Briefing Note

The Petersfield Town Spine – Including the High St - Dragon St Junction, Walking, Cycling and Other Issues

Foreword

This the second version of the document that was prepared in response to comments received on the previous version. The analysis and conclusions have not changed materially, but the text has been clarified in several places. Remarks about the need to enhance the historic nature of Petersfield have been added to Section 2.5. A map has been added on Page 26 to illustrate the location of the Town Spine.

1. Introduction

The Petersfield Strategy Group (PSG) has prepared a list of potential schemes which are to be given priority in the context of the Petersfield Place-making Action Plan. This note is one of a series of briefing notes that has been prepared to support and inform the Action Plan with the emphasis on cycling and walking issues. It describes some of the problems encountered by pedestrians and cycle riders when moving around Petersfield town centre and identifies some potential solutions. The topic of "shared space" is discussed, as are measures that could be taken to reduce traffic and improve the quality of life for pedestrians and cyclists. The intended readership are the councillors and officers who are contributing to the Petersfield Operational Group (POG) and the PSG, together with transport professionals who will be responsible for the detailed design of the scheme as it moves forward.

This note has been prepared by Keith Hopper (Chartered Highway Engineer (retired)) and Gethin Morgan-Owen (cyclist and active travel campaigner), both of whom are residents of Petersfield and take an active interest in transport issues in the Town. They have extensive experience in the design and every-day use of urban streets and have been observing the local problems and difficulties for some years. The comments below are intended to assist the planning and design process by outlining current problems and making suggestions for improvements which will be given detailed consideration by the designers. They in turn will use their skills to refine the suggestions and find alternative solutions.

It is hoped that innovative solutions can be considered for the low-speed areas of the Town Core and that approaches will be made to the Department for Transport (Traffic Signs and Street Design Policy) for discussion on new features / signing and authorization for their use in Petersfield. One aspect that is in need of an innovative solution is an attractive, safe and practical type of crossing for pedestrians, which could be installed at a large number of sites in the low-speed town centre areas. This seems especially relevant as the current town centre layout was designed in the early 1990's as part of the By-Pass Demonstration Project, which had the full backing and support of the DfT.

This note focuses on the four Town Centre shopping streets that together make up the Town's Spine, ie High Street, The Square, Chapel Street and Lavant Street, including how they interface with the existing road network. The main analysis is presented in the first nine pages of the document, which is followed by an Appendix. This identifies documents about the Town Spine Project, reviews local and national guidance about shared space schemes, presents travel statistics, and provides a more detailed assessment of cycling issues in the Town Centre.

2. Background

2.1 Historical Traffic Measures

The town of Petersfield is located at the junction of the historic London - Portsmouth road (north-south) and the Midhurst to Winchester road (east - west). In the early part of the 20th century these were designated as the A3 Trunk Road and the A272, with the A3 dominating life in the Town due to the narrowness of College Street and Dragon Street, as well as their many junctions. The Town is now much quieter as the A3 has been re-located immediately to the west of the Town in the form of the dual two-lane by-pass that was opened to traffic in 1993. Drivers using the east-west route are now directed onto the by-pass via a link road to the north and therefore by-pass most of the Town.

Shortly after the opening of the new road, major works were carried out on College Street and Dragon Street as part of the By-pass Demonstration Project (along with 5 other towns in England), with the aim of reclaiming the streets long term for the residents. The carriageway was reduced in width with more space set aside for pedestrians and landscape enhancement works. The mini roundabout at the junction of Dragon Street and Sussex Road was removed as traffic movements had become much easier. Large areas of carriageway were enhanced with blocks and granite setts, some of which are now showing signs of movement and are in need of major maintenance works. It should be noted that areas of granite setts are seen as a major problem for cyclists as they have a serious effect on the stability of the cycle and rider, especially when it is wet and when turning. It is recommended that their use should be limited to non-cycling areas and existing ones should be removed.

2.2 The Current Traffic Situation

The majority of the traffic from Chichester and internal traffic heading for Winchester uses one of the two east-west routes within the Town. Station Road is central and direct but straddles a level crossing adjacent to the railway station, whilst the southern route via Hylton Road, The Spain, Swan Street and Frenchman's Road passes under a low railway bridge, ruling out use by larger vehicles.

The original A3 Trunk Road (Rams Hill, Tor Way / College Street Gyratory, Dragon St and the Causeway) splits the Town in two and is still a major obstacle for pedestrians and cyclists. It is imperative that this is made more friendly from the point of view of the more vulnerable highway users and that a number of "easy" crossings are installed ("easy" meaning pedestrian responsive, quick and friendly).

To the west of the Town Centre, the railway line limits the number of east-west routes for traffic, bicycles and pedestrians, as described in the briefing note in this series about the Swan Street-Charles Street-The Spain Junction.

Traffic flows in the centre of Petersfield and along the surrounding streets were assessed in the 2018 Technical Transport Study[1]. The key findings of this report included the following:

- The volume of traffic along the Spine was measured to be significantly higher than the volume recommended in DFT's guidance for shared space schemes. It was concluded that it was likely to be possible to reduce the traffic flow on the Town Spine to a level which was acceptable for a shared space scheme by diverting some traffic along local alternative routes.
- A traffic survey found that 73% of the traffic along the Spine was through traffic.
- 75% of respondents to an intercept survey travelled to the Town Centre by car, while 21 % walked. Only 2% cycled.

Some additional findings are reported in the next section. Statistics for the traffic flows along streets and roads in the centre of Petersfield can be found in Section A1.4.

2.3 Recent Changes to Support Walking and Cycling on the Town Spine

There has been an increase in traffic over the years as the Town has increased in size and formal crossing places for pedestrians have been installed on the north-south route at the top of Rams Hill, three crossings at the junction of Rams Hill / Tor Way / Station Road, at the College St / Tor Way junction (Toucan) and at the Dragon St / High Street junction (Puffin), but no formal crossings have been installed on the Spine. Instead, the 20mph zone has led to reduced vehicle speeds and the limited traffic calming features have given pedestrians a slightly enhanced quality of life.

There are a number of town centre footpaths but for the most part pedestrian access is provided by footways adjacent to carriageways. A pedestrian count undertaken in the High Street for the 2018 Technical Transport Study is reproduced in Section A1.5. The results from a pedestrian intercept survey can be found in the report for the same study. The results from a survey about issues faced by pedestrians in Petersfield are described in Figure 1 in the Appendix.

From a cycling point of view, there have been only minor changes. Signs have been installed to direct cyclists along National Cycling Network Route No 22 (NCN22) /Shipwright's Way which passes along Chapel Street into the Square and along Sheep Street. A few cycle racks have been installed in the High Street and in the Square.

Despite the limited provision for cycling, the High Street is likely to be viewed as a key part of best (safest and most direct) east-west route through the Town. It is used to reach the Station, the employment sites on

[1] HCC, Technical Transport Study for Petersfield Town, August 2018.

Bedford Road, the numerous small offices in the Town Centre (see Section A1.7), as well as for accessing shops and services. The East Hampshire Local Cycling and Walking Infrastructure Plan (LCWIP)[2] identified that the High Street, Swan Street, Chapel Street and Lavant Street were all part of the Town's cycle route network.

The current levels of walking and cycling are low in East Hampshire. Just 2% of journeys are made by cycling and 9% by walking, with a high level of car dependency at 80%[3] (these figures are consistent with figures for Petersfield Town Centre quoted in the previous section). These cycling levels are below that achieved in some other parts of the UK, and far below the levels seen in some continental countries (28% in the Netherlands, 14% in Denmark, 11% in Germany etc). This low level of cycling is consistent with the "Bikeability" appraisal in the LCWIP which found low levels of "bikeability" throughout Petersfield.

Roads on the Spine generally experience higher levels of cycling than other routes according to the 2018 Transport Study, which also identified that the cycle commuters use the High Street and Chapel Street. A cycling audit of the Town Spine was undertaken for the same study. This found low scores for safety factors. Safety concerns were the primary issue reported by cyclists in Petersfield in a recent survey, see Figure 2 in the Appendix. This is consistent with a recent DFT survey which reported that two thirds of adults feel that it is too dangerous to cycle on the roads[4]. The cycle flows in Petersfield are quantified in Section A1.6 in the Appendix, which also provides a detailed assessment of cycling issues.

The recent periods of lockdown due to Covid have resulted in large increases in walking for exercise and enjoyment, at the Heath in particular. The low levels of traffic have enabled social distancing to take place through much "walking in the road" and there will be a strong need for current road space to be converted to pedestrian space in the long term. LTN 1/20 describes how London has seen growth following investments in cycling and walking, see Section 2.2. The relatively short distances between residential neighbourhoods and the main "trip generators" in the Town suggests there is potential for a large increase in walking and cycling.

The emphasis on Active Travel puts the spotlight on walking and cycling and the Spine Project is clearly targeted on this, with the above roads being identified as "shared space areas with pedestrian / cycle priority".

2.4 The Neighbourhood Plan's Aspirations for the Town Centre Spine

Prior to the publication and acceptance of the Neighbourhood Plan in 2015, there had been much discussion locally as to whether pedestrianisation of the High Street was a possibility. It is clear that some vehicles have a very strong need for using the High Street, The Square, Chapel Street, or Lavant Street no matter what is changed to benefit pedestrians and cyclists. These are the buses, delivery vehicles, blue badge holders and cyclists and possibly taxis.

In the Petersfield Neighbourhood Plan, the Town Centre Vision includes a shared space Town Centre (see Section 11.5 of the Neighbourhood Plan) with High Street, The Square, Chapel Street, Lavant Street, St Peters Road (the very narrow parts adjacent to the Square), and the eastern part of Swan Street being labelled as Shared Space, with pedestrian and cycle priority. Rams Walk, Bakers Lane, Hobbs Lane, part of the Central Car Park behind Chapel Street and Sheep Street were shown as pedestrian priority. The aim therefore is to make these streets social spaces rather than traffic areas with speeds being very low, much reduced vehicle numbers, and streets that look as though they are for pedestrians and slow moving cyclists, with vehicles being permitted as guests.

The following seven objectives for the proposed shared space scheme are set out on Page 79 of the Neighbourhood Plan:

- Reduce vehicle speeds
- Improve pedestrian and cyclist safety
- Create a 'café society' feel
- Promote walking and cycling throughout the town
- Encourage a larger shopping footfall in the town centre
- Eliminate illegal parking – clearer parking control zone area and signage
- Improve the first impression of the town for visitors arriving at the railway station

[2] EHDC, Local Cycling and Walking Infrastructure Plan (LCWIP), Version 1.2, August 2020.

[3] EHDC LCWIP, Summary Report V1.2, August 2020.

[4] DFT, Walking and Cycling Statistics, England: 2019.

