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**HAMPTON QUAY, LITTLEHAMPTON,
WEST SUSSEX, BN17 5RA**

**DESIGNER'S RESPONSE TO ROAD
SAFETY AUDIT STAGE 1**



HAMPTON QUAY, LITTLEHAMPTON, WEST SUSSEX, BN17 5RA

**DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1
ON BEHALF OF STOLON STUDIOS LTD**

Prepared by
Odyssey

Tuscany House
White Hart Lane
Basingstoke
Hampshire
RG21 4AF

Tel: 01256 331144

May 2021

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1**SUMMARY SHEET**

Title: Designer's Response to Road Safety Audit Stage 1

Project: Hampton Quay, Littlehampton, West Sussex, BN17 5RA

Report No.: 18-270-04D

Date: May 2021

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1

DOCUMENT CONTROL SHEET

Rev	Issue Purpose	Author	Checked	Reviewed	Approved	Date
-	Submission	MS	RJH	MS	RJH	17/02/2021
A	Updated Submission	MS	RJH	MS	RJH	31/03/2021
B	Updated Following Design Update	MS	RJH	MS	RJH	20/04/2021
C	Finalised Following Design Update	MS	RJH	MS	RJH	22/04/2021
D	Finalised Version Including Auditors Review of Response	MS	RJH	MS	RJH	04/05/2021

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1**DESIGNER'S STATEMENT**

Odyssey have been appointed by Stolon Studios Ltd to provide highways and transport advice for a proposed development at the land to be known as Hampton Quay, Littlehampton, West Sussex, BN17 5RA. Vehicular access to the site is already in-situ from Bridge Road Roundabout on the A259, however improvements are proposed at the roundabout for pedestrians and cyclists. As part of the application a Stage 1 Road Safety Audit has been undertaken by M & S Traffic Ltd for the proposed site access and roundabout works; this is contained in **Appendix 1**. The auditors were provided with Drawing 18-270-010, revisions A, C and then F, showing the proposed site access and roundabout works, the Transport Assessment (Report 18-270-02A), a plan from the Arun Transport Study showing potential widening works (Systra drawing 103800_D023), a plan of footway works at the roundabout from the s106 Agreement for the Kingley Gate development, and speed survey results (a copy of which are contained in **Appendix 2**).

I have considered the issues and problems raised in the Safety Audit and have appended my comments, which set out:

- the changes to the design which I propose to make, or
- the reasons why I do not propose to make any changes.

For completeness this Designer's Response also includes the comments of the auditors following their review, refer also **Appendix 3**.

Signed:

Date:

May 2021

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1



Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
3.0	GENERAL			
3.1.1	PROBLEM Location: Approaches to the proposed signalised crossings. Summary: Inappropriate surfacing could compromise road safety. The proposals do not include the introduction of anti-skid surfacing or a surface with a high polished stone value (PSV) on the approaches to the signalised crossings. Surfacing with an inadequate PSV could lead to vehicles not being able to stop, leading to possible rear end shunt or vehicle to pedestrian / cyclist collisions.	It is recommended that antiskid surfacing or surfacing with a high PSV should be used on the approaches to the crossing.	This is now noted on Drawing 18-270-010F; the precise surfacing details will be determined and agreed as part of the Detailed Design stage. These details will then be submitted as part of the Stage 2 Road Safety Audit. Auditors Response: Noted and accepted.	
3.1.2	PROBLEM Location: Proposed signalised crossings. Summary: Excessive speed on approaches to signals could lead to vehicle to pedestrian / cyclist collisions or rear end shunt collisions. Traffic survey information was provided for assessment, where a national speed limit applies on the roads comprising the scheme and the 85th percentile speeds were southbound and northbound were 38mph and 39mph respectively. In 9.3.7 Chapter 6 of the Traffic Signs Manual it is stated that:	It is recommended that speed discrimination equipment is installed as required in accordance with. 9.3.7 Chapter 6 of the Traffic signs Manual.	This requirement is accepted and will be incorporated into the detailed design / traffic signal specification. Auditors Response: Noted and accepted.	

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	9.3.7. If the 85th percentile approach speed to the junction is above 35 mph, standard VA operation such as System D should be supplemented with Speed Assessment (SA) or Speed Discrimination (SD) equipment. These systems provide green extensions to enable drivers to clear the dilemma zone safely. Excessive speeds on the approaches to the crossings may affect the safe operation of the crossings and could lead to vehicles not being able to stop, leading to possible rear end shunts, or vehicle to overshoot collisions.			
3.1.3	PROBLEM Location: Proposed signalised crossings. Summary: Lack of maintenance provision could lead to side swipe collisions, rear end shunt or vehicle to pedestrian / cycle collisions. No vehicle maintenance bays have been shown on the plan provided, where a lack of provision may result in operatives parking in unsafe locations, resulting in sideswipe or rear end shunt type collisions, or result in conflicts with pedestrians if the vehicles mount the footway.	It is recommended that a vehicle maintenance bay or bays should be provided at a safe location, which does not interfere with the visibility splays.	It is considered that there are several potential locations for the provision of a maintenance bay for the proposed signalise crossing. However, it is considered prudent that the actual location is determined after the detailed design of the signalised crossing is carried out, as this will determine where the controller is located and subsequently determine the most suitable location. Auditors Response: Noted and accepted.	
3.1.4	PROBLEM Location: Proposed scheme. Summary: Proposed tie-ins could lead to loss of control collisions.	It is recommended that materials used in the carriageway construction should be of a consistent Polished Stone Value to those used along the length of the existing carriageway.	Suitable surfacing details will be determined and agreed as part of the Detailed Design stage. These details will	

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1



Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	It is proposed to widen northbound carriageway of the A259, where vehicles may be straddling two different surface types and may experience differential braking, which under sudden severe braking conditions could lead to loss of control collisions.		then be submitted as part of the Stage 2 Road Safety Audit. Auditors Response: Noted and accepted.	
3.1.5	PROBLEM Location: Proposed scheme. Summary: Ponding of surface water could lead to loss of control collisions. It is proposed to widen northbound carriageway of the A259, where no details have been provided regarding the proposed carriageway drainage. Inadequate drainage provision could cause possible ponding, which could lead to loss of control collisions.	It is recommended that drainage details and carriageway profiles should be such that surface water is shed to an appropriate surface water system, where details should be supplied for assessment at Stage 2 Safety Audit.	Suitable drainage strategy and details will be determined and agreed as part of the Detailed Design stage. These details will then be submitted as part of the Stage 2 Road Safety Audit. Auditors Response: Noted and accepted.	
3.1.6	PROBLEM Location: Proposed footway / cycleway link. Summary: Insufficient construction details could lead to overshoot at junctions or cyclist loss of control collisions. No construction details for the proposed footway / cycleway link were provided for assessment. Surfacing with an insufficient Polished Stone Value (PSV) could lead to overshoot at junctions or cyclist loss of control collisions in the event of sudden braking manoeuvres.	It is recommended that the PSV of the footway / cycleway link surface material should be a minimum of 55PSV, further that the cycleway / footway should connect to existing facilities.	Suitable surfacing details will be determined and agreed as part of the Detailed Design stage. These details will then be submitted as part of the Stage 2 Road Safety Audit. The connection to the footway on the bridge / footway and cycleway over the bridge is indicated on Drawing 18-270-010F, thus upgrading the Kingley Gate	

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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	Further, the cycleway proposed does not link to the existing network near the bridge over the Arun – see figure 1 below, where the verge is unmade and has no kerb face.  Figure 1: Unmade verge area.		s106 works and allowing for future WSCC improvement. Auditors Response: Noted and accepted.	
3.2	LOCAL ALIGNMENT			
3.2.1	PROBLEM Location: Proposed signalised crossings. Summary: Insufficient forward visibility and queuing could lead to rear end shunts. The A259 southern approach is curved and visibility splays pass over the adjacent verge that is restricted	It is recommended that SSDs, visibility to signal aspects and the rear of any queue should be free from obstruction and commensurate with vehicle speeds, where it is observed that the A259 straightens away from the roundabout.	The appropriate SSDs have been added to Drawings 18-270-010F and 18-270-011. All are achievable within highway land, within the corridor that would have been designed to kept clear for forward visibility on the A259 southbound.	

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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	due to vegetation – see figure 2 overleaf. Stopping Sight Distances (SSDs) were supplied for assessment and were shown at 120m to the stop line and signal aspects commensurate with 44mph speeds in DMRB. However, this does not take into account the rear of any queue that could have developed due to the crossings being in operation where approach speeds away from the roundabout could be higher. Restricted visibility could lead to rear end shunt collisions.  Figure 2: Restricted visibility to signals or queues on the northern approach to the roundabout.		The queue length has been calculated from junction sensitivity testing (presented in report reference 18-270-05B for the forecast year 2038) which shows a maximum queue length of 15 vehicles on the A259 southbound from the give way line. The forecast flow equates to one vehicle every three seconds so with 12 seconds of red and amber for the crossing only a further four vehicles would be added to the back of the existing queue. From this a queue length of up to 133m has been allowed (at 7m per vehicle). Auditors Response: Noted and accepted.	
3.2.2	PROBLEM Location: Bridge Road Roundabout – pedestrian crossing point on proposed arm.	It is recommended that the SSD to the crossing should be free from obstruction and provided for assessment.	Drawing 18-270/010 has been revised to show visibility requirements to the pedestrian crossing as per Figure 3.53 in	

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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	Summary: Insufficient forward visibility could lead to vehicle to pedestrian / cyclist collisions or rear end shunts. A fifth arm is proposed on Bridge Road Roundabout, including an uncontrolled pedestrian point. However, no SSD was supplied for assessment, where there is existing excess vegetation. Restricted visibility could lead to vehicle to pedestrian / cyclist collisions or rear end shunts.		CD 116 showing visibility from the circulatory carriageway and from the adjacent A259 northbound entry arm. This area will be kept clear of any vegetation as part of the design going forward. Auditors Response: Noted and accepted.	
3.3	JUNCTIONS			
3.3.1	PROBLEM Location: Bridge Road Roundabout – southern and northern and arms. Summary: Excessive entry path curvature could lead to loss of control collisions or side swipe collisions. It is proposed to widen the northern exit arm of the A259 to accommodate a two-lane exit. Additionally, there is the potential to widen the southern arm under the A259 Bridge Road Improvements. The combination of these two carriageway widenings could lead to an excessive south to north entry path curvature, greater than 100m. An entry path radius exceeding 100m could lead to high entry speed and possible loss of control collisions, or conflict with circulating traffic and potential side swipe collisions.	It is recommended that should the carriageway widening take place on the A259 that the entry path curvature should be investigated, and that deflection should be introduced in accordance with CD 116 'Geometric design of roundabout' where required.	The widening of the exit arm of the A259 has in part been proposed to aid potential future improvements to the junction. The design of these future works is not yet finalised, however, depending on the progression of this the island could be modified at the detailed design stage or amended once in-situ. To further clarity, the main element of this comment relates to the magenta hatching shown on the drawings, which is to allow the accommodation of the future improvement works identified for Arun District Council by their consultants. We are minded that this element falls outside	Odyssey have assessed various scenarios to future proof the proposed works and it is apparent that the scheme can be designed accordingly in all scenarios.

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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
			the remit of this application as we have no control over the design of the future improvement, rather WSCC will take account of this comment as their wider improvement options take shape – the widening was an initial option for which our design has avoided getting in the way of, hence setting the footway back. Auditors Response: Noted and accepted, however this remains a cause for concern and should be addressed by the Highway Authority at an appropriate time in conjunction with the wider proposals.	
3.3.2	PROBLEM Location: Bridge Road Roundabout. Summary: Insufficient capacity may to side impact collisions or rear end shunts. No modelling results were provided for assessment, where an additional arm and a signalised crossing are proposed. Excessive queuing at the roundabout could lead to driver frustration and the use of inappropriate gaps, which may lead to rear end shunt or side impact collisions.	It is recommended that the roundabout should operate without excessive queuing and that an ARCADY run should be provided for assessment.	Capacity analysis using the approved junction model from the Transport Assessment (TA) for a nearby committed development was run with the addition of the development traffic and presented in the TA for this application. Further to this updated analysis using flows inclusive of Local Plan commitments have also been presented in the 'Technical Note – Bridge Road Roundabout'. The junction is seen to operate within capacity with some queuing at the peak of the peak on the	

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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
			A259 approaches, however the queues would be visible within the SSDs. Auditors Response: Noted and accepted, the roundabout is over capacity in 2038 without the development flows, however ultimately this is a decision for the Highway Authority.	
3.4	NON-MOTORISED USER PROVISION			
3.4.1	PROBLEM Location: Proposed shared use footway / cycleways. Summary: Insufficient width of shared use route could lead to cyclists being struck by passing vehicles. Shared use footway / cycleways are proposed; however, surrounding the roundabout is an existing vehicle restraint system (VRS), see figures 3 and 4 below. The width of the proposed shared use footway / cycleway has not been specified; however, the VRS is in several location 2.0m from the edge of the carriageway. Further, lamp columns and street furniture are in the route and are not shown as being relocated. A national speed limit applies, and a shared use route that is restricted in width may lead to cyclists being struck by passing vehicles or collisions with street furniture.	It is recommended that the VRS should be repositioned to allow for suitable shared use route and buffer, additionally that signs and lamp columns should be repositioned.	It is agreed that the VRS be repositioned, refer Recommendation and Designer's Response to 3.4.2. The Detailed Design will help inform the extent to which the existing lamp columns, signage and VRS will require amending. Auditors Response: Noted and accepted.	

