2.7 states "An indirect designated route involving extra distance or more stopping and starting will result in some cyclists choosing the most direct, faster option, even if it is less safe"

- Therefore this proposal cannot be deemed to provide a direct route along Southend Road in order to make a coherent link.

- However, it is not being put forward as an alternative to Southend Road (although a safe through route would clearly be available to less experienced cyclist who do not wish to use the traffic route). This proposal does make safe direct connectivity from the many homes within the Homestead ward with the wider area and facilities.

- On that basis this route might be considered as providing a direct route, depending on the origin/destination of the user.

Safe, Comfortable & Attractive

With a sympathetic design the route through Homesteads via Branksome Avenue could be made to comply with the other criteria.

Investigation – Vehicle Surveys

- As part of the investigation surveys have been undertaken by a specialist survey company to provide details of pedestrian and cycle flows along Branksome in order to ascertain current usage along with vehicle speed and flow surveys on the adjoining roads.
- Vehicle and speed flows along Branksome are constantly being recorded by the six permanents stations on the road. These stations are regularly monitored and provided the data for this road.

Investigation – Vehicle Surveys

	Westbound	Eastbound	2 Way
85%ile Speeds (mph)	33	33	**33**
Daily Vehicle Flows (24 hour period)	2156	1769	**3925**
Peak hour Traffic Flows			
AM (8-9)	128	93	221
PM (5-6)	102	144	246
*For the purpose of the investigation the highest traffic volume and highest 85%ile speeds recorded in the road were used			

With reference to note 2 on table 4.1: from the above it can be seen that the peak hour flows are less than 10% daily flow

LTN 120 fig 4.1

- This table gives clear advice on what type of facility and protection must be given to cyclists based the vehicle flows and traffic speeds
- The table is broken into speed parameters of 20mph, 30mph, 40mph and 50+mph
- It shows what is required at each of these speed categories in relation to the vehicle flows
- Note – it clearly states that if the 85%ile speed is greater than 10% above the speed limit then the next speed range should be used (note 1 table 4.1)
- Branksome Avenue currently has a 30mph speed limit. The 85%ile recorded is 33mph, which exactly 10%.
- An 85%ile speed of 10% above the limit is not usually considered significant, and in a 30 limit it would need to be 35mph or more to justify Police intervention. As the figure is at the 10% point, for the purpose of this exercise, we will look at the requirements for both a 30 and the 40 categories.

Figure 4.1: Appropriate protection from motor traffic on highways

Branksome Avenue, Breakdown

- 2-way Vehicle flow = 3925 vehicles per day
- For 30mph – Min acceptable for use by all = light segregation
- For 40mph – min acceptable for use by all = Fully kerbed cycle track. (with minimum buffer zone between cyclists and vehicles = 0.5m)
- Carriageway width for Branksome is 7m
- Safe cycle path width (one way path) is 2m
- Safe cycle path with (2-way cycle flow) is 3m (with minimum 0.5m buffer zone between cycle path and vehicle flow)

- Considering the geometry of Branksome Avenue : with 2 one way paths the resulting carriageway width for 2 way vehicle flow is 3m
- With one 2-way cycle path the road loss is similar as segregation will be required due to the contraflow cycle path. 7m – (3m + 0.5m segregation) = 3.5 m vehicle carriageway
- Therefore standard road width of 6m (5m min) is not achievable with on street cycle lane provision
- There are further constraints to consider in the form of the multiple carriage crossing (driveway accesses) into each property along the length of the road.

- The minimum requirement is light segregation, and while that does not reduce the road space it does involve a series of barriers (usually bollards) to clearly highlight the edge of the cycleway with the carriageway. These features would create difficulties for drivers accessing the off-road parking places.

- Another issue of providing on road cycle paths is that it sterilises the parking along the road and prevents service vehicles, visitors, overspill vehicles to a property being able to park on the road outside the home.

Figure 6.16: Light segregation using planters and low leve features, Camden

Figure 6.17: Low level light segregation features adjace a mandatory cycle lane

- LTN 120 does make recommendations regarding providing on street parking in relation to cycle path provision, but the constraints of the road width do not allow this on Branksome Avenue.

- LTN 120 6.4.14 & fig 6.21 does allow for the removal of the centre line down the centre of the carriageway

- The narrow carriageway area and the removal of the centre line is claimed to have a speed reducing effect on traffic. The motor vehicles must give priority to any cycles in the cycle lane, only passing when the centre carriageway is clear for them to do so.
- This option would be appropriate for Branksome Avenue if the speed could be reduced significantly and if light segregation were not required. On street parking would also need to be removed to accommodate the cycle paths.
- Another consideration made was to make the motor vehicle movements along Branksome Avenue one direction only in order to allow room for cycle paths to be provided and suitable carriageway width for vehicles. However, experience shows that one way traffic routes tend to lead to an increase in the speed of motor vehicles. This is clearly not desirable and a method to slow the traffic speed would be required. However, this would still result in the sterilisation of all kerb side parking along the road. Also, whilst not a consideration under LTN 1/20, the change is likely to be objected to by a majority of residents in the immediate area.

