

**LAND AT OLDLANDS FARM (PHASE 2)
BOGNOR REGIS
WEST SUSSEX**

TRANSPORT ASSESSMENT

HANBURY PROPERTIES LTD

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1 Introduction

1.1 General

1.1.1 Hanbury Properties Ltd (Hanbury) has commissioned MJA Consulting (MJA) to undertake a Transport Assessment (TA) to support an outline planning application in relation to the Phase 2 development of the land at Oldlands Farm, Bognor Regis for a mix of employment uses.

1.1.2 The site is circa 4.76Ha in area and situated to the north-east of the Phase 1 area of Oldlands Farm, which has recently been granted planning consent. The Oldlands Farm site is located to the east of the A29 Shripney Road and south of the new Bognor Regis Northern Relief Road as shown in **Figure 1**.



Figure 1: Site Location



1.1.3 The site lies within the enterprise@BognorRegis area which has been identified as a significant and deliverable growth opportunity involving the following four sites:

- Saltbox;
- Rowan Park;
- Oldlands Farm; and
- LEC airfield

1.1.4 Oldlands Farm is less than 1km south of the village of Shripney, whilst Bognor Regis Town Centre is approximately 3km to the south, and North Bersted is around 2.5km to the west.

1.1.5 A mix of employment uses will be provided at the site which accords with the Arun District Council (ADC) Local Plan. Oldlands Farm straddles two policy areas (Policy Site 5 and Site 6), where Site 5 has a commercial allocation (11.2ha) and Site 6 has employment allocation (11.25ha).

1.1.6 The Oldlands Farm Phase 1 development (App.Ref.**BE/61/13**) was granted planning consent in March 2014 for the following mix of uses:

- B1 office, B2 Industrial, B8 Warehousing (total of 25,034sqm);
- Retail (4,366sqm);
- B8 trade counter (1,856sqm); and
- Sui generis (1,856sqm).

1.1.7 A portion of the Oldlands Farm site has since been sold to Rolls Royce, who submitted a planning application (app. Ref. **BE/73/14/PL**) for amendments in terms of a greater quantum of GFA. Subsequently planning consent was granted for 38,099sqm B2/B8 use in August 2014. It is understood that the primary function of the Rolls Royce site will be for B8 uses.

2 Highway Network

2.1 General

- 2.1.1 Oldlands Farm is bounded by the BNRR to the north-west, agricultural fields to the north, a railway line to the east, the Southern Cross Industrial Estate to the south and the A29 Shripney Road to the west. Oldlands Farm is accessed directly from the A29 Shripney Road/Bognor Regis Northern Relief Road roundabout (BNRR roundabout), which has a 60m ICD and has been recently constructed as part of the BNRR route and to serve Site 6 development.

2.2 A29 Shripney Road

- 2.2.1 The A29 Shripney Road routes in a north-south direction to provide a connection between the A27 to the north and the A259 at South Bersted. In the vicinity of the site, the A29 includes a short section of dual carriageway and subject to a speed limit of 40mph.
- 2.2.2 To the north of the site and immediately south of the settlement of Shripney the A29 reverts back to single carriageway, and continues to the north through Shripney to connect with the A27 at Fontwell. Street lighting is provided along the entire length of the A29. To the south of the site the A29 continues as a dual carriageway, passing through retail and employment areas before again reverting back to single carriageway to connect with the A259 at South Bersted.

2.3 Bognor Regis Northern Relief Road (BNRR)

- 2.3.1 The BNRR is a significant infrastructure provision for Bognor Regis. It is currently under construction and when complete will route in an east-west direction between the A259 at North Bersted and Flansham, in order to allow traffic to avoid routing through Bognor Regis. As well as providing new sections of carriageway the BNRR will incorporate existing roads sections, namely Rowan Way and the A29 Shripney Road in order to complete the bypass route. It is currently anticipated that the BNRR will be completed around 2016.



- 2.3.2 At its western extent the BNRR connects with the A259 via a new 43m ICD 4-arm roundabout, where access is also available to the new housing development to the south of the BNRR. This new section of carriageway will be subject to a 40mph speed limit and connects with Rowan Way via a recently constructed 3-arm roundabout. To the west of the 3-arm roundabout Rowan Way is subject to a 30mph speed limit, whilst in the eastern direction the speed limit is 40mph.
- 2.3.3 The route of the BNRR will continue along Rowan Way towards the existing A29 Shripney Road/Steyning Way/Rowan Way roundabout (Rowan Way roundabout). The route will then continue north along the A29 towards the new BNRR roundabout. From here a further section of BNRR carriageway will continue to the east and over the West Coastway railway line to serve the new housing and connect back with the A259 at Flansham, via the new A29 Flansham Lane/BNRR/Hoe Lane 4-arm roundabout. Street lighting and footway cycleway will be provided along the BNRR.
- 2.4 A259 Flansham Lane and Chichester Road**
- 2.4.1 To the east of the BNRR at Flansham, the A259 Flansham Lane is a single carriageway road which routes to Littlehampton and provides a connection towards Worthing, then continuing along the south coast to Eastbourne. In the southbound direction, at Flansham, the A259 routes towards Bognor Regis and is subject to a 30mph speed limit.
- 2.4.2 At North Bersted and to the north of the BNRR, the A259 routes in a north-westerly direction to Chichester and subject to a 40mph speed limit. The A259 continues beyond Chichester in a westerly direction towards Havant and the A3(M). South of the BNRR at North Bersted the A259 is subject to a 30mph speed limit and routes in a south-easterly direction towards Bognor Regis Town Centre and Felpham. As stated above the A259 continues to Littlehampton in the eastern direction. **Figure 1** indicates the site location in relation to the surrounding highway network.