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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	  Figures 3 and 4: VRS close to carriageway and lamp columns in the proposed cycleway/footway.			

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1



Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
3.4.2	PROBLEM Location: Proposed unsegregated footway / cycleway. Summary: High speed road and inappropriate buffer zone could lead to vehicle to cyclist collisions. The width of the proposed shared use footway / cycleway has not been specified, where a national speed limit applies, and no buffer is proposed. There is concern that without a buffer between the high-speed roads and the shared use route, cyclists may be intimidated and may be susceptible to being struck by passing vehicles.	It is recommended that a minimum with of 2.5m for the footway/cycleway with a buffer of a minimum 0.5m should be applied between the shared use route and the high-speed roads.	The Kingley Gate works showed a 3m wide shared footway / cycleway and this width has been incorporated into the design of the works for Hampton Quay. On the sections adjacent to the roundabout and A259 this has now been amended, as shown on Drawing 18-270-010F, to include an additional 0.5m buffer. This provides both separation and the width within which the relocated VRS could be placed. Auditors Response: Noted and accepted.	
3.4.3	PROBLEM Location: Proposed crossing point at the access leading to Currys / PC World at roundabout at the northern end of Broad Piece. Summary: Existing banner outside Currys / PC World access could increase of vehicle to pedestrian / cyclist collisions. Whilst on site, the Audit Team observed an advertising banner for Currys / PC World at the access leading to Currys / PC World at the roundabout at the northern end of Broad Piece. However, the location of the banner would likely impact upon the intervisibility between pedestrians / cyclists waiting on the southern shared use	It is recommended that the banner should either be removed or relocated outside of the intervisibility splay.	Highway boundary data has been added to Drawing 18-270/010F, which shows that the proposals are wholly contained within highways land. The design team has reviewed the planning portal and are unable to find any pertinent permissions allowing the signage shown within the RSA. As such it is considered that the banner can be removed or relocated. Auditors Response: Noted and accepted.	

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	footway, where a crossing point is proposed, see figure 5 below. Concern arises that restricted intervisibility could lead to a potential increased risk of vehicle to pedestrian / cyclist collisions.  Figure 5: Currys / PC Works banners restricts intervisibility between traffic and pedestrians / cyclists.			
3.5	ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING			
3.5.1	PROBLEM Location: Proposed shared use footway / cycleways. Summary: Lamp columns close to VRS could increase severity of a loss of control collisions. Shared use footway / cycleways are proposed; however, surrounding the roundabout is an existing vehicle	It is recommended that a check should be undertaken to ensure that the lamp columns are not within the working width of the restraint system.	Given the extensive provision of VRS barrier within the vicinity of the junction along with the provision of new cycleway, a RRRAP assessment will be carried out as part of the detailed design stage once a topographical survey encompassing the entirety of the junction has been obtained.	

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1

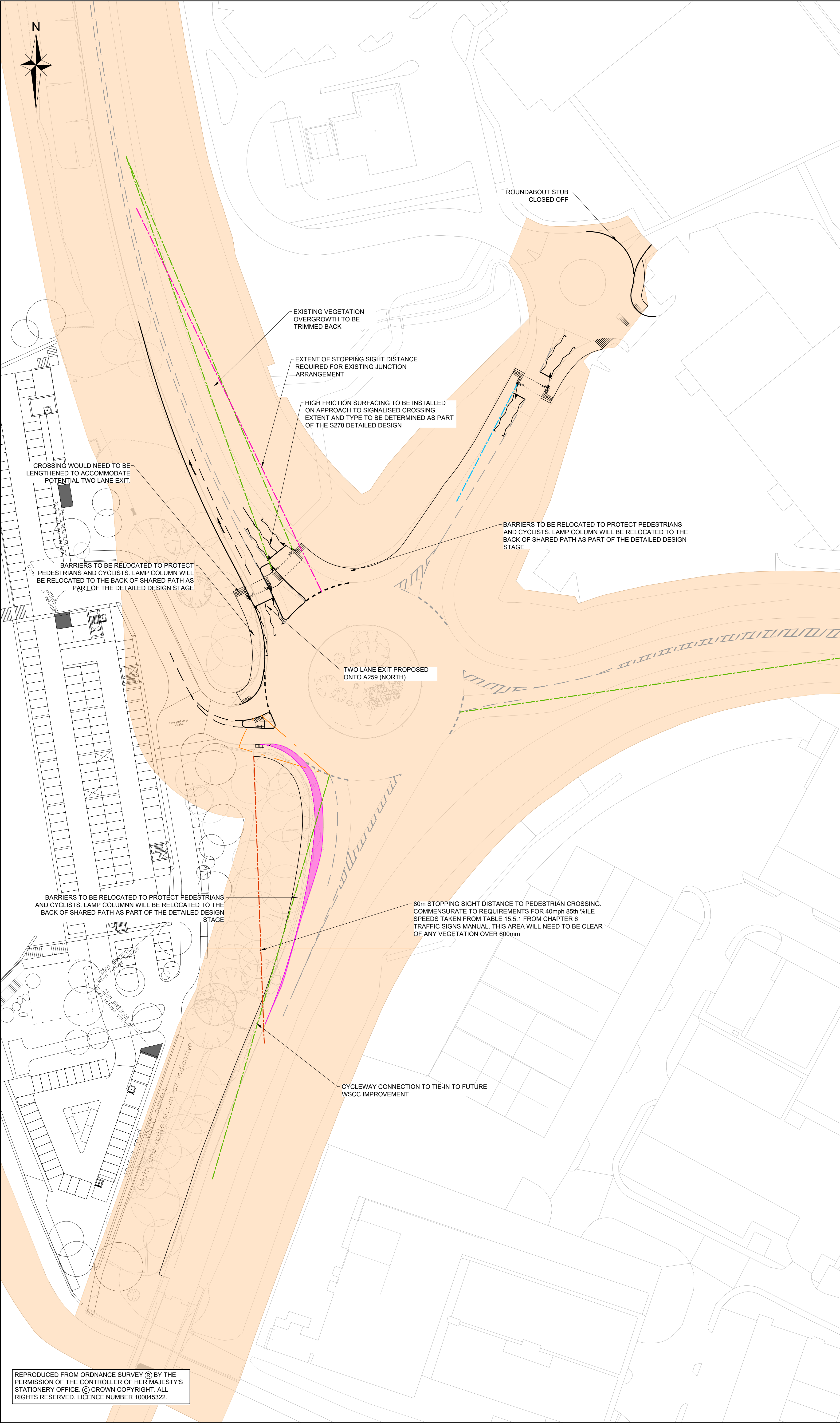
Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	restraint system (VRS). It was noted that several of the lamp columns were in close proximity to the VRS, see figure 6 below, which may adversely Impact the safe operation of the VRS. In the event of a loss of control collision, any vehicle striking the barrier will, by design, be contained by the restraint system and led along it. In this case such a vehicle could be led to one of the street light columns that may be within the working width of the barrier, which it will impact potentially increasing injury to the occupants.  Figure 6: lamp column in the working width of the VRS.		The results from this assessment will determine whether there are any changes required and these will be discussed with WSCC. Auditors Response: Noted and accepted.	
3.5.2	PROBLEM Location: Northern exit to the roundabout.	It is recommended that the merge length should be extended, and separation should exist between the entry and exits lanes with measures	Drawing 18-270/010 has been updated to Revision F, refer attached, to show the length of merge extended. This revised	

DESIGNER'S RESPONSE TO ROAD SAFETY AUDIT STAGE 1



Audit Item No.	Audit Team Observation	Audit Team Recommendation	Odyssey Designer's Response	Client Comment
	Summary: Lack of warning of merge and lack of separation could lead to rear end shunt, side swipe or head on collisions. Proposals show a short two lane exit from the roundabout, with no warning in the proposals of the merge to a single lane. This could lead to sudden braking and rear end shunt collisions or where no separation is proposed, incursion in the opposing carriageway lane leading to possible head on collisions at high speeds.	including but not restricted to hatching, or a double white line centre line introduced. It is further recommended that signing and road markings warning of the merges should be installed and provided at Stage 2 Safety Audit.	length is deemed suitable for the future traffic usage. Appropriate signing and lining will be set out at the detailed design stage. To further clarify, it is considered that the crossing cannot be located further way from the junction, but that the design as shown is acceptable to take forward to detailed design. As with item 3.3.1 the safety of this crossing can be further improved as part of the wider improvement package being developed by WSCC. We have increased the length of the merge to 100m+. Should this need to be extended even further, then this can be addressed as part of the detailed design stage as it will still be possible to achieve this within highway land. Auditors Response: Noted and partially accepted, there is still no separation between opposing traffic streams which is a cause for concern, and the merge is from the nearside not the offside, but this could be addressed at detailed design stage.	

DRAWINGS



NOTES

KEY

POTENTIAL WIDER A259 IMPROVEMENTS

HIGHWAY BOUNDARY

VISIBILITY TO PEDESTRIAN CROSSING
(DRAWN IN ACCORDANCE WITH FIGURE 3.53 OF CD116)

120m STOPPING SIGHT DISTANCE (UPTO 44mph DMRB)

37m STOPPING SIGHT DISTANCE (28mph MfS)

F	MINOR AMENDMENTS	MS	ESH/RJH	05/05/21
E	MINOR AMENDMENTS	MS	ESH/RJH	13/04/21
D	MINOR AMENDMENTS	MS	ESH/RJH	13/04/21
C	STOPPING SIGHT DISTANCES ADDED	MS	ESH/RJH	29/03/21
B	MINOR AMENDMENTS FOLLOWING RSA	MS	ESH/RJH	16/02/21
A	MINOR AMENDMENTS	MS	ESH/RJH	29/01/21

Rev	Amendments	Drn	Chk	App	Date



ODYSSEY

Tuscany House
White Hart Lane
Basingstoke
Hampshire RG21 4AF

Telephone: 01256 331144
Fax: 01256 331134
E: info@odysseyconsult.co.uk
W: www.odysseyconsult.co.uk

Job Title

HAMPTON QUAY,
LITTLEHAMPTON

Drawing Title

PROPOSED OFFSITE IMPROVEMENTS &
ALLOWANCE FOR FUTURE IMPROVEMENTS

Client

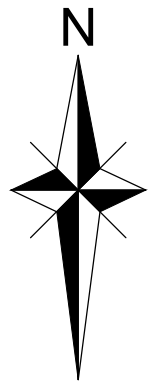
STOLON STUDIO

Scale	Date	Designed
1:500 @A1	JAN 21	MS
Drawn	Checked	Approved
MS	RJH	RJH
Job No	Drawing No	Rev
18-270	18-270/010	F

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P:18-270 - Hampton Quay, LittlehamptonTech\Acad\Drawings\18-270-D-010 Proposed Crossing with WSCC & Systra Improvements.dwg

ARUN DISTRICT COUNCIL, LU238020DUT



- NOTES
- KEY
- POTENTIAL WIDER A259 IMPROVEMENTS

HIGHWAY BOUNDARY

120m STOPPING SIGHT DISTANCE TO THE BACK OF PREDICTED FORECAST YEAR 2038, PM PEAK QUEUE

120m STOPPING SIGHT DISTANCE (UPTO 44mph DMRB)

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Rev

Amendments

Drn

Chk

App

Date



ODYSSEY

Tuscany House
White Hart Lane
Basingstoke
Hampshire RG21 4AF

Telephone: 01256 331144
Fax: 01256 331134
E: info@odysseyconsult.co.uk
W: www.odysseyconsult.co.uk

Job Title

HAMPTON QUAY,
LITTLEHAMPTON

Drawing Title

STOPPING SIGHT DISTANCE
ON A259 SOUTHBOUND

Client

STOLON STUDIO

Scale

1:500 @A1

Date

APRIL 21

Designed

MS

Drawn

MS

Checked

RJH

Approved

RJH

Job No

18-270

Drawing No

18-270/011

Rev

ARUN DISTRICT COUNCIL, LU238020OUT

APPENDIX 1

Stage 1 Road Safety Audit



Road Safety Audit Stage 1

Hampton Quay

Littlehampton

West Sussex

Date: 15th February 2021

Report produced for: Odyssey

Report produced by: M & S Traffic

DOCUMENT CONTROL SHEET

M&S Traffic has prepared this report in accordance with the instructions from Odyssey. M&S Traffic shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Project Title Hampton Quay, Littlehampton.

Report Title Road Safety Audit Stage 1.

Revision

Status Final

Document Ref ODY/18-270/21/1/MM	Prepared by: (Name)	Checked by: (Name)	Approved by (Signature)	Date Approved
Revision A	Martin Morris	Bryan Shawyer		7 th April 2021
Designers Response				
Authority Response				

Distribution

Organisation	Contact	Copies
Odyssey	Richard Harrison	-
Odyssey	Emily Scott-Holt	-

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Appendix B..... Comment location drawing	

1 INTRODUCTION

- 1.1 This report describes a Stage 1 Road Safety Audit carried out on Section 278 works associated with a proposed residential development off the A259 including:

- Widening of the A259 on the northern approach to the Bridge Road Roundabout.
- A controlled crossing on the A259.
- A controlled crossing on Broad Piece.
- Uncontrolled crossings at the scheme arm on the Bridge Road Roundabout, and across the south eastern of the roundabout arms on Broad Piece.