The Getting Around Policy 4 (GA02 in Section 5.3) identifies this objective: "*Improve the town centre spine from the station through to the war memorial, making it pedestrian friendly and more accessible to cyclists, thus enhancing its overall vitality*". Aspirational Policy GAP4 seeks to fulfil this objective as follows: *"Create a Shared Space and/or pedestrian/cycle priority friendly street design for the Town Centre Spine including the Market Square."*

Section 5.3.2 refers the reader to a further commentary about Aspirational Policy GAP 4 in Annex D. This commentary expands the aspiration in more detail. It identifies the need for more parking on street for blue badge holders, more parking facilities for cycles, and in particular parking on both sides of Lavant Street but in a very sensitive way, with the street still being a social space for all.

2.5 Commentary on the Neighbourhood Plan in Relation to the Shared Space Scheme

It is acknowledged that pedestrians, especially partially sighted pedestrians, are the most vulnerable in the street scene, followed by cyclists. Unfortunately, these two groups are in conflict themselves throughout the length of The Spine, when pedestrians are often looking to cross the trafficked areas, whilst cyclists are moving along them. They cannot both be given priority in the same way and so the statement in the Neighbourhood Plan that the Spine is labelled as "Shared Space with pedestrian / cyclist priority" requires some attention.

The Appendix draws together much of the recent survey data for vehicle, pedestrian and cycle flows on the Spine. The vehicle flows are not high but there is still a lot of conflict between vehicles, pedestrians and cyclists, which seriously reduces their quality of life on the street. There are many locations where the conflict causes near collisions (Appendix A1.8), and the street layout is in need of modification to resolve the issues.

It is hoped that cyclist numbers will increase greatly following the change of emphasis brought about by Active Travel, partly through better cycle routes and reduced vehicle speeds but also by the introduction of electric cycles. Pedestrian numbers are also going to increase due to the new housing developments in and around the town. Encouraging greater use of walking and cycling modes of transport is a key aspect of COP26 Climate Change and discouraging the use of vehicles powered by fossil fuels. The encouragement of walking will come about by providing and widening footways and footpaths, creating safer crossing points, reducing the speed of vehicles and changing the attitudes of drivers towards those outside their vehicles. It is similar for cyclists except that they will often be required to share road space with vehicles and it is essential that a network of cycle routes with low vehicle speeds (less than 20 mph) and moderate traffic volumes is provided to enable this to happen.

In recent years there have been a number of studies which have looked at the needs of disabled communities in the context of shared space schemes (see Sections A1.3.4 and A1.3.5) and their needs will clearly be very carefully considered during the design process.

It is suggested that the seven objectives for the proposed shared space scheme on Page 79 of the Neighbourhood Plan are reviewed as part of the Petersfield Place-making initiative to ensure that they fully reflect the aspirations set out in the Neighbourhood Plan and take account recently published knowledge and design guidance. One minor but useful clarification could be to change the objective to "Reduce vehicle speeds" to read "Reduce the volume and speed of vehicles using the Town Spine".

The historic character of the Town is an important and visible asset. While preserving and enhancing the historic character of the Town is a key aspiration of the Neighbourhood Plan, this is not explicitly mentioned within the seven objectives for the shared space scheme. It is recommended that some further guidance be prepared to help the designers find ways to conserve and enhance the historic character of the Town (some relevant documents are identified in Section A1.2.5).

2.6 Commentary on the Petersfield Town Spine Brief

In 2018 the Petersfield Town Spine Brief was prepared on behalf of the Town Spine Steering Committee which included representatives of Town, District and County councils, and the Petersfield Society. This document was aimed at planning consultants who might be interested in bidding "*to develop the shared surface project to a point where it is sufficiently detailed to be used to make funding bids and, potentially, submit a planning application*". Note the use of the term "shared surface" which some people interchanged with the term "shared space" at that time.

This document set out new objectives for the Shared Space Scheme. Seven of these objectives were taken from the Neighbourhood Plan and another five objectives were added. While some of these objectives are clear and measurable, others were not readily measurable for example the objective for the "*Creation of a*

'café society' feel". A list of potentially relevant and measurable outcomes related to shared space schemes is provided in Table 2 in the Appendix.

In existing urban streets such as those in the centre of Petersfield, there are significant physical constraints and competing demands. Balancing the needs and aspirations relating to place and to movement can be difficult. It requires careful examination of the local context and the needs of stakeholders. These constraints are mentioned only briefly in this document and in the Neighbourhood Plan, with the consequence that the document may have created expectations which cannot be delivered, while also causing concern to some stakeholders, such as retailers, that their needs may not be adequately taken into account. Capturing (identifying and documenting) the constraints is a complex task because every resident, retailer and property owner on the Town Spine has a stake in the project, in addition to local authorities, civic groups and people visiting the Town Spine to use its facilities and services.

The initiative which created the Town Spine Brief has been superseded by the Petersfield Place-making work and its accompanying Action Plan (which commissioned this document).

2.7 Traffic Calming and the 20mph Zone

The arrival of "Traffic Calming" as a new concept to this country in the 1980's enabled designers to look at town centre design in a new way. Being legally permitted to place obstructions in the road to slow down drivers, in a carefully controlled way, allowed designers to start making our town centres much more pedestrian friendly. Over the years the techniques slowly evolved to the stage where shared space was "invented" whereby everyone was permitted to mingle (vehicles, pedestrians and cyclists) without any barriers separating them. Inevitably some authorities went too far and it was found that visually disabled pedestrians were having problems with a lack of a boundary ie a kerb, between the vehicles and a safe space for pedestrians. This is dealt with in more detail in the Appendix. These concerns are not new and the DfT has been considering ways to avoid the pitfalls for over 20 years. The conclusions are that pedestrians must have a safe place in the street which cannot be reached by vehicles and that drivers can clearly see the extent of their space. Crossings must be suitable for visually impaired users and a kerb upstand is required even at crossings so that the person, or their dog, can detect that it is a crossing. This aspect requires very careful consideration and consultation with local groups.

The boundary of the existing 20mph zone is in need of revision and re-signing (refer to Section 3.3.2). All of the junctions considered in the four "Junction Briefs" would benefit from being labelled as low speed areas and the extension of the zone to include them would be a logical step forward. The zone is also seen as a way of encouraging cycling in the town, as the narrow streets make it almost impossible for cyclists to have their own cycle lanes or to share the footways with pedestrians. They are bound by the same restrictions as vehicles of course and so the one-way streets will mean that they have to divert for the reverse journey, but they will not be confined by a cycle lane nor have to be riding close to parked vehicle doors.

In this Brief we have outlined the main issues involved in designing the Spine whilst still leaving scope for the designers to come up with innovative designs, which can then be taken to consultation.

3. Designing for Shared Space in Petersfield

3.1 The Definition of Shared Space

There are many definitions of what constitutes "Shared Space" and many papers and books have been produced which outline issues and techniques that purport to offer solutions. Some schemes involve reducing vehicle flows in a street, others just reducing the space available to vehicles and slowing down the traffic. All of them aim to enhance the quality of life for pedestrians on the streets, however they achieve it. At present the High Street and Square can be considered as "Enhanced Streets" where the public realm has been improved, traffic speeds have been reduced and restrictions on pedestrian movement (e.g., guardrail) have been removed. The Neighbourhood Plan appears to suggest that the Spine should aim for full freedom of movement for pedestrians so that they dominate traffic and drivers feel as though they and their vehicle are guests in that street. It should be noted that the current legal situation does not support this and designers have to find their own solutions whereby vehicles are driven slowly and carefully down the street with the driver observing and reacting to other drivers, as well as pedestrians and cyclists. The particular point of difficulty is the management of the crossing place for pedestrians.

Recently the CIHT[8] concluded that the term 'shared space' was unhelpful, "*as it is vague and tends to be associated with several preconceived ideas*." Preconceived ideas have been encouraged by the use of

definitions which have specifically mentioned implementation features, such as level surfaces and the lack of pavements and kerbs. However the term remains in common use and so this definition from the London Cycling Design Standards[5] may be useful as it does not prejudge the implementation features:

> *"A design approach that seeks to change the way streets operate by reducing the dominance of motor vehicles, primarily through lower speeds and encouraging drivers to behave more accommodatingly towards pedestrians and cyclists."*

3.2 Design Options for the Crossing Places on the Town Spine

Many Local Authorities in the past have relied on traffic calming (20mph zones plus flat topped tables and narrow lanes) to encourage people to cross live lanes of traffic as drivers are frequently seen to give way in such circumstance. In more recent times though, this has been challenged on the basis that visually impaired people really struggle with this solution. They are only happy with proper crossings such as pelicans and puffins. This raises a serious issue because such crossings are very expensive (both in the short and long term) and a series of tables would not be able to support a crossing on every one. Drivers are likely to only react to the official crossing and ignore the other tables, much to the disadvantage of pedestrians trying to cross. The most important crossing on The Spine is High Street at the Rams Walk crossing, but this cannot be the only one. Zebra crossings are now making a comeback, and are much less obtrusive than signal controlled crossings. Variations which are even less obtrusive, ie much reduced zig zag lines have been tried but not fully accepted. Discussions with DfT on this topic would be very important.

The movement of school children will of course be taken into account when considering crossings. Many unaccompanied school children use the crossing of the High Street near Ram's Walk.

Unambiguous crossings sighted at the right places are likely to minimise conflict between pedestrians wishing to cross and cyclists travelling along the Spine (see Figure 10 on Page 24).

3.3 Reducing the Impact of Traffic

3.3.1 Reducing Vehicle Dominance

The Town Centre streets in Petersfield are still dominated by vehicles in spite of the major changes to the High Street which were installed after the opening of the by-pass. The implementation of the 20mph zone and controlled parking zone, combined with the kerb re-alignments have done a lot to reduce that domination. However, the sheer number of vehicles using the High Street and Square has resulted in pedestrians still feeling that they should give way to drivers. This is not always the case and it is encouraging to see that many drivers will give way to pedestrians, especially at the crossing point at the end of Rams Walk. Among the questions that need answering is this one: "*what needs to change to make the Town Centre a more sociable space, with drivers consistently and safely giving way to pedestrians, especially at well-defined crossing points."*

Many other towns have been trying to make this change, many successfully, but there is no simple answer that will suit all towns. Every town is different, and it is only right to treat them all on an individual basis. The common theme is that traffic flows and speeds have to be reduced and the street space as a whole should look like a pedestrian environment and not a street with a road down the centre.

The primary sequence of decisions in the design process is as follows:

1) How to reduce the volume of traffic on the roads making up The Spine.
2) How to ensure that the speed of vehicles is reduced and suitable for shared space, or at least low enough that pedestrians feel safe in stepping out in front of vehicles at the well-defined crossing points.
3) How to change attitudes of drivers so that they reduce speed and give way to pedestrians.
4) The design process is iterative and Items 1 and 2 may have to be repeated a number of times with alternatives, in order to achieve Item 3.