3 Development Proposals

3.1 General

- 3.1.1 The Phase 2 site occupies circa 4.76Ha of land. It is bounded to the west and north by the BNRR; to the east by West Coastway Railway Line; and the Phase 1 (including Rolls Royce) site to the south.

3.2 Development Proposals (Phase 2)

- 3.2.1 Phase 2 masterplan options are contained at **Appendix A**, which illustrates the site layout and building arrangements. Option 1 considers a mix of B1, B2 and B8 uses, where the total GFA will be 20,590sqm within no.8 buildings. Option 2 incorporates a total GFA of 17,820sqm within no.12 buildings, all for B1/B2 uses. Both options have evolved from an initial scheme to provide 21,300sqm GFA of employment B2 use class within Phase 2.
- 3.2.2 For Option 1 it is anticipated that no.6 buildings will be for B2, and the remaining no.2 buildings will cater for B8 uses. The B1 uses are envisaged to be ancillary to the B2 and B8 functions and will occupy no more than 10% of the overall floor space of the buildings. The 20,590sqm GFA employment uses will comprise of the following:
- B2 Industrial – 6,940sqm GFA; and
 - B8 Warehousing/Storage – 13,650sqm GFA.
- 3.2.3 The no.12 buildings proposed for Option 2 will be of varying size for the B2 uses, as shown at **Appendix A**.

3.3 Site Access

- 3.3.1 The main spine road for the Oldlands Farm site commences at the recently constructed A29 Shripney Road / BNRR roundabout, where a purpose-built access arm enters Oldlands Farm in the south-easterly direction. The carriageway width is 9.7m and reduces to around 7.3m beyond a left hand bend, which allows the road to continue in a north-easterly direction. Planning consent was also granted for this access as part of the Oldlands Farm Phase 1 scheme.

3.3.2 This road continues through the Phase 1 area in the north-easterly direction in order to provide access to Phase 2, where it will continue in a north-easterly route. The carriageway width into the Phase 2 site will be around 6.7m in width. The no.5 B2 units to the west of the road will be served initially. The spine road will then split into two links in order to serve the remaining no.3 or no.7 units, dependant on the final option brought forward.

3.3.3 Wide footways will be provided on both sides of the access road, a cycle facility will also be provided on the south/eastern side. This will ensure that continuous and safe routes are available for pedestrians and cyclist to access the employment site.

3.4 Proposed Parking Facilities

3.4.1 The master plans at **Appendix A** shows that for Option 1 a total of 326 car parking spaces are to be provided to serve the no.8 units, which will include a total of 16 disabled parking bays. The Option 2 layout includes for a total of 468 car parking spaces, where 22 spaces will be allocated as disabled bays throughout the site.

3.4.2 At this stage in planning the final use within each unit has not been confirmed, however this will be limited to either B2 or B8 uses.

3.4.3 A review of the WSCC parking standards has been carried out in order to understand the potential parking levels that could be achieved on site. A summary of the WSCC parking standards is contained at **Table 3.1**.

Table 3.1: Extract of WSCC parking standards				
Use	car spaces	cycle spaces	motorcycle spaces (min. 1 +)	Disabled (min. 1)
B2 General industry	1/40m ²	1/200m ² - staff 1/500m ² - visitor	1/10 car spaces	5% car spaces
B8 Storage	1/100m ²	1/500m ² - staff 1/1000m ² - visitor	1/10 car spaces	5% car spaces

3.4.4 It is considered that the proposed parking provision is in-line with the WSCC guidance for the B2 and B8 uses.

4 Trip Generation and Distribution

4.1 General

4.1.1 As mentioned above the proposals at the Phase 2 site will provide B2 and B8 use types. The initial site layout considered 12,800sqm B2 and 8,500sqm B8. The latest options will provide either a total of 20,590sqm (B2 & B8) or 17,820sqm (B2 only). The original floor areas have been utilised to determine the trip generation. It is considered this will provide a very robust assessment of the trip generation for the Phase 2 scheme.

4.1.2 The latest version of the TRICS database (7.1.3) has been interrogated with the purpose of establishing relevant and suitable trip rates to represent the current proposals.

4.2 Development Trip rates

4.2.1 The Employment – Industrial Estate category of TRICS was utilised and sites were selected by GFA (up to 30,000sqm). Initial and weekend surveys were removed, as were sites with very high or low public transport services. In addition Edge of town centre sites were also removed from the selection. The resultant trip rates are shown in **Table 4.1** below.

Table 4.1: Industrial Estate (B2) trip rates						
	Weekday AM peak			Weekday PM peak		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
Trip rate	0.484	0.206	0.690	0.110	0.403	0.513

4.2.2 In order to reflect the warehousing element of the proposals the Employment - Warehousing (Commercial) category of TRICS was utilised. Sites within the range of 2,000 to 20,000sqm were included. Town centre and edge of town centre sites were removed from the selection. **Table 4.2** shows the summary of results for the total B8 uses, whilst the full TRICS outputs are shown at **Appendix B**.

Table 4.2: Warehousing – commercial (B8) trip rates						
	Weekday AM peak			Weekday PM peak		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
Trip rate	0.275	0.089	0.364	0.089	0.240	0.329

- 4.2.3 By applying the above trip rates to the building GFAs provides the trip generation for Phase 2 as summarised below in **Table 4.3**.

Table 4.3: Typical trip generation – Oldlands Farm Phase 2 (6,940sqm B2 & 13,650sqm B8)						
Uses	Weekday AM peak			Weekday PM peak		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
B2	34	14	48	7	28	36
B8	38	12	50	12	33	45
Total	71	26	98	20	61	89

Note: rounding errors occur

- 4.2.4 To consider a worst-case scenario of the development proposals it will be assumed that the entire site will provide B2 uses, which have a higher trip generation than B8 uses. By applying the trip rates shown in **Table 4.1** to the total GFA (21,300sqm rather than 17,820sqm) will provide the worst-case scenario for Phase 2, as shown in **Table 4.4** below.