The Audit was requested by the design organisation, Odyssey, Tuscany House, White Hart Lane, Basingstoke, RG21 4AF, on behalf of West Sussex County Council as the Highway Authority.

- 1.2 The Audit Team membership was as follows:

Martin Morris, PGD, MCIHT, MSoRSA – Audit Team Member
Highways England Approved RSA Certificate of Competency

Bryan Shawyer B.Eng. (Hons), MSc, MCIHT, MSoRSA – Audit Team Leader
Highways England Approved RSA Certificate of Competency.

- 1.3 The audit was undertaken following the principles of GG119, The Design Manual for Roads and Bridges. The documents available at the time the report was compiled are detailed in Appendix A.

The documents available at the time the report was compiled are detailed in Appendix A.

- 1.4 The Audit took place at the Gillingham offices of M&S Traffic in February 2021 and comprised an examination of the documents provided as listed in Appendix A, plus a joint visit to the site of the proposed scheme during the afternoon of the 10th February 2021 between 14:00 and 15:00. Weather conditions at the time were fine and the road surface was dry. Traffic flows were low and free flow speeds were moderate. There were no pedestrian or cyclist flows observed during the site visit. Note that the site visit was undertaken during the Covid 19 restriction period.

- 1.5 The report has been compiled, only with regards to the safety implications for road users of the layout presented in the supplied drawings. It has not been examined or verified for compliance with any other standards or criteria. This safety audit does not perform any “Technical Check” function on these proposals. It is assumed that the Project Sponsor is satisfied that such a “Technical Check” has been successfully completed prior to requesting this safety audit.

- 1.6 The auditors have not been informed of any Departures from Standards in this scheme construction.

- 1.7 All comments and recommendations are referenced to the detailed drawings and the locations have been detailed relating to the plans supplied with the audit brief in Appendix B.

2 SAFETY ISSUES RAISED AT PREVIOUS AUDITS

2.1 No previous Audits were supplied for assessment.

3 ITEMS RAISED AT THE STAGE 1 AUDIT

3.1 General

3.1.1 PROBLEM

Location: Approaches to the proposed signalised crossings.

Summary: Inappropriate surfacing could compromise road safety.

The proposals do not include the introduction of anti-skid surfacing or a surface with a high polished stone value (PSV) on the approaches to the signalised crossings. Surfacing with an inadequate PSV could lead to vehicles not being able to stop, leading to possible rear end shunt or vehicle to pedestrian / cyclist collisions.

RECOMMENDATION

It is recommended that antiskid surfacing or surfacing with a high PSV should be used on the approaches to the crossing.

3.1.2 PROBLEM

Location: Proposed signalised crossing on A259.

Summary: Excessive speed on approaches to signals could lead to vehicle to pedestrian / cyclist collisions or rear end shunt collisions.

Traffic survey information was provided for assessment, where a national speed limit applies on the roads comprising the scheme and the 85th percentile speeds were southbound and northbound were 38mph and 39mph respectively. In 9.3.7 Chapter 6 of the Traffic Signs Manual it is stated that:

9.3.7. If the 85th percentile approach speed to the junction is above 35 mph, standard VA operation such as System D should be supplemented with Speed Assessment (SA) or Speed Discrimination (SD) equipment. These systems provide green extensions to enable drivers to clear the dilemma zone safely.

Excessive speeds on the approaches to the crossings may affect the safe operation of the crossings and could lead to vehicles not being able to stop, leading to possible rear end shunts, or vehicle to overshoot collisions.

RECOMMENDATION

It is recommended that speed discrimination equipment is installed as required in accordance with. 9.3.7 Chapter 6 of the Traffic signs Manual.

3.1.3 PROBLEM

Location: Proposed signalised crossings.

Summary: Lack of maintenance provision could lead to side swipe collisions, rear end shunt or vehicle to pedestrian / cycle collisions.

No vehicle maintenance bays have been shown on the plan provided, where a lack of provision may result in operatives parking in unsafe locations, resulting in sideswipe or rear end shunt type collisions, or result in conflicts with pedestrians if the vehicles mount the footway.

RECOMMENDATION

It is recommended that a vehicle maintenance bay or bays should be provided at a safe location, which does not interfere with the visibility splays.

3.1.4 PROBLEM

Location: Proposed scheme.

Summary: Proposed tie-ins could lead to loss of control collisions.

It is proposed to widen northbound carriageway of the A259, where vehicles may be straddling two different surface types and may experience differential braking, which under sudden severe braking conditions could lead to loss of control collisions.

RECOMMENDATION

It is recommended that materials used in the carriageway construction should be of a consistent Polished Stone Value to those used along the length of the existing carriageway.

3.1.5 PROBLEM

Location: Proposed scheme.

Summary: Ponding of surface water could lead to loss of control collisions.

It is proposed to widen northbound carriageway of the A259, where no details have been provided regarding the proposed carriageway drainage. Inadequate drainage provision could cause possible ponding, which could lead to loss of control collisions.

RECOMMENDATION

It is recommended that drainage details and carriageway profiles should be such that surface water is shed to an appropriate surface water system, where details should be supplied for assessment at Stage 2 Safety Audit.

3.1.6 PROBLEM

Location: Proposed footway / cycleway link.

Summary: Insufficient construction details could lead to overshoot at junctions or cyclist loss of control collisions.

No construction details for the proposed footway / cycleway link were provided for assessment. Surfacing with an insufficient Polished Stone Value (PSV) could lead to overshoot at junctions or cyclist loss of control collisions in the event of sudden braking manoeuvres.

Further, the cycleway proposed does not link to the existing network near the bridge over the Arun – see figure 1 below, where the verge is unmade and has no kerb face.



Figure 1: Unmade verge area.

RECOMMENDATIONS

It is recommended that the PSV of the footway / cycleway link surface material should be a minimum of 55PSV, further that the cycleway / footway should connect to existing facilities.

3.2 Local Alignment

3.2.1 PROBLEM

Location: Proposed signalised crossing on the A259.

Summary: Insufficient forward visibility and queuing could lead to rear end shunts.

The A259 southern approach is curved and visibility splays pass over the adjacent verge that is restricted due to vegetation – see figure 2 overleaf. Stopping Sight Distances (SSDs) were supplied for assessment and were shown at 120m to the stop line and signal aspects commensurate with 44mph speeds in DMRB. However, this does not take into account the rear of any queue that could have developed due to the crossings being in operation where

approach speeds away from the roundabout could be higher. Restricted visibility could lead to rear end shunt collisions.



Figure 2: Restricted visibility to signals or queues on the southern approach to the roundabout.

RECOMMENDATION

It is recommended that SSDs, visibility to signal aspects and the rear of any queue should be free from obstruction and commensurate with vehicle speeds, where it is observed that the A259 straightens away from the roundabout.

3.2.2 PROBLEM

Location: Bridge Road Roundabout – pedestrian crossing point on proposed arm.

Summary: Insufficient forward visibility could lead to vehicle to pedestrian / cyclist collisions or rear end shunts.

A fifth arm is proposed on Bridge Road Roundabout, including an uncontrolled pedestrian point. However, no SSD was supplied for assessment, where there is existing excess vegetation. Restricted visibility could lead to vehicle to pedestrian / cyclist collisions or rear end shunts.

RECOMMENDATION

It is recommended that the SSD to the crossing should be free from obstruction and provided for assessment.

3.3 Junctions

3.3.1 PROBLEM

Location: Bridge Road Roundabout – southern and northern and arms.

Summary: Excessive entry path curvature could lead to loss of control collisions or side swipe collisions.

It is proposed to widen the northern exit arm of the A259 to accommodate a two-lane exit. Additionally, there is the potential to widen the southern arm under the A259 Bridge Road Improvements. The combination of these two carriageway widenings could lead to an excessive south to north entry path curvature, greater than 100m. An entry path radius exceeding 100m could lead to high entry speed and possible loss of control collisions, or conflict with circulating traffic and potential side swipe collisions.

RECOMMENDATION

It is recommended that should the carriageway widening take place on the A259 that the entry path curvature should be investigated, and that deflection should be introduced in accordance with CD 116 'Geometric design of roundabout' where required.

3.3.2 PROBLEM

Location: Bridge Road Roundabout.

Summary: Insufficient capacity may to side impact collisions or rear end shunts.

No modelling results were provided for assessment, where an additional arm and a signalised crossing are proposed. Excessive queuing at the roundabout could lead to driver frustration and the use of inappropriate gaps, which may lead to rear end shunt or side impact collisions.

RECOMMENDATION

It is recommended that the roundabout should operate without excessive queuing and that an ARCADY run should be provided for assessment.

3.4 **Non-Motorised User Provision**

3.4.1 **PROBLEM**

Location: Proposed shared use footway / cycleways.

Summary: Insufficient width of shared use route could lead to cyclists being struck by passing vehicles.

Shared use footway / cycleways are proposed; however, surrounding the roundabout is an existing vehicle restraint system (VRS), see figures 3 and 4 below. The width of the proposed shared use footway / cycleway has not been specified; however, the VRS is in several location 2.0m from the edge of the carriageway. Further, lamp columns and street furniture are in the route and are not shown as being relocated.

A national speed limit applies, and a shared use route that is restricted in width may lead to cyclists being struck by passing vehicles or collisions with street furniture.



Figures 3 and 4: VRS close to carriageway and lamp columns in the proposed cycleway/footway.

RECOMMENDATION

It is recommended that the VRS should be repositioned to allow for suitable shared use route and buffer, additionally that signs and lamp columns should be repositioned.

3.4.2 **PROBLEM**

Location: Proposed unsegregated footway / cycleway.

Summary: High speed road and inappropriate buffer zone could lead to vehicle to cyclist collisions.

The width of the proposed shared use footway / cycleway has not been specified, where a national speed limit applies, and no buffer is proposed. There is concern that without a buffer between the high-speed roads and the shared use route, cyclists may be intimidated and may be susceptible to being struck by passing vehicles.

RECOMMENDATION

It is recommended that a minimum width of 2.5m for the footway/cycleway with a buffer of a minimum 0.5m should be applied between the shared use route and the high-speed roads.

3.4.3 PROBLEM

Location: Proposed crossing point at the access leading to Currys / PC World at roundabout at the northern end of Broad Piece.

Summary: Existing banner outside Currys / PC World access could increase of vehicle to pedestrian / cyclist collisions.

Whilst on site, the Audit Team observed an advertising banner for Currys / PC World at the access leading to Currys / PC World at the roundabout at the northern end of Broad Piece. However, the location of the banner would likely impact upon the intervisibility between pedestrians / cyclists waiting on the southern shared use footway, where a crossing point is proposed, see figure 5 below. Concern arises that restricted intervisibility could lead to a potential increased risk of vehicle to pedestrian / cyclist collisions.



Figure 5: Currys / PC Works banners restricts intervisibility between traffic and pedestrians / cyclists.

RECOMMENDATION

It is recommended that the banner should either be removed or relocated outside of the intervisibility splay.

3.5 Road Signs, Carriageway Markings and Lighting

3.5.1 **PROBLEM**

Location: Proposed shared use footway / cycleways.

Summary: Lamp columns close to VRS could increase severity of a loss of control collisions.

Shared use footway / cycleways are proposed; however, surrounding the roundabout is an existing vehicle restraint system (VRS). It was noted that several of the lamp columns were in close proximity to the VRS, see figure 6 below, which may adversely impact the safe operation of the VRS. In the event of a loss of control collision, any vehicle striking the barrier will, by design, be contained by the restraint system and led along it. In this case such a vehicle could be led to one of the street light columns that may be within the working width of the barrier, which it will impact potentially increasing injury to the occupants.



Figure 6: lamp column in the working width of the VRS.

RECOMMENDATION

It is recommended that a check should be undertaken to ensure that the lamp columns are not within the working width of the restraint system.

3.5.2 **PROBLEM**

Location: Northern exit to the roundabout.

Summary: Lack of warning of merge and lack of separation could lead to rear end shunt, side swipe or head on collisions.

Proposals show a short two lane exit from the roundabout, with no warning in the proposals of the merge to a single lane. This could lead to sudden braking and rear end shunt collisions or where

no separation is proposed, incursion in the opposing carriageway lane leading to possible head on collisions at high speeds.

RECOMMENDATION

It is recommended that the merge length should be extended, and separation should exist between the entry and exits lanes with measures including but not restricted to hatching, or a double white line centre line introduced. It is further recommended that signing and road markings warning of the merges should be installed and provided at Stage 2 Safety Audit.

4 ISSUES IDENTIFIED DURING THE STAGE 1 SAFETY AUDIT OUTSIDE THE TERMS OF REFERENCE

- 4.1 Safety issues identified during the audit and site inspection that are outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrant that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.
- 4.2 Although outside the scope of the audit, there is a cycleway connection proposed on the western side of the carriageway of the A259 Bridge Road, where this may continue to the overbridge at the River Arun. The height of parapet on the bridge is less than 1.4m, where cyclists may be unaware of the potential hazard that would increase the severity in any loss of control collision. A parapet height of 1.4m is recommended on new overbridges where the cycling surface is immediately adjacent to it.

