

INFORMATION NOTE

MEDWAY LCWIP

MEDWAY LCWIP DESIGN TECHNICAL NOTE

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1. INTRODUCTION

- 1.1.1 SYSTRA has been commissioned by Medway Council to investigate improvements along selected walking and cycling routes in Medway, in order to achieve compliance with The Local Transport Note 1/20 (LTN 1/20). The Local Transport Note 1/20 contains design guidance from The Department for Transport to be followed while designing cycle infrastructure in the UK. This note summarises the key safety issues highlighted along the priority walking and cycling routes, as well as highlighting the proposed interventions to combat the identified issues.

2. PRIORITY CYCLING ROUTES

2.1 Cycle Route 2 (Maidstone Road, Gillingham)

- 2.1.1 There is no dedicated cycling infrastructure either in the form of a cycle lane or cycle track available. The width of the carriageway and lack of dedicated cycling infrastructure may force cyclists to adopt the primary cycling position in the centre of the traffic lane. Less experienced cyclists riding in mixed traffic may not feel confident and comfortable to use the primary position when necessary.
- 2.1.2 A 3-metre-wide two-way shared footway and cycleway on the eastern side of the carriageway to provide protected space for cycling away from vehicles is suggested. The existing site constraints do not favour the establishment of a dedicated cycle track and separate footway, and there is need to provide footway access on both sides of the carriageway due to the residential properties on both sides of the carriageway.
- 2.1.3 Residential parking at the side of the road creates a potential pinch point for cyclists and pedestrians, thus compromising their safety. Measures to control parking on the proposed shared pedestrian/cycle facility will have to be considered in the future.
- 2.1.4 The current speed limit of 30mph along the route, combined with primary cyclist position and pinch points creates an unattractive environment for cycling. Reducing the speed limit along the route from 30 mph to 20 mph will create a more comfortable and attractive environment for cycling as highlighted within LTN 1/20.
- 2.1.5 The lack of cycle priority at different priority junctions along the route increases the likelihood of a collision between a cyclist on the main carriageway and a vehicle joining from a side road. A raised table and cycle priority design at the busiest priority junctions along the route should be provided to slow vehicles approaching from the side road, and to give priority to the through movement of cyclists along the main carriageway. Furthermore, redesign/improvement of different junctions along the cycle route to make it safer and easier for cyclists to transition through the junctions is recommended.
- 2.1.6 Entry only/exit only restrictions where some side roads are used as only entry points or exit points should be considered at Thames Road, Herbert Road, and Bettescombe Road to reduce the traffic volumes along Maidstone Road, thereby reducing the number of potential conflict points between cyclists and motorists.

