

St. Mary's Junction, Newport

Active Travel Review



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About City Infinity

City Infinity is a small highway engineering consultancy specialising in advising on street retrofits and new build layouts which enable walking and cycling; street access audits and advice; plus providing training to people seeking to do the same.

City Infinity's founder and chief engineer is Mark Philpotts, a chartered civil engineer with over 20 years experience in highway design and construction, much of it in an urban transport context. Mark is a member of the Institution of Civil Engineers, a fellow of both the Chartered Institution of Highways & Transportation and the Institute of Highway Engineers, a practitioner member of the Institute of Environmental Management & Assessment, a member of the Transport Planning Society and an associate member of the Society of Road Safety Auditors.

Construction (Design & Management) Regulations 2015

The content of this report could be regarded as design work for the purposes of the CDM Regulations 2015. This report should be provided in full to anyone developing designs from the content herein. There are specific duty-holders under CDM 2015 and for clients especially, we draw attention to their duties. CITB have produced information which will be of use to duty-holders, including clients.

<https://www.citb.co.uk/health-safety-and-other-topics/health-safety/construction-design-and-management-regulations/>



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1.0 Introduction

City Infinity has been commissioned by CYCLEWight to review the proposed changes to the St Mary's junction on Medina Way, including Forest Road, from an active travel point of view and with emphasis on providing for cycling.

1.1 Overview

This report provides commentary from an active travel point of view on various elements of the latest proposals for changes to the St. Mary's junction on Medina Way. The latest proposals are set out on the Island Roads Drawing 0164 – V1.0 which is contained in Appendix 2 of Paper C of the Isle of Wight Council Cabinet meeting of 13th September 2018 [1]. The proposals are part of a larger programme to “*enable the delivery of new homes and boost economic productivity on the Island*” according to paragraph 1 of the committee report.

1.2 Limitations

This report is based on a desk top exercise using information within the committee report, mapping of the area and discussions with CYCLEWight. It is not clear if the council has produced more detailed assessment and design work for the active travel elements of the scheme and so we have made certain assumptions as set out in the report.

2.0 Background

The Isle of Wight Council is proposing to make changes to the St. Mary's junction on Medina Way which will involve the removal of the large normal roundabout forming a junction with Dodnor Lane and Parkhurst Road with a signalised crossroads and a closely associated T-junction to the north which will be formed of Medina Way and Forest Road.

The proposal is a change to a design which was subject to public consultation and as a result of representations made in relation to that design. The current proposal is significantly different to that which was consulted with a significant change to the junction



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of Medina Way, Dodnor Lane and Parkhurst Road which was to be retained as a roundabout (possibly signalised) in the consulted scheme, but is now being proposed as a signalised crossroads.

The proposed crossroads and T-junction do not provide any crossing provision for people walking and cycling within their footprints. Indeed, the various traffic islands associated with the scheme are shown on the drawing's key as being surfaced with pedestrian deterrent paving. No staging diagrams or other information relating to the method of control have been published.

The general design approach for motor traffic is to maintain Medina Way as a dual carriageway with two general traffic lanes in each direction. The right turns into Forest Road, Parkhurst Road and Dodnor Lane have additional right turn lanes. The left turns from Medina Way into Dodnor Lane and Forest Road have separate slip roads as do the left turns from Forest Road and Dodnor Lane onto Medina Way. Dodnor Lane will be widened to form a short section of dual carriageway between the crossroads and the existing small normal roundabout to the east of Medina Way. This will have two general traffic lanes in each direction.

For active travel modes, the proposals include;

- A shared-use path on the western side of Parkhurst Road to the south of Forest Road some 2.5 – 3m in width,
- A toucan crossing at the north end of Forest Road, west of the new T-junction,
- A shared-use path on the western side of Medina Way between the proposed Forest Road toucan crossing and the existing pelican crossing to the north, outside St. Mary's Hospital,
- A potential upgrade to the pelican crossing outside St. Mary's Hospital,
- A new puffin crossing outside No.13 Parkhurst Road/ HSS Hire.

The existing shared-use (segregated) path to the south of the junction which connects Dodnor Lane and Parkhurst Road via an underpass will be maintained, along with the underpass

3.0 Active travel review

This section will set out a range of issues we have identified from the current proposals in terms of impact on active travel. We have summarised these issues in the table in Appendix 1.

