

Proposed Residential-Led Mixed-Use Development

Land North West of
Goring Railway Station,
Goring-by-Sea, West
Sussex

Transportation Proof of Evidence
prepared by Tony Wares MCIHT
BSc (Hons) and MSc (Hons)

December 2021

Land North West of Goring Railway Station, Goring-by-Sea, West Sussex

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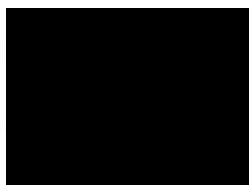
1. Author's Background

Background Experience

- 1.1 My name is Tony Wares. I am an Associate Director of Milestone Transport Planning (MTP) whose address is Abbey House, 282 Farnborough Road, Farnborough, Hampshire, GU14 7NA.
- 1.2 I am a member of the Chartered Institute of Highways and Transportation (CIHT). I hold the Degree of Bachelor of Science (BSc) in Human & Physical Geography and a Masters Degree (MSc) in Transport Planning.
- 1.3 I have 16-years' experience in dealing with the transportation implications of a wide range of development proposals throughout the country including full appraisal under National and Local Planning Guidance. I have good working relationships with a significant number of nationally recognised developers and local authorities.
- 1.4 I advise a wide array of public and private sector clients on all technical aspects from initial feasibility with regard to access, layout and off-site considerations, the identification of practical transport solutions, through to the preparation of Access Appraisals, Transport Assessments and Travel Plans, negotiation of planning consents / discharge of planning conditions, and measures / contributions required for Section 106 and Section 278 Agreements and implementation of schemes.
- 1.5 I was originally instructed by Persimmon Homes Thames Valley to provide transport and highways advice in August 2018. I am therefore familiar with the Inquiry Site for the purposes of giving evidence.

Appeal Team and Declaration

- 1.6 This Proof of Evidence has been prepared by MTP's Associate Director, Tony Wares MCHIT BSc (hons) MSc (hons) and John Henley at European Transportation Consultancy (ETC).
- 1.7 The evidence which I have prepared for this Appeal (APP/M3835/W/21/3281813) is true and in accordance with the Code of Conduct of my professional institution irrespective of by whom I am instructed, and. I can confirm that the opinions expressed are my true and professional opinions.



Mr T Wares MCIHT BSc (Hons) and MSc (Hons)
21st December 2021

2. Introduction

Overview

- 2.1 This document has been prepared by MTP on behalf of Persimmon Homes Thames Valley (PHTV) (*the Appellant*) and forms the Proof of Evidence (PoE) to support an appeal against Worthing Borough Council's (WBC's) decision to refuse planning permission for a residential-led mixed use development on land north-west of Goring Railway Station, Goring Street in Goring-by-Sea, West Sussex (*the Appeal site*).

Planning History

- 2.2 Planning Application AWDM/1264/20 was received and validated by WBC on 10th August 2020. The submission sought outline planning permission with all matters reserved for:

"Mixed use development comprising up to 475 dwellings along with associate access, internal roads and footpaths, car parking, public open space, landscaping, local centre (uses including A1, A2, A3, A4, A5, D1, D2, as proposed to be amended to use classes E, F and Sui Generis) with associated car parking, car parking for the adjacent railway station, undergrounding of overhead HV cables and other supporting infrastructure and utilities."

- 2.3 A Transport Assessment (TA) and Residential Travel Plan (RTP) were prepared by MTP in support of the planning application. The scope of the TA and to a lesser extent, the RTP were informed by two pre-application consultation meetings with the Local Highways Authority, West Sussex County Council (WSCC) on 2nd November 2018 and 6th December 2019, respectively.

- 2.4 The TA concluded that in the context of the guidelines within paragraph 109 of the National Planning Policy Framework (NPPF) it is considered that there are no residual cumulative impacts in terms of highway safety or the operational capacity of the surrounding transport network and therefore planning permission should not be withheld on transport planning and highway grounds.

- 2.5 Following submission of the TA, WSCC within their consultation response (dated 10th September 2020) stated *"an objection to the development is raised:*

- Due to the junction modelling being undertaken in isolation it has not been demonstrated that a safe and suitable access could be provided to accommodate the level of development. As such the formation and use of an additional access to the public highway at this point would add to the hazards of highway users to an unacceptable degree and interrupt the free flow of traffic.*
- Due to the lack of pedestrian and cycle linkages to the North and cycle linkages to the north west of the site, the proposal would not achieve safe and convenient access by a choice of means of travel nor encourage and enable and increase in environmentally sustainable means of travel such as walking and cycling and thereby minimise the impact of car journeys.*
- Insufficient information has been provided to assess the impacts of the offsite mitigation and as such it has not been demonstrated that the development would not result in a severe impact on the local highway network."*