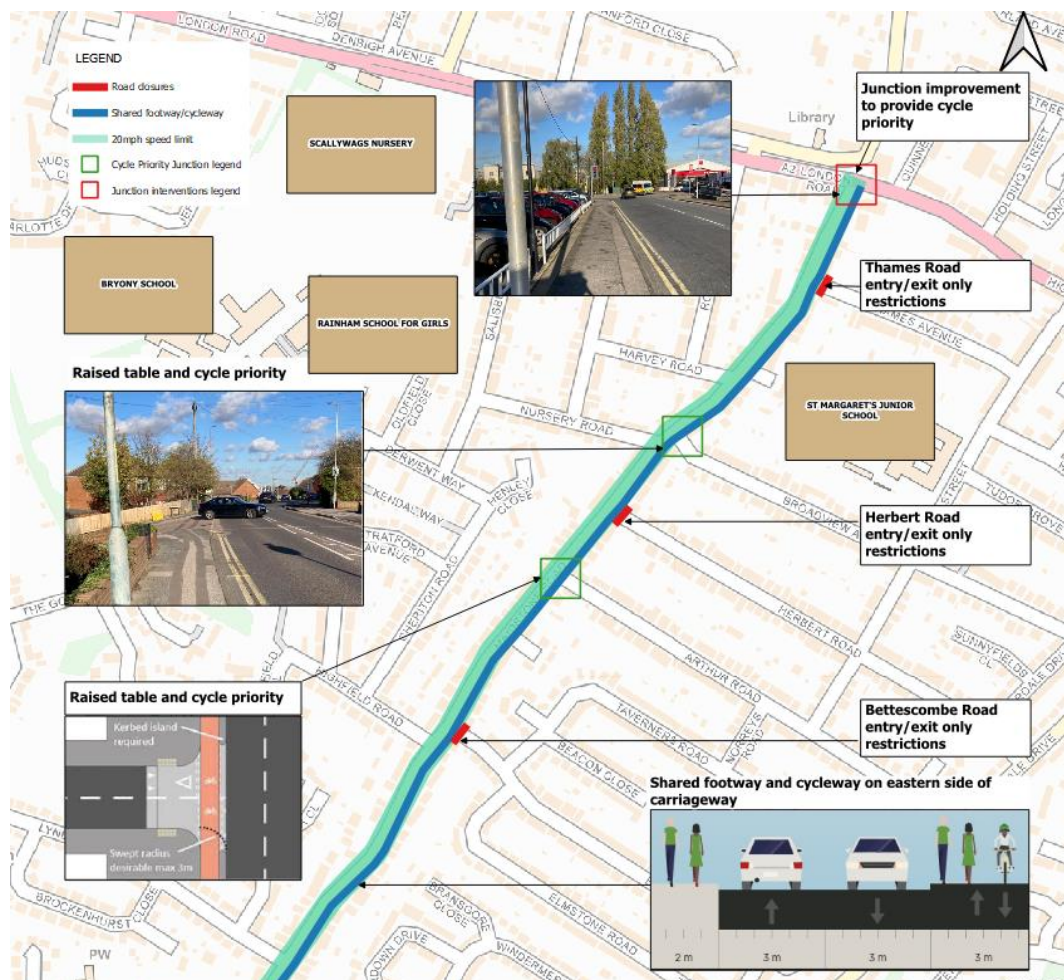


Figure 1 Interventions for Cycle Route 2 - Maidstone Road, Gillingham

2.2 Cycle Route 5 (Church Street to Sturdee Avenue, Chatham)

- 2.2.1 The LTN 1/20 compliant shared cycle/pedestrian way provided on the left-hand side of the carriageway at the start of Church Road truncates about 70 metres from The Strand roundabout thus providing no continuity of route for cyclists and pedestrians.
- 2.2.2 At the end of the shared cycle/pedestrian route, cyclists are forced to merge with motorised traffic on a carriageway which is 7.2 metres wide, with a speed limit of 30mph. According to Figure 4.1 of LTN 1/20, mixed traffic conditions with a speed limit of 30mph are suitable for only more experienced and established cyclists and will likely discourage most potential users due to safety concerns.
- 2.2.3 Residents along Church Road and Ingram Road use part of the existing footways for street parking thereby severely narrowing available footway width. This creates a potential safety hazard and inconvenience for pedestrians who might be forced to walk along the main carriageway to navigate around parked vehicles, particularly those in wheelchairs or pushing prams. Furthermore, the parked vehicles create pinch points in the carriageway during peak traffic conditions which takes away from the attractiveness and convenience of cycling.
- 2.2.4 It is recommended that a 20mph speed limit is introduced from the start of Church Street, running along Ingram Road through the mini roundabout up to the start of Sturdee Avenue is implemented. The reduced speed limit along the route is suitable for most people using mixed traffic conditions as highlighted by Figure 4.1 of LTN 1/20.
- 2.2.5 To enforce the 20mph speed limit and slow vehicles along the route as well as assisting pedestrian movement, raised zebra crossings have been proposed at different points

along the route. In order to further control vehicle speeds consideration should be given to supplementing these measures with other vertical cycle friendly measures but avoiding the use of speed cushions.