3.1 Network considerations

No information is provided on how the current proposals fit into the wider highway network in terms of active travel. There are duties under the Traffic Management Act 2004 for the local highway authority to consider the movement of traffic which includes people walking and cycling in terms of the “network management duty” under S16 [2], namely “*securing the expeditious movement of traffic on the authority’s road network*”. As will be set out below, our view is the current proposal fails to provide sufficient regard for walking and cycling.

3.2 Comments on design principles

There is no information provided on what design guidance has been used in the production of the current proposal, however it appears to provide layouts, geometries and features one might expect to see in the Design Manual for Roads & Bridges (DMRB). The DMRB is aimed at motorways and trunk roads, although Medina Ways is neither. That stated, the DMRB does contain specific advice on designing for cycle traffic and other non-motorised road users; specifically IAN195/16 Cycle Traffic and the Strategic Road Network [3] and TA91/05 Provision for Non-Motorised Users [4].

The committee report [5] suggests in paragraph 18 that;



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“The design process has used the current national standards to ensure that all design is of an acceptable standard and is compatible with the council’s obligations under the Equalities Act 2010.”

Given the lack of provision for people walking and cycling through the two signalised junctions and the general layout and approach where they have considered, it does not appear to us that due regard has been paid to national standards (which are not specified).

In terms of the Equality Act 2010 and specifically the Public Sector Equality Duty, the proposals as presented do not appear to proactively remove disadvantages to people with protected characteristics – mainly disabled people and especially those who may use mobility scooters and cycles as mobility aids. Further guidance is published by the Equality and Human Rights Commission [6].

3.3 Medina Way – existing pelican crossing

Starting at the northern extent of the scheme, no commentary is given on what the upgrade to the existing pelican might be. There is certainly an opportunity to make this a toucan crossing and this would allow people cycling to better access the existing cycle parking at St. Mary’s Hospital.

The existing pelican crossing is a 2-stage, staggered arrangement with a ‘wrong way’ stagger (people using the central reservation island walk with their backs to oncoming traffic). The refuge island in the centre of Media Way appears to be around 2.5m in width, but the effective width is less because of guardrail and the signal pole positions.

There is no annotation, but the drawing appears to show the stagger is to be reversed, but there is no detail on guardrail, signal pole positions or the form of crossing. The retained staggered arrangement will be difficult for some people to use, especially mobility scooter and non-standard cycle users (if the crossing becomes a toucan), because of the need to turn 90° twice in a narrow island.

“*Designing for Walking*” [7 – p28] suggests that for a crossing distance of 11m to 15m, a 2-stage crossing might be considered and where over 15m, a 2-stage crossing would be more likely. This is based on minimising delay to motor traffic. The current width (including the central reservation island) appears to be around 16m

A single stage toucan crossing would be far superior given the overall carriageway width (including central reservation) is around 16m. Realignment of the carriageway either side of the crossing could easily take the width under 15m (including an island for central traffic signals because of the 2-lane approaches) which would be far more accessible for users.

The crossing could also be linked into the wider local traffic control system so that it operates with regard to the two signalised junctions which are being proposed.

3.4 Medina Way – eastern footway

In order to widen the southbound carriageway to provide a third, right turn, lane into Forest Road, the eastern footway is proposed to move east. We assume that this will include some land acquisition as mentioned in the cabinet committee report. The footway appears to remain narrow – perhaps as little as 1.5m in places. This provides a poor level of service to pedestrians in a situation where they will be walking next to a busy road.

There is no information on the scheme drawing, but we assume that the 40mph speed limit will remain and this compounds the issue as people prefer to walk away from fast-moving motor traffic.

It is also certain that people will wish to cycle on this eastern footway and therefore an opportunity exists to provide a wider feature so that people can walk and cycle comfortably and this is a key omission from the proposals.

The central reservation on Medina Way could be narrowed to release space on the eastern side of the road. The general traffic lanes also appear to be relatively wide and so

there is scope for these to be narrowed to further release space for better active travel provision on the east side. Given the certainty that people will cycle on the eastern footway, it is better to accommodate this clear desire in the design.

3.5 Medina Way – signalised crossroads junction with Dodnor Lane & Parkhurst Road

Other than the existing underpass to the south of the junction, there are currently no crossings for active travel at the junction and the proposed layout does not provide any either. Given the space available, it would be a relatively straight-forward to provide toucan crossings within the junction to create new routes for people through the junction which would reduce the severance effects of Medina Way.