Investigation - LCN 1/20, Chapter 7 discusses Mixed traffic use roads

- “On existing streets where the principal function is access to local properties, there is less need for separate cycle facilities. Achieving lower traffic flows or speeds might require physical and legal measures to control access and motor vehicle speeds. As well as enabling cycling, such measures can bring wider environmental benefits by reducing noise, air pollution and traffic danger.”
- 7.1.1 - Where motor traffic flows are light and speeds are low, cyclists are likely to be able to cycle on-carriageway in mixed traffic, as shown in Figure 4.1. Most people, especially with younger children, will not feel comfortable on-carriageways with more than 2,500 vehicles per day and speeds of more than 20 mph. These values should be regarded as desirable upper limits for inclusive cycling within the carriageway.

- 7.1.2 - Traffic calming and traffic management techniques can be used to help reduce motor vehicle speed and volume to make cycling in mixed traffic less hazardous and more comfortable. Crossings and junction treatments for cyclists at major roads can then help connect local networks of quieter streets. An important element of such streets and lanes is the removal of non-local through-traffic to reinforce the primary function of local access.

- 7.2.3 - Mixed traffic streets should therefore aim to offer conditions where most people would feel confident and comfortable enough to use the primary position when necessary. An overtaking clearance of 1.5m is preferred in free-flowing traffic, and a 1.0m clearance is acceptable on roads with a 20mph limit (see Table 7-1).

- 7.2.4 - Close overtaking can be intimidating and hazardous to cyclists in free-flowing traffic. Only at speeds lower than 30mph might a minimum clearance of 1.0m be acceptable. No values are given for speed limits greater than 30mph because cyclists should be provided with protected space away from motor traffic (see Figure 4.1)

Table 7-1: Minimum overtaking clearances (measured from outside of cyclist's kinetic envelope)

Speed limit	Minimum overtaking clearances (m)	
	Desirable minimum	Absolute minimum
20 mph	1.5	1.0
30 mph	1.5	1.5

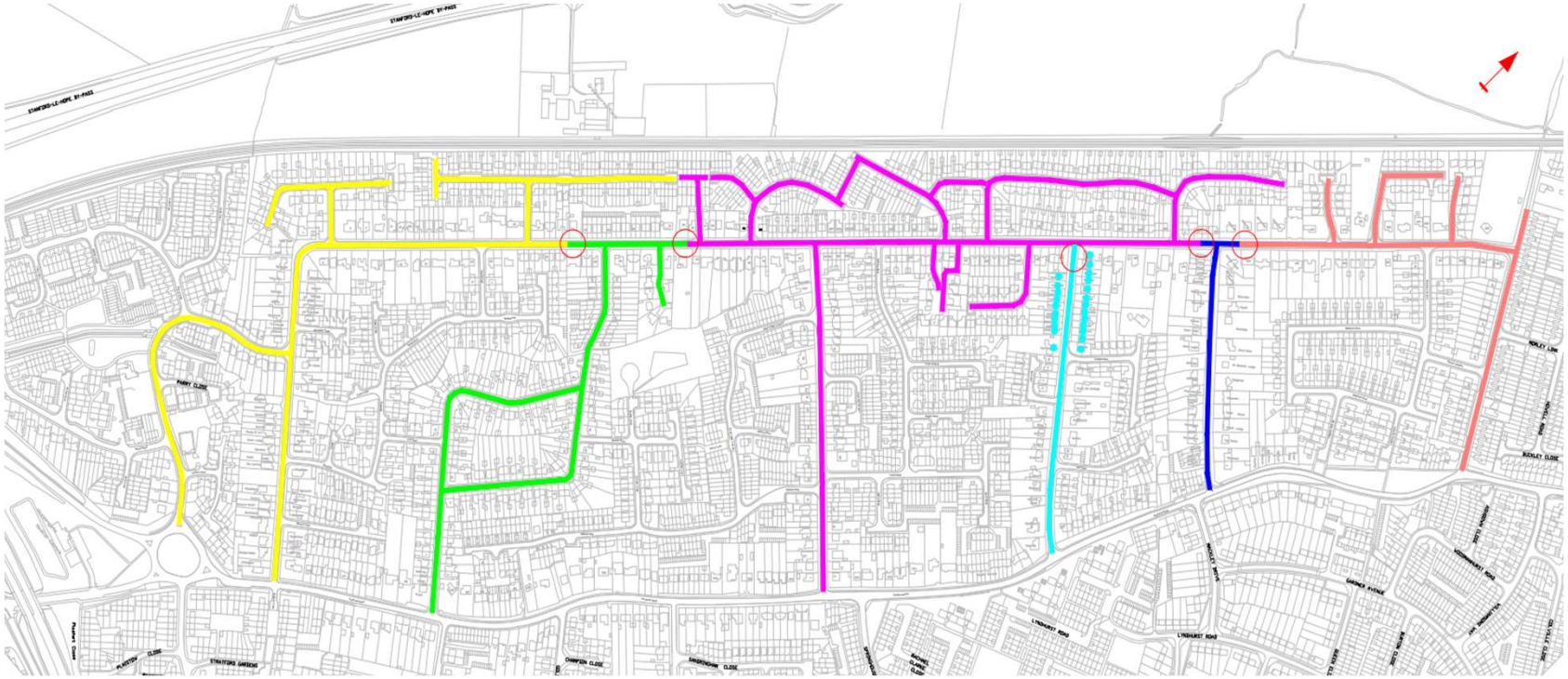
Proposal

In order to meet the challenge of providing a safe environment for cyclist along Branksome Avenue and meet the criteria of LTN 1/20 an alternative proposal has been considered which would artificially alter the nature of the road in order that the speed and traffic flows could be brought down to a minimum, thereby allowing mixed use within the parameters of the existing road constraints. This scheme proposal will lower vehicle accessibility (through traffic) and reduce vehicle speeds across the area but would have a negligible effect on parking.