- 2.6 WSCC suggested a number of possible options to address their concerns over the modelling presented in the TA including: -
- Provision of mitigation that accommodates development trips and would not cause severe delays and queuing back through any site access and adjoining junctions;
 - Consideration of reducing the level of development presented in the TA;
 - Consideration of altering the level of background growth between TEMPro and WBC site allocations to avoid 'double counting';
 - Consideration of microsimulation modelling software to demonstrate the inter-connectivity of the site's proposed access and other roundabout junctions; and
 - Provision of a significantly enhanced sustainable transport package to reduce vehicle trips.
- 2.7 In addition, the consultation response requested additional information to be submitted in support of the planning application, which included: -
- Consideration of LTN 1/20 and Worthing LCWIP;
 - Provision of further pedestrian and cycle links to the A259 north of the site, as discussed during pre-app discussions;
 - Provision of routes to public transport stops and improvements to the stops themselves including shelters, real time information and cycle parking;
 - Confirmation of trip assignment methodology;
 - Site access modelling parameters;
 - Confirmation of trip generation / what has been modelled;
 - Confirmation if reassigned The Strand flows have been added to the A259 Goring Crossroad assessments;
 - Further modelling / mitigation of Goring Crossroads / Site Access / A259 The Strand and A259 / Goring Way / Aldsworth Avenue including consideration to the need for Microsimulation modelling;
 - Revised Travel Plan; and
 - Consideration of further cycle parking in the vicinity of the station.
- 2.8 Planning Application AWDM/1264/20 was subsequently refused on 11th March 2021. The Decision Notice cited six reasons for refusal, two of which related to highways or transportation matters - Reason for Refusal No.'s 3 (RfR3) and 4 (RfR4). These are as follows:
- *RfR3 The Local Planning Authority is not satisfied that adequate information has been submitted to demonstrate that the proposal is acceptable in terms of access and would not therefore give rise to increased hazards to highways users including the Strategic Road Network. The proposal therefore fails to comply with the relevant guidance of the National Planning Policy Framework which requires that the potential impacts of development on transport networks can be addressed in development proposals.*

- *RfR4 The Local Planning Authority does not consider that adequate information has been submitted to demonstrate that the mitigation proposed is acceptable in terms of its impact on the local highway network including (but not limited to) the Goring Crossroads and A259 / Goring Way / Aldsworth Avenue junctions and Strategic Road Network. As such it has not been demonstrated that the development would not have a severe impact on the local highway network and therefore the proposal fails to comply with paragraph 109 of the National Planning Policy Framework 2019.*
- 2.9 Prior to the planning application being refused by WBC, MTP commissioned European Transport Consultancy (ETC) to set up a VISSIM microsimulation model of the local highway network incorporating the site's proposed access, the modified 'left-in' and 'left-out' give-way priority junction of The A259 Goring Street / The Strand, and the Goring Crossroads (northern) and Goring Way (southern) roundabout junctions.
- 2.10 The purpose of the VISSIM model was to assess the impact of the development traffic and planned mitigation measures for both the northern and southern roundabout junctions. The aims of the VISSIM Model were: -
- To establish the extent to which the planned mitigation as proposed by MTP would accommodate the development related trips against the background of conditions that would have otherwise prevailed at this future date (2033).
 - As suggested by WSCC, demonstrate the degree of the inter-connectivity or interaction between junctions, and specifically to establish the extent to which the site's proposed access (3-arm roundabout junction) on the A259 Goring Street would have an impact on traffic flow conditions and the operational performance of the northern and southern roundabout junctions, and vice versa during the weekday AM and PM peak hour periods.
- 2.11 However, the results of the VISSIM model were not reviewed by WSCC Highways due to WBC's decision to refuse the planning application.
- 2.12 As part of a separate pre-application consultation, MTP submitted a drawing (No. 18122/006) that showed the proposed enhancements to the pedestrian and cycle environment within the vicinity of the site and 4-arm Goring Crossroads roundabout junction in April 2021. Initial comments from WSCC's Signals Team and Policy Team and Local improvements Officer were provided.
- 2.13 In addition, a copy of the Local Model Validation (2018 Baseline) and Future Year (2033) Simulations Report, prepared by European Transportation Consultancy (ETC) that summarised the results of the Model Runs, VISSIM Model Files, 2018 Manual Classified Count (MCC) surveys, and Traffic Flow Diagrams were submitted to WSCC in May 2021.
- 2.14 Consultants WSP were commissioned by WSCC to conduct a review of the VISSIM model in June 2021. They identified a number of issues and concerns relating to the VISSIM model set-up, input and validation assumptions that they felt could potentially impact on the results.

- 2.15 The issues were then fully addressed by ETC within a separate report that was issued to WSCC together with a copy of the 2018 baseline traffic flows validation (Appendix A1), travel time data from TomTom (Appendix A2), and a Technical Note on Highways & Transport detailing trip generation, trip distribution, and methodology for uplifting the traffic flows from 2018 to 2033, including agreement with WSCC and WBC on committed development and highway improvement schemes (Appendix A3), proposed pedestrian and cycle enhancements (Appendix A4), and VISSIM results for '2033 with Development Mitigation Measures' (Appendix A5) within an e-mail dated August 2021.
- 2.16 In October 2021, WSCC in conjunction with consultants, WSP stated that the submission of additional information from ETC was acceptable, and that the VISSIM model "is fit for purpose." A copy of the e-mail correspondence between MTP / ETC and WSCC Highways Officer is attached at Appendix 1 of this report.