Table 4.4: Worst-case Trip generation (all B2 uses) – Oldlands Farm Phase 2						
All B2	Weekday AM peak			Weekday PM peak		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
Total	103	44	147	23	86	109

Note: rounding errors occur

- 4.2.5 By comparing the trip generations in **Tables 4.3** with **4.4** it can be seen that *the assumption that only B2 uses are provided will forecast that the Phase 2 proposals will generate additional 49 and 20 two-way trips during the AM and PM peaks respectively.*



4.3 Trip Distribution

4.3.1 The Systra report identifies the employment traffic for the enterprise@BognorRegis area, which considers that generally:

- 50-60% to/from Littlehampton (via BNRR);
- 25-30% to/from north (via A29); and
- Remainder to/from Bognor Regis.

Consequently, the distribution of the Phase 2 development trips have also been assigned to the local highway network in accord with the distribution contained within the Systra report (see **Appendix C**).



5 Traffic Flows and Committed Developments

5.1 General

- 5.1.1 In order to determine the level of background traffic on the local highway network manual classified traffic surveys were undertaken in October 2012 for the Oldlands Farm Phase 1 scheme.
- 5.1.2 A report (Enterprise Bognor Regis – Highway Infrastructure Viability Study) has been produced by Systra in October 2014, on behalf of Arun District Council (ADC) to inform the Local Development Order (LDO), which in turn is used as evidence to support the delivery of the Strategic Employment Allocation at Enterprise Bognor Regis (EBR).
- 5.1.3 The Viability Study utilised the traffic data collected above, along with additional traffic surveys; the West Sussex County Traffic Model (WSCTM); and the Arun Transport Study for Strategic Development Report. The overarching aim of the report was to assess the highway impact of enterprise@BognorRegis (EBR) and the feasibility of a north/south link road between the A259 and the BNRR. The future year scenarios coincide with the planning period of the Arun Local Plan, consequently assessment has been undertaken for 2031.
- 5.1.4 The highway network assessed within the Viability Study report encompasses the study area which is appropriate for the Oldlands Farm Phase 2 proposals. Hence this Transport Assessment will build upon the transport work already approved i.e. a future assessment year of 2031 will be also considered along with the traffic flows associated with the EBR sites.

5.2 Traffic Flows

- 5.2.1 Generally traffic assessment periods consider a base year which coincides with the application submission and a future year of 5 years post application. The Oldlands Farm Phase 2 planning application is envisaged to be submitted in 2015, resulting in a future assessment year of 2020.



- 5.2.2 The EBR report has utilised a period up to 2031 which aligns with the local plan period, consequently the forecast period is significantly greater and applies higher levels of traffic growth than ordinarily required. Nonetheless, for consistency, ease of comparison and transparency, the same assessment periods will be utilised to assess the Oldlands Farm Phase 2 proposals.
- 5.2.3 The Viability Study undertook assessments of the following scenarios:
- 2031 Do Minimum (DM);
 - 2031 Do Something 1 (DS1);
 - 2031 Do Something 2 (DS2); and
 - 2031 Do Something 3 (DS3).
- 5.2.4 DM considered only Oldlands Farm Phase 1 and the completion of the BNRR. Given the schemes that have been included it is considered appropriate to equate this to a 'Base scenario' for Oldlands Farm Phase 2 albeit with 11 years additional traffic growth.
- 5.2.5 DS1 assessed [DM + Saltbox + Rowan Park], along with their associated highway infrastructure (5th arm on BNRR roundabout and access onto Rowan Way respectively). The DS1 scenario included additional potential schemes and can be considered as the 'Base + Committed Development scenarios' for Oldlands Phase 2.
- 5.2.6 DS2 was similar to DS1, with the addition of the LEC site and a link road along the eastern side of the railway line. DS3 considered the same sites as DS2, but the link road crossed the railway and into Oldlands Farm. It is understood that the LEC site is reliant on the provision of a new link road in order for the site to be viable. In addition a link road in any form will be required to traverse flood plain and possibly be required to be elevated to a sufficient height in order in order to cross the West Coastway railway line, thus will incur significant costs.
- 5.2.7 A review of the infrastructure requirements for DS2 and DS3 concludes that the provision of the link road would risk the viability of the Oldlands Farm site and thus has not been further assessed. However sensitivity testing has been carried out in order to understand the potential traffic impacts on the highway network.

5.2.8 Extracts (Figures 12-19) of the traffic flows from the Systra report are contained at **Appendix C**. These show the forecast 2031 traffic flows on the local highway network for the DM, DS1, DS2 and DS3 scenarios.

5.3 Committed Development

5.3.1 It is recognised that the development schemes described above are allocated within the local plan, however with the exception of the Oldlands Farm Phase 1 scheme, the above projects assessed for EBR currently have not been granted planning consent or have planning applications submitted. ***Nonetheless, for the purpose of this this transport assessment the Saltbox, Rowan Park and LEC proposals have been considered as committed developments. This approach will provide a robust traffic assessment.***

5.3.2 It should also be recognised that due to the extended assessment period the magnitude of committed development included is greater than would normally be considered. ***The inclusion of this level of development and associated traffic will result in a very robust assessment.***

Oldlands Farm Phase 1

5.3.3 Oldlands Farm Phase 1 received outline planning consent in March 2014 for a mix of uses totalling 31,116sqm GFA including A1, sui generis, B1, B2 and B8. The TA supporting the application forecast that the scheme would generate the following trips during the peak periods shown in **Table 5.1**.