5 AUDITOR TEAM STATEMENT

5.1 We certify that this audit has been carried out following the principles of GG 119.

Audit Team Leader

Martin Morris
PGD, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency
M & S Traffic Ltd
Aeolus House
32 Hamelin Road
Gillingham
Kent ME7 3EX

Signed:



Date: 15/02/2020

Audit Team Member

Bryan Shawyer
BEng (Hons), MSc, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency
M & S Traffic Ltd
Aeolus House
32 Hamelin Road
Gillingham
Kent ME7 3EX

Signed:



Date: 15/2/2020

APPENDIX A

List of drawings and documentation submitted for auditing:

Drawing Number	Title
18-270-010C	Proposed Off-Site Works allowing for future improvements
103800_D023	A259/B2187 Littlehampton West Widening of A259(EB)

Supporting documentation:

- Transport Assessment Odyssey August 2020
- Section 106 Agreement.
- Automatic Traffic Count Survey, Streetwise Services, March 2021

APPENDIX B

Plan attached showing the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

APPENDIX 2

Speed Survey Data

Littlehampton ATC 1, A259

Produced by Streetwise Services Ltd.



Channel 1 - Northbound

[illegible]

Channel 2 - Southbound

[illegible]

Channels 1+2 - Northbound & Southbound

[illegible]

Littlehampton ATC 1, A259

Produced by Streetwise Services Ltd.



Channel 1 - Northbound

Average Speed

Week 1

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	37.5	40.2	35.8	38.1	40.0	40.2	37.3
2	34.8	41.4	38.7	40.0	39.8	38.0	38.0
3	36.8	38.6	37.4	37.8	40.5	37.1	38.0
4	35.0	37.7	39.2	38.9	41.6	44.3	39.2
5	38.1	36.7	37.1	40.2	40.0	39.1	37.6
6	37.7	38.2	38.6	40.8	39.6	38.0	38.8
7	37.9	38.0	37.6	38.7	39.5	38.9	38.0
8	36.2	36.0	35.5	38.1	40.6	35.6	35.8
9	34.5	35.2	35.5	36.8	37.8	35.5	34.7
10	34.6	34.3	34.6	35.9	37.1	34.8	34.7
11	34.7	34.2	35.0	35.2	35.6	34.1	34.8
12	33.7	33.4	34.0	34.8	35.2	34.3	34.9
13	34.6	34.2	34.7	35.3	35.4	34.6	34.5
14	34.0	34.2	34.5	35.1	35.7	35.4	34.4
15	34.7	34.4	35.0	35.0	35.4	34.1	34.7
16	34.9	34.4	35.0	35.3	35.7	36.0	35.9
17	34.1	34.4	35.8	35.6	37.6	35.4	35.6
18	35.9	35.5	36.1	36.9	37.9	35.8	36.4
19	36.1	36.6	36.2	36.6	37.9	36.2	36.6
20	37.0	36.7	36.4	38.4	38.6	36.8	36.6
21	38.3	38.7	38.3	39.1	39.1	37.5	37.0
22	37.6	38.0	38.2	38.4	38.1	36.5	38.1
23	39.6	39.9	38.5	38.0	40.0	40.0	39.1
24	39.0	39.9	40.1	39.1	37.9	39.5	39.2
10-12	34.2	33.8	34.5	35.0	35.4	34.2	34.8
14-16	34.8	34.4	35.0	35.1	35.5	35.1	35.3
0-24	35.3	35.2	35.6	36.0	36.5	35.6	35.6

7 Day Ave 35.7

85th Percentile

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	43.7	48.6	44.0	43.7	43.9	43.7	38.2
2	38.5	48.3	43.4	43.9	48.7	43.9	43.5
3	43.6	43.3	43.3	48.8	48.5	43.5	43.3
4	43.3	43.8	43.2	43.0	48.4	53.1	43.3
5	43.3	43.8	38.2	43.5	48.1	43.8	43.0
6	43.8	43.6	43.6	48.9	48.8	43.4	43.5
7	43.0	44.0	43.4	43.4	43.5	43.5	43.2
8	43.8	43.9	43.4	43.7	43.8	43.5	43.9
9	38.8	38.2	38.7	43.5	43.6	43.2	38.6
10	38.7	38.7	38.3	43.5	43.8	38.3	38.8
11	38.0	39.0	38.6	38.5	38.0	38.1	38.9
12	38.4	38.2	38.2	38.4	38.2	38.6	38.3
13	38.9	38.5	38.2	38.4	38.1	38.2	38.5
14	38.8	38.1	38.6	38.3	38.1	38.9	38.1
15	38.4	39.0	38.1	38.1	38.3	38.1	38.6
16	39.0	38.7	38.5	38.2	38.1	38.4	43.4
17	38.9	38.0	38.9	39.0	43.0	38.3	39.0
18	38.1	38.6	43.3	43.1	43.5	38.9	43.1
19	43.9	43.1	43.8	43.4	43.7	43.8	43.9
20	43.4	43.1	43.4	43.4	43.5	43.3	43.6
21	43.5	43.8	43.3	43.5	43.8	43.7	43.3
22	43.8	43.3	43.9	43.2	43.1	43.3	43.1
23	43.1	48.0	43.6	43.5	43.2	48.1	43.5
24	43.6	43.3	43.6	48.3	43.7	43.0	43.2
10-12	38.5	38.4	38.4	38.6	38.5	38.3	39.0
14-16	38.3	38.3	38.1	38.5	38.4	38.8	38.1
0-24	38.6	38.9	38.6	43.2	43.1	43.3	38.0

7 Day Ave 40.5

Littlehampton ATC 1, A259

Produced by Streetwise Services Ltd.



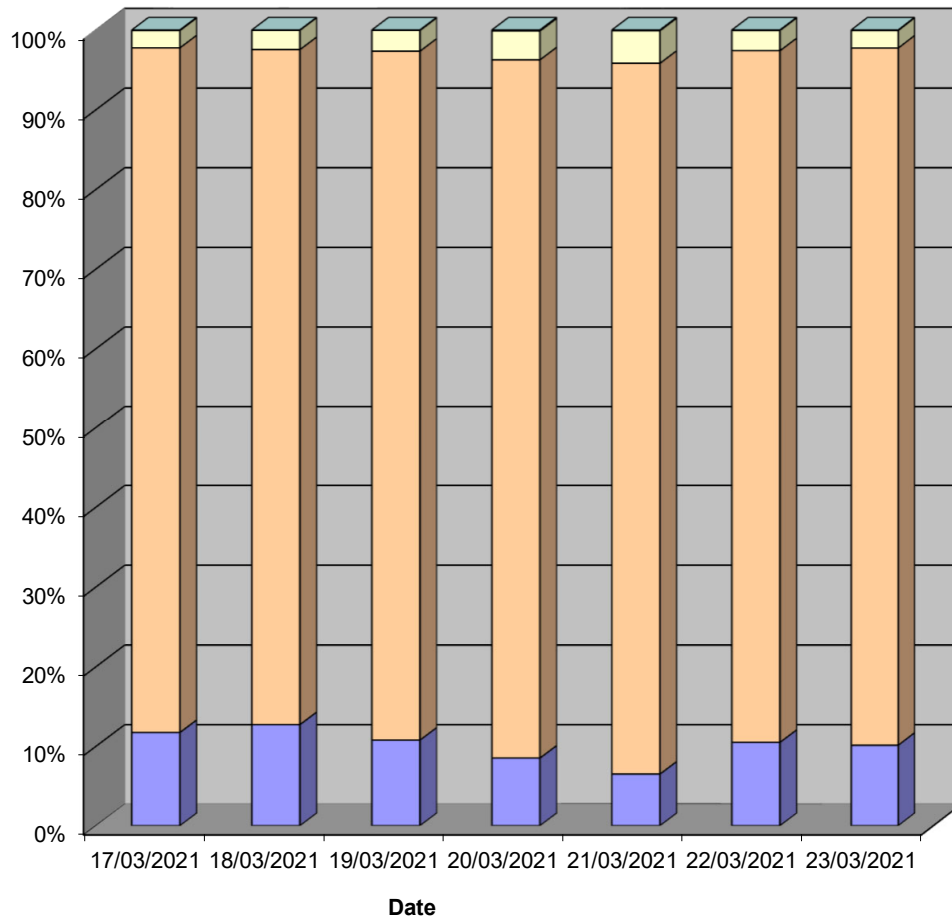
Channel 1 - Northbound

Speed Summary

Week 1

Speed (MPH)	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
0-30	1044	1176	1039	648	384	942	949
31-45	7640	7825	8337	6667	5266	7788	8194
46-60	193	224	251	275	241	228	207
61-100	4	1	3	8	4	3	3
TOTAL	8881	9226	9630	7598	5895	8961	9353

Speed Summary (MPH)



0-30 31-45 46-60 61-100

Littlehampton ATC 1, A259

Produced by Streetwise Services Ltd.



Channel 2 - Southbound

Average Speed

Week 1

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	30.7	37.8	35.9	39.0	36.0	34.6	36.6
2	30.3	38.0	35.2	39.8	35.5	30.5	39.4
3	32.0	36.4	35.2	38.7	36.3	34.5	38.8
4	35.7	37.4	36.0	38.6	32.5	36.8	36.5
5	37.2	35.8	35.6	38.4	36.2	37.3	37.3
6	35.5	35.6	34.8	36.1	37.6	35.2	35.6
7	32.9	33.5	34.1	35.3	36.2	34.1	33.6
8	28.1	28.0	28.4	34.2	35.3	27.1	26.1
9	26.7	28.1	29.4	32.7	33.8	28.2	27.4
10	28.9	27.5	28.2	30.4	32.6	28.4	27.4
11	28.0	28.4	27.8	28.3	30.4	28.3	27.1
12	28.6	26.7	25.6	26.4	28.7	28.7	28.2
13	27.9	29.2	27.0	27.9	29.5	28.1	28.9
14	28.0	28.5	28.4	28.4	30.2	29.6	27.4
15	27.9	26.5	26.7	28.9	30.5	24.0	27.3
16	29.1	26.1	25.5	29.2	31.9	30.3	29.4
17	24.0	24.7	27.9	30.6	33.4	27.0	27.0
18	28.1	27.1	28.8	31.3	33.5	27.6	28.6
19	30.5	31.0	31.5	32.5	34.3	31.6	30.3
20	32.9	33.7	33.4	34.9	34.9	33.4	33.8
21	34.7	34.4	35.6	35.4	34.9	35.3	35.1
22	35.4	35.7	35.9	37.3	36.7	35.7	35.3
23	35.6	36.5	36.1	35.8	38.0	37.0	35.7
24	36.2	35.7	38.9	36.6	35.8	35.9	36.8
10-12	28.3	27.5	26.6	27.3	29.5	28.5	27.6
14-16	28.5	26.3	26.2	29.0	31.1	27.2	28.3
0-24	28.7	28.5	28.8	30.2	31.6	29.0	28.8

7 Day Ave 29.4

85th Percentile

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	33.3	43.3	38.7	43.6	38.2	38.6	43.8
2	33.5	43.3	38.5	48.3	38.2	33.8	43.3
3	38.9	43.2	38.6	43.1	43.3	43.5	48.7
4	38.5	38.5	43.2	38.7	38.8	38.2	38.4
5	43.4	38.2	43.5	43.1	43.1	43.9	38.8
6	38.8	38.6	38.7	43.4	43.5	43.4	38.7
7	38.8	38.4	38.8	39.0	43.8	38.3	38.4
8	38.7	33.9	38.4	38.5	38.8	33.8	33.1
9	33.7	33.5	38.9	38.5	38.3	33.2	33.4
10	34.0	33.2	33.7	39.0	39.0	33.4	33.3
11	33.3	33.7	33.1	33.2	33.8	33.2	33.7
12	33.5	33.7	33.6	33.4	33.7	33.9	33.3
13	33.4	33.6	33.7	33.4	33.9	33.6	33.8
14	33.7	33.8	33.0	33.3	38.9	38.4	33.2
15	33.2	33.2	33.4	33.5	38.4	33.4	33.6
16	33.4	33.8	33.4	33.1	38.1	38.9	39.0
17	33.5	33.2	33.3	38.5	39.0	33.6	33.2
18	38.8	34.0	39.0	39.0	38.8	33.9	33.9
19	38.5	38.1	38.8	38.6	38.7	38.5	38.1
20	38.4	38.1	38.7	38.9	38.4	38.3	39.0
21	43.5	38.8	38.4	43.7	38.0	38.9	38.6
22	43.2	38.4	38.7	43.4	38.2	43.3	38.6
23	38.6	43.5	43.3	43.7	43.2	43.3	43.9
24	38.5	43.1	43.4	43.1	38.5	43.2	43.6
10-12	33.7	33.1	33.4	33.8	33.4	33.3	33.2
14-16	33.9	33.2	33.9	33.7	38.1	38.0	33.9
0-24	38.4	38.0	38.1	38.5	38.3	38.7	38.1

7 Day Ave 38.3

Littlehampton ATC 1, A259

Produced by Streetwise Services Ltd.