The south-bound approach to the junction could be reviewed to remove the slip road and provide a dedicated left turn lane which would mean people would cross all south-bound lanes when traffic is held on a red signal. The size of the junction does mean that active travel modes would probably use a “walk with traffic” arrangement (where crossings are provided and where traffic is held anyway), but it would be superior to the current proposal. Additionally, a direct link could be made to the existing underpass and path which continues to the south.

The new junction would make it far easier for drivers to access Parkhurst Road and then Hunnyhill which could increase traffic volumes through the residential area to the west of Medina Way. Medina Way should remain the route for through traffic and therefore the access from the new junction could be limited to buses and emergency services vehicles. At a network level, this means that the new T-junction connecting Medina Way with Forest Road will take through traffic west with the existing Riverway junction dealing with traffic accessing Newport thus reducing impact on the residential area.

To the east of the new junction, the roundabout outside B&Q is retained, but the link road is being widened to include two lane approaches and exits. The uncontrolled pedestrian

crossing on the western arm is retained. The layout means that pedestrians will have to deal with multiple traffic lanes in each direction which is more difficult than the current situation. In addition, multi-lane approaches risk pedestrians being masked from faster vehicles when one lane is moving more slowly.

The roundabout is unlikely to have been provided for capacity reasons and so there is an opportunity to adjust the layout to make it far easier to use by people walking and cycling with unambiguous single lane entries and exits and a wider refuge islands.

The left turn slip road from Medina Way into Dodnor Lane risks high speed entries to Dodnor Lane and the roundabout which creates additional collision risk for all highway users.

No opportunity has been taken to accommodate protected cycling space on the eastern side of Medina Way and the layout here remains hostile to cycling.

3.6 Underpass between Dodnor Lane & Parkhurst Road

Cycling is permitted in the existing underpass. An attempt to provide a shared-use, segregated, path has been made, but the underpass is really too narrow and so as a minimum, this should be changed to remove the segregating divider markings and various staggered guardrails to improve accessibility. A replacement with a wider underpass could provide an even better level of service for active travel.

3.7 Puffin crossing outside No.13 Parkhurst Road/ HSS Hire

Notwithstanding our comments in 3.6 below, the position of the proposed puffin crossing misses the opportunity to provide a better linkage for walking and cycling from the underpass. Positioning of the crossing in line with the shared-use path from the underpass and making it a toucan could provide an opportunity to help people safely access the underpass from Parkhurst Road.

3.8 Realigned Parkhurst Road

Westbound drivers leaving the crossroads junction are being required to bear right before having to make a sharp left hand turn of more than 90°. While not directly impacting people walking and cycling, the local alignment does create a risk of drivers overshooting with the potential for collisions with drivers entering the junction from the west, people leaving the stub of Parkhurst Road or with people walking and cycling on the western side of the road on the proposed shared-use path.

3.9 Shared-use path, western side of Parkhurst Road

For people cycling northbound along Parkhurst Road wishing to join the shared-use path, it isn't clear how they would enter it from the carriageway. There is a significant amount of space outside No.31 to provide a decent transition which should not require people cycling or using mobility scooters to pass over kerbs – transitions should be made seamlessly with surfacing. People cycling southbound will transition back to the carriageway with difficulty. Depending where they are returned to the carriageway in terms of the point of transition between the shared-use path and carriageway (which is not specified), they will have to cross Parkhurst Road to continue south.

The junction of Parkhurst Road and Whitesmith Road appears to show the shared-use path being broken by the side road. The drawing shows tactile paving at four tiles wide which represents a crossing width of 1.6m which is far too narrow for shared-use and will create a conflict between those walking and cycling. A continuous crossing of the side road would be far better.

Given the scale of the changes to the section of Parkhurst Road between No.31 and Forest Road, the opportunity could be taken to provide separate space for walking and cycling and certainly a wider shared-use path. By routeing people cycling past entrances to residential premises, another level of conflict has been introduced.

3.10 Medina Way – T-junction with Forest Road

The shared-use path diverts from the desire line into Forest Road. For people cycling northbound, this means a left turn where forward visibility is poor next to No.53 Parkhurst Road and then a 90° right turn to cross at the toucan crossing. The southbound direction is less awkward. The toucan crossing is inset from the main junction presumably because of the left turn slip from Medina Way and for vehicle stacking space from the right turn lane from Medina Way.