It is essential for some vehicular traffic that they are allowed to stay on the Spine, so it cannot be pedestrianised, but the lower the number of vehicles the better the street design can become for creating a social space where vehicles are allowed in, but have to treat it as though they are guests, not as of right. The consensus on the volume that can be acceptable is approximately 100 vehicles an hour which is well below the existing flow. The traffic needing to remain includes local buses, blue badge holders, delivery vehicles and

[5] London Cycling Design Standards, Index and Glossary.

cyclists (possibly taxis but not for fast short-cuts). Reducing the volume of traffic on the Spine can be achieved by either removing the need for drivers to access the streets (eg removing on-street parking), or by legally banning certain traffic movements (eg making the lower section of Lavant Street one-way eastbound). Whilst the latter is considered to be feasible, with Swan Street and Station Road taking the diverted traffic, other possibilities require further thought. It may not be possible to reduce the through traffic to a reasonable level without some restrictions on the High Street or The Square, similar to the Active Travel bus gate, but possibly in one direction only. The act of removing all short-stay parking on street would in itself reduce the number of vehicles driven down the High Street, but more measures may be required, ie constructing a narrow and tortuous route for vehicles on the High Street, with a number of road narrowings (however, this could create a street that is congested and appears full of vehicles, which is not what is required). The designers should consider all options including "a Bus Gate", "Access only" signing, "Pedestrians crossing on humps" signs, "one-way westbound except buses and cycles" and more.

3.3.2 Traffic Calming and the 20mph Zone

In order to reduce the speed of vehicles the only option available to the designers is the use of a 20mph zone which has to have traffic calming features to ensure that the appearance of the streets is in tune with the chosen speed limit ie 20mph. It is unfortunate that the DfT will not permit the option of a "Town Centre Zone" (equivalent to a Home Zone which effectively demands "walking pace" as the speed of vehicles) as they have so successfully been used in Holland. To bring speeds down to say 10mph requires a mix of traffic calming features based on a narrow through route with pinch points (one way at a time), a varying horizontal alignment, street furniture and trees that obstruct a long distance forward view for drivers and raised tables at each of the crossing points. It should be noted that the raised tables should be a different colour to the through route and at least 6m long so that bus passengers in particular and the driver all have a comfortable ride. Kerbs are required for the visually disabled to follow and consultations are needed to agree their use at the raised tables, ideally with minimal upstand (for disabled buggies etc).

Improvement of the existing 20mph Zone is essential. At present the zone is suffering from a lack of maintenance with boundary signs being illegal due to loss of colour, poor siting and lack of replacement when damaged. In discussion, many residents even deny that there is a 20mph zone in the Town Centre. A good positive zone with suitable traffic calming features will ensure that vehicle speeds are below 20mph and that combined with low traffic volumes, will mean that cyclists will be happy to cycle in amongst the few vehicles that are present on the Spine. They will still need to cycle at a reasonable speed looking out for pedestrians, but the two should be able to work together to achieve an improvement for everyone.

3.4 The Impact of On-street Parking

The presence of parked cars on the High Street encourages other drivers to use the route either for free parking or simply as a through route.

Short-stay parking on the streets is a significant problem for a number of reasons:

1) Because it is free at present, many drivers choose to look for it first, often driving past and round again, or even illegally waiting for a space. Drivers often stop abruptly before reversing into a space and pull-out without much regard for passing vehicles or cyclists. The problem would reduce with charges being made, but would not disappear.
2) The parked vehicles limit the places that pedestrians can safely be seen and cross the road (a common issue in the High Street and Chapel Street). Parked vehicles sometimes restrict visibility at junctions, for example when cycles emerge from Park road onto Chapel Street.
3) Cyclists fear doors opening at the wrong moment, resulting in a collision that may cause injury or death.
4) Cyclists are vulnerable when forced into a stream of on-coming traffic by vehicles parked on the street. Similarly, vehicles are obliged to encroach into the right hand lane when passing parked cars and some are reluctant to yield to cyclists who are on the correct side.
5) When there are no vehicles present the roadway appears much wider and therefore faster. This can be overcome by parking on a raised area between the footway and roadway, but this can be a problem for those with sight impairment.
6) The streets of the Town are narrow. Walking and cycling make more efficient use of road space than private cars.

For these reasons it is often felt that there should be no facility for short stay parking on street within the area heavily used by pedestrians and cyclists. However a lack of parking facilities may encourage commercial van drivers to park in locations which inconvenience, or endanger, other road users, or to indeed to park on the footway. In 2018, a survey found that Chapel Street experienced the highest levels of illegal or inconsiderate parking in the Spine[6]. The number of poorly parked delivery vans on the Spine seems anecdotally to have grown as van usage has increased in response to the growth in shopping on-line by the public and by businesses.

4. Dividing the Spine Into Zones

The Spine can be divided into four distinctly different sections which have varying demands for vehicle, cycle and pedestrian use. They require different treatments, but on a consistent theme:

1) The High Street from Dragon Street to Rams Walk / beginning of the Square, including the Dragon Street junction.
2) The Square from Rams Walk to the Swan Street / Chapel Street junction, including St Peter's Road as far as the footpath down to Hylton Road, and also Sheep Street as far as The Library.
3) Chapel Street and Swan Street as far as the end of the shops.
4) Lavant Street.

Each of the above has different requirements for the amount of footfall in the area, the needs for pedestrians, cyclists and blue badge holders, the location of businesses requiring deliveries and the possibilities for enhancement of the pedestrian space. There should be a common theme to tie the areas together but the detail could vary as follows:

4.1 The High Street - Opportunities

The junction of High Street with College Street - Dragon Street has problems in that it has large radius kerbs and is in need of tightening up to appear much slower to drivers. In addition there is no clear place for pedestrians to cross the High Street near to the memorial, an absence of "give way" markings and vehicles and cycles emerging from Heath Road often struggle to emerge easily and safely. The excess width enables high speed U-turns around the War Memorial. The existing 20mph signs are seriously discoloured (and illegal) and spread too far apart to have any impact on drivers. As an entry into a low speed area it does not work and the gateway effect is lost.

Cyclists in particular have great difficulty in emerging from the side roads at the Dragon Street junction (as acknowledged in the 2018 Transport Study) and pedestrians cross near the Red Lion in considerable numbers, also with difficulty. The adjacent puffin crossing helps pedestrians on one side of the junction and it creates openings for side road traffic to emerge, but vehicles take precedence and cyclists suffer accordingly. A solution to these problems is very necessary from an Active Travel point of view.

The proposals for the High Street should consider the need for two-way traffic (essential for buses and cycles), the removal of short-term parking, the need for bays for loading / unloading, and the possibility that parking for blue badge holders is at footway level. The vehicle through route should appear to be as narrow and tortuous as possible. Cycling should be encouraged with more cycle parking places, and with reduced traffic flows, cyclists can take the line of the vehicles and not keep close to the edge. Pedestrians can cross anywhere but would be encouraged to cross at raised tables in key locations, where vehicles would be limited to one-way alternate working, but cycles could still proceed. The ramps at these locations could be very slack in gradient say 1 in 30, as the speed reducing aspect of the ramp is not vitally important, it is the principle that the roadway is seen to rise to the pedestrian level that is most important.

The details of such layouts and features are not being considered here, as alternative designs need to be considered and worked on via CAD, in an iterative manner as is usual for such a design process. The type of materials to be used is also not mentioned, as this is normally dependant on the budget.

Signing should be kept to a minimum, again confirming that self-enforcing restrictions / limitations with no signing are best, if possible and suitable.

[6] HCC, Technical Transport Study for Petersfield Town, August 2018.

4.2 The Square - Opportunities

This section considers the Square together with the narrow parts of St Peter's Road and Sheep Street. The improved use of the Square as a social space is one of the key aims of this scheme, ideally linking the properties to the centre of the Square, with a few slow moving vehicles being permitted to drive round the sides of the Square to access St Peter's Road and Sheep Street. Access would be narrow and not appear to be vehicle friendly with pedestrians expected to walk in the vehicle area. Blue badge parking could be set aside and the whole area made more pedestrian friendly, especially the drainage channels around the Square itself which are seen as unfriendly for pedestrians and the removal of much of the barriers and fencing. Ideally there should be no need for drivers to reverse, as this raises risks for pedestrians and cyclists.

By custom, the roads on three sides of the Square are treated as one-way clockwise by nearly all drivers. This is in spite of a lack of signing to that effect, the only sign being a carriageway marking stating "No Entry" adjacent to HSBC. There is no traffic order to back this up, but it works well. This should continue, but with reduced road width and parking restricted to blue badge holders and loading only. Unfortunately the side roads cannot be closed to traffic as they are used for deliveries, vehicles exiting St Peter's Road, St Peter's Church and Sheep Street, together with cyclists en-route to The Petersfield School or following NCN22 along Sheep Street. It would be very beneficial if through vehicles could be reduced to as low a flow as possible and the area from the Museum in St Peter's Road through to Sheep Street and the Library paved so as to look like a pedestrian zone. Cars could be made to perform a U-turn in front of the Museum but large vehicles could not, nor could this occur in Sheep Street.

The fourth side of The Square is the through road from High Street and it would be beneficial if this also could visually become part of the Square using the same materials, narrow road, minimal traffic, long crossing places etc.

Consideration could be given to restricting eastbound traffic to buses and cycles at the entrance to The Square from Chapel Street and the road marked accordingly.

4.3 Chapel Street - Opportunities

Footways could be widened and some blue badge parking allocated. Chapel Street vehicles would be diverted into Swan Street with road markings accordingly.

The pedestrian crossing point on Chapel Street adjacent to Greggs and the footpath to Waitrose (Hobbs Lane) should be well marked possibly with a large junction table.

4.4 Lavant Street - Opportunities

All evidence to date suggests that on-street parking is required in this area and making Lavant Street one-way, from the Station to the Town Centre, would enable traffic to keep flowing (unlike current evening times), as well as enabling narrowing of the through vehicle area, the provision of trees, and a major crossing place adjacent to the footpath to the Swan Street car park. The large number of parking bays requested would rule out true shared space but would still be a major benefit to the Town. There are a number of properties on the south side of Lavant Street which have forecourts and dropped kerbs permitting parking on the private space. This will reduce the amount of on-street parking which can be allocated but still permit planting of trees and landscaping. Removal of the bollards elsewhere would be a great visual improvement, but the design would have to ensure that the wider footway is not then used for parking. Two other crossing places should be marked and protected by kerb build-outs, as well as space for trees in the existing carriageway. The priority at the Charles Street junction could be changed so that Lavant Street becomes the major road, as suggested in the Brief for the Swan Street - Charles Street - The Spain Junction. The 20mph zone should be extended up to Charles Street and a Gateway formed at the junction. It will have more impact if it starts at this junction, rather than at the Station, which in any case has a privately owned forecourt. There is a lack of on-street cycle stands in this part of the Town.