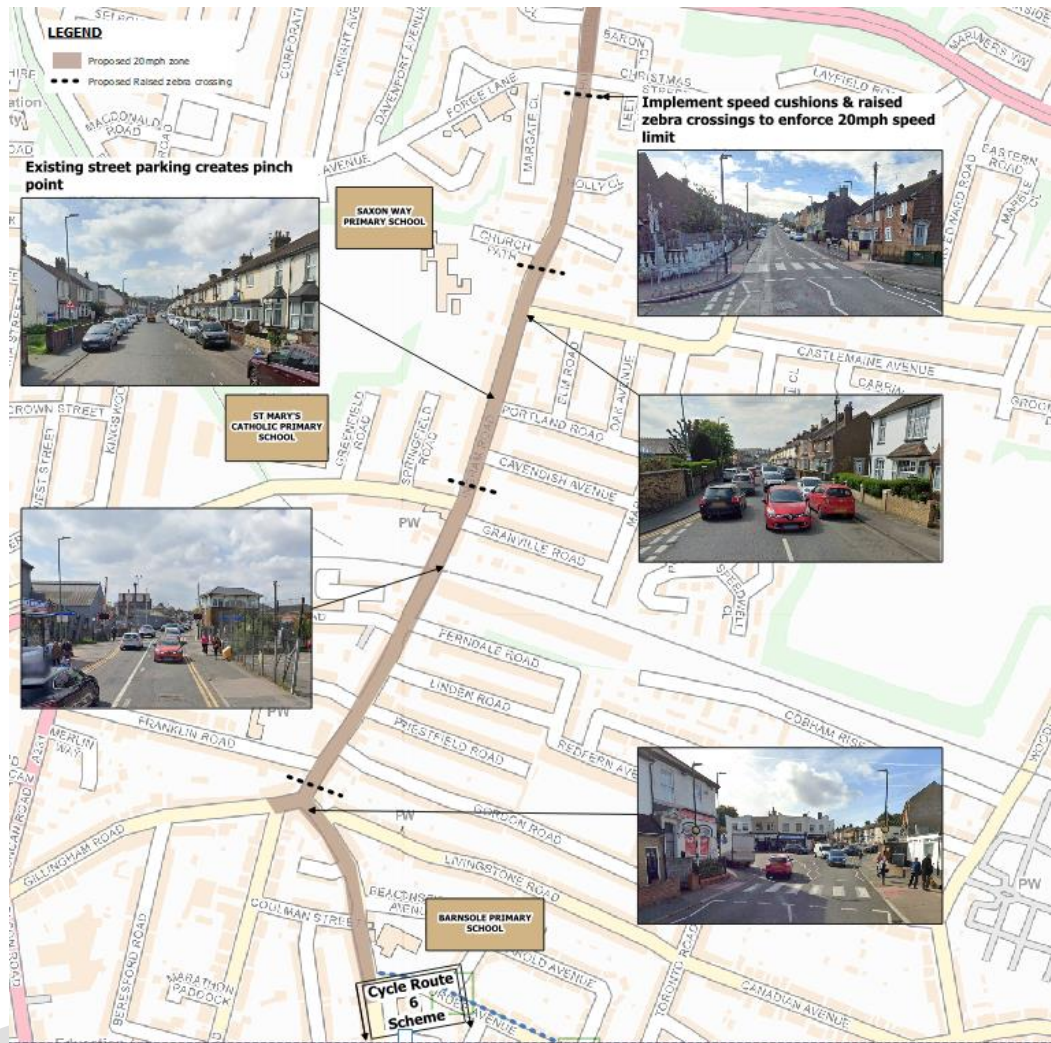


Figure 2 Interventions for Cycle Route 5 – Church Street to Sturdee Avenue, Chatham

2.3 Cycle Route 6 (Sturdee Avenue to Woodlands Road, Chatham)

- 2.3.1 Residents along the route use part of the existing footways for parking thus creating pinch points. Implementation of measures to prohibit on-street/footway parking along the route is recommended. Provision of Echelon parking on the eastern side of the carriageway for the section between Fourth Avenue and Third Avenue to cater for displaced parking on the opposite side of the carriageway could also be implemented.
- 2.3.2 There is an increased likelihood of a collision between a cyclist on the main carriageway and a vehicle joining from a side road at priority junctions at various locations along the route for example Toronto Road, Third Avenue and the A2 junctions. Implementation of cycle priority junctions at Toronto Road, Third Avenue and the A2 junction so that cyclists can cross the minor arms of the junctions in a safe manner without losing priority as recommended by clause 10.5.7 of LTN 1/20 is recommended.
- 2.3.3 The pedestrian/cycle crossing at the Woodlands roundabout needs to be upgraded to make it wider and more accommodating for both cyclists and pedestrians. Improvement of the crossing through footway and island widening and cycle priority to make it safer and more attractive for use by cyclists and pedestrians is proposed.

2.3.4 The shared footway/cycle way on the eastern side of the Woodlands Road carriageway will require upgrading to a 3.0 metre width through reduction of the main carriageway width in order to become LTN 1/20 compliant.