Relevant Planning Policies

- 2.17 I have summarised the key national, regional and local planning policies and other documents relevant to the highway and transportation aspects of the development proposals at Appendix 2 of this report.

Statement of Common Ground

WSCC Highways

- 2.18 Following the submission of updated modelling, WSCC within an e-mail correspondence dated 7th December 2021 stated RfR3 would no longer be supported, as the VISSIM model demonstrates that the site's access would work within capacity.
- 2.19 Within this e-mail correspondence, additional questions were raised on whether a number of recommendations from the Stage 1 Road Safety Audits (RSAs) for the Goring Crossroads and Goring Way roundabout junctions would affect the results of the VISSIM model.
- 2.20 The Stage 1 RSA (Reference: RSA-21-144) prepared by Fenley Road Safety Limited for the Goring Crossroads roundabout junction, identified, under A5 'Road Signs, Carriageway Markings and Lighting', a problem (A.5.1) related to arrow road markings providing insufficient guidance for the northern approach arm (Titnore Lane). The Auditor recommended "that the arrow road markings are amended to guide traffic turning left and continuing straight to approach the roundabout in Lane 1 and right turning traffic only, to approach in Lane 2."
- 2.21 In addition, the Stage 1 RSA (Reference: RSA-21-147) prepared by Fenley Road Safety Limited for the Goring Way roundabout junction, identified, under A3 'Junctions', a problem (A.3.2) related to the entry lane widths are wider than the circulatory carriageway, potentially leading to sideswipe type collisions. The Auditor recommended "that the proposed entries lanes are reduced in width to 3.5-metres each."
- 2.22 The VISSIM model has been re-run to take account of the above-mentioned comments from the Auditor, and the updated set of results are presented in Section 3 of this PoE.

- 2.23 A draft Statement of Common Ground (SoCG) has been submitted to WSCC Highways. This sets out a number of transportation matters, which it is hoped are not in dispute. These include:
- Description of site location and context.
 - Site accessibility credentials.
 - Description of local highway network.
 - Description of proposed access and internal access arrangements.
 - Pedestrian and cycle access including enhancements to Public Right of Way network.
 - Methodology for deriving multi-modal trip generation, distribution, and assignment of development related and other committed development located in Arun District Council (ADC) and site allocations set out in Worthing Borough Council's (WBC's) Draft Local Plan (January 2021).
 - VISSIM Model set-up, input and validation assumptions.
 - Stage 1 Road Safety Audits and Designer's Responses (GG119 Appendix F compliant Designers Responses).
 - Residential Travel Plan and associated interventions including enhancements to public transport, walking and cycling infrastructure within the vicinity of the site.

National Highways

- 2.24 Following the submission of an updated Transport Assessment Addendum (TAA) report, National Highways (formally Highways England) concluded within an e-mail correspondence dated 16th December 2021 that the impacts of the Appeal site can be accommodated within the planned improvements to the A27/A280 roundabout junction. Consequently, National Highways have withdrawn their objection and replaced it with a conditional requirement. A copy of the e-mail correspondence from National Highways is attached at Appendix 3.
- 2.25 This PoE will therefore address matters relating to RfR4. I will demonstrate how WSCC's concerns regarding their being a lack of information to demonstrate that the proposed mitigation for both the Goring Crossroads (northern) and Goring Way (southern roundabout) junctions together with enhancements to the foot / cycleway environment along the A259 Goring Street and A2032 Littlehampton Road have been addressed, and that the proposed development and associated traffic and sustainable transport enhancements would neither give rise to an unacceptable impact on highway safety, nor generate 'severe' residual cumulative impacts on the local and strategic road network.

3. Key Issues

Introduction

- 3.1 This section of my POE responds to RfR4, which primarily relates to traffic impact on the local road network (where development related traffic flows are likely to be most concentrated) during the weekday AM and PM peak hour periods by firstly describing what information has been provided to WSCC to date, secondly, the results of the VISSIM model, and thirdly, the capacity and safety benefits, which would arise from the proposed mitigation.
- 3.2 As mentioned previously, MTP in conjunction with ETC have prepared a VISSIM model, primarily to assess the extent the proposed mitigation for both the Goring Crossroads (northern) and Goring Way (southern) roundabout junctions would accommodate development related trips against the background of conditions, which would have otherwise prevailed at a future date.
- 3.3 I shall demonstrate that the results of the VISSIM modelling assessment do not lead one to the conclusion that the development will have an unacceptable or severe impact on overall local or strategic highway operation. It is noteworthy that WSCC Highways have not raised any objection to the development on traffic safety grounds, this being the other key consideration in paragraph 109 of the NPPF (now paragraph 111 of the July 2021 edition) that they are referring to in RfR4.
- 3.4 Whilst the VISSIM results do indeed indicate some increased queues and delays on 3 of the 9 approaches of the modelled network, a majority of these are contained to the weekday AM peak period. For the remainder of the weekday, the operating conditions on the local highway network materially improve over the baseline with the planned mitigation. After outlining the main limitation of the VISSIM model (i.e. it being based on a fixed route trip matrix that assumes car drivers' route choice is not influenced by conditions and have no routing choice), I shall discuss the substantial benefits of the enhanced pedestrian and cycling infrastructure, which would be delivered as part of the proposed development to future end-users and members of the wider community comprising Goring-by-Sea, Ferring, and West Durrington.