5. Final Remarks

The Spine Project is seen as the way to ensure that the centre of Petersfield becomes more pedestrian friendly so as to improve its sociability, with many more people walking round the town centre, enjoying the atmosphere and the environment, sitting out for drinks etc. To achieve this consideration needs to be given to reducing the speed and volume of vehicular traffic, making crossings more friendly for pedestrians and making roads more friendly for cyclists. The Spine is very important for cyclists and should not be seen as a major obstruction to their route but rather as an interesting part of a journey. In order to achieve this the

designers should consider ways of diverting some vehicles away, removing some of the on-street parking and installing traffic calming in the streets in a friendly and attractive way (see Section A1.8 for a detailed assessment of the cycling issues along the Town Spine).

Ideally any traffic orders that are required to enable these changes to the highway network would be self-enforcing, unlike the bus gate installed for the Active Travel works during the Covid Lockdown. That is easily said but will require very careful consideration.

Note that diverting traffic from the High Street may have some negative impacts on vulnerable road users on the roads where traffic increases, unless steps are taken to mitigate these. Hence the impact on active travel needs to be looked at in a holistic manner, not just in terms of the streets of the Town Spine.

This document does not take the use of e-scooters into account. The regulatory framework does not allow their legal use in Petersfield at present. There are questions around how e-scooter users can safely share space with pedestrians or general traffic in a place such as Petersfield where there is seldom space for dedicated cycle lanes.

Acknowledgement

The Place-making Team at East Hampshire District Council commissioned this briefing note in order to ensure that local knowledge and experience of active travel issues was made available to the transport professionals of Hampshire County Council. The authors of this briefing note would also like to record their appreciation for the support and encouragement received from the many councillors and officers involved from all three levels of Local Government, as well as from the South Downs National Park Authority.

Appendix
Aspirations, Design Guidance, Travel Statistics, and Pedestrian and Cycling Issues

A1.1 Introduction to This Appendix

This appendix provides information about several topics which are relevant when considering schemes for Petersfield Town Spine. Section A1.2 identifies documents of relevance to the Town Spine Project. Section A1.3 contains a summary of design guidance for shared space schemes. Sections A1.4 to A1.6 provide statistics about traffic, pedestrians, cycling and buildings in the centre of Petersfield. The cycling issues in relation to the Town Spine are described in greater detail in Section A1.7.

A1.2 Documents Relevant to the Petersfield Town Spine Project

A1.2.1 The Petersfield Neighbourhood Plan and the Town Spine Brief

The beginnings of the Town Spine Project are described in Section 2.4 and the relevant policies in the Neighbourhood plane are identified. Comments about these policies and the related aspirations are provided in Section 2.5. In 2018 the Petersfield Town Spine Brief was prepared and this is discussed in Section 2.6. Three further documents are discussed in the next three sections.

A1.2.2 Technical Transport Study for Petersfield Town

The Technical Transport Study for Petersfield Town[7] provided the following comment on the aspiration for a shared space scheme: *"The most important thing to consider for these types of schemes is the desired environment, and what is to happen in that space, this should be the first step, before any measures are decided on."*

The Technical Transport Study referred to the three categories of shared space which the Chartered Institution of Highways & Transportation (CIHT)[8] proposed, see Table 1. The Technical Transport Study suggested that the Town Spine currently functioned as Category C (Enhanced Streets) and that the PNP was aiming to replace this with Category A (Pedestrian Prioritised Streets). However it recommended *"that consideration should be given to access for delivery vehicles, disabled visitors arriving by car, and vehicles associated with the market and key destinations such as the Church on The Square. This could be achieved through traffic management, or for example, by changing features of the design to discourage through traffic e.g. removing parking."*

a) Pedestrian prioritised streets Streets where pedestrians feel that they can move freely anywhere and where drivers should feel they are a guest (e.g., Leonard Circus). Under current legislation, this does not give formal priority to pedestrians.
b) Informal streets Streets where formal traffic controls (signs, markings and signals) are absent or reduced. There is a footway and carriageway, but the differentiation between them is typically less than in a conventional street. (e.g., Poynton)
c) Enhanced streets Streets where the public realm has been improved and restrictions on pedestrian movement (e.g., guardrail) have been removed but conventional traffic controls largely remain (e.g., Walworth Road).

Table 1: Categories of shared space identified by the CIHT in 2018 in their report entitled Creating Better Streets.

[7] HCC/Hampshire Services, Technical Transport Study for Petersfield Town, On behalf of Petersfield Town Council, August 2018.

[8] The Chartered Institution of Highways & Transportation (CIHT), Creating better streets: Inclusive and accessible places, Reviewing shared space, January 2018.

This study identified opportunities to deliver some of the aspirations of the Shared Space Proposal identified in the PNP. It demonstrated that there was potential to reduce the volume of traffic along the Town Spine by diverting it along alternative routes. The potential for reducing parking along the Town Spine was also explored.

This study also provided a useful traffic evidence base (including vehicle, pedestrian and cycle movements) about the transport situation in Petersfield in 2018. Parts of this evidence base are summarised in Sections A1.4, A1.5, and A1.6. Further findings and recommendations related to cycling are identified in Section A1.8.

A1.2.3 The Local Cycling and Walking Infrastructure Plan (LCWIP)

The East Hampshire Local Cycling and Walking Infrastructure Plan (LCWIP)[9] identified that the High Street, Swan Street, Chapel Street and Lavant Street were all part of the Town's cycle route network. The following improvements were recommended:

- Three quick wins for cyclists on the Town Spine:
  - "*Unsafe and unclear route via Waitrose car park*" (Ptr36).
  - "*Route along Lavant Street unsatisfactory given importance of connection with town centre*" (Ptr37).
  - "*Poor cycle parking in town centre*" (Ptr38).
- Ambitious project in Lavant Street: *"Implement high quality public realm solution with options including shared level surfaces, narrowed carriageways and redistribution of parking as appropriate to make the environment more attractive and accessible for pedestrians. Provide cycle parking at intervals along town centre streets, preferably within the carriageway. Ensure adequate tactile paver guidance for people with limited vision*" (Ptr44).

The LCWIP presented the results of a survey which EHDC undertook in March 2020 about active travel in East Hampshire. This was an online survey which received 1,422 responses. The responses from Petersfield residents to Question 8 are shown in Figure 1.

The responses to Question 11 are shown in Figure 2. These responses are from the whole of East Hampshire but it was reported that 26% of the responses where from Petersfield residents and that for many questions, including this one, that there was little variation in responses by location.

The main concern of pedestrians was to have good quality pavements, while the primary concern of cyclists was for their safety. Note that these responses were for the whole of Petersfield and were not confined to the Town Spine.

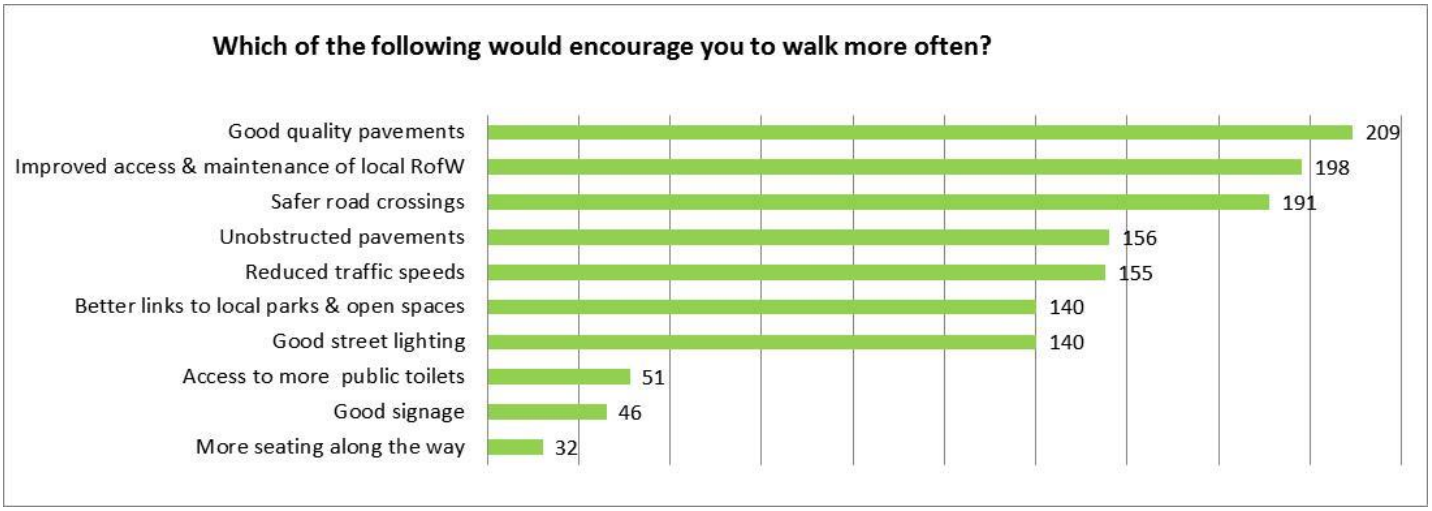

Figure 1: The responses from Petersfield residents to Question 8

[9] EHDC, Local Cycling and Walking Infrastructure Plan (LCWIP), Version 1.2, August 2020.

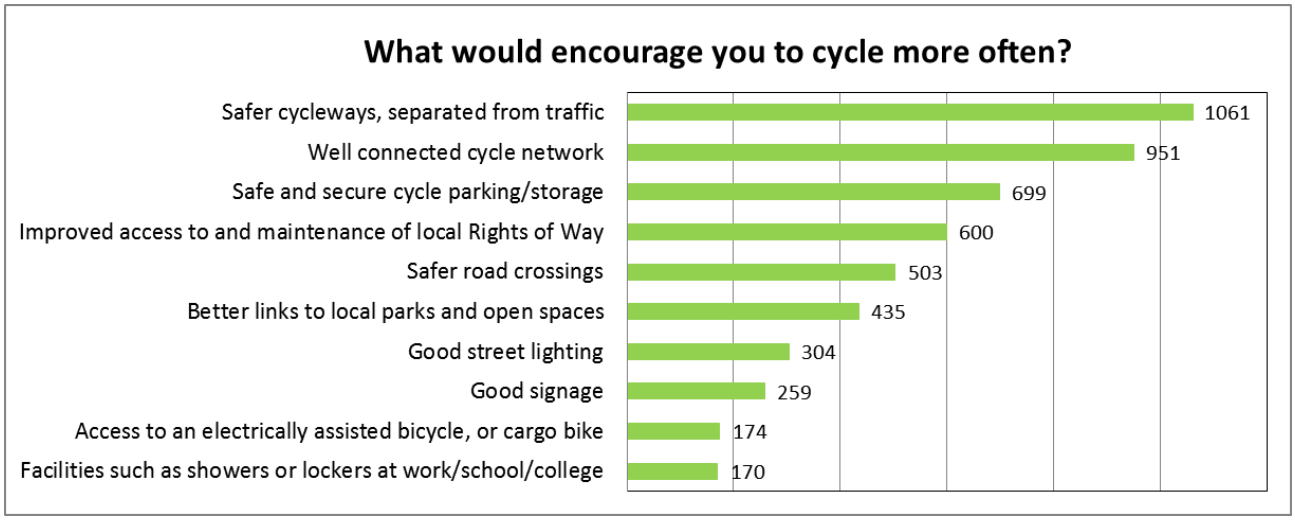

Figure 2: The responses from Question 11

A1.2.4 Petersfield Community Tree Location Survey

The 2018 Petersfield Town Spine Brief listed increasing the Town's tree cover as an objective of the Shared Space Scheme. Hence it is worth noting that the Petersfield Society has made some notable progress on this topic, see their 2017 publication which is available on the Society's website and also their Petersfield Community Tree Location Survey document which was published in 2021.