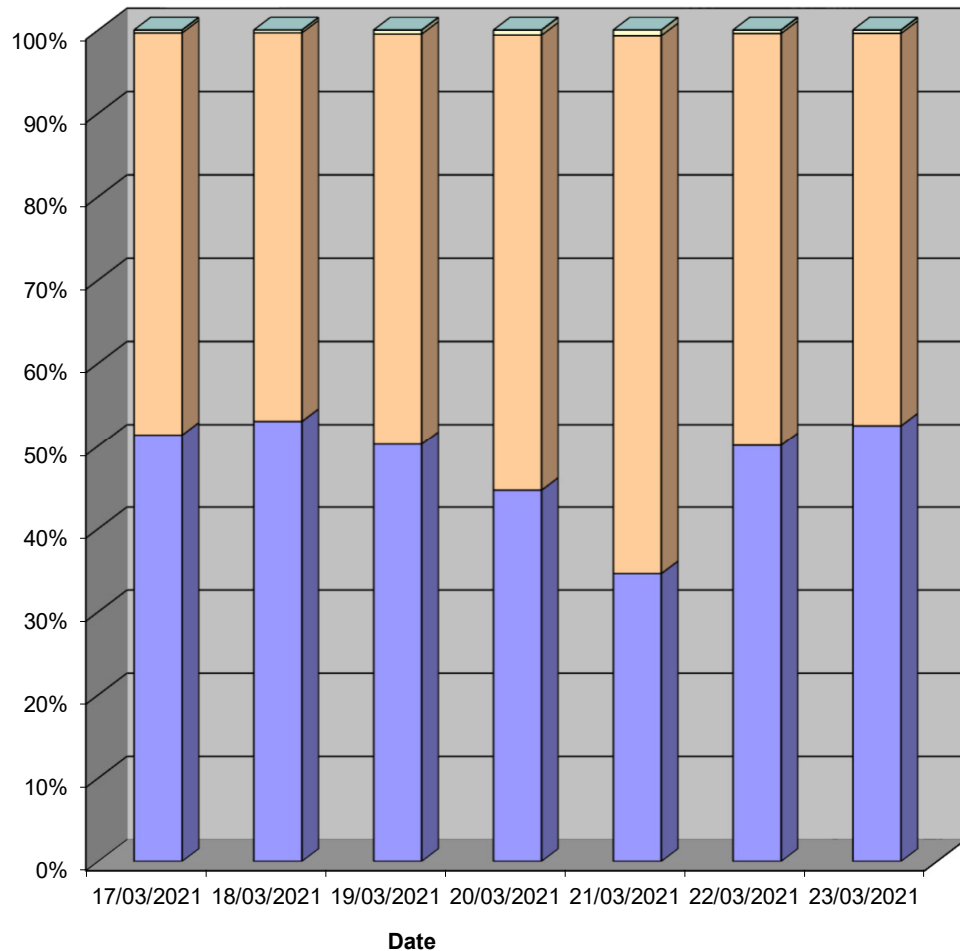
Channel 2 - Southbound

Speed Summary

Week 1

Speed (MPH)	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
0-30	4711	5007	5087	3541	2062	4556	4986
31-45	4431	4407	4994	4344	3857	4503	4478
46-60	31	32	48	47	41	36	36
61-100	1	0	1	1	0	2	2
TOTAL	9174	9446	10130	7933	5960	9097	9502

Speed Summary (MPH)



Littlehampton ATC 2, Broad Piece

Produced by Streetwise Services Ltd.



Channel 1 - Northbound

	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday	5-DAY MEAN	7-DAY MEAN
0000-2400 Vehicle Flow	3971	4337	4683	5017	3182	4287	4300	4316	4254
Mean Speed	24.2	23.9	24.4	23.8	23.9	24.3	24.4	24.2	24.1
85%ile Speed	28.3	28.0	28.9	28.4	28.1	28.6	28.6	28.5	28.4
No. Vehicles > 30 MPH Limit	92	94	160	118	86	132	121	120	115
% Vehicles > 30 MPH Limit	2.3	2.2	3.4	2.4	2.7	3.1	2.8	2.8	2.7
No. Vehicles > 45 MPH	0	0	0	2	0	4	0	1	1
% Vehicles > 45 MPH	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Channel 2 - Southbound

	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday	5-DAY MEAN	7-DAY MEAN
0000-2400 Vehicle Flow	4121	4468	4832	5192	3310	4367	4383	4434	4382
Mean Speed	20.0	19.8	20.2	19.8	20.1	19.9	20.3	20.0	20.0
85%ile Speed	23.7	23.6	23.5	23.1	23.5	23.5	23.9	23.6	23.5
No. Vehicles > 30 MPH Limit	15	9	22	18	11	19	17	16	16
% Vehicles > 30 MPH Limit	0.4	0.2	0.5	0.3	0.3	0.4	0.4	0.4	0.4
No. Vehicles > 45 MPH	0	0	0	1	1	1	0	0	0
% Vehicles > 45 MPH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Channels 1+2 - Northbound & Southbound

	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday	5-DAY MEAN	7-DAY MEAN
0000-2400 Vehicle Flow	8092	8805	9515	10209	6492	8654	8683	8750	8636
Mean Speed	22.1	21.9	22.3	21.8	22.0	22.1	22.4	22.1	22.1
85%ile Speed	26.0	25.8	26.2	25.8	25.8	26.1	26.3	26.1	26.0
No. Vehicles > 30 MPH Limit	107	103	182	136	97	151	138	136	131
% Vehicles > 30 MPH Limit	1.3	1.2	1.9	1.3	1.5	1.7	1.6	1.5	1.5
No. Vehicles > 45 MPH	0	0	0	3	1	5	0	1	1
% Vehicles > 45 MPH	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Littlehampton ATC 2, Broad Piece

Produced by Streetwise Services Ltd.



Channel 1 - Northbound

Average Speed

Week 1

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	23.0	28.0	30.5	23.0	-	-	28.0
2	13.0	-	18.0	-	-	-	-
3	20.3	-	-	18.0	-	-	-
4	28.0	-	18.0	-	-	-	-
5	26.0	23.4	26.2	25.9	24.1	25.2	25.7
6	23.9	23.3	23.4	23.3	23.7	24.2	25.1
7	26.1	25.4	26.1	25.0	27.4	25.7	25.9
8	25.1	24.7	25.6	25.7	25.6	24.8	24.7
9	23.9	24.4	24.9	24.3	25.4	24.4	24.4
10	24.2	23.6	24.5	23.6	23.8	23.9	23.5
11	23.4	23.1	24.0	23.6	23.4	23.6	24.0
12	23.4	22.9	23.7	23.1	23.5	23.2	24.3
13	23.6	23.3	23.6	23.3	23.7	24.3	24.3
14	23.9	23.9	24.3	23.5	23.7	24.2	24.3
15	24.4	23.4	24.3	23.2	23.9	23.8	24.1
16	24.1	24.4	24.4	23.7	24.7	25.4	24.9
17	24.2	24.3	24.5	24.4	26.4	24.7	24.5
18	24.7	24.7	24.3	24.3	25.6	24.6	25.1
19	24.7	24.1	25.1	24.8	25.8	24.6	24.9
20	25.4	24.1	24.0	24.3	24.0	24.6	24.7
21	24.2	24.3	25.7	24.9	22.2	25.0	25.2
22	25.8	25.3	25.8	24.8	27.5	25.5	24.3
23	25.5	26.8	24.4	26.3	30.9	26.0	24.6
24	-	24.0	29.7	24.0	24.7	25.3	25.1
10-12	23.4	23.0	23.8	23.4	23.5	23.4	24.2
14-16	24.2	23.9	24.3	23.5	24.2	24.6	24.5
0-24	24.2	23.9	24.4	23.8	23.9	24.3	24.4

7 Day Ave 24.1

85th Percentile

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	23.7	33.6	33.3	23.6	-	-	28.2
2	13.5	-	18.4	-	-	-	-
3	28.6	-	-	18.6	-	-	-
4	28.3	-	18.3	-	-	-	-
5	28.3	28.6	28.9	33.4	28.5	28.0	28.9
6	28.8	28.3	29.0	23.4	28.2	28.5	28.1
7	28.0	28.3	28.4	28.6	28.5	28.7	28.4
8	28.8	28.8	28.3	28.7	28.3	28.5	28.3
9	28.8	28.8	28.2	28.9	28.6	28.8	28.9
10	28.7	28.6	28.2	28.8	28.5	28.1	28.8
11	28.0	29.0	28.6	28.0	28.2	28.2	28.3
12	28.4	28.9	28.4	28.5	28.9	28.7	28.7
13	28.9	28.2	28.4	28.9	28.7	28.5	28.3
14	28.8	28.7	28.7	28.4	28.5	28.4	28.1
15	28.4	29.0	28.3	28.7	28.4	28.1	28.0
16	29.0	28.2	28.6	28.5	28.1	28.7	28.3
17	28.9	28.5	28.2	28.5	33.8	28.9	28.8
18	28.1	28.1	28.2	28.5	28.5	28.5	28.3
19	28.9	29.0	28.6	28.4	28.8	28.1	28.2
20	28.4	28.7	28.1	28.4	28.6	28.8	28.5
21	28.5	28.0	28.5	28.3	28.8	28.4	28.3
22	28.8	28.6	28.9	28.1	33.0	28.5	28.3
23	28.1	33.1	28.3	33.2	33.2	33.5	28.0
24	-	28.1	33.8	29.0	28.1	28.2	28.5
10-12	28.6	28.8	28.4	28.1	28.1	28.3	28.2
14-16	28.5	28.3	28.3	28.4	28.3	28.1	28.9
0-24	28.3	28.0	28.9	28.4	28.1	28.6	28.6

7 Day Ave 28.4

Littlehampton ATC 2, Broad Piece

Produced by Streetwise Services Ltd.



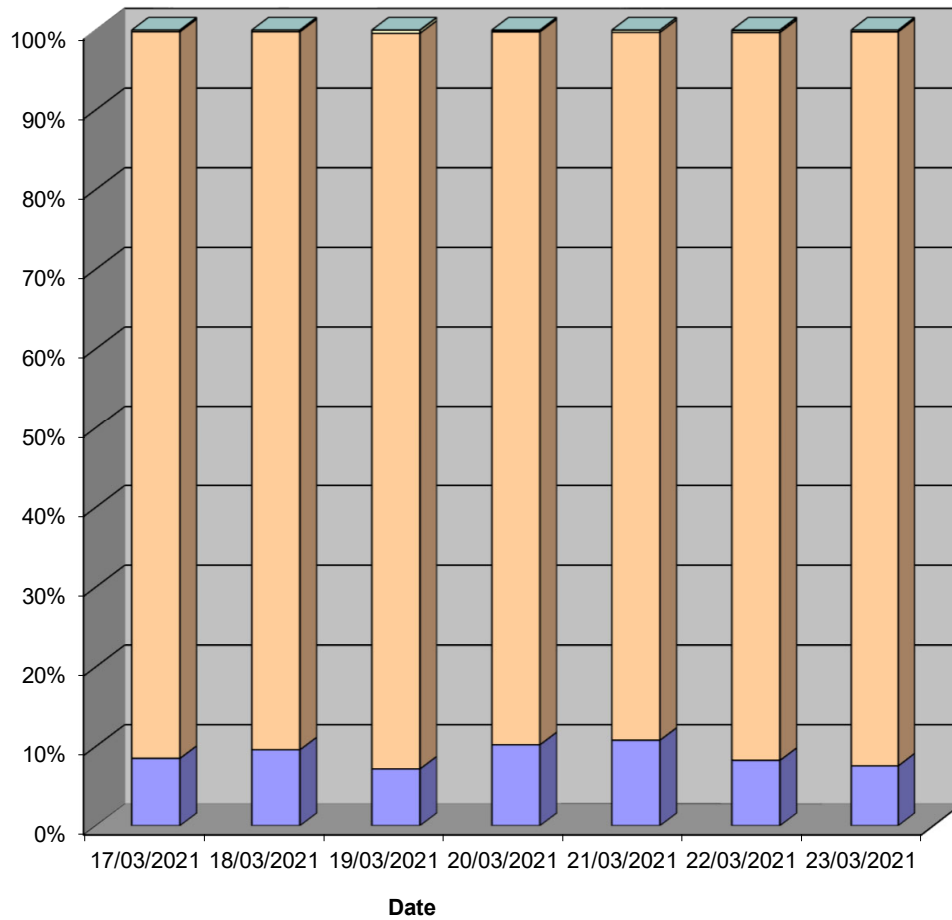
Channel 1 - Northbound

Speed Summary

Week 1

Speed (MPH)	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
0-20	337	415	335	512	343	353	324
21-35	3626	3913	4329	4494	2830	3921	3967
36-50	8	9	19	10	9	10	9
51-100	0	0	0	1	0	3	0
TOTAL	3971	4337	4683	5017	3182	4287	4300

Speed Summary (MPH)



0-20 21-35 36-50 51-100

Littlehampton ATC 2, Broad Piece

Produced by Streetwise Services Ltd.