Table 5.1: Extant Oldlands Farm Phase 1 development trips						
	AM peak			PM peak		
	Arr	Dep	2-way	Arr	Dep	2-way
All uses	247	136	383	216	298	516

5.3.4 The traffic assessment for the Phase 1 scheme demonstrated that the local highway network could satisfactorily accommodate the trips generated in **Table 5.1**.

Rolls Royce

5.3.5 The eastern portion of the Phase 1 land (totalling 16.02Ha) has been sold and will be developed by Rolls Royce. A subsequent full planning application (App.Ref.**BE/73/14/PL**) was submitted for a total of 38,100sqm B2/B8 use. Planning consent was granted in August 2014. The TA (produced by Hydrock) accompanying the application demonstrated that the total Oldlands Farm Phase 1 site would generate less traffic, due largely to the changes in proposed GFA for B8 and B2 uses.

5.3.6 **Table 5.2** contains the trip generation from the Hydrock TA where either all B8 or B2 uses are constructed. Extracts of the Hydrock TA are contained at **Appendix D**. The table also shows the effect of each Rolls Royce scenario and the associated change in trip generation

e.g. Extant trips minus B8 scenario minus commercial (247 – 40 - 113 = 94)

Table 5.2: Comparison of consented Oldlands Farm trips with Rolls Royce						
	AM peak			PM peak		
	Arr	Dep	2-way	Arr	Dep	2-way
Rolls Royce B8 (1)	113	45	158	27	86	113
Rolls Royce B2 (2)	227	106	333	59	170	229
Extant - Table 5.1	247	136	383	216	298	514
Commercial trips	40	18	58	54	66	120
change (1)	-94	-73	-167	-135	-146	-283
change (2)	+20	-12	-109	-81	-80	-165

5.3.7 It is understood that the majority of the Rolls Royce site will be utilised for B8 uses rather than B2. However, it can be seen from the above table that if only B2 uses were provided then there would still be a reduction in trips during both peak periods, when compared to the consented trip generation for Oldlands Farm. ***If B8 uses are provided then further trip reductions will occur at the site.***

6 Junction Capacity Modelling

6.1 General

6.1.1 Junction capacity modelling has been undertaken by MJA at key junctions on the highway network for the Oldlands Farm Phase 2 proposals. The latest modelling software (ARCADY 8) was utilised for the assessments at the following junctions:

- A29 Shripney Road/BNRR/Site Access priority controlled roundabout; and
- A29 Shripney Road/Steyping Way/Rowan Way priority controlled roundabout.

6.1.2 The following scenarios will be considered for the above junctions:

- 2031 Base (AM and PM peaks);
- 2031 Base + Committed (AM and PM peaks); and
- 2031 Base + Committed + Development (AM and PM peaks).

6.2 2031 Base Scenario Assessment

6.2.1 Construction of the A29 Shripney Road / BNRR / Oldlands site access junction commenced in 2012 and no traffic currently routes along the BNRR or into Oldlands Farm. This junction has 4 arms and a 60 metre Inscribed Circle Diameter (ICD). It is anticipated that the BNRR will open in 2016 and before construction of the Phase 2 scheme. A summary of the ARCADY results for the Base (2031 DM scenario within the Systra report) is given below in **Table 6.1**.

Table 6.1: Summary of ARCADY results for BNRR roundabout				
2031 Base [DM]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.39	0.7	0.50	1.0
(B) BNRR	0.66	2.0	0.62	1.7
(C) Site Access	0.15	0.2	0.39	0.7
(D) A29 Shripney Road (S)	0.69	2.3	0.63	1.8

6.2.2 It can be seen from the results above that the junction is forecast to operate satisfactorily during both peak periods. In 2031 the maximum RFC value is 0.69 and 0.63 during both the AM and PM peaks, with minimal queues for the A29(s) arm.

6.2.3 The A29 Shripney Road / Steyning Way / Rowan Way roundabout also has 4 arms, and a 74 metre ICD. It serves the Southern Cross Industrial Estate via Steyning Way, and Bognor Regis Retail Park via Rowan Way.

6.2.4 A summary of the ARCADY results for the Rowan Way roundabout is given in **Table 6.1a** below.

Table 6.1a: Summary of ARCADY results for Rowan Way roundabout				
2031 Base [DM]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.58	1.4	0.77	3.5
(B) Steyning Way	0.10	0.1	0.35	0.6
(C) A29 Shripney Road (S)	0.39	0.7	0.36	0.6
(D) Rowan Way	0.64	1.9	0.62	1.7

6.2.5 The results in the above table reveal that the Rowan Way roundabout is forecast to operate satisfactorily in 2031. The maximum RFC value is forecast at 0.64 with minimum queuing along Rowan Way during the AM peak. The maximum RFC value of 0.77 and minimal queues predicted for the A29(n) arm during the PM peak.

6.2.6 ***It should be noted that the Systra TA included the full trip generation produced for the original Oldlands Phase 1 scheme, rather than the reduced trip generation as a result of the Rolls Royce scheme (see Table 5.2).***

6.3 2031 Base + Committed Scenario Assessment

6.3.1 When the traffic associated with the committed developments is added to the highway network the capacity of the junctions were analysed, which includes a fifth arm (Saltbox access). A summary of the Base + Committed results are shown in

Table 6.2.