A1.2.5 The Historic Aspects of Petersfield

The 2010 Petersfield Town Design Statement and the 2017 Conservation Area Character Appraisal and Management Plan for Petersfield describe the character and heritage of the Town in terms of its notable buildings, ancient monuments, and focal points.

The National Park's guide "Roads in the South Downs" provides useful ideas and guidance about preserving and enhancing the distinctive identity of the built and natural environment in the context of the design and treatment of roads and streets.

A1.3 Design Guides and Studies About Shared Space Schemes

A1.3.1 Introduction

This section identifies and discusses a number of documents which discuss shared space schemes.

A1.3.2 Concerns About Shared Space Schemes

In 2015 the Holmes Report[10] contained the results from a survey of users of shared space schemes. It reported that in general people's experiences of shared space schemes were overwhelmingly negative regardless of their mode of transport, disability status, or gender. The report called for more evidence to be gathered about the impact of shared space schemes. It was perhaps the most prominent of the early critiques of shared space schemes. While it drew attention to some difficulties with some early shared space schemes, the evidence in this report is probably less authoritative than that in more recent documents.

Much of the criticism centres around so-called shared surfaces (streets where conventional kerbs have been removed) and the removal of formal crossings. Blind and partially-sighted users prefer 'harder' forms of segregation (e.g. height differences or physical barriers). Useful summaries of the published criticisms of shared space schemes can be found here:

- Section 4 of the HCC report with the title Shared Space Policy Position, dated November 2018. This document also describes the impact of this criticism on government policy, see Section 4.
- The Wikipedia entry for "shared space".

The most relevant and useful documents about shared space schemes are discussed below.

[10] Accidents by Design: The Holmes Report on "shared space " in the United Kingdom, July 2015.

A1.3.3 The CIHT's Report With The Title "Creating Better Streets"

As mentioned in Section A1.2.2, in 2018 the CIHT published "Creating Better Streets" which described a review carried out by CIHT members based on evidence from 11 shared space schemes.

In addition to identifying the categories of shared space described in A1.2.2, this report provided a set of generic objectives for street-improvement schemes that can be tailored to form objectives for specific schemes, see Table 2. These could be helpful when clarifying the objectives set out in the Petersfield Neighbourhood Plan. They could provide a basis for gathering information to be used to develop the scheme, as well as a baseline for monitoring the effectiveness of the scheme after it has been implemented.

The authors of this report did not endorse the Holmes report, rather their conclusions included the following:

> *"On the evidence available, it is considered that whilst the schemes work well for the majority of their users and the place that they are serving, it is clear that some users consider that the current designs, especially Informal Streets, need to be improved. Key issues are around the use of kerbs and controlled crossings. An inclusive approach to the design of these schemes is required."*

This reported states that *"little information on cycling was available", rather* the authors relied heavily on a report published 15 years earlier by Transport Research Laboratories' (TRL)[11] which investigated the interaction of pedestrians and cyclists in vehicle-free shared space environments in three UK towns and cities. Hence the caveat *"On the evidence available"* should be noted.

Table 2 identifies the measurement of pedestrian footfall as a key indicator of economic activity. Footfall monitoring can also provide information about the nature of high streets, how they are used, and how they are changing[12]. Some limited footfall data for Petersfield High Street can be found in Section A1.5. Further monitoring of footfall could inform the design of a shared space scheme and would facilitate measurement of the economic impact of that scheme.

Headline Objectives	Relevant Statutory Duty	Potential Measureable Objective
Inclusive environment	Equality Act 2010	• Perception of safety, comfort & navigation (all users) • Presence of Vulnerable Users (older people, children, disabled people)
Ease of Movement	Traffic Management Act 2004	• Levels of walking, cycling and public transport use • Motor traffic congestion and/or flow • Number and ease of pedestrian crossing movements • Level of delay to all users • Pedestrian crowding
Safety and public health	Road Traffic Act 1988	• Motor vehicle speed • Number and severity of collisions and casualties • Noise levels • Air quality and other public health measures • Security measures • Crime and fear of crime
Quality of place		• Levels of place activity (e.g. sitting, dining etc.) • Space available for place activity • Attractiveness (e.g. paving materials, planting, public art) • Suitability of materials over lifetime of scheme • Amount of useful street furniture • Amount of street clutter • Quality of Maintenance and Cleansing
Economic benefit		• Pedestrian footfall • Number & prosperity of businesses (e.g. reduced vacancies, increased rental values etc.) • Car parking occupancy • Cycle parking occupancy • Benefit and Cost assessment • Frequency and type of special events (e.g. markets, performances)

Table 2: a set of generic objectives and measurable outcomes provided in CIHT's report[13]. These could be helpful when clarifying the objectives provided in the Petersfield Neighbourhood Plan.

[11] TRL, Cycling in Restricted Areas, TRL583, 2003.

[12] High Street Task Force, Review Of High Street Footfall July 2019 - June 2020

[13] CIHT, Creating better streets: Inclusive and accessible places, Reviewing shared space, January 2018.

A1.3.4 Shared Space Policy Position by HCC dated November 2018

This document provides a summary of the criticisms directed at shared space schemes, together with an overview of the subsequent response from Government (in Section 4). Section 6 sets out HCC's position on shared space, which included the following:

> *8.8. It is proposed that the County Council does not fund or adopt new schemes that fail to meet the criteria at 8.6. The criteria at 8.6 are as follows:*
>
> - *That due regard has been given to requirements of the Equality Act 2010, and that the Equality Act Public Sector Equality Duty to eliminate discrimination and to achieve equality of opportunity between disabled and non-disabled people, has been met;*
> - *That any negative impacts that have been identified are identified and reviewed;*
> - *That there is clear documented evidence that the design process has explicitly addressed the needs of all disabled people, including but not limited to people who are blind and partially sighted; and*
> - *That the scheme has been developed with the active involvement of a recognised group or organisation representing disabled people including people who are blind and partially sighted.*
>
> *8.9. The second proposed action is to prepare and publish Guidance to ensure that the planning, design and delivery of future schemes follows a clear process that meets the requirements set out in paragraph 8.6 above. This would include a review of current scheme auditing processes in line with the provisions of government's Inclusive Transport Strategy (July 2018).*
>
> *8.10. The third proposed action is to establish an Advisory Panel formed of members of key groups and organisations representing the needs of all disabled people, and work with them on the preparation of the above guidance. This would include a review of current consultation processes in line with the provisions of government's Inclusive Transport Strategy.*
>
> *8.11. It is proposed that the above actions are communicated to all those involved in the commissioning, planning, design and delivery of schemes funded or adopted by the County Council.*

This report identifies the following shared space schemes which have been completed in Hampshire:

- The Square in Winchester,
- London Road in Andover,
- Church Street and Bell Street in Romsey.

A1.3.5 Study About Inclusive Design in Town Centres

In February 2021, a report commissioned by Transport Scotland and DfT was published with the title; "Inclusive Design In Town Centres and Busy Street Areas". Researches sought the views of disabled users about physical design features of town and city streets. The physical design features considered were crossings, segregation between pedestrians, cyclists and motor vehicles and lastly obstructions and 'street clutter'.

This report recommended nine principals for engaging with the disabled, when considering new schemes. Seven principals were recommended for the delivery of more inclusive physical design measures. One of these recommended segregation between pedestrian and cyclist, with level surface streets schemes judged as acceptable only in exceptional circumstances (low flow (vehicles and wheeled modes) with low speed conditions (10 mph) after consultation with local disabled street users).

At a recent CIHT webinar, it was remarked noted that that some parts of these principals / recommendations are vague and open to interpretation, which may hamper the delivery of innovative shared space schemes.

A1.3.6 Other Relevant Documents

Some other relevant documents are identified in this section but this brief review of documents is not comprehensive because of time and space constraints.

HCC's report[14] on the temporary covid measures described the findings from an opinion survey about the temporary Covid measures in the centre of Petersfield. It identified that the majority (57%) of respondents

[14] HCC Decision Report by the Executive Member for Highways Operations, Active Travel Fund Tranche 2 Programme, 29 July 2021.

were against keeping the Square closed to through traffic for up to 18 months (except buses, cyclists, and taxis), suggesting that there is some resistance to total pedestrianisation.

DFT published Traffic Management and Streetscape[15] in 2008 to help those involved in the design of traffic management for schemes that seek to improve the streetscape. It is mainly about the design process and the scheme delivery process, rather than the details of street/road design. It is aimed at designers, project enablers and decision makers.

DFT's report on "mixed priority streets"[16] provides advice about schemes for shopping streets which see a significant volume of traffic. Hence this report might be more relevant to Dragon Street rather than the High Street. It describes the lessons learnt from delivering 10 such schemes in various parts of the UK.

Local Transport Note (LTN) 1/20, Cycle Infrastructure Design, contains guidance on the following topics which are relevant to the detailed design of a new scheme for the Town Spine:

- Impact of vehicle volume & speed on cyclists.
- Traffic reduction measures & traffic calming measures.
- Kerbs and visual impairment.
- Loading bays and parking zones.
- Surface materials.
- Cycle parking provision.

A1.3.7 Recent Government Guidance about Active Travel

On 30 July 2021, the Government announced additional funding for active travel and published several policy documents which seek to build upon previous policy initiatives to encourage active travel. The Secretary of State for Transport wrote that:

> *"As set out in 'Gear change', we continue to expect local authorities to take measures to reallocate road space to people walking and cycling. The focus should now be on devising further schemes and assessing COVID-19 schemes with a view to making them permanent. The assumption should be that they will be retained unless there is substantial evidence to the contrary. Authorities should also be considering how to introduce further active travel schemes, building on those already delivered.[17]"*

A number of caveats where added, most notably the need for engagement and consultation.

The document "Gear Change: One Year On" states that the additional funding will be used to invest in more low-traffic neighbourhoods, protected cycle lanes and upgrading the National Cycle Network.