Channel 2 - Southbound

Average Speed

Week 1

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	15.0	23.0	23.4	21.9	22.6	23.0	23.0
2	5.0	-	18.0	-	-	-	-
3	5.0	-	-	20.5	-	-	-
4	23.0	-	18.0	-	-	-	-
5	25.5	21.8	18.0	18.0	18.0	25.5	26.3
6	21.6	23.0	22.5	19.2	21.8	21.8	21.3
7	22.6	22.7	22.9	21.5	23.0	22.7	22.6
8	21.6	21.7	21.4	21.3	22.7	20.8	20.8
9	19.7	20.5	21.1	21.2	21.4	21.1	20.8
10	20.0	20.0	20.4	20.1	22.0	20.0	19.7
11	19.5	19.1	20.2	19.4	20.2	19.8	19.7
12	19.3	18.8	19.4	18.2	19.5	19.1	19.6
13	19.2	18.8	19.3	18.6	19.6	19.7	19.9
14	20.1	19.4	19.1	19.5	19.9	20.1	20.5
15	20.0	19.3	19.7	19.1	19.9	15.1	19.0
16	19.5	19.4	20.0	19.1	20.2	20.3	20.7
17	19.2	19.7	19.0	20.6	21.2	19.9	19.6
18	20.0	19.6	20.1	20.9	20.7	20.0	20.9
19	21.1	21.0	21.4	21.5	22.3	20.9	21.3
20	21.6	20.9	21.4	21.9	21.8	22.1	21.5
21	22.3	20.9	21.9	22.3	22.3	22.2	22.2
22	21.5	21.9	22.4	22.0	23.0	22.2	21.3
23	23.9	22.5	21.8	23.6	25.1	24.1	22.8
24	21.3	23.0	23.4	23.6	20.5	21.4	21.6
10-12	19.4	19.0	19.8	18.7	19.8	19.5	19.6
14-16	19.8	19.3	19.9	19.1	20.1	17.8	19.8
0-24	20.0	19.8	20.2	19.8	20.1	19.9	20.3

7 Day Ave 20.0

85th Percentile

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	23.8	29.0	28.4	28.7	28.2	28.2	28.4
2	5.9	-	18.9	-	-	-	-
3	5.3	-	-	23.8	-	-	-
4	23.5	-	18.5	-	-	-	-
5	33.1	28.3	18.2	18.4	18.1	28.2	33.1
6	28.6	33.5	28.7	28.9	23.4	28.3	28.3
7	28.4	23.4	28.7	23.7	29.0	28.8	23.6
8	24.0	23.7	23.6	23.1	23.5	23.1	23.8
9	23.1	23.2	23.8	23.6	23.5	23.5	23.5
10	23.9	23.4	23.2	23.7	24.0	23.8	23.2
11	23.6	23.5	23.8	23.0	23.2	23.8	23.9
12	23.3	23.8	23.2	23.4	23.4	23.3	23.4
13	23.1	23.5	24.0	23.4	23.4	24.0	23.3
14	23.5	23.4	23.1	23.3	23.3	23.8	23.8
15	23.2	23.5	23.1	24.0	23.5	23.7	23.2
16	24.0	23.2	23.8	23.8	23.1	23.9	23.4
17	23.1	23.6	23.4	23.7	23.5	23.9	23.2
18	23.0	23.5	23.5	23.4	24.0	23.4	23.9
19	23.3	23.7	23.1	23.7	23.6	23.1	23.6
20	28.5	23.9	23.1	23.3	23.9	24.0	23.4
21	23.9	23.4	23.2	28.4	23.7	28.8	28.4
22	23.5	28.3	23.0	23.4	28.4	23.7	23.9
23	28.4	28.3	23.7	28.9	28.7	28.4	28.6
24	23.8	28.2	28.5	28.1	28.1	28.0	28.9
10-12	23.8	23.5	23.6	23.6	23.8	23.2	23.5
14-16	23.7	23.2	23.2	23.3	23.7	23.2	23.3
0-24	23.7	23.6	23.5	23.1	23.5	23.5	23.9

7 Day Ave 23.5

Littlehampton ATC 2, Broad Piece

Produced by Streetwise Services Ltd.



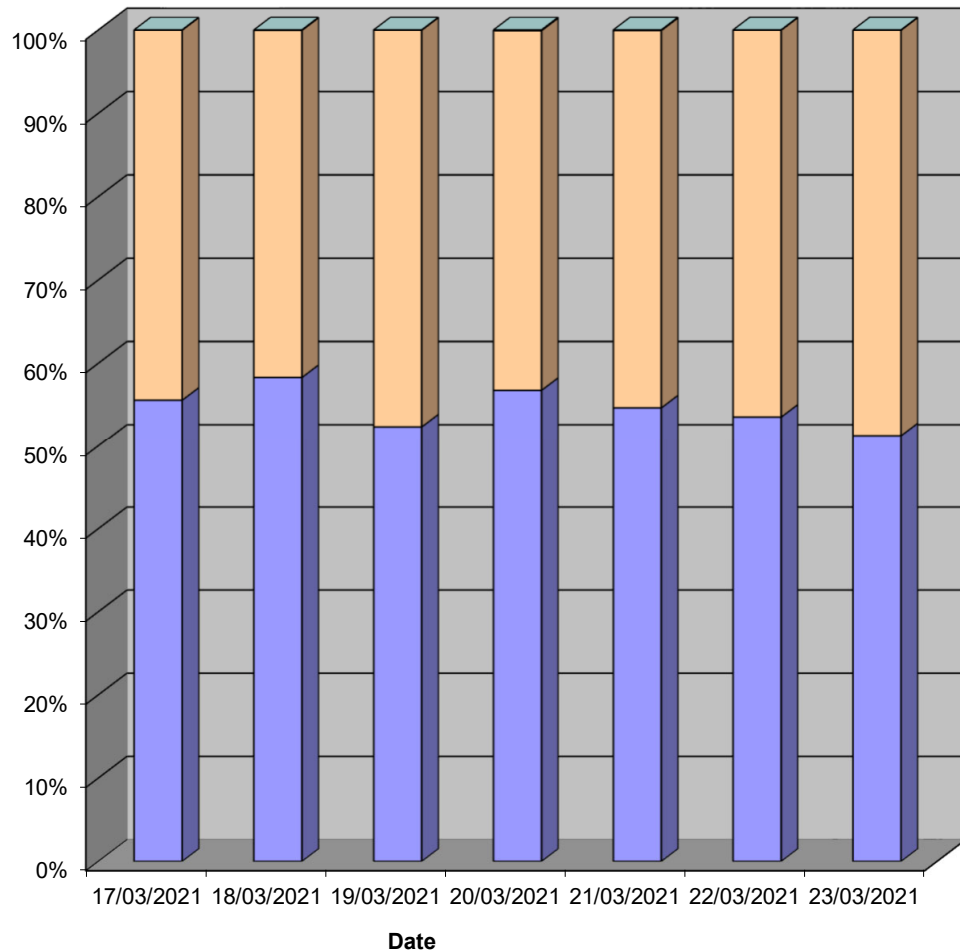
Channel 2 - Southbound

Speed Summary

Week 1

Speed (MPH)	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
0-20	2290	2605	2530	2947	1809	2338	2248
21-35	1830	1861	2301	2241	1499	2028	2134
36-50	1	2	1	3	1	0	1
51-100	0	0	0	1	1	1	0
TOTAL	4121	4468	4832	5192	3310	4367	4383

Speed Summary (MPH)



Littlehampton ATC 3, B2187

Produced by Streetwise Services Ltd.



Channel 1 - Eastbound

[illegible]

Channel 2 - Westbound

[illegible]

Channels 1+2 - Eastbound & Westbound

[illegible]

Littlehampton ATC 3, B2187

Produced by Streetwise Services Ltd.



Channel 1 - Eastbound

Average Speed

Week 1

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	27.3	34.2	33.3	32.9	33.5	32.7	34.9
2	26.6	33.0	30.0	32.7	33.9	36.3	36.5
3	33.6	29.8	35.1	34.0	33.6	41.3	34.2
4	25.0	35.0	31.3	39.2	32.2	33.6	32.5
5	33.4	31.0	30.8	34.7	28.0	32.7	31.9
6	33.8	32.6	34.0	32.5	32.8	35.0	34.0
7	33.5	33.7	33.6	32.7	33.9	33.5	33.4
8	32.8	32.8	32.7	32.1	33.5	32.5	33.1
9	31.1	31.8	32.5	32.2	32.6	32.4	32.4
10	30.9	31.0	32.3	31.8	32.5	31.1	31.7
11	30.1	30.6	30.9	31.0	31.3	30.5	30.6
12	30.0	30.9	31.1	30.4	31.5	30.3	30.7
13	30.0	30.5	31.3	30.7	31.1	31.5	31.8
14	31.1	31.1	31.4	31.7	31.5	31.8	31.3
15	30.9	30.7	32.0	31.2	31.8	29.9	31.5
16	31.4	31.4	31.8	30.7	31.6	32.6	32.2
17	31.6	32.1	32.4	32.0	32.3	32.4	32.5
18	32.7	32.1	32.7	32.3	32.9	32.6	32.7
19	32.4	32.4	32.3	32.1	33.2	32.0	32.3
20	32.2	31.5	32.2	31.8	32.5	31.8	32.4
21	32.7	32.2	33.0	33.4	33.4	32.4	32.6
22	32.7	33.7	33.5	33.3	33.5	32.2	33.5
23	31.4	33.6	32.5	31.7	33.9	32.1	33.1
24	33.6	33.8	34.5	33.0	32.8	31.5	32.4
10-12	30.0	30.8	31.0	30.7	31.4	30.4	30.7
14-16	31.2	31.1	31.9	30.9	31.7	31.3	31.8
0-24	31.3	31.5	32.0	31.5	31.9	31.7	32.0

7 Day Ave 31.7

85th Percentile

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	33.7	38.6	39.0	38.7	38.9	38.7	38.2
2	26.6	33.3	33.4	33.9	38.7	43.9	43.5
3	43.6	33.3	38.3	48.8	38.5	48.5	38.3
4	33.3	43.8	38.2	43.0	38.4	38.1	38.3
5	38.3	33.8	38.2	38.5	33.1	38.8	38.0
6	38.8	38.6	38.6	38.9	38.8	38.4	38.5
7	38.0	39.0	38.4	38.4	38.5	38.5	38.2
8	38.8	38.9	38.4	38.7	38.8	38.5	38.9
9	33.8	38.2	38.7	38.5	38.6	38.2	38.6
10	33.7	33.7	38.3	38.5	38.8	33.3	38.8
11	33.0	34.0	33.6	33.5	38.0	33.1	33.9
12	33.4	33.2	33.2	33.4	33.2	33.6	33.3
13	33.9	33.5	38.2	33.4	33.1	33.2	38.5
14	33.8	38.1	38.6	38.3	38.1	38.9	38.1
15	33.4	34.0	38.1	33.1	38.3	33.1	33.6
16	34.0	38.7	38.5	33.2	38.1	38.4	38.4
17	38.9	38.0	38.9	39.0	38.0	38.3	39.0
18	38.1	38.6	38.3	38.1	38.5	38.9	38.1
19	38.9	38.1	38.8	38.4	38.7	38.8	38.9
20	38.4	38.1	38.4	38.4	38.5	38.3	38.6
21	38.5	38.8	38.3	38.5	38.8	38.7	38.3
22	38.8	38.3	38.9	38.2	38.1	38.3	38.1
23	38.1	38.0	38.6	38.5	38.2	38.1	38.5
24	38.6	38.3	43.6	38.3	43.7	33.0	38.2
10-12	33.5	33.4	33.4	33.6	33.5	33.3	34.0
14-16	33.3	33.3	38.1	33.5	38.4	38.8	38.1
0-24	38.6	38.9	38.6	38.2	38.1	38.3	38.0

7 Day Ave 38.4

Littlehampton ATC 3, B2187

Produced by Streetwise Services Ltd.