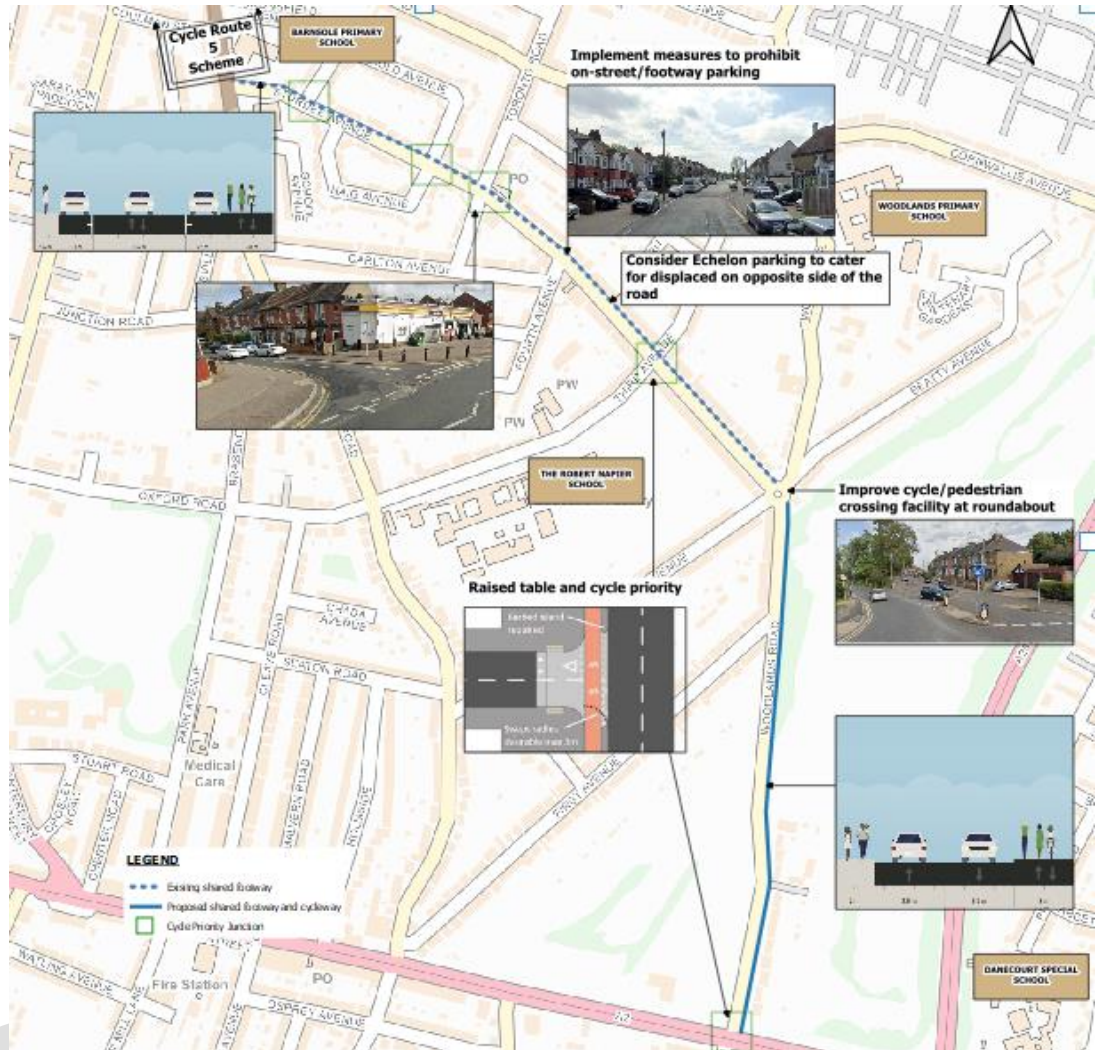


Figure 3 Interventions for Cycle Route 6 - Sturdee Avenue to Woodlands Road, Chatham

2.4 Cycle Route 7 (Dock Road, Chatham)

2.4.1 There is no segregated cycling infrastructure available, although a cycle lane is available on both sides of the carriageway. According to Figure 4.1 of LTN 1/20, provision of a cycle lane on a 40mph road is suitable only for more experienced cyclists and will exclude most potential users due to safety concerns.

2.4.2 To improve the safety and comfort of cyclists along Dock Road, the following have been recommended:

1. Establishment of a 3-metre-wide two-way segregated cycle track on the western side of the carriageway, with a two-metre-wide footway also provided so that cyclists and pedestrians are protected from the vehicles travelling at 40 mph.
2. Establishment of two cycle crossings so that the cyclists can safely transition from the newly provided infrastructure to the existing segregated cycle infrastructure.



Figure 4 Interventions for Cycle Route 7 - Dock Road, Chatham

2.5 Cycle Route 8 (Corporation Street, Rochester to Waterfront Way, Chatham)

- 2.5.1 Protected space for cycling is currently provided at the bridge across River Medway along the A2 in form of a shared cycle/pedestrian track on the northern side of the carriageway and a cycle lane on the southern side of the carriageway. While providing a segregated cycle track across the bridge would be the safest and most ideal option for cyclists, this was deemed unrealistic as it would involve turning two of the mainline carriageway lanes into cycle tracks which would create a potential pinch point and potentially lead to severe congestion particularly during the peak periods.
- 2.5.2 A shared footway/cycle way is currently provided on the northern side of the Corporation Street carriageway from the end of the bridge, and it runs up to Bardell Terrace. It was decided not to provide a segregated cycle track on the northern side for this section of the carriageway adjacent to the existing shared footway due to constraints with space, and the potentially adverse impacts on traffic on the already busy route as a result of turning one of the main carriageway lanes into a segregated cycle track.
- 2.5.3 Due to space constraints for the section between Highway Street to Medway Street, no physical infrastructural improvements for cycling can be implemented along this route. Therefore, to make the environment more conducive and safer for cyclists, it is recommended that a 20-mph zone is established from the start of High Street to Medway

Street, joining the existing 20mph zone already present at Waterfront way. The reduced speed limit along the route is suitable for most people using mixed traffic conditions as highlighted by Figure 4.1 of LTN 1/20.

- 2.5.4 To enforce the 20mph speed limit and slow down vehicles along the route, raised zebra crossings and raised table junctions have been proposed along High Street and Medway Street. These features could be supplemented with other cycle friendly vertical measures but avoiding the use of speed cushions.