No details are shown how people will join or leave the shared-use path from Forest Road. The plan alludes that people wishing to join the shared-use path from the west will have to mount it at an oblique angle. We assume this will be via a dropped kerb. This type of arrangement means that people joining will have to negotiate a sudden change in cross-fall which can be particularly difficult and risky for people using non-standard or adapted cycles and mobility scooters. 3-wheeled machines are especially at risk of overturning. Any kerb upstand also risks wheels getting “grabbed” and riders thrown.

People heading to the west will, we presume, rejoin the carriageway via a dropped kerb with similar issues and the added risk that they will need to look behind them for motor traffic leaving the T-junction.

Transitions between cycle paths and the carriageway should be smooth, without a kerb and any change in level as a gentle ramp in the direction of travel. For people joining the carriageway, this also provides a level of protection from traffic behind, especially if the transition includes a short section of cycle lane and a general traffic lane width which doesn't encourage encroachment. Photograph 1 shows how such a transition into the carriageway can be made, which is far easier to design where walking and cycling are separated.



Photograph 1 – cycle path transition into carriageway.

As with the arrangement for the proposed signalised crossroads to the south, the T-junction provides no crossings for active travel.

3.11 Medina Way – shared-use cycle path between Forest Road & pelican crossing

The proposed shared-use path appears to be 3m in width and essentially subsumes the existing footway with some widening. Towards Forest Road, space for widening has come from the realigned carriageway and towards the pelican crossing, space appears to have come from behind the footway.

There is a verge with a hedgerow behind the footway and it isn't clear how this will be affected by the widening, although potentially there might be land acquired from HMP Isle of Wight as referenced in the committee report. There is a risk that widening becomes difficult if any of the hedgerow requires removal because this is often controversial. In any case, unless a robust maintenance regime is in place, hedgerows immediately adjacent to paths can grow quickly and soon reduce the effective (comfortably useable) width.

There is a bus stop just south of the pelican crossing and the layout appears to retain it in its current position which means the shared-use path will be around 1.7m in width.

3.12 General comments on designing for cycle traffic

Where space for cycling is being provided within the proposals, it is exclusively as shared-use paths and they are shown on the drawing to be 2.5 – 3m in width.

As a matter of design principle, shared-use paths can be the source of conflict between people walking and cycling. On the one hand, some people walking can feel intimidated by cyclists and on the other, cyclists' progress is impeded by people walking, especially if space is tight. Cycle traffic has a far higher design speed than for people walking and so separation of the modes is far superior. "*Designing for Cycle Traffic*" [8 – p91] suggests;

"The best design approach is to separate cycle traffic from other users travelling at slow speeds in order to avoid compromising the utility for cycle traffic."

For inter-urban provision or where pedestrian use is extremely low, then a shared-use path might be appropriate. In the case of the proposed scheme, the fact that the shared-use path interacts with a bus stop and residential frontages and with a clear pedestrian desire line to St. Mary's Hospital, it is highly likely that conflicts will arise to the detriment of both modes at a width of 2.5 – 3m; we are not aware of any design assessment having taken place in terms of likely pedestrian and cycle traffic flows and so we are unclear on how the width has been arrived at.

As mentioned above, the use of toucan crossings can be problematic for people cycling and using mobility scooters, especially where they need to make tight 90° turns. The position of the push buttons in relation to the set-back of signal poles from the carriageway means that people using non-standard and adapted cycles cannot reach the push button without dismounting. This is a fundamental problem for those who use cycles as mobility aids and may not be able to dismount. In "*A guide to Inclusive Cycling*" [9 – p19] notes;

“Buttons at pedestrian crossings may be out of the reach of cyclists who are low to the ground (recumbent cyclists), or positioned so close to the road that a handcyclist will have to put their front wheel into the road to reach the button.”

A better layout is the use of parallel crossings where cycle traffic is detected by traffic sensors rather than relying on push buttons. A parallel crossing could be provided with short sections of segregated cycle path either side reverting to shared-use if the designer considers it appropriate (notwithstanding the comments on shared-use paths above). Photograph 2 shows a parallel crossing.



Photograph 2 – Parallel crossing

If the design choice remains to be toucan crossings, then the shared-use path will need to be wider than 3m to provide space for the users of non-standard and adapted cycles to turn through 90°; a consideration which will also assist mobility scooter users.