Transportation Matters

Adequate Information

- 3.5 As I had indicated previously, a VISSIM microsimulation model has been prepared and independently audited by consultants, WSP, working on behalf of WSCC. Following two reviews, the VISSIM model was declared by WSP and WSCC Highways, as being '*fit for purpose*'.
- 3.6 An additional future year 2033 scenario that included all of the site allocations within WBC's Draft Local Plan (January 2021) has been modelled. The underlying trip generation and distribution assumptions for each of the WBC sites, which was agreed with WSCC is attached at Appendix 4 of this report.
- 3.7 Of note, following the Planning Inspector's recent examination of the Draft Worthing Local Plan 2020 – 2036 (January 2021), Site A13 Titnore Lane was deemed to raise significant risks and concerns about the impact on the ancient woodland and the Titnore and Goring Woods Complex Local Wildlife Site (LWS). Consequently, the Planning Inspector recommended the removal of Site A13 from the Draft Worthing Local Plan.

- 3.8 The removal of this site, which comprises of circa 60 residential units and associated traffic movements during the AM and PM peak hour periods is not reflected in the VISSIM modelling results, and to a slight degree is likely to overestimate the impact during in both the '2033 base' and '2033 base + development + mitigation' scenarios.
- 3.9 The design of the site's proposed access, mitigation for Goring Crossroads (northern) and Goring Way (southern) roundabout junctions and foot / cycleway works at the Goring Crossways roundabout have been subject to an independent Stage 1 Road Safety Audit (RSA). A GG119 Appendix F compliant Designers Responses have been prepared to address identified issues. A copy of the Stage 1 RSAs and Designer Responses are attached at Appendix 5 of this report.
- 3.10 The VISSIM model was updated to allow for the recommended changes to the Goring Crossroads and Goring Way roundabout junctions. The results summarised in this PoE are based on the updated VISSIM model that allows for the Stage 1 RSA recommendations and the agreed WBC's Draft Local Plan site allocations.

VISSIM Model Results

- 3.11 The results of the VISSIM model with regards to flows and queues during the weekday AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hour periods for both the '2033 base' and '2033 base + development + mitigation' scenarios are presented in Tables 3.1 to 3.6. A full copy of the VISSIM 2033 results comparison tables is attached at Appendix 6 of this report.
- 3.12 Table 3.1 and 3.2 demonstrate that in terms of traffic flows and network flow throughput, there are flow increases at the 4 junctions, which comprise the study area for the VISSIM modelling assessment. An element of this increase in vehicular traffic flow relates to development related traffic generation, but in the PM peak in particular also general / background traffic that is no longer being held back in queues on improved junction approaches, but instead being able to feed into the modelled network.

Table 3.1 Summary of Predicted Flows – AM – 2033 Base vs 2033 Base with Mit + Dev

2033 AM Peak Flow Comparison				
No.	Arm	Modelled Flow Base	Modelled Flow with Mitigation	Flow Change (Veh / %)
1	Goring Crossroads	3722	4017	+295 (7.9%)
2	The Strand	2544	2757	+213 (8.4%)
3	A259 Goring Street	2471	2737	+266 (10.8%)
4	Goring Way	2871	2945	+74 (2.6%)

Table 3.2 Summary of Predicted Flows – PM – 2033 Base vs 2033 Base with Mit + Dev

2033 PM Peak Flow Comparison				
No.	Arm	Modelled Flow Base	Modelled Flow with Mitigation	Flow Change (Veh / %)
1	Goring Crossroads	4278	4793	+515 (12.0%)
2	The Strand	2583	3098	+515 (19.9%)
3	Goring Street	2448	2984	+536 (21.8%)
4	Goring Way	2812	3172	+360 (12.8%)

3.13 Tables 3.3 and 3.5 summarise the results of the VISSIM modelling AM and PM assessments in terms of comparing average queues (no. of vehicles) for the '2033 base' and '2033 base + development + mitigation' scenarios and Tables 3.4 and 3.6 the AM and PM travel times on selected routes.