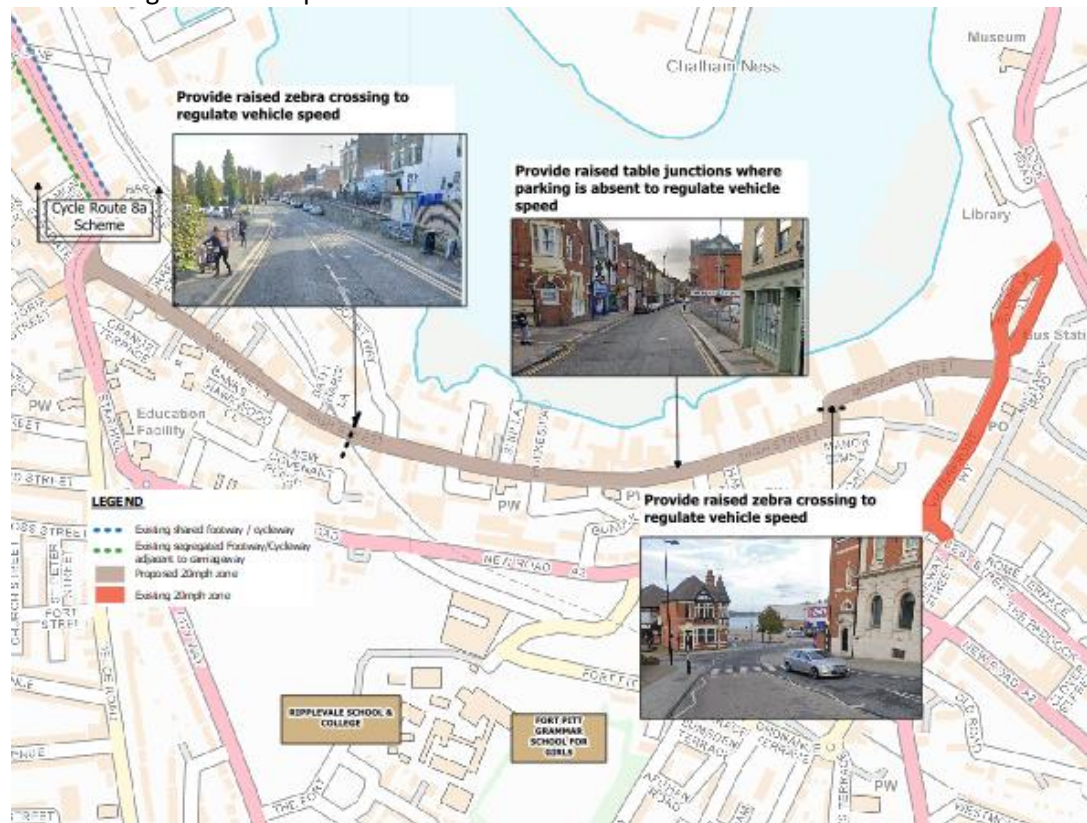


Figure 5 Interventions for Cycle Route 8 – Corporation Street, Rochester to Waterfront Way, Chatham

2.6 Cycle Route 9 (Peninsula Way to Sans Pareil roundabout, Chattenden)

- 2.6.1 Protected space for cycling is provided along the A228 from the Peninsula Way/Main Road/Dunnock Drove roundabout on the eastern side of the carriageway in form of a 3.0-metre-wide shared footway/cycleway. It is recommended to provide a 3.0 wide bidirectional segregated cycle track with a 2.0-metre-wide footway adjacent on the eastern side of the footway through reclaiming part of the verge to provide improved safety for cyclists on this section due to the speed limit of 40mph. A 1.0-metre-wide separation should be left between the cycle track and carriageway.
- 2.6.2 The tactile paving at the crossing facility leading from Sparrow drive needs to be renewed since the current condition poses a safety risk for cyclists/pedestrians.
- 2.6.3 For the section of the A228 where the speed limit transitions from 40mph to the national speed limit, Table 6-1 of LTN 1/20 states that a desirable minimum horizontal separation of 3.5metres should be provided between the carriageway and any cycle track. However, site constraints prevent the provision of both a segregated cycle track and a 3.5metre wide verge and would necessitate private land acquisition or reducing the dual carriageway to a single lane. A 3.0-metre-wide shared cycle route with a 1.0 metre wide has been suggested for this section through the widening of the existing shared

footway/cycleway, although it should be noted that this does not comply with LTN 1/20 standards.

2.6.4 Crossing facilities at the Four Elms Hill roundabout should also be widened and provided with tactile paving to enable transition of cyclists from the widened footway to the opposite side of the carriageway.