No details are provided, but in terms of finish, cycle paths should be machine-laid asphalt to ensure that cycling is comfortable and vibration minimised which is especially important where people may experience pain from cycling on uneven surfaces.

4.0 Recommendations

The committee report seeks approval to proceed with the St. Mary's junction scheme (along with other matters). There is little technical commentary to explain why the form of the junction of Medina Way, Dodnor Lane and Parkhurst Road has changed from a roundabout to a signalised crossroads and so it would be in the public interest for more detail to be provided so that the committee is fully informed of the implications.

The current drawing clearly does not provide the level of detail required to construct the scheme and so in the event the decision is taken to proceed, we would recommend that proper consideration be given to the needs for people walking and cycling, including disabled people as they will be far easier to incorporate at the design stage.

The committee report explains that there is no immediate time-limit with the funding, but that it must be used to support the development of 1,400 homes at Camp Hill. Given the current design, there is a significant opportunity to put high quality active travel infrastructure at the heart of the design process as this could have a significant role to play in reducing motor traffic demand, especially for short local trips.

The current proposals fail to consider active travel at a network level and in fact, the design as it currently stands will make it far more difficult to retrofit appropriate provision in the future thus ensuring this section of Medina Way continues to provide community severance between the residential areas and prison to the west and the hospital and commercial area to the east.



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5.0 References

- [1] [Isle of Wight Council Cabinet Meeting 13th September 2018 – Appendix II.](#)
- [2] [Traffic Management Act 2004, S16](#)
- [3] [IAN195/16 Cycle Traffic and the Strategic Road Network, DfT, 2017](#)
- [4] [TA91/05 Provision for Non-Motorised Users, DfT, 2005.](#)
- [5] [Isle of Wight Council Cabinet Meeting 13th September 2018, Paper C](#)
- [6] [Equality and Human Rights Commission – PSED FAQs](#)
- [7] [Designing for Walking, CIHT, 2015](#)
- [8] [Designing for Cycle Traffic, International Principles & Practice, John Parkin, Institution of Civil Engineers, 2018](#)
- [9] [A Guide to Inclusive Cycling, Wheels for Wellbeing, 2017](#)

Appendix 1

Summary of Issues

Paragraph	Summary of issue
2.0	Lack of consideration for walking and cycling within new junctions.
3.1	Apparent lack of consideration for the expeditious movement of all types of traffic, namely walking and cycling.
3.2	Apparent lack of reference to national standards or guidance on walking and cycling.
3.2	Proposals fail to proactively consider the local authority's public sector equality duty – mainly disabled people and especially those using mobility scooters and cycles as mobility aids.
3.3	Medina Way – existing pelican crossing. Better consideration of how people will use it when changed to a toucan crossing; especially users of mobility scooters and non-standard/ adapted cycles. 90° turns make use of crossing difficult for some users.
3.4	Eastern footway remains narrow and an opportunity to accommodate the cycle traffic which will certainly use it has been completely missed.
3.5	Medina Way/ Parkhurst Road/ Dodnor Lane junction. Complete absence of provision for people walking and cycling.
3.5	Potential to increase motor traffic on Hunnyhill.
3.5	Conditions for walking made worse on western arm of roundabout outside B&Q.
3.6	No opportunity has been taken to improve underpass between Dodnor Lane and Parkhurst Road for walking and cycling.
3.7	Puffin crossing outside No.31 Parkhurst Road/ HSS. Better positioning and use of toucan crossing could provide much better connection between underpass and Parkhurst Road/ Hunnyhill.

Paragraph	Summary of issue
3.9	Shared-use path crossing of Whitesmith Road broken by side road and crossing point far narrower than that of the path.
3.8	Realigned Parkhurst Road creates collision risk for drivers and other highway users.
3.9	Shared-use path, western side of Parkhurst Road. Undefined method of transition between path and carriageway.
3.9	Conflict created where shared-use path passes in front of entrances to residential properties.
3.10	Medina Road/ Forest Road junction. Poor visibility for people accessing the toucna crossing with 90° turns.
3.10	Concern about transitions between shared-use path and carriageway; and risk of overturning by mobility scooter users and people using non-standard/ adapted cycles.
3.11	Medina Way – shared-use path between Forest Road and pelican crossing. Effective width will be less than 3m due to hedgrows and positioning next to fast/ heavy traffic.
3.11	Conflict at bus stop.
3.12	General commentary on how cycle traffic should be designed for and how current proposal designs in conflict with people walking.