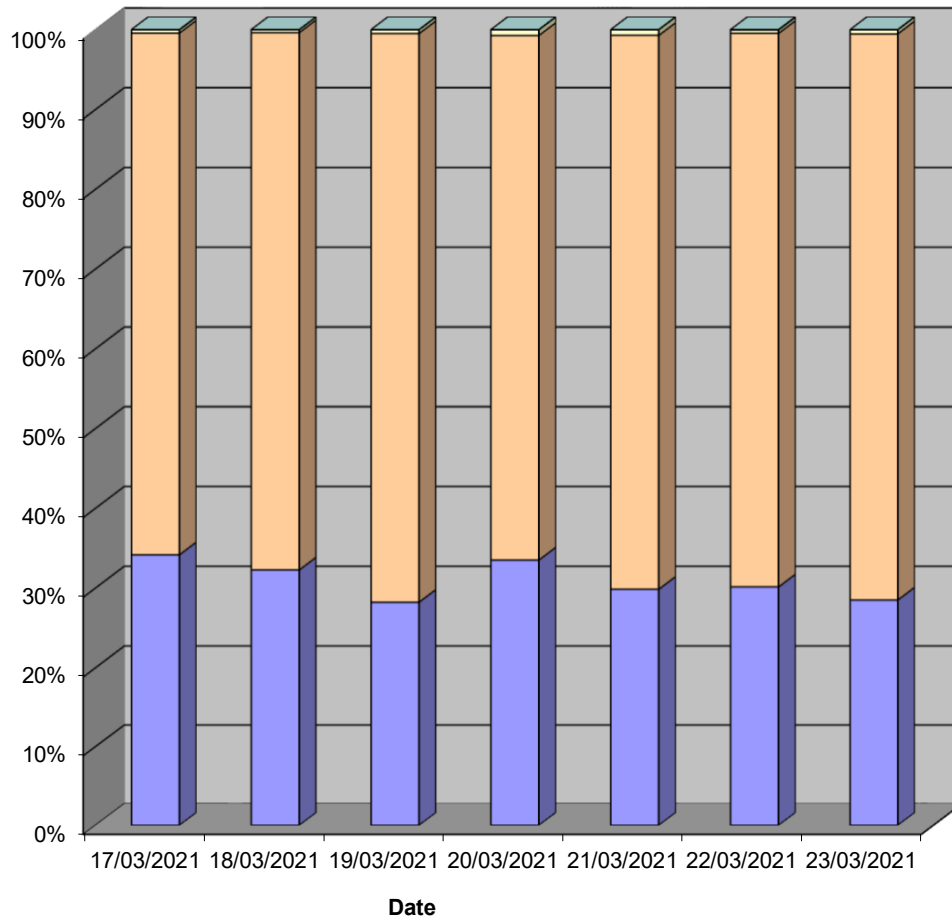
Channel 1 - Eastbound

Speed Summary

Week 1

Speed (MPH)	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
0-30	2255	2195	2080	1867	1260	1962	1917
31-45	4318	4584	5255	3665	2933	4519	4777
46-60	27	25	36	40	30	28	35
61-100	1	0	0	0	0	2	0
TOTAL	6601	6804	7371	5572	4223	6511	6729

Speed Summary (MPH)



0-30 31-45 46-60 61-100

Littlehampton ATC 3, B2187

Produced by Streetwise Services Ltd.



Channel 2 - Westbound

Average Speed

Week 1

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	25.5	32.0	33.8	33.4	34.8	34.8	36.4
2	15.5	32.5	43.0	32.2	31.2	33.8	35.2
3	-	32.5	32.2	33.0	34.9	36.3	-
4	22.9	28.6	33.9	36.3	32.0	33.0	33.0
5	35.9	35.1	35.0	33.4	33.0	34.5	34.9
6	35.4	35.5	35.2	36.1	36.3	34.9	35.6
7	33.5	33.6	34.5	33.5	35.2	34.3	34.5
8	29.9	31.0	31.4	33.8	34.9	31.6	31.7
9	29.8	30.4	32.0	32.9	33.6	30.4	30.8
10	29.4	30.7	31.5	32.0	32.6	30.0	30.1
11	29.4	29.4	31.4	29.8	31.0	29.5	30.3
12	28.7	29.7	29.7	30.5	31.1	30.1	30.5
13	29.4	29.9	30.2	31.2	30.2	31.2	30.8
14	29.6	30.1	29.9	30.0	31.2	31.1	30.9
15	29.3	28.6	30.1	31.6	31.5	22.8	30.4
16	29.8	30.1	30.6	30.9	31.7	30.8	30.6
17	28.4	31.6	30.1	32.1	33.0	30.6	30.7
18	30.1	32.0	31.7	32.5	32.8	30.8	31.0
19	32.0	32.3	31.8	32.3	33.0	32.7	32.0
20	32.4	32.1	32.2	33.9	33.0	32.5	33.5
21	32.4	32.2	33.4	33.7	33.9	32.7	33.6
22	33.1	35.3	33.9	33.9	35.3	32.8	35.4
23	34.4	34.6	35.0	33.4	35.1	32.6	35.4
24	36.4	33.0	35.1	34.6	35.9	34.4	34.2
10-12	29.0	29.6	30.5	30.2	31.1	29.8	30.4
14-16	29.6	29.3	30.4	31.3	31.6	27.3	30.5
0-24	30.0	30.7	31.2	31.6	31.9	30.5	31.2

7 Day Ave 31.0

85th Percentile

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	25.8	43.4	38.0	43.1	38.5	43.3	48.7
2	16.0	38.3	48.7	38.6	38.2	43.6	38.8
3	-	38.3	38.5	33.3	43.2	38.8	-
4	43.9	38.2	38.6	38.1	38.3	43.5	43.3
5	38.5	43.5	38.2	38.2	38.8	38.2	38.7
6	38.4	43.2	38.5	43.1	43.1	43.9	43.4
7	38.8	38.6	38.7	38.4	38.5	38.4	38.8
8	33.8	33.4	38.8	39.0	38.8	38.3	38.7
9	33.7	33.9	38.4	38.5	38.8	33.8	33.4
10	33.7	33.5	38.9	38.5	38.3	33.2	33.1
11	34.0	33.2	33.7	34.0	34.0	33.4	33.4
12	33.3	33.7	33.1	33.2	33.8	33.2	33.3
13	33.5	33.7	33.6	33.4	33.7	33.9	33.7
14	33.4	33.6	33.7	33.4	33.9	38.6	33.3
15	33.7	33.8	33.0	38.3	33.9	33.4	33.8
16	33.2	33.2	33.4	33.5	38.4	33.4	33.2
17	33.4	33.8	33.4	38.1	38.1	33.9	33.6
18	33.5	38.2	38.3	38.5	39.0	33.6	39.0
19	38.8	39.0	39.0	39.0	38.8	38.9	38.2
20	38.5	38.1	38.8	38.6	38.7	38.5	38.9
21	38.4	38.1	38.7	38.9	38.4	38.3	38.1
22	38.5	43.8	38.4	38.7	38.0	38.9	44.0
23	38.2	38.4	38.7	38.4	38.2	38.3	38.6
24	43.6	38.5	38.3	43.7	38.2	38.3	38.6
10-12	33.5	33.1	33.4	33.1	33.5	33.2	33.9
14-16	33.7	33.1	33.4	38.8	38.4	33.3	33.6
0-24	33.9	33.2	38.9	38.7	38.1	33.0	38.2

7 Day Ave 36.3

Littlehampton ATC 3, B2187

Produced by Streetwise Services Ltd.



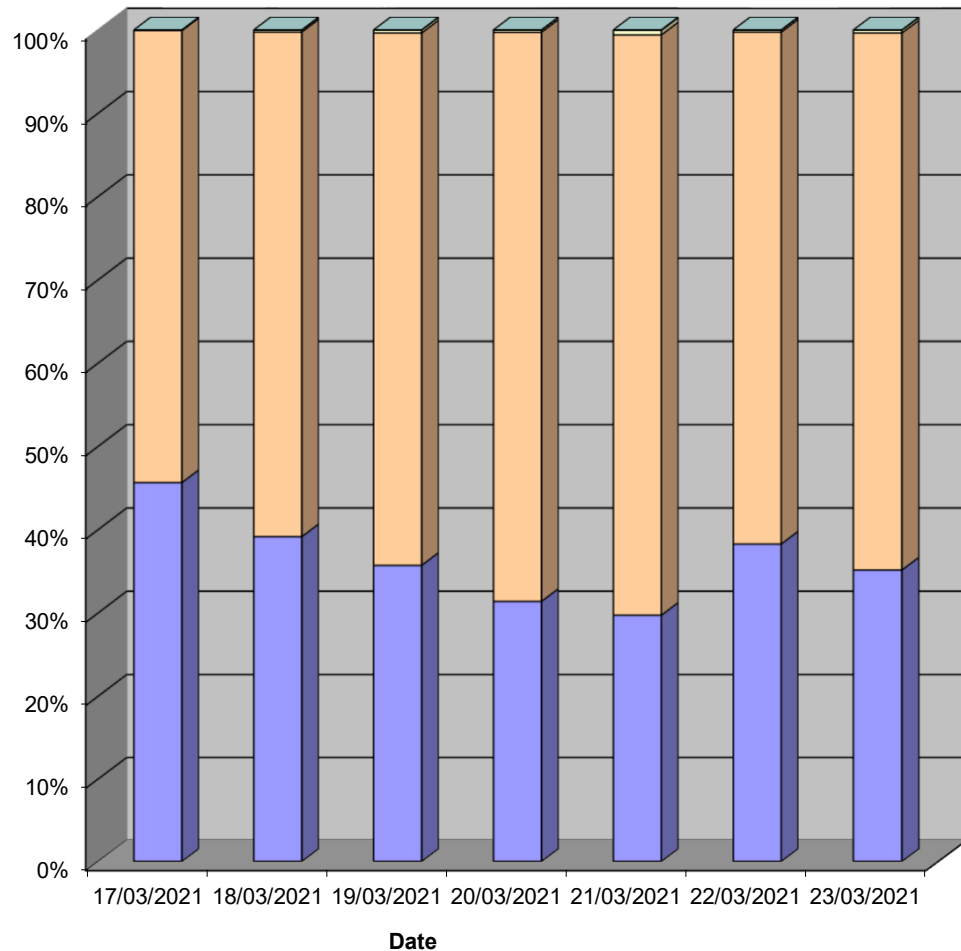
Channel 2 - Westbound

Speed Summary

Week 1

Speed (MPH)	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
0-30	2908	2584	2520	1658	1216	2435	2311
31-45	3456	3998	4509	3609	2849	3909	4237
46-60	4	16	25	14	23	16	23
61-100	0	0	0	0	1	0	0
TOTAL	6368	6598	7054	5281	4089	6360	6571

Speed Summary (MPH)



0-30 31-45 46-60 61-100

Littlehampton ATC 4, A259 Bridge Road

Produced by Streetwise Services Ltd.



Channel 1 - Northbound

[illegible]

Channel 2 - Southbound

[illegible]

Channels 1+2 - Northbound & Southbound

[illegible]

Littlehampton ATC 4, A259 Bridge Road

Produced by Streetwise Services Ltd.



Channel 1 - Northbound

Average Speed

Week 1

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	30.1	43.9	41.2	43.1	43.5	42.6	42.2
2	26.0	42.5	40.2	42.8	43.2	43.0	43.5
3	32.3	42.6	41.4	42.7	42.1	44.7	44.1
4	38.0	41.8	42.2	45.5	45.1	45.4	44.0
5	39.3	39.4	39.2	43.5	39.4	41.2	39.9
6	38.7	40.1	39.8	43.1	42.8	38.3	41.2
7	38.4	39.1	38.5	42.0	42.6	39.4	39.2
8	36.1	35.8	36.0	40.4	41.7	36.2	35.9
9	33.7	34.0	34.9	38.0	39.1	34.9	35.9
10	34.0	34.4	34.1	36.4	37.0	35.3	35.3
11	33.0	33.8	33.6	33.4	35.5	33.7	34.0
12	32.4	33.0	33.2	33.1	33.5	32.7	34.4
13	33.2	33.3	32.8	33.3	33.3	34.5	34.5
14	31.1	34.3	34.6	33.8	34.3	35.3	34.0
15	33.2	33.1	34.3	33.4	35.2	31.1	34.6
16	33.9	32.9	33.9	33.8	35.6	36.1	35.3
17	30.0	32.2	33.6	35.1	36.5	34.7	35.1
18	34.4	32.6	35.1	36.7	38.8	34.5	34.8
19	35.3	35.9	35.4	37.2	39.3	36.8	36.8
20	37.1	37.8	36.9	38.2	38.4	38.0	38.7
21	38.7	40.3	39.0	39.7	40.2	40.1	39.6
22	40.0	40.4	40.1	40.5	41.9	39.6	41.0
23	41.0	41.7	41.1	41.1	42.2	41.9	41.9
24	42.1	41.3	42.5	42.4	40.2	41.8	42.3
10-12	32.7	33.4	33.4	33.3	34.4	33.2	34.2
14-16	33.6	33.0	34.1	33.6	35.4	33.6	35.0
0-24	34.0	34.4	34.9	35.4	36.3	35.2	35.7

7 Day Ave 35.1

85th Percentile

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	33.7	48.6	49.0	48.7	48.9	48.7	48.2
2	33.5	43.3	48.4	53.9	48.7	48.9	48.5
3	43.6	48.3	48.3	48.8	48.5	53.5	48.3
4	43.3	48.8	48.2	48.0	53.4	53.1	48.3
5	48.3	43.8	48.2	48.5	43.1	43.8	48.0
6	43.8	43.6	43.6	48.9	48.8	43.4	43.5
7	43.0	44.0	43.4	48.4	48.5	43.5	43.2
8	38.8	38.9	43.4	43.7	48.8	38.5	38.9
9	38.8	38.2	38.7	43.5	43.6	38.2	38.6
10	38.7	38.7	38.3	38.5	43.8	38.3	38.8
11	38.0	39.0	38.6	38.5	38.0	38.1	38.9
12	38.4	38.2	38.2	38.4	38.2	38.6	38.3
13	38.9	38.5	38.2	38.4	38.1	38.2	38.5
14	38.8	38.1	38.6	38.3	38.1	38.9	38.1
15	38.4	39.0	38.1	38.1	38.3	38.1	38.6
16	39.0	38.7	38.5	38.2	38.1	38.4	38.4
17	38.9	38.0	38.9	39.0	43.0	38.3	39.0
18	38.1	38.6	38.3	43.1	43.5	38.9	38.1
19	38.9	38.1	38.8	43.4	43.7	43.8	43.9
20	43.4	43.1	43.4	43.4	43.5	43.3	43.6
21	43.5	43.8	43.3	43.5	48.8	48.7	43.3
22	43.8	48.3	48.9	43.2	48.1	43.3	48.1
23	48.1	48.0	48.6	48.5	48.2	48.1	48.5
24	48.6	43.3	48.6	48.3	48.7	48.0	48.2
10-12	38.5	38.4	38.4	38.6	38.5	38.3	39.0
14-16	38.3	38.3	38.1	38.5	38.4	38.8	38.1
0-24	38.6	38.9	38.6	38.2	43.1	38.3	38.0

7 Day Ave 39.1

Littlehampton ATC 4, A259 Bridge Road

Produced by Streetwise Services Ltd.