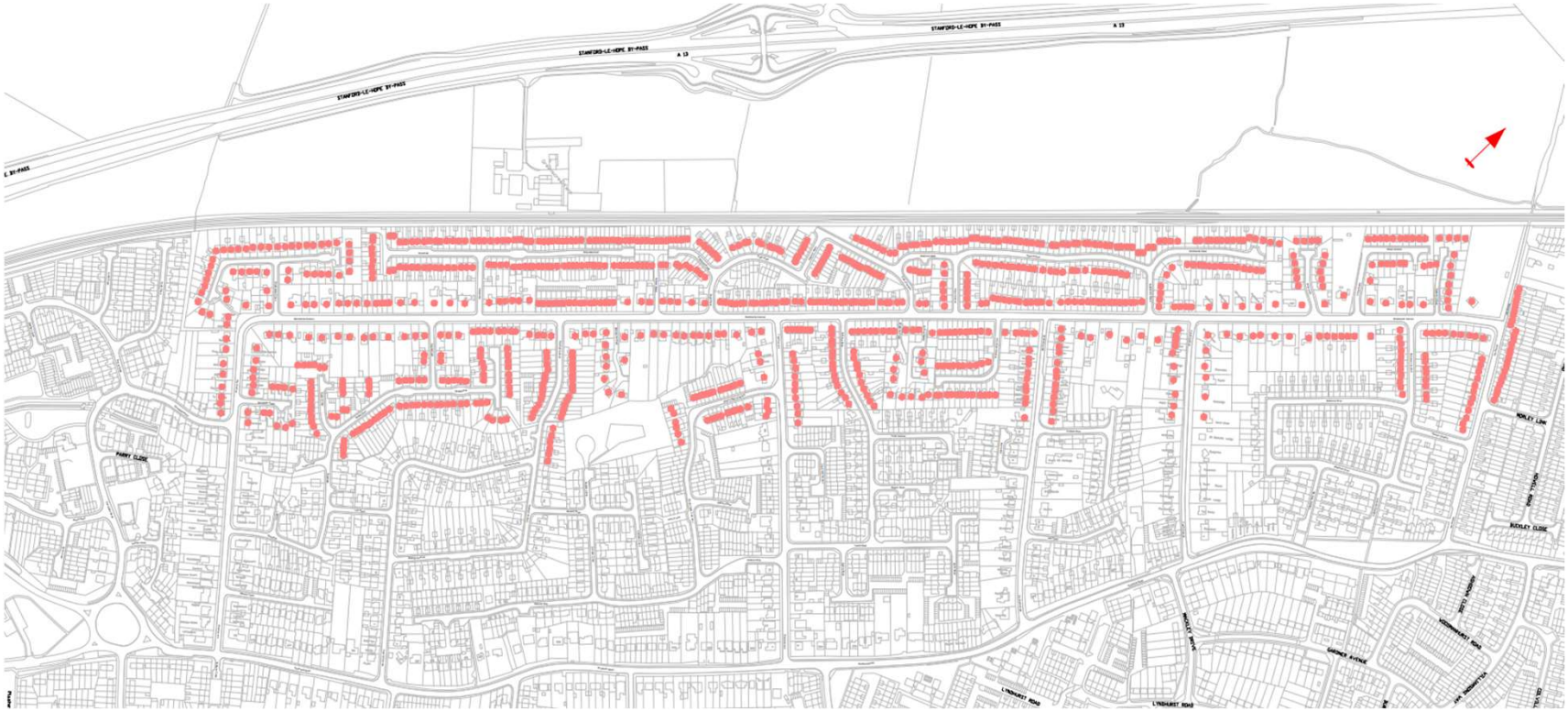
Proposal

- Considering mixed traffic use roads in relation to Branksome Avenue, it is proposed that the length of Branksome be broken down into shorter lengths, restricting through flow traffic numbers and reducing vehicle speeds.
- This, in addition to lowering the speed limit to 20 mph and reducing the traffic flow to less than 2000 per day on each section will enable the area to meet the requirements for mixed use.
- The following plans indicates how this might be achieved