Table 6.2: Summary of ARCADY results for BNRR roundabout				
2031 Base + Committed [DS1]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.49	1.0	0.53	1.2
(B) BNRR	0.80	4.1	0.64	1.8
(C) Site Access	0.20	0.3	0.40	0.7
(D) A29 Shripney Road (S)	0.76	3.2	0.68	2.2
(E) Saltbox Access	0.02	0.0	0.35	0.6

6.3.2 It can be seen from the results above that the BNRR junction is forecast to continue to operate satisfactorily during both peak periods when the committed development trips are applied to the network. During the AM peak the maximum RFC value 0.8 is forecast to be on the BNRR, again with minimal queuing. The maximum RFC value predicted during the PM peak is 0.68 for the A29(s) arm.

6.3.3 The Rowan Way roundabout has also been assessed with the committed trips on the network. A summary of the capacity modelling is shown in **Table 6.2a**.

Table 6.2a: Summary of ARCADY results for Rowan Way roundabout				
2031 Base + Committed [DS1]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.62	1.7	0.79	4.0
(B) Steyning Way	0.10	0.1	0.36	0.6
(C) A29 Shripney Road (S)	0.41	0.7	0.37	0.6
(D) Rowan Way	0.66	1.9	0.69	2.3

6.3.4 The results contained at **Table 6.2a** above demonstrates that the Rowan Way roundabout will operate well within operational thresholds during the 2031 Base + Committed scenario. The Rowan Way arm is forecast to experience maximum RFC value of 0.66 with minimal queuing during the AM peak. The maximum RFC value

forecast during the PM peak will be 0.79 on the A29(n) arm where minimal queues are also expected.

6.4 2031 Base + Committed + Development Scenario Assessment

6.4.1 The A29/BNRR roundabout has been assessed when the worst-case Oldlands Farm Phase 2 traffic (see **Table 4.4**) is applied to the network. A summary of the ARCADY results for the Base + Committed + Development scenarios is shown in **Table 6.3** below.

Table 6.3: Summary of ARCADY results for BNRR roundabout				
2031 Base + Committed + Development [DS1 + Phase 2]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.51	1.1	0.54	1.2
(B) BNRR	0.88	6.5	0.65	1.9
(C) Site Access	0.28	0.4	0.52	1.1
(D) A29 Shripney Road (S)	0.78	3.5	0.70	2.3
(E) Saltbox Access	0.02	0.0	0.37	0.6

6.4.2 It can be seen from the results above that the junction is forecast to operate satisfactorily during both 2031 peak periods. The Phase 2 trips have minimal effect on the junction. The maximum RFC value of 0.88 with minimal queuing will be experienced at the BNRR arm in the AM peak. The maximum RFC of 0.70 is forecast during the PM peak at the A29(s) arm of the roundabout.

6.4.3 A summary of the ARCADY results is shown at **Table 6.3a** for the Rowan Way roundabout when the Phase 2 trips are applied to the network.

Table 6.3a: Summary of ARCADY results for Rowan Way roundabout				
2031 Base + Committed + Development [DS1 + Phase 2]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.62	1.7	0.80	4.2
(B) Steyning Way	0.10	0.1	0.37	0.6
(C) A29 Shripney Road (S)	0.42	0.7	0.37	0.6
(D) Rowan Way	0.67	2.1	0.69	2.3

6.4.4 Again it can be seen that the effect of the development trips is negligible on the roundabout. The Rowan Way arm will experience maximum RFC value of 0.67 and minimal queue in the AM peak, with the A29(n) arm forecast to have a maximum RFC of 0.80 in the PM peak.

6.5 2031 Base + Committed (incl. RR) + Development Scenario Assessment

6.5.1 It should be remembered that the Oldlands Phase 1 site includes the Rolls Royce scheme for largely B8 uses, which significantly reduces the total trip generation for the overall site. The traffic effects of this scheme have been assessed for the BNRR and Rowan Way roundabouts.

6.5.2 The following assessment considers the A29/BNRR roundabout, similar to Paragraph 6.4.1 but with the updated Oldlands Phase 1 trip generation. A summary of the ARCADY results for the Base + Committed (incl. RR) + Development scenarios is shown in **Table 6.4** below.

Table 6.4: Summary of ARCADY results for BNRR roundabout				
2031 Base + Committed (incl. RR) + Development [DS1(RR) + Phase 2]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.49	1.0	0.50	1.0
(B) BNRR	0.81	4.1	0.57	1.3
(C) Site Access	0.15	0.2	0.32	0.5
(D) A29 Shripney Road (S)	0.75	3.0	0.66	1.9
(E) Saltbox Access	0.01	0.0	0.33	0.5

6.5.3 As expected the results for this scenario show greater spare capacity and lesser queues when compared to **Table 6.3**. The maximum RFC value of 0.81 with minimal queuing will be experienced at the BNRR arm in the AM peak. The maximum RFC of 0.66 is forecast during the PM peak at the A29(s) arm of the roundabout.

6.5.4 A summary of the ARCADY results is shown at **Table 6.4a** for the Rowan Way roundabout when considering the updated Oldlands Phase 1 trip generation.

Table 6.4a: Summary of ARCADY results for Rowan Way roundabout				
2031 Base + Committed + Development [DS1(RR) + Phase 2]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.61	1.6	0.79	3.9
(B) Steyning Way	0.10	0.1	0.36	0.6
(C) A29 Shripney Road (S)	0.40	0.7	0.38	0.7
(D) Rowan Way	0.67	2.1	0.68	2.2

6.5.5 Again as expected minor increases in spare capacity and lesser queues are forecast when compared to the results in **Table 6.3a**. The Rowan Way arm will experience maximum RFC value of 0.67 and minimal queue in the AM peak, with the A29(n) arm forecast to have a maximum RFC of 0.79 in the PM peak.