Plans to seek parliamentary approval for a new version of the Highway Code were announced. The new version will introduce a hierarchy of road users which ensures that those road users who can do the greatest harm have the greatest responsibility to reduce the danger, or threat, they may pose to others. The pedestrian priority on pavements will be strengthened, as will the need for drivers and riders to give way to pedestrians crossing or waiting to cross the road. Guidance on safe passing distances and speeds will be provided, as will guidance regarding cyclists having priority at junctions when travelling straight ahead.

A1.4 Traffic Speed and Volume Statistics

This section and the two sections which follow provide traffic, pedestrian, and cycling statistics for the streets and roads in the centre of Petersfield. It is likely that HCC hold more topical and comprehensive statistics that will assist any further investigations. The cycling statistics were mostly gathered before the 46% rise above 2019 levels that was reported in national cycling statistics[18].

Measured vehicles speeds for some of the streets and roads in the Town Centre are shown in Table 3. Traffic volume data is shown in Table 4.

[15] DFT, Traffic Management and Streetscape, LTN 1/08, March 2008.

[16] DFT, Mixed priority Streets, LTN 3/08, October 2008.

[17] DFT, Statutory guidance, Traffic Management Act 2004: network management to support recovery from COVID-19, updated 30 July 2021.

[18] DFT, Road Traffic Estimates: Great Britain 2020, 28 April 2021.

Street / road	Traffic speed (mph 85th percentile)	Speed limit (mph)
Tor Way - north of Love Lane	35.3	30
Frenchmans Road. Southbound.	29.9	30
Station Road - between Charles St & Chapel St. Eastbound.	29.4	30
Dragon Street - between St Peter's Rd and Hylton Rd. Northbound.	26.2	30
College Street - south of Barham Rd	25	30
The Spain - between Borough Rd and Sheep St. Eastbound	23.6	20
High Street. The figures are similar for both directions	23	20
Source: HCC, Technical Transport Study for Petersfield Town, August 2018, Appendix 16. For 2-way streets, the direction with the higher speed is reported.		

Table 3: Measured vehicle speeds by street/road ranked by speed

Street / road	Vehicles per hr during the peak hr	Date measured /modelled	Source	Vehicles per day (weekdays)	Date measured	Source
Dragon Street - between St Peter's Rd & Hylton Rd	955	May-18	2	10,549	May-18	2
Tor Way - north of the Love Lane junction	915	May-18	2	9,936	May-18	2
Station Road - between Charles St & Chapel St	841	May-18	2	10,064	May-18	2
College Street - south of Barham Rd	792	May-18	2	9,274	May-18	2
Hylton Road	465	2019	3	-	-	-
The Spain - between Borough Rd & Sheep St	430	May-18	2	4,547	May-18	2
High Street	407	May-18	2	4,837	May-18	2
Charles Street	328	2019	3	-	-	-
Heath Road	-	-	-	1,761	Jul-19	1
Lavant Street	167	2019	3	-	-	-
Chapel Street - north of Lavant St	150	2019	3	-	-	-
Sources: 1. DFT traffic data for location No 36614 downloaded from www.dft.gov.uk/traffic-counts. 2. HCC, Technical Transport Study for Petersfield Town, August 2018, Appendix 16. This reported averages flows for 5 weekdays days in May 2018. 3. HCC, Junction Feasibility Report, 6/8/2020.						

Table 4: Weekday vehicles counts for Town Centre streets ranked by vehicles per peak hour

Table 4 shows that the maximum average flow in the High Street in May 2018 was 407 vehicles / hour, which is about 4 times the recommended flow for shared space schemes[19]. Note that this is the weekday flow. The peak flow recorded at weekend was higher at about 550 vehicles / hour, see Figure 3.

Note that diverting traffic from the High Street may have some negative impacts on vulnerable road users on the roads where traffic increases, unless steps are taken to mitigate these. Hence the impact on active travel needs to be looked at in a holistic manner, not just in terms of the a sub-set of the Town Centre Streets.

The Technical Transport Study reported that at least 73% of the motor traffic on the Spine is through traffic (ie vehicles carrying drivers who do not stop to use local facilities).

[19] HCC/Hampshire Services, Technical Transport Study for Petersfield Town, On behalf of Petersfield Town Council, August 2018.

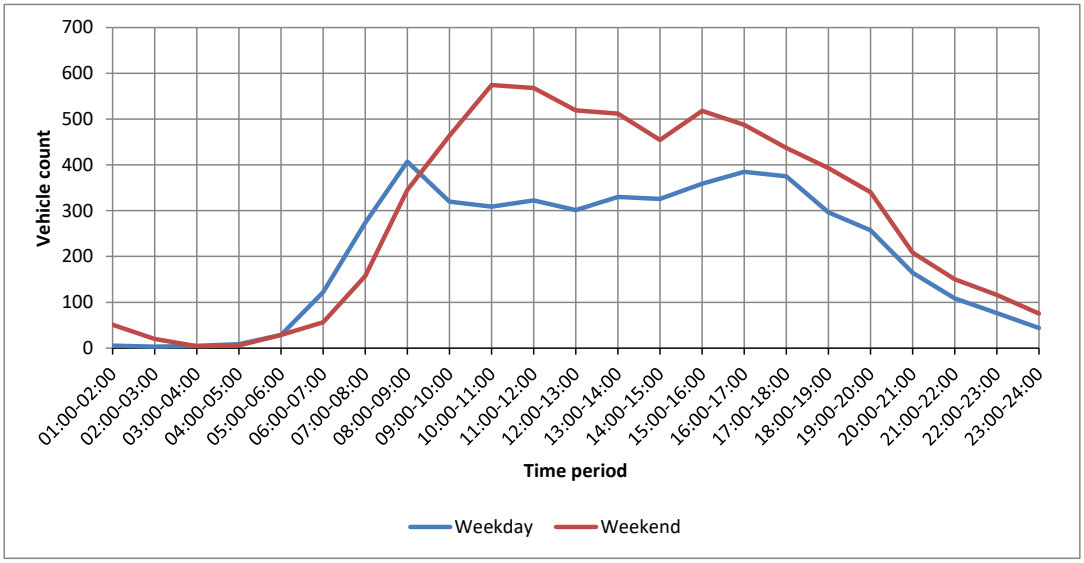

Figure 3: Vehicles counts in the High Street showing the average hourly count for weekdays and for the weekend measured during May 2018. Source: HCC, Technical Transport Study for Petersfield Town.

A1.5 Pedestrian Counts

HCC undertook some manual pedestrians and cycle counts as part of the Technical Transport Study. The pedestrian count was limited to a single site on the High Street. The results are illustrated in Figure 4. The highest flows on Wednesday were recorded between 10:00 and 16:00. The total count was 10,993 pedestrians. On Saturday the flows peaked between 11:00 and 12:00 and the total count was 16,149.

The results of an intercept survey can be found in Section 10.3 of the Technical Transport Study. The cycle counts are described in the next section.

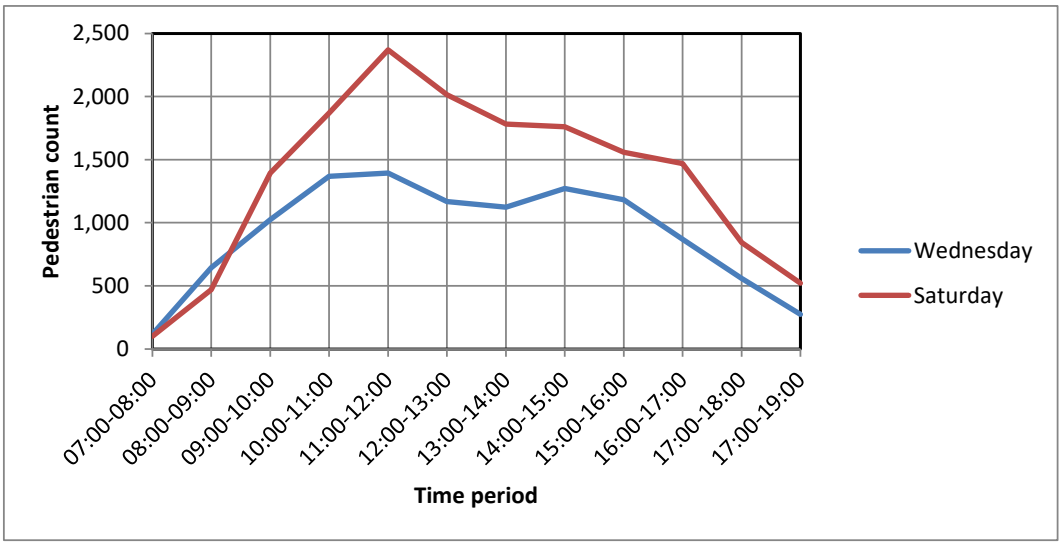

Figure 4: Pedestrian counts recorded in the High Street near Rams Walk on Wednesday 23 May and Saturday 26 May 2018. The count captured anyone who walked on the footways on both sides of the carriageway in the High Street at the south end of Ram's Walk. Source: Technical Transport Study for Petersfield Town, Section 10.3 and Appendix 18.

A1.6 Cycle Counts

Some of the results from cycle counts in the Centre of Petersfield from the Technical Transport Study are summarised in the graphs shown below.

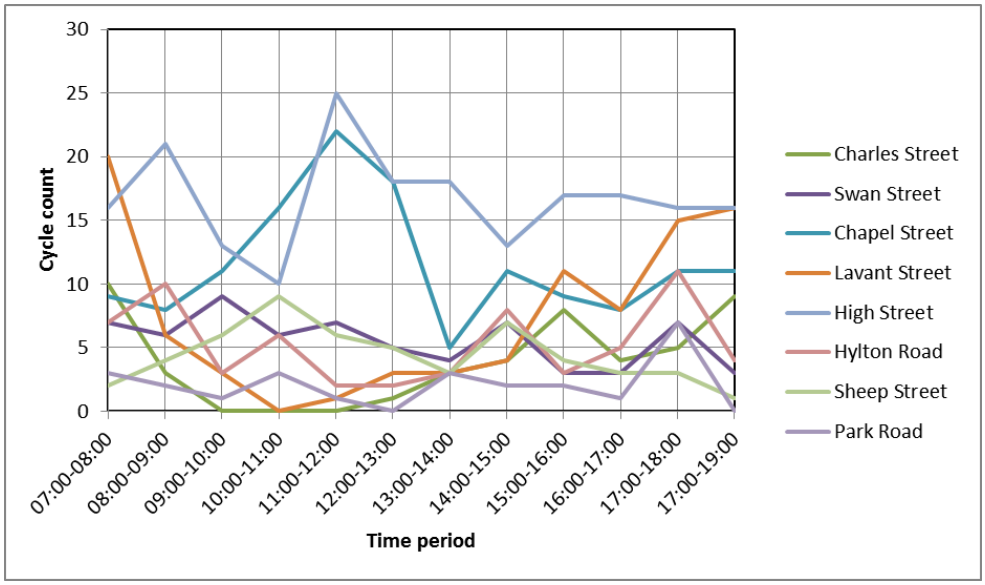

Figure 5: Cycle counts per hour for 8 sites recorded on Wednesdays in May 2018. Source: Technical Transport Study for Petersfield Town, Appendix 21. This is also the source for the 3 figures below.[20]