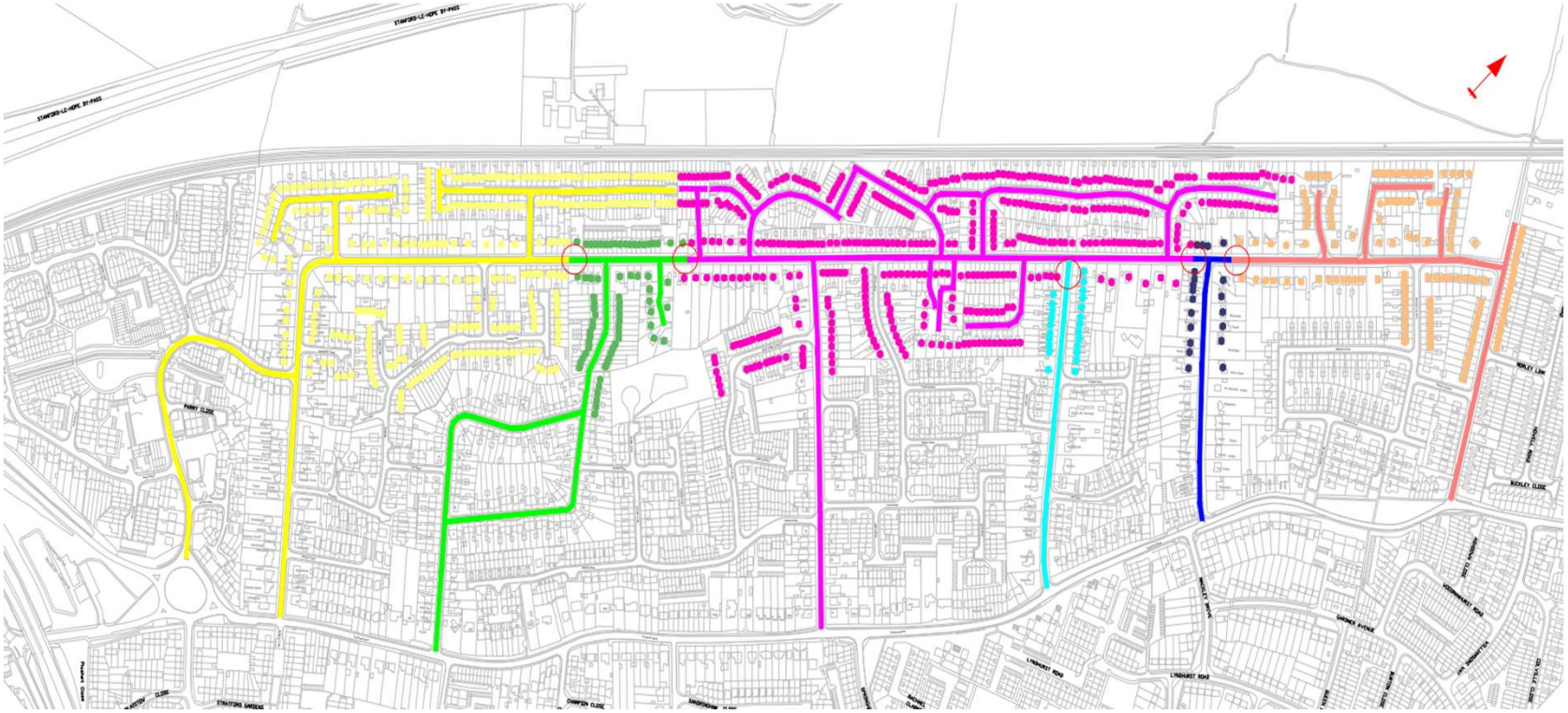
Creating four break points to motor vehicles along the length of Branksome Avenue, showing the vehicle routes to Southend Road for those residents affected by the breaks.



Catchment area and properties which are either committed to, or most likely to use Branksome Avenue for every motor journey



Catchment areas and routes indicating those properties which were most likely to currently use Branksome Avenue marked as catchment for the new access routes.