6.6 Sensitivity Testing

Link Road option 1

6.6.1 Sensitivity testing has also been undertaken which considers the development of the LEC site located east of the West Coastway Railway Line. The development of this site will require the construction of a large-scale link road between the A259 and the BNRR. The sensitivity testing assessed the effects of additional traffic along the BNRR due the LEC site and its associated infrastructure. As above, the updated Oldlands Farm Phase 1 traffic has been considered within the following sensitivity testing.

6.6.2 It should be noted that the Systra report applied an additional 100 two-way trips along the link road for the purpose of robustness. Consequently these additional trips will route via the BNRR towards the A29. A summary of the capacity assessment is shown in **Table 6.5** below.

Table 6.5: Summary of ARCADY results for BNRR roundabout				
2031 Base + Committed + Development + LEC & link road(1) [DS2(RR)+ Phase 2]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.52	1.1	0.50	1.0
(B) BNRR	0.83	4.6	0.61	1.5
(C) Site Access	0.16	0.2	0.32	0.5
(D) A29 Shripney Road (S)	0.73	2.7	0.65	1.9
(E) Saltbox Access	0.01	0.0	0.33	0.5

6.6.3 The results in **Table 6.5** show that with the addition of the LEC development trips the BNRR roundabout will operate within acceptable WSCC threshold values. The RFC value of 0.83 with a queue of less than five pcus is forecast on the BNRR arm in the AM peak. The maximum RFC of 0.65 is forecast during the PM peak at the A29(s) arm of the roundabout. Generally when the RFC value exceeds 0.85 the junction arm is considered to start to experience congestion. Minor increases in traffic at the junction may cause significant increases in queues and/or delays.

6.6.4 A summary of the ARCADY results is shown at **Table 6.5a** for the Rowan Way roundabout when considering the LEC trip generation.

Table 6.5a: Summary of ARCADY results for Rowan Way roundabout				
2031 Base + Committed + Development + LEC & link road(1) [DS2(RR)+ Phase 2]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.59	1.5	0.76	3.3
(B) Steying Way	0.10	0.2	0.34	0.6
(C) A29 Shripney Road (S)	0.38	0.6	0.34	0.5
(D) Rowan Way	0.63	1.8	0.65	1.9

6.6.5 The introduction of the link road is expected to provide alternative route choices. The results shown in **Table 6.5a** show that additional spare capacity will be available at the Rowan Way roundabout. It is forecast that a maximum RFC of 0.63 will be experienced on Rowan Way during the AM peak. The A29(n) arm is forecast to operate with a maximum RFC value of 0.76 with minimal queues during PM peak.

Link Road option 2

6.6.6 The Systra report also considered the LEC with a link road routing between the A259 and the A29 (via Oldlands Farm and the BNRR roundabout). **Table 6.6** contains a summary of the capacity assessment for this scenario.

Table 6.6: Summary of ARCADY results for BNRR roundabout				
2031 Base + Committed + Development + LEC & link road(2) [DS3(RR)+ Phase 2]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.57	1.3	0.52	1.1
(B) BNRR	0.93	10.0	0.52	1.1
(C) Site Access	0.32	0.5	0.52	1.1
(D) A29 Shripney Road (S)	0.77	3.3	0.68	2.2
(E) Saltbox Access	0.02	0.0	0.38	0.6

6.6.7 The results within **Table 6.6** show that the BNRR roundabout is forecast to continue to operate within acceptable WSCC thresholds. It is forecast that the BNRR will experience a maximum RFC value of 0.93 and queue of 10 pcus during the AM peak. The maximum RFC value forecast during the PM peak is 0.68 on the A29(s) arm where minimal queues are expected.

6.6.8 The ARCADY results indicate that the BNRR roundabout will be close to its theoretical capacity in the AM period, where queuing will be at a modest level. When the Systra report modelled only the DS3 scenario, the AM peak period results are very similar to those in **Table 6.6**. It is considered that whilst the Phase 2 development will generate trips, there will be a reduction in trips at Phase 1 following the introduction of Rolls Royce.

6.6.9 Whilst the results are within acceptable WSCC criteria, a minimal increase (1m) to the BNRR entry width will enable the whole junction to operate below RFC values of 0.85 (BNRR – 0.83 RFC, 4.8 pcu queue). This measure has also been suggested within the Systra report without the inclusion of the Phase 2 scheme. It is therefore concluded that reduction in spare capacity and increase in queues is largely due to the LEC site and link road, rather than the addition of Phase 2 traffic.

6.6.10 It should also be remembered that the DM scenario includes the original consented Oldlands Farm trip generation, rather than the actual lower trip generation associated with the Rolls Royce scheme.

6.6.11 A summary of the ARCADY results is shown at **Table 6.6a** for the Rowan Way roundabout when considering the LEC trip generation.

Table 6.6a: Summary of ARCADY results for Rowan Way roundabout				
2031 Base + Committed + Development + LEC & link road(2) [DS3(RR)+ Phase 2]	0800-0900		1700-1800	
	RFC	Queue (pcu)	RFC	Queue (pcu)
(A) A29 Shripney Road (N)	0.60	1.6	0.78	3.7
(B) Steyning Way	0.10	0.1	0.36	0.6
(C) A29 Shripney Road (S)	0.39	0.7	0.38	0.6
(D) Rowan Way	0.65	2.0	0.67	2.1

6.6.12 The results shown in **Table 6.6a** show that the Rowan Way roundabout will operate well within operation thresholds in 2031. It is forecast that the maximum RFC of 0.65 will occur on the Rowan Way arm during the AM peak, whilst the maximum RFC value of 0.78 will be experience on the A29(n) arm with minimal queues during the PM peak. The full ARCADY outputs for the scenarios assessed are contained at **Appendix E**.

