

Briefing Note

Safety, Walking, Cycling and Other Issues at the Swan Street - Charles Street - The Spain Junction, Petersfield

Foreword

This is the second version of the document which 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. A map has been added on Page 8 to show the location of the junction of Swan Street-Charles Street-The Spain within Petersfield and to illustrate some of the issues which are discussed in the text below.

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 has been written to support and inform the Action Plan with the emphasis on safety, cycling and walking issues. It describes some of the safety issues and problems encountered by pedestrians and cycle riders when moving around Petersfield, as well as identifying some potential solutions. 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 schemes as they move forward to the design phase.

This is the fourth in a series of five briefs being prepared for the Petersfield Strategy Group. The traffic modelling of the town centre, which will influence any changes to the five sites being already underway. Special emphasis has been given to cycling and walking issues (ie Active Travel) when moving around the Town. This note has been prepared by Keith Hopper (a chartered highway engineer (retired) and Gethin Morgan-Owen, both of whom are residents of Petersfield who take an active interest in transport issues in the Town.

The focus of this note is the road junction to the west of the Town Centre where Swan Street, as the minor road crosses, The Spain and Charles Street. It is in close proximity to the Community Hospital, the Fire Station and the Swan Surgery and is a focal point for many east-west movements in the Town.

2. Executive Summary

The junction of Swan Street with Charles Street and The Spain is a notoriously difficult junction to negotiate and has been seen as a problem for all classes of highway user for many years. This is due to the location of The Forge building being on the edge of the carriageway on the south-west corner of the junction with no room for a footway. This in turn leads to exceptionally poor visibility for everyone coming out of Swan Street (west) and their view of traffic coming from The Spain. Traffic volumes are not high but queues form on both of the side streets (Swan Street east and west). Vehicle delays are not excessive, but pedestrians and cyclists feel very vulnerable (there has been a pedestrian fatality in recent years), as they are dominated by the vehicles.

The junction is an essential part of the road network in the western part of Town, as the Railway severely limits the number of alternative east-west routes for all classes of traffic. Improvements are required to overcome the problems above, especially with regard to pedestrian and cycle routes, to encourage "Active Travel". Extending the 20mph zone through the junction will benefit the movement of cyclists, but major benefit will only come through the installation of traffic signals at the junction and possibly the creation of a contra-flow cycle lane down to The Square. Pedestrians would gain benefit from their own phase although they will also be delayed whilst awaiting it.

The possibility of taking over some of The Forge site for a footway should be considered as an extra benefit and would certainly enhance this part of the Town.

3. Background

3.1 Brief History of the Junction

For many years the current cross-roads was a "T" junction, with The Spain rising up to meet Swan Street. The roads were narrow, but with mainly horse drawn traffic. From a map dated 1770, this was the layout with no Charles Street in existence and no buildings on the site of the Forge. It appears as though Charles Street was constructed at the end of the nineteenth century to a much wider standard than the other roads, with the Forge buildings appearing before 1911. They were used for stabling, garage and workshop and were later

turned into a forge in 1937. Whether the footprint was changed over time is not known, but the situation now is that the structure sits right on the edge of the carriageway in both The Spain and Swan Street (west). At some stage Swan Street (from the east) was widened through the acquisition of land from the Telephone Exchange site, which has resulted in the unusual layout at the junction whereby the two approaching lanes from Swan Street (east and west) are opposite one another, resulting in further driver indecision when turning. Traffic in Charles Street and The Spain has priority over Swan Street but is restricted from entering Swan Street east, making the street one-way westbound with two lanes approaching the junction. The poor visibility for drivers exiting Swan Street (from the west) has been acknowledged by the requirement for traffic to “Stop” rather than “Give Way”.

3.2 The Importance of the Junction to the Local Road Network and to the Local Active Travel Network

In spite of the poor quality of the junction layout, both in terms of visibility and road width, this junction is a very important one in the road network. Traffic movement on the western side of the Town is totally dependent on the crossing places of the railway and the A3 by-pass and they are a major impediment to the movement of east – west vehicular traffic, as well as pedestrians and cyclists.

The railway running SW to NE through the western side of the Town has only one good road crossing over it, which is the link road to the A3 Trunk Road classified as the A272. This is some way to the north of the town centre but is of very good quality, being a two lane dual carriageway, and effectively takes traffic away from the Town Centre. Kingsfernden Lane and Tilmore Road are narrow lanes, the latter having serious visibility issues, making it a less than desirable route for traffic. Station Road is the major crossing place of the railway in the Town but has a level crossing, making it subject to regular delays, sometimes lengthy. It is anticipated that any delays will only become worse in the future.