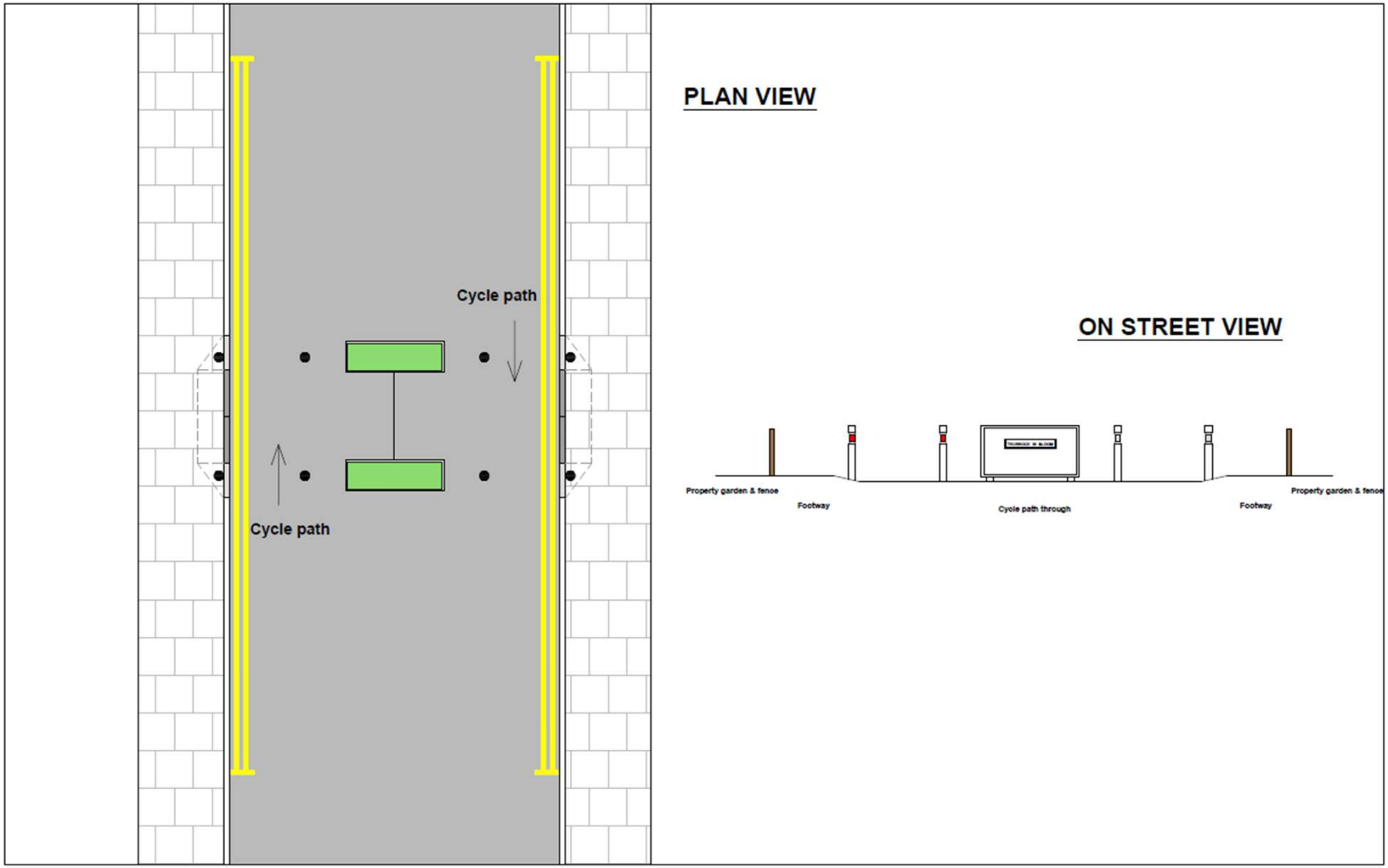
Break Points design

The design of break points would be in keeping with a precedent set within the London Boroughs and with Fig 7.1 of LTN 1/20

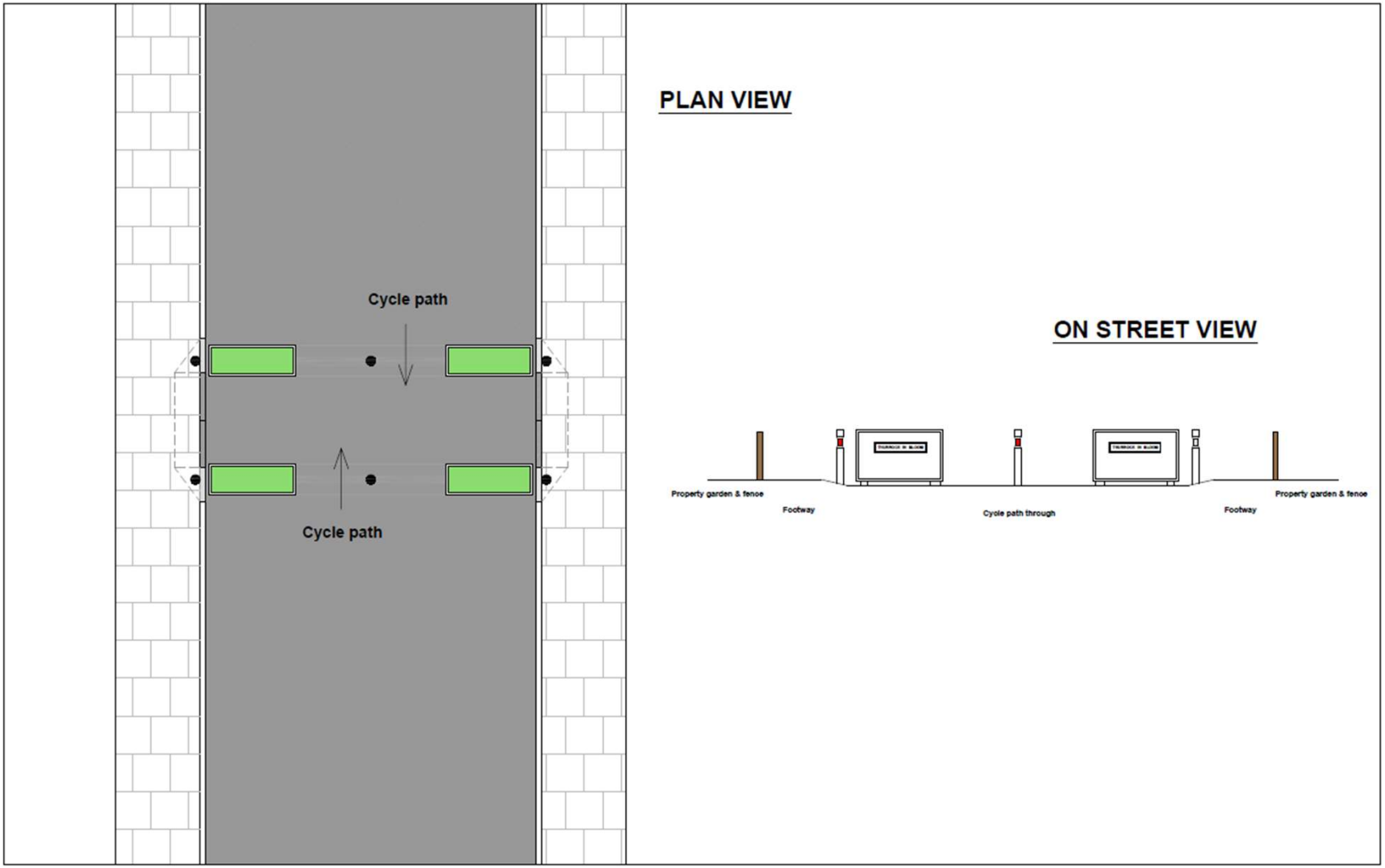
Figure 7.1: Simple modal filters can reduce through traffic while retaining cycle and pedestrian access. The central position enables kerbside car parking to be provided without blocking the facility, and the lockable bollard enables emergency access, Haringey.