2.6.5 Past the Four Elms Hill roundabout, site constraints continue to prevent the provision of both a segregated cycle track and a 3.5-metre-wide verge as recommended by LTN 1/20. Therefore, a 3.0-metre-wide shared pedestrian/cycleway has been suggested with a 1.0-metre-wide separation between the carriageway and the shared used facility.

2.6.6 Shared use crossing facilities should be provided at the Sans Pareil roundabout to allow cyclists to safely traverse the roundabout and connect them to the existing shared route on the southwestern side of the junction. A shared footway/cycleway is proposed to start on the southeastern side of the carriageway, opposite the Sans Pareil Public house, with a proposed off-road route being used to go round the pinch point created by the existing narrow carriageway width and narrow existing footway. Site conditions do not allow for the creation of an LTN1/20 compliant shared footway/cycleway on the main carriageway at this point.



Figure 6 Interventions for Cycle Route 9 - Four Elms Hill to Sans Pareil roundabout, Chattenden

2.7 Cycle Route 10 (Brompton Farm Road to Watling Street, Rochester)

- 2.7.1 Protected space for cycling is provided along the southern side of the carriageway along the B2108, terminating at the mini roundabout with Cliffe Road. A 3.0-metre-wide shared footway/cycleway is proposed along the northern side of the carriageway through widening of the existing footing and using the wide verge, and this will run through the A226 junction and terminate at the junction with the A2. Existing site conditions do not allow for the establishment of a segregated cycle track.
- 2.7.2 Junction improvements are required at the junctions with the A226 and the A2 to give cyclists priority, and to allow cyclists to safely transition through these junctions. A raised table and cycle priority is also recommended at all side roads along the route to improve safety and to prevent cyclists being side swiped while crossing the minor arms.
- 2.7.3 It is recommended that a 20-mph zone is established along Bill Street Road due to its narrow carriageway width and its proximity to Hilltop Primary School. The reduced speed limit along the route is suitable for most people using mixed traffic conditions as highlighted by Figure 4.1 of LTN 1/20.



Figure 7 Interventions for Cycle Route 10 - Brompton Farm Road to Watling Street, Rochester

2.8 Cycle Route 11 (Carnation Road to Commercial Road, Rochester)

- 2.8.1 A 3.0-metre-wide shared footway/cycleway is proposed along the eastern side of the carriageway along Carnation Road through utilising the existing verge to achieve LTN 1/20 compliance.
- 2.8.2 Lane rearrangement of Darcey Road together with using the existing verge provides a bi-directional cycle lane on the western side of the carriageway, while also preserving existing parking space, as well as providing footway access to the residential homes on both sides of the carriageway.
- 2.8.3 It is recommended that a 20mph zone is introduced starting at the zebra crossing on approach to the mini roundabout with Cuxton Road, through the Cuxton Road viaduct, and extending to the adjacent side roads. The 20mph speed limit is intended to create a

safer, more attractive environment for cyclists as they interact with mixed traffic and move through the constricted area at the viaduct. Raised zebra crossings at different points on approach to the viaduct and the mini roundabout will be used to enforce the 20mph speed limit.