The only other crossing is Frenchman’s Road which has a low bridge (headroom 3.2m, 10ft-6in.), thereby limiting vehicles of any size from using Swan Street. It is suitable for cars and low goods vehicles and performs a major function in offering drivers alternative routes which avoid the level crossing. The Swan Street - Charles Street junction is the focal point for a number of alternative routes from the east (Cranford Road, Borough Road, Hylton Road and High Street) whilst to the west are Bedford Road, Rushes Road and Frenchman’s Road. The result is that the junction under review is of major importance in the road hierarchy and is essential to the satisfactory day-to-day running of the road network. Swan Street is a major link between the Town Centre and the Hospital, the Swan Surgery and the Fire Station as well as Frenchman’s Road and the Industrial Estate (Bedford Road). This is the case for pedestrians and cyclists as well as for vehicles and improvements are essential if “Active Travel” is to be pursued.

The other crossings of the Railway to the SW of the Town Centre are a footbridge and two subways (built for farm traffic originally), which are in themselves useful but are very much in need of improvement.

Due to the above restrictions on movement (the Railway and By-pass), it is important that the roads leading into this junction remain as two-way for full movement in both directions, with the exception of Swan Street (east) which is already one-way exiting the Town Centre. To re-introduce two-way working here would direct traffic back into the Town Centre, against the objectives of The Spine Project.

For pedestrians and cyclists, the Swan Street – Charles Street junction is directly on the desire line from a cluster of residential streets (Noreuil Road, Rushes Road, Princes Road, Gloucester Close etc) and the Town Centre, the distance between them being easily walkable. It is also on the route between these residential neighbourhoods and many of the schools in the Town.

This junction is on the walking and cycling route from residential roads in the east of the Town and the local employment opportunities and services in the Bedford Road area. People also walk and cycle across this junction to reach the Swan Surgery & the Hospital, especially since the demand for parking exceeds the supply of parking spaces.

There is also a north-south flow of pedestrians and cyclists across this junction, from people travelling from the Woodbury Avenue / Buckmore Avenue area to the Petersfield School for example. Also from people travelling from the Grange Road / Cranford Road area to the Station (this is based on observation and is also shown in plots that can be prepared with the Propensity to Cycle Tool).

3.3 Difficulties for Users of the Junction.

The road layout at this junction is very sub-standard (poor visibility, narrow carriageways and lacking footways) due to the presence of the historic Poor House on the SE corner, The Forge on the SW corner, and the housing on the NW corner, see the map on Page 8. The only modern building is the Telephone Exchange

on the NE corner where there is possibly space to re-shape the junction if required, perhaps forming a staggered junction, but this would not in itself improve visibility where it is so lacking. It is well known that many drivers approach the junction from Swan Street (west) with some trepidation, knowing that they may have a difficult task ahead in manoeuvring their vehicle safely through the junction with very poor visibility at the stop line and needing to edge out into the stream of traffic on The Spain. All of this whilst checking the movement of two lanes of vehicles from Swan Street (east) as well as pedestrians and cyclists. It is no wonder that those who are most vulnerable, ie pedestrians and cyclists, feel very much at risk in spite of taking all reasonable precautions.

The prime reason is the location of The Forge on the south-west corner which abuts the carriageway, leaving no room for a footway on The Spain and Swan Street (west). The building has little architectural merit but is within the Conservation Area. Vehicle movements dominate, especially in the peak hours.

3.4 Safety Concerns

Accident records are not available to the authors but it is known that there was a pedestrian fatality at the junction in recent years, whilst trying to cross The Spain. There are no special facilities for cyclists in this area as the carriageways and footways are too narrow to facilitate cycle lanes or even shared footways.

The problems at this junction can be summarised as follows:

- a) The existing presence of a stop line for traffic exiting the west leg of Swan Street is an indication that visibility for drivers is a problem, but the location of The Forge structure right on the edge of the trafficked area on the approach from The Spain places drivers in an invidious position. There is no choice but to edge forward slowly, risking collision with vehicles on The Spain and at the same time taking their attention away from all the other events taking place around them.
- b) The Forge structure allows for no footway on the south-west corner of the junction which makes navigation of the junction by pedestrians much more difficult.
- c) Swan Street (east) is one-way westbound with two lanes of traffic, the nearside lane heading straight for the opposing eastbound lane on Swan Street (west), leading to difficulties for drivers with “who has priority and goes first” with pedestrians having to watch drivers very closely to assess their turn to cross.
- d) Very poor visibility for pedestrians crossing The Spain and heading for the hospital pathway at a much needed informal crossing to the south of The Forge. This feels very risky to pedestrians.
- e) Very poor visibility for pedestrians crossing The Spain further west from the junction, around a tight bend, albeit within the existing 20mph zone. This also feels very risky to pedestrians.
- f) Narrow footway (1.3-1.5 m) on the north side of Swan Street between numbers 13 to 29.
- g) Inappropriate speed of traffic on Charles Street and on The Spain approaching the junction.
- h) Vehicle movements dominate the area and in peak times pedestrians and cyclists feel most at risk. The brisk pace at which many vehicles move accentuates the feeling of risk felt by cyclists and pedestrians, as does the lack of visibility when exiting the west leg of Swan Street, or when crossing Swan Street near the Hospital.

The attitude of drivers towards pedestrians and cyclists leaves a lot to be desired, but that is inevitable when drivers on the side roads are under such mental pressure to move forward when a suitable gap in the traffic appears. In order to change this and move towards the concept of “Active Travel”, measures need to be taken to give pedestrians and cyclists a much improved boost towards a better quality of life.

4. The Way Forward

4.1 Assessment of Problems and Possible Solutions

The problems on this section of road have existed for many years and it is notoriously difficult to cross or pass through the junction due to the narrowness and alignment of the carriageways, the poor visibility standards and the layout of the footways. This is very discouraging to people wanting to cycle in the Town, whilst pedestrians (especially elderly and infirm patients going to the adjacent hospital and surgery) should have well-marked and safe routes to these destinations. The lack of a footway on the south-west corner of the junction would be much less of a problem if there were good crossing points on Charles Street and The Spain, as well as Swan Street (to the west). As a basic point, it would appear that the combination of traffic calming

measures and a 20mph zone with zebra crossings (on tables) would greatly improve the pedestrian experience. Unfortunately the existing footpath from the informal crossing place on The Spain to the Hospital car park would still be steep and unfriendly to many users, so the need for a footway alongside the Forge is still there. This might be achieved by reducing the carriageway width on the Spain, perhaps with a pinch point for the length of the Forge retaining wall. Even a narrow footway might be acceptable if the speeds could be reduced sufficiently. If it is possible for land to be acquired from The Forge this has to be the best solution for pedestrians and should be pursued if possible.

Cyclists also have major problems here (see the Appendix for further details on problems and possible solutions), due to the tightness of the junction, poor visibility and driver's attention being focused elsewhere. Improvements to visibility would help them but drivers need this even more. The fact that drivers also feel so insecure coming out of Swan Street (west) due to the lack of visibility is the most important issue here, as they feel stressed and under pressure to move off, and open to making errors of judgement. Their frenzy in moving off is very worrying for the vulnerable pedestrians and cyclists. It would seem that there is a choice between:

- a) improving visibility by narrowing the carriageway of The Spain and/or removing some of The Forge building, or
- b) removing the need for drivers to have improved visibility towards The Spain.

The latter would apply if traffic signal control is implemented, removing the conflict. This would assist pedestrians (with their own phase for crossing, including diagonally) and cyclists but would of necessity result in frustrating delays all round, by removing the possibility of crossing casually and informally between vehicles, as now.

The existing entrance to the 20mph zone on The Spain is not in a good location and has no presence or physical features to slow down vehicles. The extension of the zone through to the north of the Swan Street junction, together with traffic calming features would result in a reduction in vehicle speeds through the junction. Charles Street is wider and faster and a reduction in its width, perhaps for parking purposes could assist with reducing vehicle speeds in the area.

Swan Street (east) carries considerably less traffic than Swan Street (west) and in future this could be reduced still further after completion of the Spine Project. It could profitably be reduced to a single lane, making the interface between drivers and pedestrians much simpler at the junction. There would then be the possibility that a contraflow cycle lane could be considered running down Swan Street from Charles Street to Chapel Street, giving a major improvement to the available cycle routes through the town centre. Difficulties due to a possible conflict with existing on-street parking areas near to The Square and vehicles delivering to the shops could hopefully be overcome.

4.2 Other Considerations

In considering possible solutions for the problems at this junction, a number of other interventions were considered, but they were all deficient in a major way and have been discounted:

- a) Shuttle working on The Spain (with traffic signal control or Priority / Give Way).
- b) Shared Space with heavy traffic calming.
- c) Changing priority at the junction, ie The Spain and Charles Street to become the minor road.
- d) Mini-roundabout at the junction.
- e) Double mini-roundabouts with purchase of land from the Telephone Exchange.
- f) Changing priority at the junction so that The Spain – Swan Street (west) became the major road.