Segregation Points

Although the design for Branksome Avenue has yet to be finalised, it is currently proposed that the breaks would be created using planters and bollards. By use of two rows in each location where possible it is intended that a safe pedestrian crossing location could be formed between with the addition of pram ramps.



How the planter break may look both on plan and on the approach by a cyclist.



How the planter break may look both on plan and on the approach by a cyclist.

Locations considered for breaks

- When considering the locations for the breaks, there were certain criteria that were considered essential.

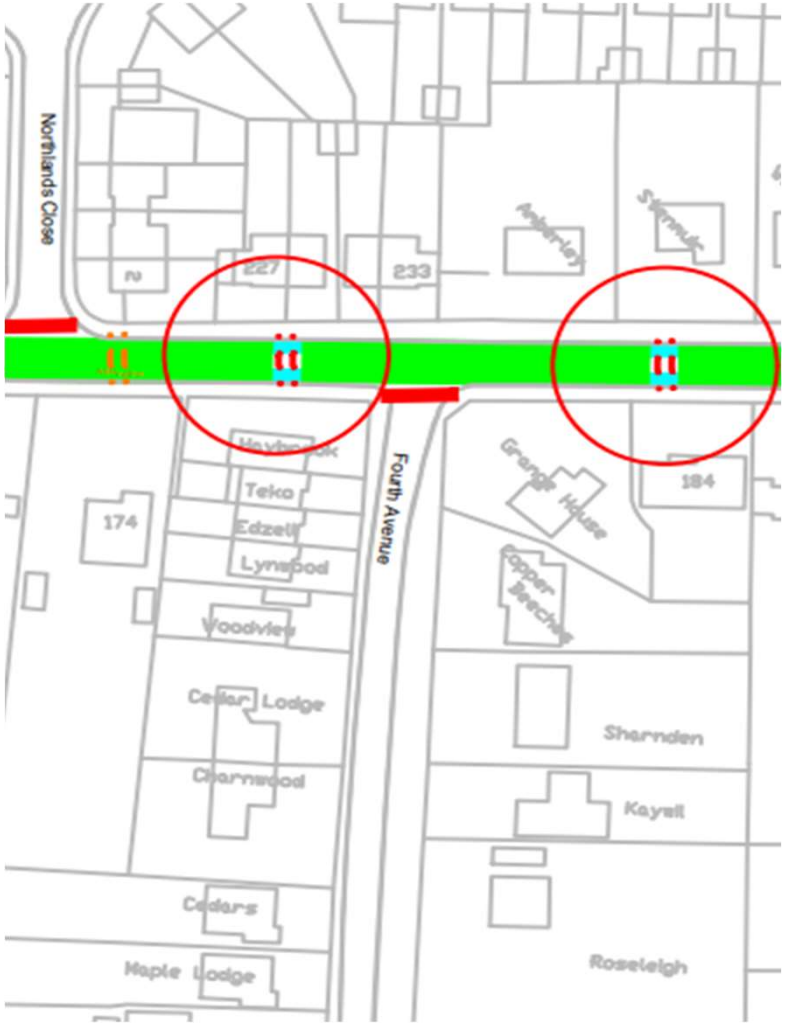
- Neither Central Avenue nor Fourth Avenue are publicly funded highways, being highway but maintained at the expense of the residents. On that basis it was considered that the Council should not be placing an additional burden upon those residents by channelling a larger number of vehicles on those roads, other than those that use them currently.

Break location - Central Avenue

The first break was established at the junction of Central Avenue with Branksome Avenue. This closure will still allow cyclists and pedestrian movements, but will prevent motor vehicles travelling through Central Avenue, effectively making it a Cul-de-sac (no through Road).

Break location - Fourth Avenue

Similarly with Fourth Avenue, whilst making break points on Branksome at this location, the number of vehicles from the Branksome catchment area has been severely restricted, with a short section of Branksome acting as the turning head area for Fourth Avenue, which again becomes a “no through road”.



Break locations - Rodings Avenue/Second Avenue

The final two breaks are positioned to place minimum additional vehicle movements onto Rodings Avenue/Second Avenue as these roads provide a difficult and indirect route. Both are narrow and have a large amount of on-street parking.