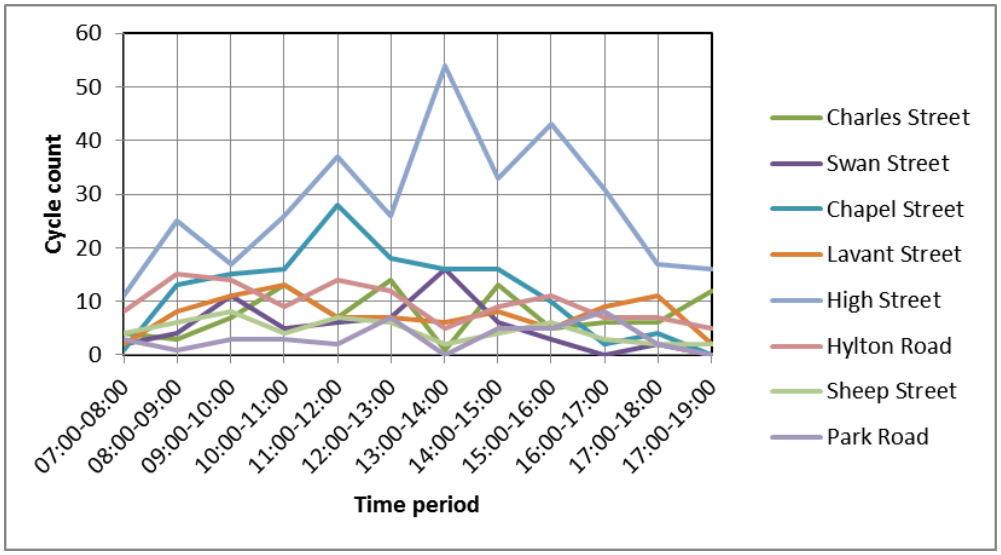

Figure 6: Cycle counts per hour for 8 sites recorded on Saturdays in May 2018.

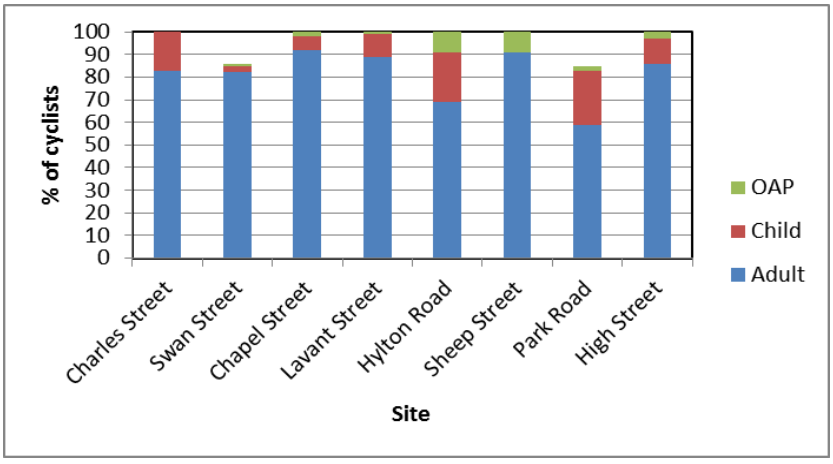

Figure 7: Percentage of cyclists by age group for 8 sites recorded on Wednesdays in May 2018.

[20] Note that there is an uncertainty about the location of the count reported as "Park Road". Figure 37 of the Technical Transport Study suggests that the Park Road location might have been in Barham Road.

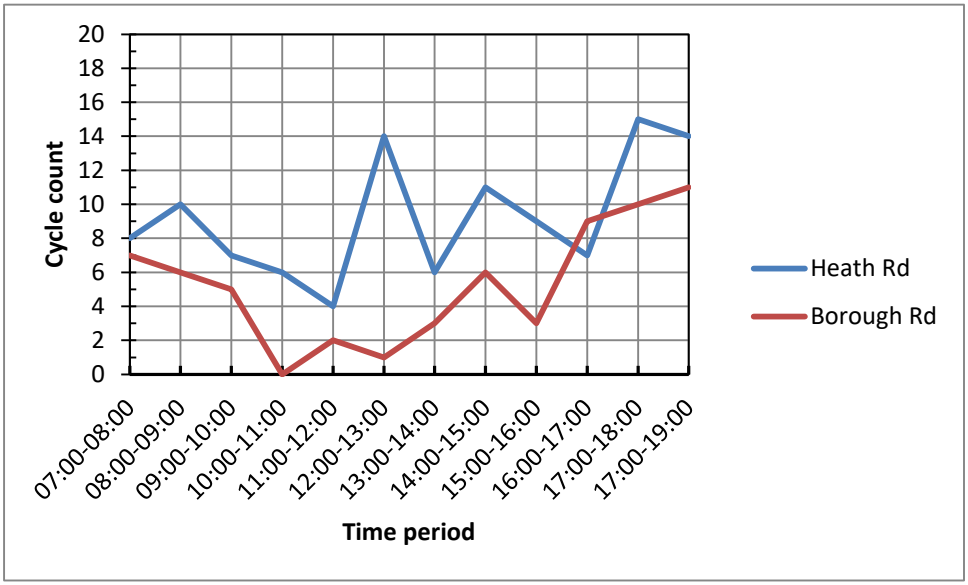

Figure 8: Cycle counts per hour for 2 sites recorded in July 2019. Source: DFT traffic data downloaded from www.dft.gov.uk/traffic-counts for location Nos 945241 and 945379.

Table 5 shows that the High Street was the most popular street in the Town Centre for cycling during the week. Figure 6 shows this is also the case on Saturday. Cycling levels in the High Street were significantly higher on Saturday than during the week (336 cycle journeys per day compared to 200). Chapel Street and Lavant Street also saw many cyclists. Figure 5 shows that cycling levels in Lavant Street peaked during the times of day when people commute to and from work. The levels on Charles Street followed this trend but in a less pronounced manner. This trend can also be seen in Borough Road, see Figure 8.

Comparing the hour-by-hour cycling levels in the High Street shown in Figure 5 and Figure 6 suggests that the High Street is also used by cycle commuters. A glance at a street plan of Petersfield will show that the High Street occupies a significant desire line for cycling. A cyclist travelling east to west, or vice versa, has a choice of four routes through the centre of Petersfield. These routes are identified in Table 7, which summarises the characteristics of these routes. While the High Street is imperfect from the cycling perspective, it is likely to be judged to be the safest and least unpleasant option.

Figure 7 shows the majority of cyclists were adults. The percentage of children cycling was highest in Hylton Road, which is near two schools. This suggests that if traffic is diverted from the High Street onto Hylton Road then this may deter cycling to these schools, unless other measures are put in place.

The Spine Project should take account future that the Town Spine is both a cycling destination and a key part of the Town's cycling network. Every effort should be made to ensure that this remains a useful route open for cyclists (unless an alternative route east-west cycling route is to be created).

LTN 1/20 set out a principle that cycling infrastructure should be designed for increasing numbers of bikes (Summary Principle No 5 in Section 1.6). In 2020, the Government set itself the target of doubling the levels of cycling by 2025[21]. A recent analysis of travel patterns in East Hampshire concluded that there was potential for a large increase in walking and cycling[22]. This seems very plausible for Petersfield because the Town is compact and there are a wide range of the facilities and services available within the Town. In view of this, the Spine Project should plan for at least twice the cycling levels recorded in 2018 (ie 80 cycles / hour) in the medium term, perhaps for considerably more in the longer term.

[21] DFT, Cycling and Walking Investment Strategy, February 2020.

[22] EHDC, Local Cycling and Walking Infrastructure Plan, Summary February 2020.

Street/Road	Cycles per day	Date	Source
High Street	200	Wednesdays in May 2018	1
Chapel Street	139	Wednesdays in May 2018	1
Heath Road	130	Mid-week in June/July, mean of annual count 2015-18	2
Lavant Street	90	Wednesdays in May 2018	1
Swan Street	67	Wednesdays in May 2018	1
Hylton Road	64	Wednesdays in May 2018	1
Sheep Street	53	Wednesdays in May 2018	1
Charles Street	47	Wednesdays in May 2018	1
Borough Road	46	Mid-week in June/July, mean of annual count 2015-18	2
Park Road	25	Wednesdays in May 2018	1
Sources: 1. Technical Transport Study for Petersfield Town, Appendix 21. 2. DFT traffic data downloaded from www.dft.gov.uk/traffic-counts for location Nos 945241 and 945379.			

Table 5: Cycles counted per day ranked by street/road for weekdays

A1.7 Building Statistics for the Town Spine

Table 6 provides a summary of statistics about buildings on the Town Spine which were sourced from an ONS (Office of National Statistics) initiative called High Streets in Great Britain.

Street	Address count	Retailing	Offices	Community	Leisure & recreational	Residential	Residential Houses	Residential Flats	Residential Flats in mixed use buildings
High Street	133	36	36	5	1	55	1	54	52
The Square	72	30	13	3	0	26	0	26	26
Chapel Street	172	51	15	0	0	106	8	98	84
Lavant Street	139	37	40	1	0	61	1	60	58
Totals	**516**	**154**	**104**	**9**	**1**	**248**	**10**	**238**	**220**

Table 6: ONS Building Statistics from March 2020 for the Town Spine sourced from an Ordinance Survey website. Note that this includes the buildings along the entire length of Chapel Street.

48% of the addresses on the Town Spine were categorised as residential, 30% were categorised as retail and 20% as offices. Chapel Street has many residential properties, while Lavant Street has the more offices than the other streets.

Id	Route	Cycle Volume / day (weekdays) in 2018	Traffic volume / day (weekdays) in 2018	Problems from the cycling perspective
1	High Street	200	4,837	• See Section A1.8
2	Hylton Road	64	4,600 (estimated to be 10 times the peak flow)	• Lack of space & provision for cycling (there is insufficient space for a cycle lane). Hence cyclists obliged to share the narrow carriageway with parked cars. • Kerbside parking reduces visibility & causes "car dooring" risk. • Impatient vehicle drivers. • Cycle unfriendly traffic calming.
3	Station Road	No data	10,064	• Heavy traffic flow (in cycling terms) with no provision for cycling. This discourages all but the most experienced and hardy cyclists especially since parts of the carriageway are narrow. • Poor visibility at Tilmore Road-Station Road junction. • Intermittent flow caused by closures of the level crossing barriers. • No provision for cycling (there is insufficient space adequate pavements and cycle lanes).
4	Central Car Park	No data	NA	• The westbound cycle lane is routed through an aisle of parked cars. Car drivers are often distracted as they search for an empty parking space. • The cycle lane is poorly marked. Cars reverse across it when leaving a parking space. The risk of collision between drivers and cyclists is high. Pedestrians are often unaware of the presence of cyclists. • Poor connection to this route on College Street. • Parked vans sometimes block the cycle contraflow lane in Park Road.