Table 3.3 Summary of VISSIM Model Results – 2033 AM Peak Queue Comparison

NO.	ARM	BASE		WITH MITIGATION		DIFFERENCE	
		N AVG (VEH)	N MAX (VEH)	N AVG (VEH)	N MAX (VEH)	N AVG (VEH)	N MAX (VEH)
1	A259 Littlehampton Road	193	362	229	425	36	63
2	Titnore Lane	32	54	2	10	-30	-44
3	A2032 Littlehampton Road	67	147	60	128	-7	-19
4	A259 Goring Street	2	19	0	13	-2	-6
13	A259 Goring Street S	0	2	0	0	0	-2
14	The Strand	28	84	56	91	28	7
15	A259 Goring Street N	7	35	15	45	8	10
5	A259 Goring Street N	0	3	7	9	7	6
6	Goring Street	5	12	0	6	-5	-6
7	A259 Goring Street S	1	29	0	6	-1	-23
8	Goring Way (W)	33	67	56	100	23	33
9	Aldsworth Avenue	7	22	6	26	-1	4
10	A259 Goring Way (E)	12	50	9	49	-3	-1
11	A259 Goring Street N	57	75	49	66	-8	-9

12	Ardingly Drive	1	9	3	21	2	12
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3.14 As shown in Table 3.3, the results for the AM peak period demonstrate: -

- Some deterioration in conditions during the '2033 base + development + mitigation' scenario during the AM peak hour period, when compared with the '2033 base' situation on the A259 Littlehampton Road approach (western arm) of the Goring Crossroads (northern) roundabout. Most notably, the average queue increases by 36 vehicles. A factor contributing towards this deterioration relates to the number of additional U-turn manoeuvres at the roundabout, which arise as a consequence of the conversion and simplification of the A259 Goring Street / The Strand junction from all movements to 'left-in' / 'left-out' only configuration. This U-turn equates to 96 and 148 vehicles per hour in the AM and PM peak hour periods. These additional U-turning movements effectively hold-up traffic entering the Goring Crossroads (northern) roundabout from the remaining approach arms.
- An increase in queues on The Strand approach of the modified ('left-in' and 'left-out') junction of the A259 Goring Street / The Strand.
- An increase in queues on the A259 Goring Way (West) approach of the southern roundabout in the '2033 base + mitigation' scenario. The average queue increases by 23 vehicles.
- Reductions in queues on the northern (Titnore Lane), eastern (A2032 Littlehampton Road), and southern (A259 Goring Street) approach arms of the Goring Crossroads (northern) roundabout.
- No significant queues or block backs would occur, as a consequence of the site's proposed 3-arm roundabout junction off the A259 Goring Street.
- It should be noted that the queue length counts recorded in VISSIM include traffic that has slowed to a defined minimum speed (5 kph), but not necessarily stopped on the approach to a junction or crossing. The vehicles are not removed from the queue count until speeds have picked up to 10-kph or more. In other words, the queue can consist of slow-moving traffic.
- In relation to travel times on selected routes, as indicated in Table 3.4 only from the A259 Littlehampton Road approach of the Goring Crossroads (northern) roundabout junction to other destinations, and similarly from The Strand approach to other destinations would there be any significant increase in travel time according to the VISSIM model (+209 seconds and +260 seconds, respectively). The increased travel time from The Strand is due to delays on exiting onto the A259 Goring Street with increased traffic flows, and also the additional journey time for car drivers heading north (i.e. northbound sample route no. 4: The Strand to the A2032 Littlehampton Road), who are required to undertake U-turn manoeuvres at the site's proposed roundabout junction to the south. However, in reality, this additional delay as presented on The Strand approach is considered to be unrealistic, as when faced with potential delays a significant element of drivers (residents in the zone to the east) heading north will choose not to route out via The Strand, but by way of the alternative routes available.
- Other than on the western approach to the Goring Way (southern) roundabout junction where there is also a small increase (i.e. 6 seconds), there are decreases in travel times from all other junction approaches to all destinations during the AM peak.

- In addition, the average speeds for the local highway network will decrease from 18-kph to 16-kph during the AM peak hour period. The reduction in overall network speeds (2-kph) can be attributed to the deterioration in conditions on the A259 Littlehampton Road approach of the Goring Crossroads junction, The Strand approach, and A259 Goring (West), respectively.