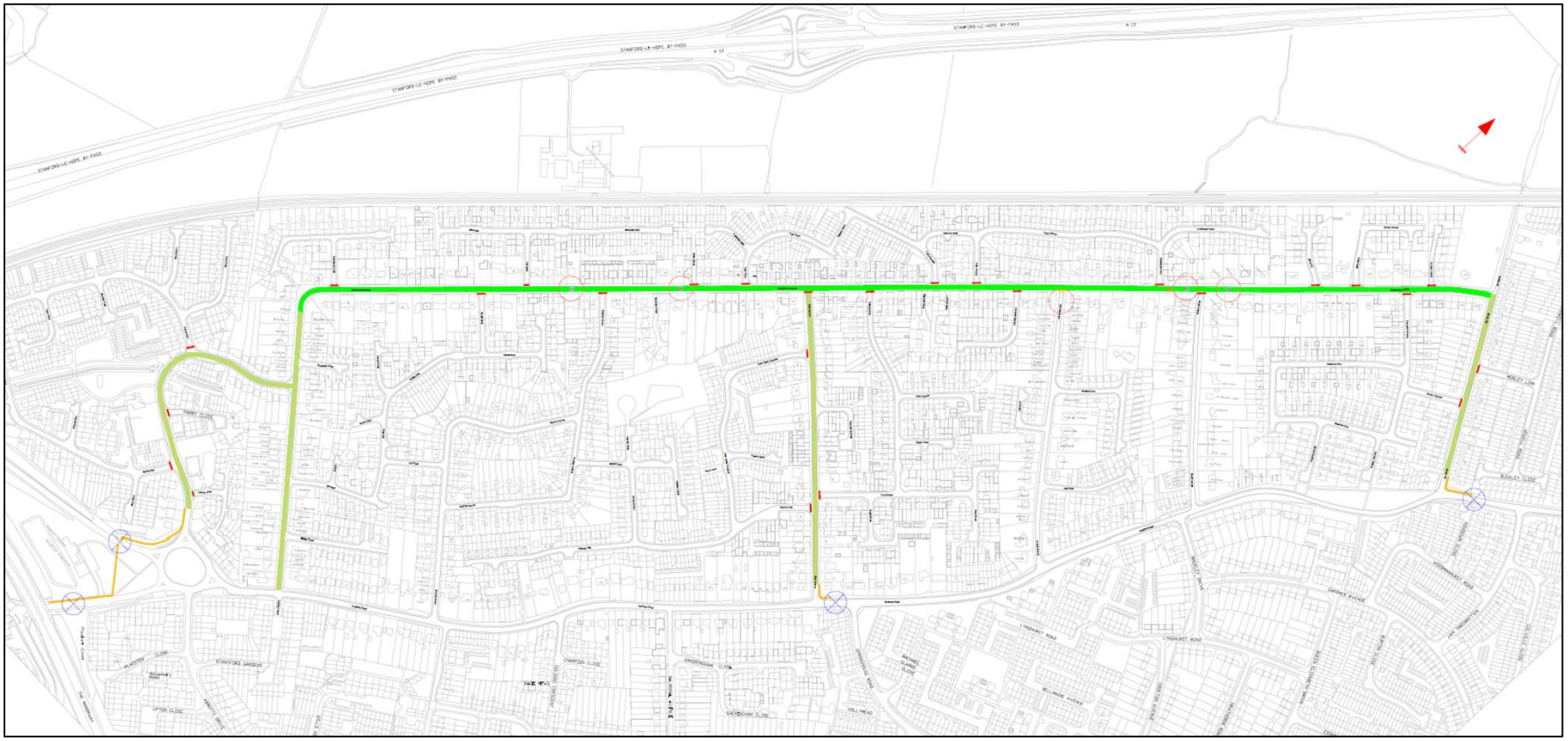
- Some additional traffic has however been unavoidable, but as shown on the plans above is limited to a short section of Branksome Avenue and the 9 properties in Branksome Park only.
- The specific locations for the breaks as shown on the proposal plan have been selected based upon the on-site constraints of junctions and driveways.
- It is recognised that as a result of the breaks, a larger number of residents would be forced to use Third Avenue for their access and exit for every motor vehicle journey.
- Similarly, the traffic between First Avenue the most southerly break would be forced to use First Avenue/ Dunstable Road and the traffic between the most northerly break and Morley Hill would have to use Morley Hill.
- As each of these roads form part of the cycle routes proposed, in order to ensure vehicle speeds are kept low, in the areas where there will be on street mixed traffic use (cycles and motor vehicles) these roads will be treated with traffic calming to protect the cyclists. 7.1.2 states that traffic calming can be used to help reduce traffic speeds
- It is acknowledged that some residents will object to having their preferred driving route closed off to them, but this is in line with LTN 1/20 which requires more direct route for cycling / walking and less direct for motor vehicles to encourage drivers out of their cars.

Feasibility Proposal Plan

Following the process undertaken, the resulting overall feasibility design plan is indicated below for information. A full size A1 version is available.

KEY

- Shared use footway/cyclway
- Cycle route on road (no Traffic Calming)
- Cycle route on road (with Traffic Calming)
- Junction entry treatment (raised table on approach)
- Motor vehicle barriers
- Cycle crossing point



Proposal to Introduce Homesteads 20mph zone

- This proposal works on the basis of reduced speed and reduced vehicle flow so that the speed limit falls into the 20mph category
- To help achieve this, it is proposed to introduce a 20mph zone across the entire Homesteads estate from Morley Hill in the Northeast to Dunstable Road in the Southwest and all junctions into the area with Southend Road.

Junction Treatments

In order to further improve pedestrian safety at junctions and to protect all cyclists throughout the route, it is proposed that all side road accesses onto the cycle route have raised treatment immediately prior to the junction. The photo below shows a junction which has been similarly treated in Tilbury.

Shared Use

- 6.5.1 states “For the purpose of this document shared use is defined as a route or surface which is available for use by both pedestrians and cyclists.”
- 6.5.4 states “In urban areas, the conversion of a footway to shared use should be regarded as a last resort. Shared use facilities are generally not favoured by either pedestrians or cyclists, particularly when flows are high. It can create particular difficulties for visually impaired people. Actual conflict may be rare, but the interactions between people moving at different speeds can be perceived to be unsafe and inaccessible, particularly by vulnerable pedestrians. This adversely affects the comfort of both types of user, as well as directness for the cyclist.”
- However, with the geometric constrains of the existing infrastructure it is clear that this route must include lengths of shared use if the scheme is to progress.
- 6.5.6 says “Shared use may be appropriate in some situations, if well-designed and implemented. Some are listed below:”

- Of the four occasions listed this route would meet
- “At and around junctions where cyclists are generally moving at a slow speed (see Figure 6.27), including in association with Toucan facilities; “and
- “In situations where a length of shared use may be acceptable to achieve continuity of a cycle route;”
- Therefore, following detail design, the proposed shared use sections of this route should be justifiable on the basis of the above and in line with LTN 1/20.