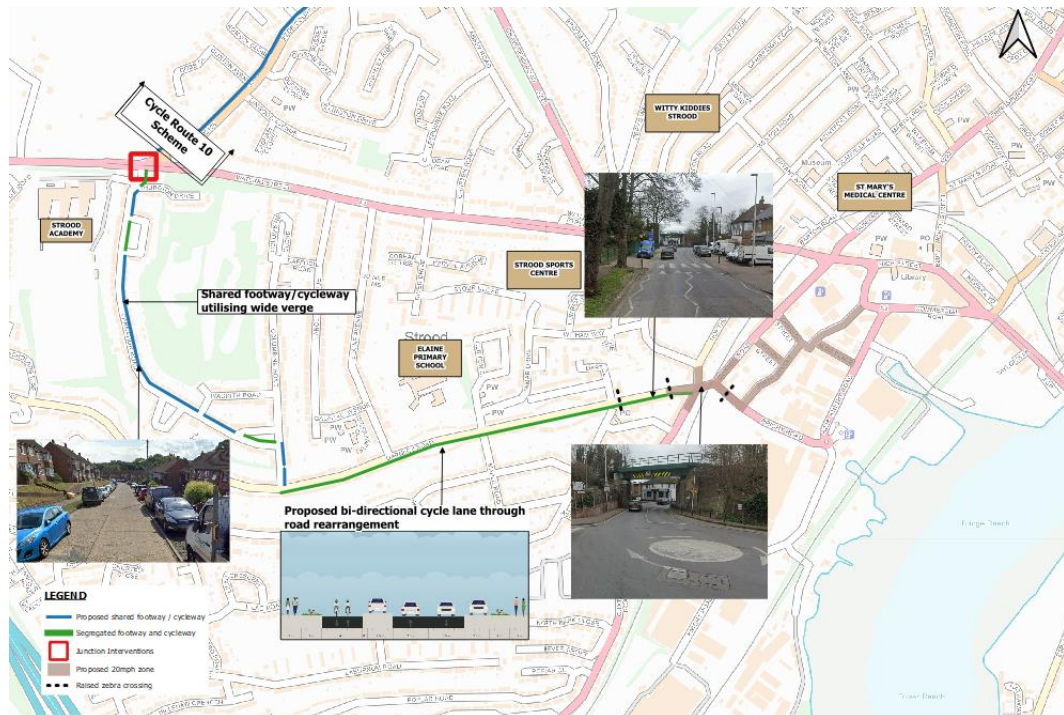


Figure 8 Interventions for Cycle Route 11 – Carnation Road to Commercial Road, Rochester

3. PRIORITY WALKING ROUTES

3.1 Walking Route 5 (Gillingham)

- 3.1.1 A key safety issue highlighted was the absence of tactile paving at some crossing points, although dropped kerbs are provided. Establishment of tactile paving at pedestrian crossings with dropped kerbs to assist those with visual impairment should be conducted.
- 3.1.2 Pavement parking at different points forces pedestrians into the carriageway in order to go around parked vehicles, particularly those in wheelchairs or pushing prams. Enforcement of pavement parking restrictions to prevent footway obstruction for pedestrians is necessary.
- 3.1.3 Pedestrians are currently faced with long wait times at signalised crossings. Therefore, traffic signal phasing should be reviewed to reduce long wait times for pedestrians.
- 3.1.4 A narrow footway at the Medway Road underpass forces pedestrians to walk within the carriageway posing a safety risk. Vehicular shuttle working is recommended at the Medway Road underpass to provide wider footways at the side to prevent pedestrians walking directly in the carriageway.