Table 3.4 Summary of VISSIM Model Results – 2033 AM Peak Travel Time Comparison

2033 AM Peak Travel Times on Sample Routes								
Direction	No.	From	To	Direction From	Direction To	2033 Base TT T avg (s)	2033 with Dev + Mit T avg (s)	Difference T (s)
Southbound	1	1	10	A259 Littlehampton Road	A259 Goring Way (E)	933.37	1142.12	+209
	2	2	8	Titnore Lane	Goring Way (W)	404.33	260.76	-144
	3	3	9	A2032 Littlehampton Road	Aldsworth Avenue	240.58	223.68	-17
	4	3	14	A2032 Littlehampton Road	The Strand	104.60	56.90	-48
Northbound	1	8	2	Goring Way (W)	Titnore Lane	220.18	226.29	+6
	2	9	3	Aldsworth Avenue	A2032 Littlehampton Road	195.14	146.73	-48
	3	10	1	A259 Goring Way (E)	A259 Littlehampton Road	118.14	111.90	-6
	4	14	3	The Strand	A2032 Littlehampton Road	259.67	519.92	+260

3.15 As shown in Table 3.5 and 3.6, the results for the PM peak situation clearly demonstrate that: -

- During the PM peak hour, queue conditions will substantially improve in the '2033 base + development + mitigation' scenario on all approach arms to the junctions comprising the modelled network, with the exception of the A259 Littlehampton Road (western arm) of the Goring Crossroads (northern roundabout).
- No significant queues or block backs would occur, as a consequence of the site's proposed 3-arm roundabout junction off the A259 Goring Street.
- With the exception of the A259 Littlehampton Road approach to the Goring Crossroads (northern) roundabout to other destinations, the VISSIM model indicates that there would be significant reductions in travel times from all selected junction approaches (including The Strand) where the travel time to the selected A2032 Littlehampton Road destination reduces by 218 seconds).

3.16 In addition, the average speeds for the local highway network will increase from 26-kph to 30-kph during the PM peak hour period. It should be stressed that this improved network operation situation is likely to hold true throughout the off-peak periods as well.

Table 3.5 Summary of VISSIM Model Results – 2033 PM Peak Queue Comparison

NO.	ARM	BASE		WITH MITIGATION		DIFFERENCE	
		N AVG (VEH)	N MAX (VEH)	N AVG (VEH)	N MAX (VEH)	N AVG (VEH)	N MAX (VEH)
1	A259 Littlehampton Road	88	163	143	280	55	117
2	Titnore Lane	41	77	9	27	-32	-50
3	A2032 Littlehampton Road	61	109	7	28	-54	-81
4	A259 Goring Street	22	35	0	6	-22	-29
13	A259 Goring Street S	1	8	0	1	-1	-7
14	The Strand	3	14	1	7	-2	-7
15	A259 Goring Street N	0	12	0	9	0	-3
5	A259 Goring Street N	0	2	0	7	0	5
6	Goring Street	0	3	0	4	0	1
7	A259 Goring Street S	28	65	1	27	-27	-38
8	Goring Way (W)	35	79	7	26	-28	-53
9	Aldsworth Avenue	15	33	12	31	-3	-2
10	A259 Goring Way (E)	82	172	70	161	-12	-11
11	A259 Goring Street N	1	26	2	36	1	10
12	Ardingly Drive	0	4	1	4	1	0

Table 3.6 Summary of VISSIM Model Results – 2033 PM Peak Travel Time Comparison

2033 PM Peak Travel Times on Sample Routes								
Direction	No.	From	To	Direction From	Direction To	2033 Base TT T avg (s)	2033 with Dev + Mit T avg (s)	Difference T (s)
Southbound	1	1	10	A259 Littlehampton Road	A259 Goring Way (E)	348.03	580.73	+233
	2	2	8	Titnore Lane	Goring Way (W)	311.46	164.21	-147
	3	3	9	A2032 Littlehampton Road	Aldsworth Avenue	155.26	126.65	-29
	4	3	14	A2032 Littlehampton Road	The Strand	98.45	68.38	-30
Northbound	1	8	2	Goring Way (W)	Titnore Lane	219.84	127.26	-93
	2	9	3	Aldsworth Avenue	A2032 Littlehampton Road	289.86	240.01	-50
	3	10	1	A259 Goring Way (E)	A259 Littlehampton Road	279.22	182.61	-97
	4	14	3	The Strand	A2032 Littlehampton Road	310.29	92.65	-218

3.17 When interpreting the results of the VISSIM model, the following can be deduced: -

- The capacity constraints and potential for increased congestion in the AM peak hour arises on just 3 of the 9 approaches, which feed into the local highway network under consideration. On the remaining 6 approaches feeding into the network, conditions either improve, or otherwise stay broadly the same.
- The potential for increased congestion arising as a consequence of the planned development only arises during the weekday AM peak hour period and is therefore of a very limited duration. For a vast majority of the time the local highway network will operate better with the development traffic and planned mitigation than for the baseline.

3.18 The term ‘severe’ will always be a matter of judgement for the decision maker, but it is now well recognised that the various iterations of the NPPF indicate this to be a high threshold for refusing development.