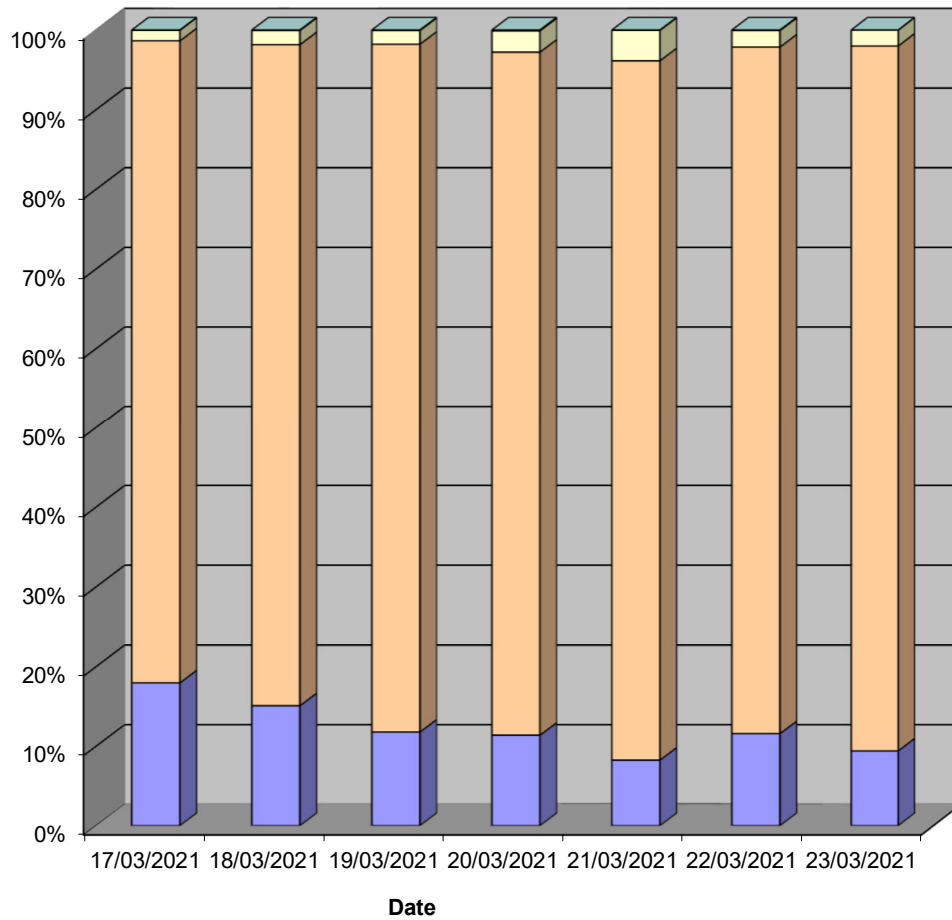
Channel 1 - Northbound

Speed Summary

Week 1

Speed (MPH)	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
0-30	2281	1985	1610	1156	671	1423	1225
31-45	10230	10907	11785	8700	7134	10582	11518
46-60	168	233	234	271	310	254	259
61-100	2	6	7	9	2	6	0
TOTAL	12681	13131	13636	10136	8117	12265	13002

Speed Summary (MPH)



0-30 31-45 46-60 61-100

Littlehampton ATC 4, A259 Bridge Road

Produced by Streetwise Services Ltd.



Channel 2 - Southbound

Average Speed

Week 1

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	33.4	39.9	40.0	38.7	40.7	39.3	38.5
2	26.0	40.4	38.3	39.1	40.0	36.9	39.1
3	34.0	41.4	39.0	41.8	39.6	39.7	40.9
4	35.6	37.1	39.2	40.1	38.8	38.0	39.4
5	38.6	40.5	40.0	40.2	38.6	39.6	38.6
6	39.1	38.8	39.0	39.4	39.7	38.5	39.7
7	36.4	37.2	37.5	39.3	40.3	38.1	38.4
8	34.5	34.1	35.0	38.2	38.6	34.9	35.2
9	34.3	34.5	35.2	37.5	37.1	34.9	34.9
10	34.2	34.2	35.2	35.9	37.7	35.3	34.3
11	34.1	34.3	34.9	34.4	35.5	34.3	33.2
12	33.1	33.8	33.7	35.0	35.4	33.1	33.9
13	33.8	34.4	33.8	35.0	34.5	31.9	34.0
14	33.1	34.9	33.5	34.7	35.4	34.0	34.2
15	33.6	33.0	34.0	35.6	35.9	26.0	33.5
16	34.6	34.4	35.0	35.4	36.3	35.1	34.8
17	26.0	34.9	34.8	36.2	37.5	35.5	35.2
18	35.4	35.8	35.7	37.2	38.1	36.1	35.6
19	36.2	36.3	36.5	38.1	38.6	37.9	37.4
20	38.0	37.7	38.0	38.2	39.1	37.7	38.5
21	37.3	37.3	38.6	39.4	38.9	38.6	39.5
22	38.0	39.5	39.5	38.9	40.4	39.6	39.6
23	40.2	39.6	41.0	39.2	41.4	40.2	40.0
24	40.0	39.0	40.2	41.2	39.5	39.3	38.6
10-12	33.6	34.0	34.3	34.7	35.4	33.7	33.5
14-16	34.1	33.7	34.5	35.5	36.1	31.0	34.2
0-24	34.0	35.0	35.2	36.1	36.6	34.7	35.2

7 Day Ave 35.3

85th Percentile

Hr Ending	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
1	38.3	48.3	48.7	43.6	48.2	43.6	43.8
2	33.5	48.3	48.5	43.3	43.2	43.8	48.3
3	38.9	48.2	48.6	43.1	43.3	43.5	43.7
4	43.5	43.5	43.2	43.2	43.8	43.2	48.4
5	48.4	48.2	43.5	48.1	43.1	43.9	43.8
6	43.8	43.6	43.7	43.4	43.5	43.4	43.7
7	43.8	43.4	43.8	49.0	48.8	43.3	43.4
8	38.7	38.9	38.4	43.5	43.8	38.8	38.1
9	38.7	38.5	38.9	43.5	43.3	38.2	38.4
10	39.0	38.2	38.7	39.0	44.0	38.4	38.3
11	38.3	38.7	38.1	38.2	38.8	38.2	38.7
12	38.5	38.7	38.6	38.4	38.7	38.9	38.3
13	38.4	38.6	38.7	38.4	38.9	38.6	38.8
14	38.7	38.8	38.0	38.3	38.9	38.4	38.2
15	38.2	38.2	38.4	38.5	38.4	38.4	38.6
16	38.4	38.8	38.4	38.1	43.1	38.9	39.0
17	38.5	38.2	38.3	43.5	44.0	38.6	38.2
18	38.8	39.0	39.0	44.0	43.8	38.9	38.9
19	43.5	43.1	43.8	43.6	43.7	43.5	43.1
20	43.4	43.1	43.7	43.9	43.4	43.3	44.0
21	43.5	43.8	43.4	43.7	43.0	43.9	43.6
22	43.2	43.4	43.7	43.4	43.2	43.3	43.6
23	43.6	48.5	48.3	43.7	48.2	43.3	43.9
24	43.5	43.1	48.4	48.1	43.5	43.2	43.6
10-12	38.7	38.1	38.4	38.8	38.4	38.3	38.2
14-16	38.9	38.2	38.9	38.7	38.1	38.0	38.9
0-24	38.4	38.0	38.1	43.5	43.3	38.7	38.1

7 Day Ave 39.7

Littlehampton ATC 4, A259 Bridge Road

Produced by Streetwise Services Ltd.



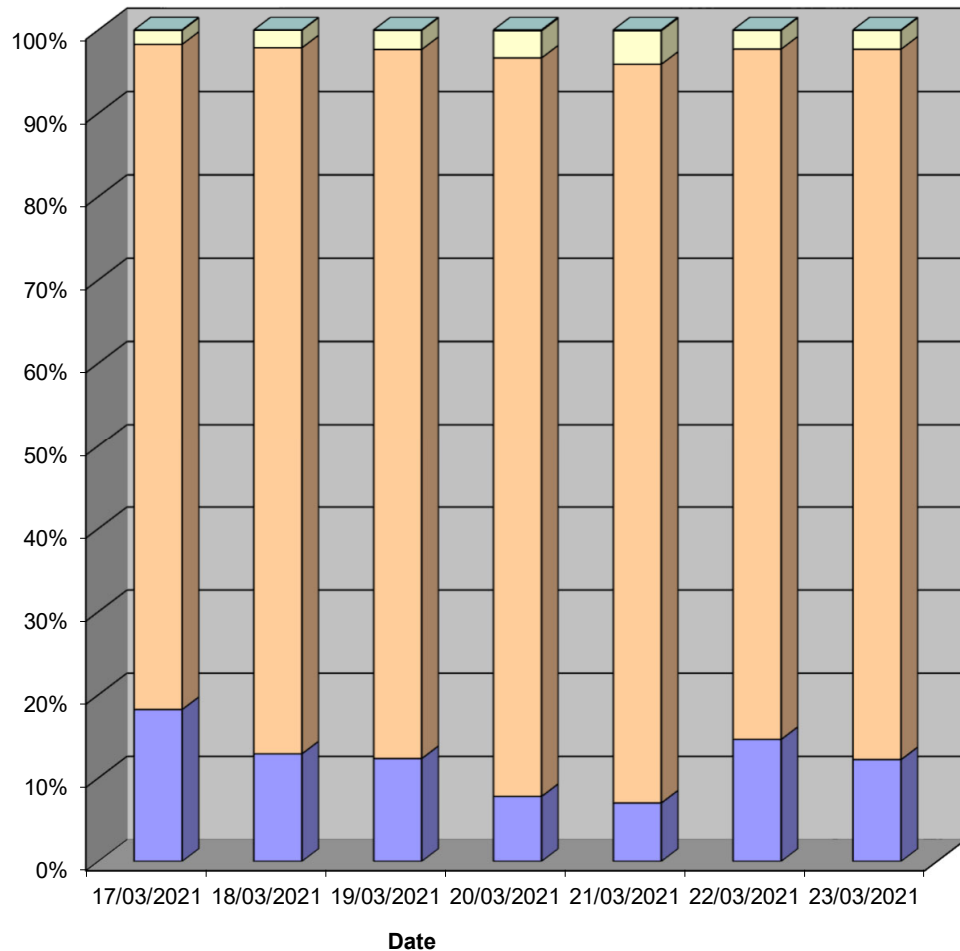
Channel 2 - Southbound

Speed Summary

Week 1

Speed (MPH)	3/17/2021 Wednesday	3/18/2021 Thursday	3/19/2021 Friday	3/20/2021 Saturday	3/21/2021 Sunday	3/22/2021 Monday	3/23/2021 Tuesday
0-30	2339	1683	1701	799	564	1814	1590
31-45	10264	11071	11755	9106	7145	10288	11122
46-60	215	275	316	334	324	278	294
61-100	5	2	5	9	6	4	5
TOTAL	12823	13031	13777	10248	8039	12384	13011

Speed Summary (MPH)



0-30 31-45 46-60 61-100

APPENDIX 3

Post-Response Auditors Summary

Response to Designers Response to the RSA 1 for Hampton Quay 2021, 30th April 2021

Further to the additional information, following on from the previous designers response, we would comment as follows:

3.1.1 Noted and accepted.

3.1.2 Noted and accepted.

3.1.3 Noted and accepted.

3.1.4 Noted and accepted.

3.1.5 Noted and accepted.

3.1.6 Noted and accepted.

3.2.1 Noted and accepted.

3.2.2 Noted and accepted.

3.3.1 Noted and accepted, however this remains a cause for concern and should be addressed by the Highway Authority at an appropriate time in conjunction with the wider proposals.

3.3.2 Noted and accepted, the roundabout is over capacity in 2038 without the development flows, however ultimately this is a decision for the Highway Authority.

3.4.1 Noted and accepted.

3.4.2 Noted and accepted.

3.4.3 Noted and accepted.

3.5.1 Noted and accepted.

3.5.2 Note and partially accepted, there is still no separation between opposing traffic streams which is a cause for concern, and the merge is from the nearside not the offside but could be addressed at detailed design stage.

Martin Morris
Managing Director

M&S Traffic Ltd
Aeolus House, 32 Hamelin Road, Gillingham, Kent ME7 3EX

M: 07772 163843 T: 01634 307498