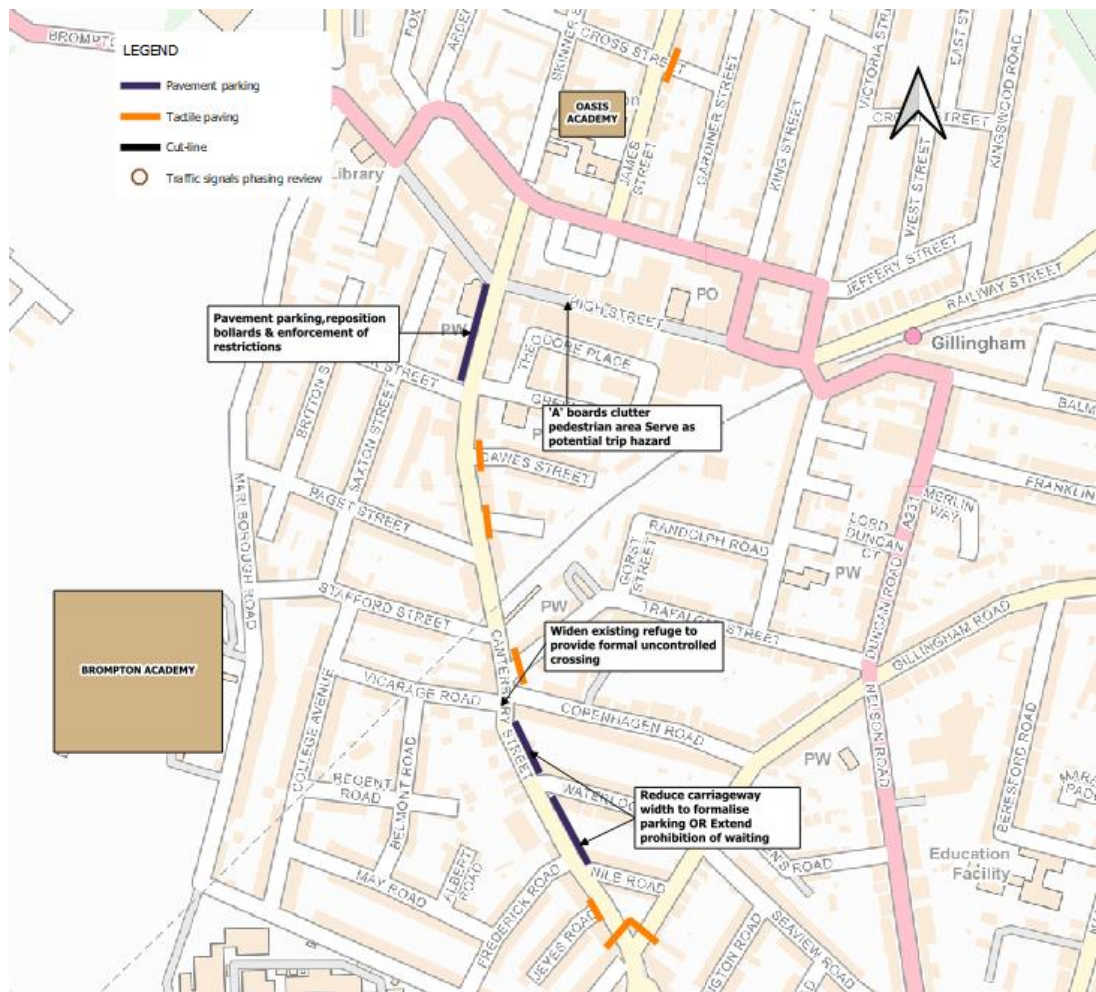


Figure 9 Interventions at the start of Walking Route 5

3.2 Walking Route 8 (Chatham)

- 3.2.1 A key safety issue highlighted was the absence of tactile paving at some crossing points, although dropped kerbs are provided. Establishment of tactile paving at pedestrian crossings with dropped kerbs to assist those with visual impairment should be conducted.
- 3.2.2 Pavement parking at different points forces pedestrians into the carriageway in order to go around parked vehicles, particularly those in wheelchairs or pushing prams. Enforcement of pavement parking restrictions to prevent footway obstruction for pedestrians is necessary.
- 3.2.3 Pedestrians are currently faced with long wait times at signaled crossings. Therefore, traffic signal phasing should be reviewed to reduce long wait times for pedestrians.
- 3.2.4 Uneven footway surfaces which create a potential safety trip hazards for pedestrians. Resurfacing of pedestrian footways to create smooth pedestrian pathway and to remove trip hazards is recommended.

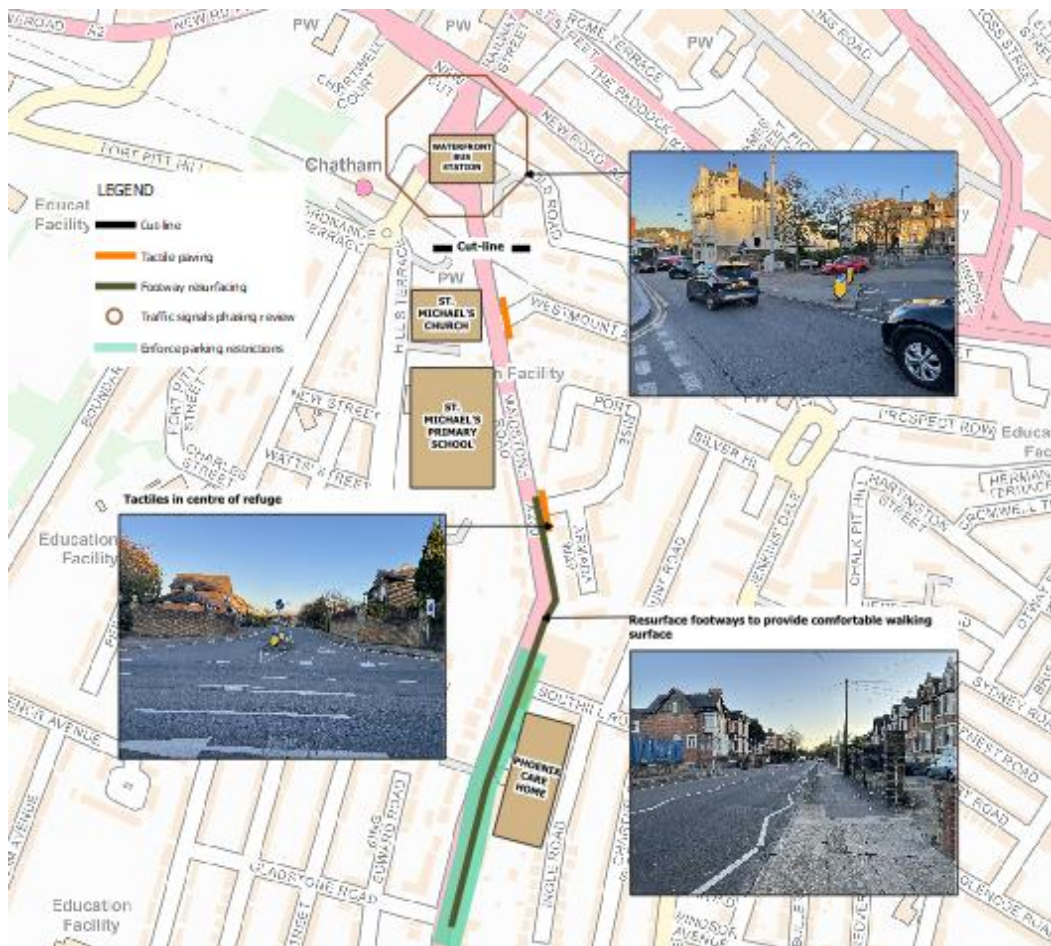


Figure 10 Interventions at the start of Walking Route 8

APPROVAL					
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