3.19 It is noteworthy that within an Appeal Decision (Appeal Reference: APP/P3040/W/17/3185493) for a proposed development of 175 dwellings on land north of Asher Lane, Ruddington in Nottinghamshire, reference was made to the Hartnell’s Farm Appeal Decision (Appeal Reference: APP/D3315/16/3157862) in defining ‘severe impacts’. This stated *“the term ‘severe’ sets a high bar for intervention via the planning system in traffic effects arising from development; mere congestion and inconvenience are insufficient in themselves but rather it is a question of the consequence of such congestion.”*

Limitations of VISSIM Model

- 3.20 Due to a number of limitations, the VISSIM model presents an overly pessimistic view on how the local highway network would operate during the weekday AM and PM peak hour periods, under the '2033 base' and '2033 base + development + mitigation' scenarios. These limitations are described in-turn below.
- Traffic flows for the assessed year that allow for growth, Local Plan traffic and the Appeal site traffic are added to the VISSIM model on a fixed routing basis, and it is therefore assumed as traffic builds up over time that increasing capacity restraints on approach arms of junctions will not influence car drivers to seek alternative routes on the local highway network when travelling to various end destinations. Put another way, the VISSIM model assumes that car drivers will simply continue to use a route or specific junction approach at a given time, even in the knowledge that they will be delayed, and that alternative quicker routes may potentially exist. Of course, in reality, car drivers will behave more rationally and when travelling along say the A259 Goring Street or The Strand will perceive the congestion, and either a) choose an alternative route, b) set out at a different time, and c) in some instances change their travel mode. It is evident that opportunities to travel by alternative routes certainly do exist, most notably with regards to the A27, which forms part of the Strategic Road Network (SRN) and caters for east to west movements and vice versa. Furthermore, National Highways who are responsible for the A27 and have raised no objection to the development on lack of capacity or impact grounds, As indicated previously, alternative routing options also apply in relation to The Strand approach of the A259 Goring Street / The Strand junction.
 - As also mentioned previously, the VISSIM model was only intended to demonstrate the impact of the development traffic in the context of the potential interaction between the site's proposed access and other roundabout junctions. It therefore covers a limited part of the local highway network on which development related traffic will be most concentrated. It was never set up to model wider area network routing changes, which may arise over time in response to congestion.

Sustainable Transport Enhancements

- 3.21 The results of the VISSIM model should also be examined in context with the site's highly accessible location to alternative modes to the private car (described at length in the submitted TA and TAA), and the proposed mitigation schemes for the Goring Crossroads and Goring Way roundabout junctions, and substantial enhancements to the pedestrian and cycling infrastructure (i.e. provision of two Toucan crossing facilities along the A259 Goring Street and A2032 Littlehampton Road), which would be delivered as part of the development.
- 3.22 As shown on Drawing No.'s 18122/001 Rev C and 18122/006 (attached at Appendix 7 of this PoE), the proposed access strategy incorporates the provision of a two-way segregated cycleways along the eastern side of the A259 Goring Street and either side of the internal access road (including the diverted section of Minor Goring Street). This together with the provision of Toucan crossing facilities along the A259 Goring Street, and A2032 Littlehampton Road would significantly contribute towards enhancing links to local educational facilities (i.e. St. Oscar Romero Catholic School, Ferring Church of England Primary School, Northbrook College) and major employment opportunities (Martlets Trading Estate) available in Goring-by-Sea, West Durrington and Worthing.

- 3.23 In addition, the development includes the provision of a pedestrian / cycle link that connects the north-west corner with the existing off-carriageway shared pedestrian / cycle link and existing bridleway (No. 2135) and sports pitches off the southern and northern sides of the A259 Littlehampton Road is proposed (see Drawing No.'s 18122/SK11 Rev A, attached at Appendix 7). The presence of this new foot / cycleway link would provide future households and other end-users as well as members of the wider community with safe and convenient access and increase the likelihood of them adopting long-term sustainable travel patterns and behaviour for various journey purposes (especially leisure-related), in-turn reducing dependency on use of the private car.
- 3.24 The delivery of new high-quality foot and cycleway infrastructure connecting the residential-led mixed-use development to the surrounding area, which accords with national, regional, and local planning policy and best practice guidance publications, would in conjunction with a package of 'softer' measures set out in the Residential Travel Plan (RTP) encourage future households and visitors including those with disabilities / health conditions to adopt long-term sustainable travel patterns and behaviour in favour of the private car for various journey purposes.
- 3.25 Furthermore, the proposed enhancements to the walking and cycling environment surrounding the site would extend to the wider community of Goring-by-Sea, Ferring and West Durrington. At present, there is no at grade crossing facility at the western end of the A2032 Littlehampton Road for wheelchair / disabled users, only a narrow footbridge for both pedestrians and cyclists to negotiate. The provision of the new infrastructure would free-up latent demand for sustainable travel patterns / behaviour for various journey purposes amongst the wider area.

Safety Enhancements

- 3.26 In addition, the development would deliver a significant number of highway safety benefits, most notably through:
- the creation of a new roundabout junction to serve the Appeal site and Goring-by-Sea railway station (instead of the existing T-junction);
 - the provision of an upgraded and safety audited revisions to the Goring Crossroads and Goring Way roundabout junctions;
 - the elimination of conflicting right-turn manoeuvres at the A259 Goring Street / The Strand junction;
 - the provision of improved and new crossing facilities for pedestrian and cycle facilities will all contribute to an improvement in overall safety conditions; and
 - the creation of a new rail station car park and implementation of parking restrictions along Goring Street (Minor) would remove the manifestation of on-street parking associated with rail commuters and potential for collisions with other motorised and non-motorised users.
- 3.27 Consequently, the development provides an opportunity to enhance highway safety for all users.