- As a note of caution, no detail design has been undertaken on the shared use footway sections at this stage and it is unclear if any difficulties will be encountered. The existing footway of Dunstable Road will need to be widened in order to accommodate the 3m minimum width required for a shared use cycleway/footway. This will affect the carriageway width, but may also have the effect of reducing vehicle speeds.

- As an alternative, if shared use is not possible along the full length, then multi use carriageway may provide the answer, but like Morley Hill and Third Avenue, traffic calming and a 20mph limit will be required.

- For all shared use sections which do go forward 6.5.5 clearly advise that “Where a shared use facility is being considered, early engagement with relevant interested parties should be undertaken, particularly those representing disabled people, and pedestrians and cyclists generally. Engaging with such groups is an important step towards the scheme meeting the authority’s Public Sector Equality Duty”

- This must be undertaken as part of the consultation process.

Crossing Facilities

There are four crossing points required in order to make this a safe and continuous route for cyclists

1. Across Southend Road near to Plashet Close

2. Across Southend Road between Third Avenue and Springhouse Road

3. Across Southend Road by Ashdon Close

4. Across the Manorway exit slip road

Crossing Suitability

- Whilst detail design has not been undertaken, looking at table 10.2 it is likely that the first three will only need to be parallel crossings (shared pedestrian and cycle, formally known as Tiger Crossing), but the fourth will definitely need to be a signal controlled crossing to stop the traffic on the slip road. It is unclear at this stage, but it may be possible to combine this with a pedestrian facility and create a Toucan Crossing or whether the rules of the funding require it to be a dedicated cycle crossing point only.
- 10.4.5 Table 10-2 is a guide only, and individual locations should be assessed on a case-by-case basis. In many situations, reducing the speed of motor traffic using the carriageway will enable additional options for the crossing design to be considered

Table 10-2: Crossing design suitability

Speed Limit	Total traffic flow to be crossed (pcu)	Maximum number of lanes to be crossed in one movement	Uncontrolled	Cycle Priority	Parallel	Signal	Grade separated
≥ 60mph	Any	Any					
40 mph and 50 mph	> 10000	Any					
	6000 to 10000	2 or more					
	0-6000	2					
	0-10000	1					
< 30mph	> 8000	> 2					
	> 8000	2					
	4000 8000	2					
	0-4000	2					
	0-4000	1					

Provision suitable for most people

Provision not suitable for all people and will exclude some potential users and/or have safety concerns

Provision suitable for few people and will exclude most potential users and/or have safety concerns

Notes:

1. If the actual 85th percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow

Audit

- As required by LTN 1/20 an assessment of the feasibility proposal has been carried out in accordance with Section 4.5 using Appendix A Cycling Level of Service Tool
- The proposed scheme scored highly with maximum marks in most categories, with the only Critical mark being the lack of connection to an existing surrounding cycle network. However, that cannot be changed within this scheme and will be addressed by planned future projects, which will be delivered through our emerging LCWIP.

Will this Scheme address the existing concerns the residents have?

As stated earlier, the consultation undertaken earlier this year regarding a possible Active Travel Scheme highlighted residents concerns over a range of traffic related issues in the area

Top 5 residents comments received from the previous consultation;

- 1) Vehicles speeding in Branksome Ave - Vehicle speeds will be reduced by the proposals.
- 2) Rat-running - The break points on Branksome Avenue will not allow through traffic, thereby removing all rat-running concerns.
- 3) Worries about speed bumps/humps to be installed - Unfortunately this concern cannot be completely resolved as some vertical deflection will be required.

  However, the proposal is not a widespread “hump and cushion scheme” and humps will be kept to a minimum.
- 4) Complaints about the limited information of the measure provided on the consultation - The previous survey was carried as part of the preliminary investigation and there were no details at that stage. However, whilst not a completed design this report has greater detail of how the scheme will look.
- 5) Safety concerns - This scheme addresses the road safety concerns for all classes of road user along the route.
- The scheme proposed would be introduced under Active Travel for Walking and Cycling and is not being put forward as a measure to address the above issues. However, from the above it is clear that as part of this project, many of the resident’s concerns have been addressed.

Summary

- The scheme is for a safe connection cycle route from the Homesteads area, starting in the centre of the estate using the core central road of Branksome Avenue, providing a Mixed Use cycle route which lead to;

  A. Southend Road in the northeast (towards Gable Hall School and NCN13) via Morley Hill

  B. Southend Road to the east (towards local schools, and Corringham Town Centre)

  C. As shared cycle path on Dunstable Road (which connects with Southend Road to the southwest and Stanford-le-hope Station, Stanford Town Centre, Hardie Park and local schools)

- At each point where the route meets Southend Road a parallel crossing point will be provided to safely take cyclists across the road for their onward route.

Conclusion

The scheme proposed offers an excellent opportunity to deliver a safe cycle route from the Homesteads Ward out into the wider area. With the design of the speed and vehicle flow features identified it is likely that this scheme would be compliant with the DfT and LTN 1/20 criteria.

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