Table 7: Comparison of east-west cycling routes through central Petersfield.

A1.8 Issues with the Town Spine from the Cycling Perspective

A1.8.1 Introduction

The Technical Transport Study presented the results from a cycle audit of Town Spine. In general the lowest scoring criteria was safety. The issues faced when cycling along the Spine are described below, which draws on this audit, on the traffic data presented above, and on the personnel experiences of the authors.

The following measures are most relevant when considering the policy in the Neighbourhood Plan to make the Spine more accessible to cyclists (assuming that the narrow streets preclude protecting cyclists by fully separating vehicles and cyclists):

1) Reduce the volume and speed of traffic, as discussed in Section 3.3.
2) Reduce on-street parking, as discussed in Section 3.4.
3) Ensure that junctions within the Spine are safe for cycling, see Section A1.8.3.
4) Ensure that junctions which provide onward routes from the Spine to the Outer Town are safe for cycling, see Section A1.8.10.
5) Provide well sighted and unambiguous crossings for pedestrians, as discussed in Section 3.2.
6) Repair surface defects and avoid the use of surfaces that are maintenance intensive (the poor condition of the paving in the Square and on the Dragon Street - High Street are the worst examples at the time of writing).

7) Avoid the use of granite setts, especially on inclines and at junctions where cyclist need to brake and turn.
8) Provide some all-weather cycle parking in the Town Centre for commuters employed in offices and retail outlets.
9) Provide additional cycle racks, see Section A1.8.9.

A1.8.2 Traffic Volume and Speed

Full separation between traffic, cyclists and pedestrians is preferable to protect the vulnerable groups from traffic. The character of the Town is such that there are width constraints in most streets. The separation of cycle traffic is seldom possible, especially in the Town Centre. Hence cyclists are obliged to share the carriageways with vehicles, while pedestrians are protected segregated footways with kerbs.

Most cyclists will not feel comfortable on-carriageways with more than 2,500 vehicles per day and speeds of more than 20 mph, according to LTN 1/20. The evidence presented in Section A1.4 suggests that few parts of the Spine met these thresholds for cycling comfort in 2018 in terms of traffic volume and no part met it in terms of sped. In 2020, after the temporary introduction of a bus gate and kerbside barriers, it is likely that cyclists found that the High Street and Chapel Street felt more comfortable because of the reduction in traffic flow. It is less clear to us whether the reduction in carriageway width at a several places in The High Street and Chapel Street reduced the average speed of motor vehicles but this seems likely to be the case.

A1.8.3 Junctions

The High Street-Dragon Street-Heath Road junction is daunting for all but the most experienced cyclists. A signal controlled crossing is provided for pedestrians who wish to cross Dragon Street near the junction with the High Street, but not for cyclists. When attempting to cycle across Dragon Street, there are few gaps in the stream of vehicles, unless one is created by the signal controlled crossing. However sometimes the gaps are filled by vehicles emerging from the opposite side which cut across the potential cycle movement and so the opportunity is lost.

The bell mouth on the High Street is unhelpful because it causes:

- Fast traffic to enter the High Street.
- Puts eastbound cyclists at risk from left hook collisions (unless they take up the position on the right thus block traffic behind them).
- Enables high speed U-turns around the War Memorial.

It is often necessary for cyclist to dodge around pot holes in the block paving at this junction, thus adding to the stress.

Without the bus gate in place, the High Street - Chapel Street junction is hazardous. Westbound vehicles were often forced into the centre of the carriageway by kerbside parking when passing HSBC and by buses which had paused at the bus stop, see Figure 9. Vehicles often straddled the white line as they followed the road into Chapel Street. There was the potential for a head-on collision with southbound cyclists in Chapel Street who were positioned to turn into Swan Street.

Lorries parked against the kerb in Chapel Street sometimes block sightlines for cyclists exiting Park Road into Chapel Street.

A1.8.4 Crossings

This topic is discussed in Section 3.2 and in the second paragraph of the next section.

A1.8.5 Visiting Cyclists

Little attempt has been made to accommodate cyclists using NCN22 or other routes through the Town Centre. Chapel Street is unfriendly because of an inadequate crossing and because of on-street parking, as described in the next section. NCN22 crosses several junctions which are difficult. The poorly maintained block paving in the Square is tricky, see Section A1.8.7. The provision for cycling parking in the Square is inadequate, see Section A1.8.9.

The carriageway markings for the informal pedestrian crossing near the Drum Pub in Chapel Street have been partly lost when the carriage surface has been dug to access underground services, see Figure 10. This increases the risk that a car or cyclist may fail to register the crossing and hence not expect to encounter pedestrians in the carriageway at this point. Visiting cyclists who are following National Cycling Network Route

No 22 (NCN22) are directed along Chapel Street. If they are approach the Town from Tilmore Road, they may not have recognised that they have just entered a high street environment and may not register the crossing.

Anecdotal evidence suggests that ride leaders for local cycling clubs often avoid visiting Petersfield because it is perceived as cycle unfriendly.

A1.8.6 On-street Parking

See Section 3.4.

Figure 9: The junction of the High Street, Swan Street and Chapel Street looking west. The parked cars (and sometimes buses) force westbound drivers into the opposite carriage thus creating a collision risk. (This photograph was taken in 2019).

Figure 10: Looking south along Chapel Street. Lavant Street is to the right. The informal crossing is easily overlooked. (This photograph was taken in 2019).

A1.8.7 Materials

Manoeuvring around potholes especially in the block paving around the Square and at the High Street-Dragon Street-Heath Road junction is a serious issue for cyclists.

The granite setts which have been installed at the High Street-Dragon Street-Heath Road junction and in the High Street are uncomfortable to ride across.

A1.8.8 Pedestrian-Cycle Interactions

Interactions occur in the carriageways around the Square (excluding the High Street) where unpredictable pedestrian movements are not uncommon. These result in the need for cyclists to take avoiding action, or to sound a bell, or to call-out. Pedestrians appear to change their behaviour in the presence of motor vehicles, but do so less consistently in response to cyclists. It is not clear whether this is a conscious or an unconscious response (eg a lack of awareness of the presence of a cyclist). These result in the need for cyclists to take avoiding action, or to sound a bell/call-out).

Similar interactions on the High Street carriageway have become more common since the Covid emergency measures reduced the volume of traffic in the High Street. For obvious reasons pedestrians in the High Street tend to frequently cross from side to side. The crossing points are well used, but many people chose to cross at other locations and some of these appear to step off the kerb into the carriageway without checking whether it is clear, which creates the risk of a collision with a passing cyclist. This behaviour is unfortunate but all groups of road users are capable of poor behaviour at times, pedestrians, cyclists and drivers alike.

Interactions between pedestrians and cyclists can be a source of stress and anxiety to both groups. This should be taken into account. Ways should be found to help all these groups to share the Town Spine in a harmonious manner.

A1.8.9 Cycle Parking

The Town Centre does not have adequate all-weather cycle parking for public use, especially for those who work in the Town. Policy makers should encourage residents to cycle as everyday habit, rather than as only an option in fair weather. People who have invested in an e-bikes are unlikely to want to park it where it is

exposed to rain for long periods. Currently there is only some opportunistic cycle parking along the railings outside Waitrose which is partially sheltered from the rain and so is used by many people. Cycle parking at the Station which has an ineffective roof that provides little shelter from the rain (the structure is located in a windy location, lacks walls and the roof is not fitted with gutters or down pipes).

The Technical Transport Study identified that much of the existing cycle parking is within car parks and not on-street where it is most useful. It recommended additional cycle parking in The Square (some stands were installed recently but more stands in the north-east corner would be useful), Chapel Street and Lavant Street. The cycle stands at the east end of the High Street are inadequate (too close together, too short so that some bicycles cannot be leant against them in a stable manner, and are inadequate in number).

Looking beyond the Spine, there is a lack of cycle parking for the public at the Hospital and the Swan Surgery. Covered parking would be useful here, as it would be at the Taro Leisure Centre.

The guidance in provided in documents such as LTN 1/20 should be consulted when procuring parking stands and positioning them. High quality cycle parking may encourage cycling in some circumstances but poorly designed and poorly sighted cycle parking is ineffective, other than as a box ticking exercise.

A1.8.10 Cycling Accessibility From The Outer Town

Table 8 lists the barriers that hinder cycling access to the Town Spine from the adjacent roads and streets.

Id	Feature	Location	Issue
1	Junction	High St - Dragon Street - Heath Rd	See Section A1.8.3
2	Junction	St Peter's Rd - Dragon St	Cyclists must cross fast & heavy traffic flow without assistance (traffic island, signal controls etc). This is a daunting prospect. The block paving has subsided causing pot holes.
3	Junction	Sheep St - Hylton Rd	Poor visibility when exiting Sheep St, especially since traffic on Hylton Rd accelerates when past the calming measures.
4	Junction	Dragon St - The Causeway - Hylton Rd - Sussex Rd	See the separate briefing note about this junction.
5	Junction	The Spain - The Spain (west)	On-coming speeding traffic from the Hylton Rd cuts the corner when turning into The Spain, creating a collision risk for cycle traffic waiting at the stop line prior to turning right towards Borough Rd. This creates a dangerous situation.
6	Junction	Swan St - Charles St - The Spain	See the separate briefing note about this junction.
7	Junction	Charles St - Station Rd	Chaotic kerbside parking outside the convenience store. Heavy & fast traffic on Station Rd.
8	Junction	Station Rd - Tilmore Rd - Chapel St	See the separate briefing note about this junction.
9	Junction	Chapel St - Park Rd	Sometimes parked cars/vans/HGVs obstruct visibility for cyclists exiting Park Rd into Chapel St.
10	Junction	College St - Barham Rd	Northbound cyclists are forced into the main traffic flow by the abrupt termination of the cycle lane prior to this junction exposing them to left hook collisions, which is a dangerous situation. The build-outs for the informal crossing near the junction create ambiguity regarding the priority of traffic flow & is difficult for cyclists.
11	Road / street	Hylton Rd	See Table 7.
12	Road / street	Station Rd	See Table 7.
13	Road / street	College St	To the north of Barnham Rd, there is a heavy traffic flow (in cycling terms) on a narrow carriageway. The need to crossing this flow to head east towards Ramshill is a difficult/intimidating manoeuvre.
14	Road / street	Dragon St	Heavy traffic flow (in cycling terms) with no provision for cycling.

Table 8: the barriers that hinder cycling access to the Town Spine from the adjacent roads and streets.

Figure 11: Map of the Town Centre with additional labels and features added by the authors. The streets identified in Petersfield Neighbourhood Plan as forming the Town Spine are shown in purple.