4. Summary & Conclusion

4.1 This PoE has been prepared by Mr Tony Wares MCIHT, BSc (Hons) and MSc (Hons) on behalf of the appellant in support of an Appeal against WBC's decision to refuse planning permission for a residential-led mixed use development on the Appeal site.

4.2 Within WBC's Decision Notice there were six reasons for refusal. This Proof focuses on RfRR4, which relates to highway and transportation matters, as follows:

"The Local Planning Authority does not consider that adequate information has been submitted to demonstrate that the mitigation proposed is acceptable in terms of its impact on the local highway network including (but not limited to) the Goring Crossroads and A259 / Goring Way / Aldsworth Avenue junctions and Strategic Road Network. As such it has not been demonstrated that the development would not have a severe impact on the local highway network and therefore the proposal fails to comply with paragraph 109 of the National Planning Policy Framework 2019."

4.3 Through consideration of the evidence presented herein, and within previous reports produced by MTP and ETC, it has been demonstrated that:

- A VISSIM microsimulation model has been prepared and independently audited by consultants, WSP, working on behalf of WSCC. Following two reviews, the VISSIM model was declared by WSP and WSCC Highways, as being 'fit for purpose'. The proposed mitigation for the Goring Crossroads (northern) and Goring Way (southern) roundabout junctions has been independently audited and Designer's Responses have been prepared to address identified issues. In this regard, the appellant has provided adequate information to address RfR4.
- The capacity constraints and potential for increased congestion in the AM peak hour arises on just 3 of the 9 approaches, which feed into the local highway network under consideration. On the remaining 6 approaches feeding into the network, conditions improve, or otherwise stay the same. During the PM peak, only 1 of the 9 approaches will potentially experience a slight increase in congestion.
- The results of the VISSIM model demonstrates that the potential for increased congestion arising as a consequence of the planned development only arises mainly during the weekday AM peak period and will therefore be of very limited duration. During the PM peak hour, with the exception of the A259 Littlehampton Road (western arm) of the Goring Crossroads (northern) roundabout conditions will substantially improve in the '2033 base + development + mitigation' scenario on all approach arms to the junctions comprising the modelled network. If the conditions improve in the PM peak, then it follows that conditions are also likely to improve during the off-peak period. Therefore, when taken over a day, then any congestion will be of limited duration and road users will benefit from improved conditions for the majority of the day.
- Due to a number of limitations, the VISSIM model presents an overly pessimistic view on how the local highway network would operate during the weekday AM and PM peak hour periods, under the '2033 base' and '2033 base + development + mitigation' scenarios. Traffic flows are added to the VISSIM model on a fixed routing basis, and the model does not allow for the fact that capacity restraints on approach arms of junctions will influence car drivers to seek alternative routes on the local or strategic highway network when travelling to various end destinations. In reality, car drivers will behave rationally and seek alternative routes to gain access to end destinations. As a

consequence, the queues and delays presented on the more constrained junction approaches by the model will keep on building, as the model simply does not allow the traffic to route to alternative routes, which may offer reduced delays / higher transit speeds.

- Opportunities exist with the road network in which the Appeal site is located for drivers to seek alternative routes if over time they perceive that they will incur increased queues and delays on a given route. Most notably, the A27, which forms part of the Strategic Road Network provides an alternative east to west and west to east route, to which National Highways raise no objection.
- The results of the VISSIM model should also be examined in context with the site's highly accessible location to alternative modes to the private car and the proposed mitigation schemes for the Goring Crossroads and Goring Way roundabout junctions, and substantial enhancements to the pedestrian and cycling infrastructure (i.e. provision of two Toucan crossing facilities along the A259 Goring Street and A2032 Littlehampton Road), which would be delivered as part of the development.
- At the same time, there is no evidence to suggest that the development will have an unacceptable impact on highway safety; quite the contrary, the creation of a new roundabout junction to serve the Appeal site and Goring-by-Sea railway station (instead of the existing T-junction), the upgraded and safety audited revisions to the Goring Crossroads and Goring Way roundabout junctions, the elimination of conflicting right-turn manoeuvres at the A259 Goring Street / The Strand junction, and the provision of improved and new crossing facilities for pedestrian and cycle facilities will all contribute to an improvement in overall safety conditions.
- Overall, and on balance, it has been concluded that development on the Appeal site will not have an unacceptable or 'severe' impact on the local and strategic road network.

4.4 In overall conclusion, in my view the development has been shown to accord with the policies set out in paragraph 111 of the NPPF (July 2021) and therefore RfR4 is not sound, and the planning application should not have been refused on the stated grounds.