6.7 Summary

6.7.1 Junction capacity assessments have been carried out for key junctions on the highway network in order to understand the traffic effects of the Oldlands Farm Phase 2 proposals.

6.7.2 The analysis has built upon the assessment work undertaken for the EBR viability study which uses an assessment period of 2031. The worst-case development trip generation has been applied to the network for the purpose of the capacity analysis. It is considered that the future year is significantly greater than normally required, as is the level of committed development. Consequently a very robust assessment has been undertaken.



- 6.7.3 The results of the ARCADY modelling show that the junctions assessed are forecast to operate within acceptable thresholds during the AM and PM peaks for all scenarios tested.
- 6.7.4 Sensitivity testing has also been carried out to understand the effects of a large-scale link road and the development to the east of the railway line. The results indicate that if the link road routed through Oldlands Farm the BNRR roundabout would start to experience issues with queuing and would approach its operational capacity at the BNRR arm. However previous analysis concluded the same, suggesting that the loss of space capacity would be due to the LEC site rather than the Phase 2 scheme. The assessments have included the higher levels of trip generation for Oldlands Farm Phase 1 which has been consented, however the current occupiers will generate significantly less trips than consented.
- 6.7.5 It is concluded that the development proposals for Oldlands Phase 2 will not have a detrimental effect in terms of traffic on the local highway network. The capacity modelling demonstrates that the junctions considered will perform satisfactorily when the development is in place.

7 Highway Impact

7.1 Oldlands Phase 1

7.1.1 It was demonstrated within the Transport Assessment for the Oldlands Farm Phase 1 scheme that the total trip generation would be significantly less than the accepted trip generation for B1 use only (TA produced by Boreham Consulting Engineers Ltd - BCE).

7.1.2 Consequently it was also shown that the traffic impact due to the Phase 1 site on the highway network would be less than the already accepted level for the Site 6 scheme.

7.1.3 Furthermore, since the original Oldlands Farm application which proposed various employment and commercial uses on site, Rolls Royce has purchased a significant proportion of the Phase 1 site and will be used for predominantly B8 uses. The effect of this will further reduce the trip generation of Phase 1.

7.2 Oldlands Phase 2

7.2.1 The total traffic generation from the Phase 1 and Phase 2 schemes will continue to be less than the extant consent for the Site 6 scheme. **Table 7.1** shows the consented trip generation for the Site 6 scheme at Oldlands Farm.

Table 7.1: Accepted BCE Office (B1) trip rates – 38,000sqm for Site 6						
	Weekday AM peak			Weekday PM peak		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
Trip rate	1.46	0.34	1.80	0.27	1.51	1.78
Trips	554	130	684	104	573	677

7.2.2 **Table 7.2** below provides a summary of the change in trip generation for each phase of development at Oldlands Farm.

Table 7.2: Comparison of consented Oldlands Farm trips with Rolls Royce							
		AM peak			PM peak		
		Arr	Dep	2-way	Arr	Dep	2-way
Original	Consented B1	554	130	684	104	573	677
Phase 1	Extant trips	247	136	383	216	298	514
	<i>Difference</i>	<i>-307</i>	<i>+6</i>	<i>-301</i>	<i>+112</i>	<i>-275</i>	<i>-163</i>
Updated Phase 1	Rolls Royce	113	45	158	27	86	113
	Commercial trips	40	18	58	54	66	120
	<i>Difference</i>	<i>-401</i>	<i>-67</i>	<i>-468</i>	<i>-23</i>	<i>-421</i>	<i>-444</i>
Phase 2	B2/B8	103	44	147	23	86	109
	<i>Difference*</i>	<i>-298</i>	<i>-23</i>	<i>-321</i>	<i>0</i>	<i>-335</i>	<i>-335</i>

*Includes Updated Phase 1 trips

- 7.2.3 It can be seen for **Table 7.2** above that with the addition of Phase 2 traffic at Oldlands Farm the total trip generation (Phase 1 and 2) will be less than the level of consented trips.
- 7.2.4 It is considered that due to the latest proposed uses at Oldlands Farm there will be a positive impact on the local highway network. The forecast trip generation will be significantly less than that already consented for the site. The reduction in development trips will occur not only during the peak hours, but also throughout the day.

8 Accident Analysis

8.1 General

- 8.1.1 The latest available Personal Injury Accident (PIA) data covering a 5-year period (01.03.10 – 28.02.15) has been obtained from Sussex Police. The area of assessment includes the section of the A29 Shripney Road between Shripney Lane and the A29/Steyning Way/Rowan Way roundabout. Details of the PIA information are contained at **Appendix F**, which includes a map showing the area under consideration. A summary of the data is provided in the following paragraphs.

8.2 A29 Shripney Road (north)

- 8.2.1 A total of 7 accidents were recorded along this section of the A29, including 1 fatal, 3 serious and 3 slight in severity. (Thursday 09/11) The fatal accident involved a car driving at speed, which undertook and overtook cars and lost control. The vehicle then struck a wall and lamp post.
- 8.2.2 (Sunday 02/11) - This serious severity accident involved a motorcycle failing to negotiate a bend, leaving the road and hitting a lamp post. The rider and machine then collided with a mother and child on the footpath. (Saturday 06/11) - The second serious accident involved a driver losing control and leaving the carriageway. The car came back across the carriageway and collided with a wall. (Friday 08/13) – The third serious accident involved a vehicle turning right out of a junction and colliding with an oncoming vehicle. It is unknown if the oncoming vehicle was travelling at excessive speed or if the turning vehicle failed to judge the path or speed of this vehicle.
- 8.2.3 (Wednesday 03/13) A slight accident occurred where the dualled section of carriageway becomes single lane. A northbound car attempted a U-turn and was hit by a following goods vehicle. (Wednesday 04/14) – The second slight accident occurred when a southbound car lost control, crossed the central reservation and

collided with another vehicle, causing it to overturn. (Wednesday 12/14) – The third slight accident occurred when a goods vehicle attempted to turn right from Shripney Lane and into the path of an oncoming car.