4.3 The Key Outcomes

The junction is well known for being a difficult junction for all road users, but those most at risk are pedestrians and cyclists. Traffic speed is not high, although a further reduction would be beneficial, especially for cyclists who feel much happier and safer being in a 20mph zone. Traffic volumes are also not high due to the tortuous nature of the road network in this part of town, but driver's attention is often devoted to the navigation through the junction due to its tight nature and the closeness of other vehicles. So the key outcomes relate to pedestrians and cyclists, finding ways to improve their quality of life and encouraging greater use of these modes of transport.

Required Key Outcomes of the Design:

1. Pedestrians and cyclists should feel safe in whatever movements they are making at this junction.

2. A reduction in traffic speeds on The Spain and Charles Street, to less than 20mph.
3. A well-marked formal / informal crossing point for pedestrians on The Spain for more direct access to the hospital.
4. Improved informal crossing points (or zebra crossings) on all three roads at or near the junction. Note: traffic signals could take on some of this role.
5. It should be easier and safer for cyclists to emerge from either length of Swan Street to cross The Spain / Charles Street.
6. Serious improvements to the quality of life for pedestrians and cyclists, thereby encouraging these modes of transport.
7. The current visibility issue to no longer be relevant.

5. Conclusions

The junction of Swan Street, Charles Street and The Spain has been a major problem for many years due to the poor visibility, the lack of a footway on the south-west corner and the physical tightness for such diverse movements in such a confined area. Traffic volumes are not high but traffic does queue on both Swan Street arms during peak periods. Delays are not excessive but stress levels for all users are high due to the evident high risk levels. Pedestrians and cyclists are dominated by the vehicles and come off worst due to their vulnerability. In order to change this and support the aims of “Active Travel”, it is recommended that the existing Town Centre 20mph zone be extended from The Square up Swan Street to beyond the junction, also from The Spain to beyond the junction (longer term this could link with the proposed Spine works and Station Road, as recommended in separate reports). Efforts should be made to provide a footway on the SW corner of the junction, but the main proposal to assist the movement of cyclists in particular through this junction would be to install traffic signal control and a contra-flow cycle lane between the junction and The Square. From a pedestrian point of view it would be beneficial to complete the footway past The Forge and this should be explored. Many people on cycles feel uncomfortable with the speed and volume of traffic found near this junction, according to DFT’s design guidance. Alternative routes for cyclists would further encourage active travel by improving the permeability of the surrounding network.

Appendix

Traffic Statistics, Cycling Issues and Other Appraisals

A1. Introduction to This Appendix

This appendix provides detailed traffic statistics for the roads that converge at this junction. Further details of injury incidents and traffic flows will be held by HCC.

A2. Traffic Speed and Volume

The speed limit on the roads approaching this junction is 30 mph except for The Spain which runs into a 20mph zone a short way from the junction. No speed measurement figures have been found. Anecdotal evidence suggests typical speeds in the central section of Charles Street are likely to be about the same as the speed limit.

Some traffic volume statistics are shown in Table 1.

Street/road	Vehicles per hour during the AM peak	Vehicles per day (weekdays)
Charles St (between Swan St and Lavant St)	328	3,300 Estimated
Swan Street (west of Charles Street)	578	5,800 Estimated
Swan Street (east of Charles Street)	193	1,900 Estimated
<p>Notes</p> <p>These figures were obtained from HCC's Junction Feasibility Report, August 2020.</p> <p>The figures indicate 2-way flows. Where figures are labelled as estimates, the number of vehicles per day was assumed to be 10 times the AM peak figure.</p> <p>On a Wednesday in May 2018, 67 cyclists were counted as they proceeded along Swan Street. 62 cyclists were counted on a Saturday in the same month¹.</p>		

Table 1: Traffic volumes on Charles Street and Swan Street

When the Station Road level crossing closes, traffic quickly backs-up and some drivers divert along Charles Street and Swan Street. Charles Street is wider than necessary (8.1m) and speeds are consequently higher.

People on cycles are obliged to mix with vehicles in Charles Street, Swan Street and the Spain, which have no provision for cycling in terms of cycle lanes or segregation.

A3. Active Travel Issues

It is well documented (DfT Local Transport Note LTN 1/20) that most people on cycles, especially with younger children, do not feel comfortable on roads with more than 2,500 vehicles per day and speeds of more than 20 mph. The roads at this junction are all above that flow, as are most of the roads in Petersfield, except for residential roads, thereby accentuating the need to reduce the speed of traffic to less than 20mph. Cyclists are at a disbenefit at this junction, as usual, due to their vulnerability and their inability to move off with the same acceleration as a vehicle. They also take up valuable road space preventing drivers from moving forward themselves, leading to frustration and stress. This is very off-putting and will discourage many people from using their cycles, especially during peak hours.

The physical constraints of this junction mean that the carriageway footprint cannot be significantly improved, but the suggestion that traffic signal control should be introduced will change this dramatically. Alternative routes for cyclists would further encourage their use by improving the permeability of the surrounding network. Pedestrians already have other routes available to them but more could be provided. The Neighbourhood Plan and the Local Cycling and Walking Infrastructure Plan (LCWIP)² has identified some potential schemes to make this happen, as described in Section A5 below.

The Petersfield Neighbourhood Plan identified the need for improved pedestrian and cycling access to the Town Centre and to the Bedford Road Industrial Area. It is acknowledged that this junction is a key element in this and the LCWIP confirmed this. However neither document fully explore this topic or provide a comprehensive way forward for active travel in this part of the Town.

Car parking is often difficult at the Swan Surgery and at the Hospital in Swan Street. It would make sense for more people to walk or cycle to these destinations. Until recently covered cycling parking was available at the Hospital but now this is reserved for staff and for the public. For the public, there are only a few uncovered stands of the "wheel breaker" type outside the Surgery. Both the lack of cycle parking and the difficult crossing of Charles Street discourage people from cycling and walking to the Surgery and to the Hospital.

¹ HCC/Hampshire Services, Technical Transport Study for Petersfield Town, August 2018.

² EHDC, Local Cycling and Walking Infrastructure Plan (LCWIP), LCWIP Technical Report, August 2020.

A.5 Other Recent Appraisals of the Charles Street-Swan Street-The Spain Junction

A.5.1 The Petersfield Neighbourhood Plan

The Petersfield Neighbourhood Plan identifies the need for improved pedestrian and cycling access to the Town Centre (GAP1). It also identified the need for improved pedestrian and cycle access to Bedford Road (BP7).

The getting around improvements in Table 9 on Page 76 identified a problem with the Charles Street-Swan Street junction: *“Difficult junction with cars coming around the bottom of Charles Street too quickly – the route is key access to Hospital/GP Surgery.”*

The pedestrian and cycle improvements in Table 10 on Page 76 proposed a contraflow segregated cycle lane on the north side of Swan Street. In addition, it proposes the creation of an official path from Osier Road to Bedford Road (there is a parallel tunnel which connects to the Mead and is a more viable solution in our view³).

A.5.2 The Local Cycling and Walking Infrastructure Plan (LCWIP)

The suggested route network in the East Hampshire Local Cycling and Walking Infrastructure Plan (LCWIP) identified Swan Street as one of two routes for travelling east-west across the Town (but no comment is made about the one-way section). No specific improvements were identified for this junction in the East Hampshire LCWIP.

Charles Street and Swan Street were among the very many streets and roads in Petersfield which were identified as being only suitable for experienced and confident cyclists, see the Bikeability analysis on Page 31 (the red lines indicate roads/streets assessed as Bikeability Level 3 which are only suitable for experienced and confident cyclists).

The LCWIP reported the results from EHDC Active Travel Survey which was conducted in February and March 2020. This survey was circulated online and promoted via social media. Here is what one respondent reported about Princes Road, Swan Street, Charles Street and Winchester Road:

“I have kids at the infant school and Herne Junior. I want to cycle my kids from Princes Road to those schools in the morning and afternoon. However there are some really dangerous bits of road we have to travel on: 1. Swan Street going under the rail bridge and past the fire station, and Charles street. Winchester Road and Station road would be more direct choices but are too dangerous too. Cycling should be attractive to parents taking their kids to school. It would improve the air quality for all of us in the morning and afternoon if fewer people were driving. This would be the case if people thought the roads were safer.....”

The following schemes identified in the LCWIP would provide pedestrian and cyclists with alternative routes that avoid this junction:

- Ptr24: New path through railway tunnel (a map indicates this is the tunnel which connects to The Mead).
- Ptr47: Create safe walking and cycling route via Station Car Park.
- Ptr40: Status of cycling on The Borough unclear.

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 our 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.

³ Improvements to the path through the tunnel connecting to the Mead were proposed by Petersfield Town Council in a CIL grant application to SDNPA in 2020.

Map of the Junction with additional labels added by the authors