A29 Shripney Road (north) Summary

- 8.2.4 There are no clusters of accidents along this section of the A29 Shripney Road. The fatal accident appears to be caused by aggressive driving. The remaining accidents involved drivers losing control in different locations and conditions.

8.3 A29 Shripney Road/Rowan Way/Steyping Way Roundabout

- 8.3.1 A total of 5 slight severity accidents were recorded at this junction. (Sunday 03/12) - On the approach to the roundabout a car failed to slow in time and collided into the rear of the car in front. (Thursday 03/11) - This accident was caused when two cars collided on the roundabout. One car travelling east along Rowan Way failed to give way to a northbound car travelling along Shripney Road. (Friday 07/13) this accident occurred when a car entered the roundabout and collided with a cyclist. (Tuesday 03/14) – this slight rear-end shunt accident involved two cars waiting at the roundabout. The following car moved forward expecting the front car to move but didn't. (Wednesday 12/14) this accident occurred when a car entered the roundabout and collided with a cyclist.

Rowan Way/Steyping Way Roundabout Summary

- 8.3.2 There are no clusters or patterns to the accidents above. One involved loss of control around the roundabout, two occurred as a rear-end shunt, two involved a vehicle failing to look properly.

8.4 Rowan Way

- 8.4.1 A total of 4 slight and 1 serious accidents were recorded along this link. (Thursday 12/11) - One slight accident occurred in rainy conditions, involving a car turning right into the retail park and making contact with a pedestrian emerging from behind a stationary vehicle to cross the retail park entrance. (Saturday 11/14) this slight

accident occurred when a vehicle turned right into the retail park and collided with an oncoming vehicle. (Friday 12/14) A slight accident occurred when a car turned left onto Rowan Way and hit an oncoming motorcycle. The view of the motorcycle was obscured by another vehicle waiting to turn right onto Rowan Way. (Sunday 11/14) An elderly driver intended to turn right into the retail park and collided with an oncoming vehicle. (Saturday 01/15) a serious accident occurred when a car turned right into the retail park and collided with an oncoming vehicle.

Rowan Way Summary

- 8.4.2 All the accidents occurred at the retail park entrance. One accident involved a turning car colliding with a pedestrian emerging between stationary vehicles, one accident involved a car colliding with a motorcycle which was obscured from view. The remaining three accidents involved cars turning right into the retail park and colliding with oncoming vehicles. All these accidents have causations of poor driver behaviour.

8.5 A29 Shripney Road (south)

- 8.5.1 (Monday 07/12) - One serious accident occurred in dark and rainy conditions, where a female pedestrian was approached by an unknown male in a car offering a lift. After walking away, the pedestrian noticed the car approaching again and attempted to cross the carriageway then was struck by the car.

8.6 Accident Summary

- 8.6.1 There are no clusters of accidents within the area under review. There are also no patterns of similar accidents recorded in the area. The majority of the accidents were due to driver/rider error and injudicious action such as failing to give-way, failing to look properly and travelling too fast for conditions.
- 8.6.2 The construction of the BNRR roundabout commenced in 2012 and bisects one of the sections of A29 under review. When fully open the roundabout will provide opportunities for traffic to use the BNRR, thus changing the nature and



characteristics of the carriageway. The effect of the roundabout is anticipated to require motorists to slow down on the approach (all directions) to the roundabout. The speed limit has been reduced from 50mph to 40mph recently for this section of the A29. It is noted that no accidents have been recorded in the vicinity of the BNRR roundabout.

9 Sustainable Travel Options

9.1 General

- 9.1.1 As mentioned earlier the Oldlands Farm site adjoins the existing settlement boundary of South Bersted. The site is less than 1km south of the village of Shripney and Bognor Regis Town Centre is approximately 3km to the south, whilst North Bersted is around 2.5km to the west.
- 9.1.2 New housing areas are currently under construction, as is major highway infrastructure as part of the Site 6 scheme. The settlement of South Bersted has also seen the implementation of a number of commercial projects in recent years.
- 9.1.3 Oldlands Farm is situated in an area with potential for growth and development. A number of adjacent parcels of land have also been allocated in the Local Plan for employment uses.
- 9.1.4 Opportunities for walking and cycling also exist to local facilities such as retail parks, bus routes, health facilities, food outlets etc.
- 9.1.5 The earlier phase of the development site include a 'hub' where a range of amenities will be available to the public and Oldlands Farm employees alike. This will be located on Phase 1 of the site and reachable from any part of the site by foot or cycle.

9.2 Walking And Cycling

- 9.2.1 Walking accounts for the majority of short distance journeys. It is also an essential element of all public transport travel. Bus stops are usually accessed on foot and most rail journeys involve a journey to the station on foot.
- 9.2.2 The existing local highway network provides a strategic network of footways with a good level of street lighting allowing opportunities for links into the surrounding residential and commercial areas of South Bersted, Felpham and Flansham.

Opportunities for walking and cycling also exist to local facilities such as retail parks, bus routes, health facilities, food outlets etc.

- 9.2.3 To the east of the site a footway/cycleway will be provided along the BNRR to connect the A29 with the A259 and the new housing development for Site 6. The 3 metres wide facility will be well lit and enable direct links to Flansham. This cycle link will route into the Oldlands Farm site. The new housing area is approximately 2.2km east of the site and well within cycling distance.
- 9.2.4 In the vicinity of the Oldlands Farm site there is a pedestrian route along the western side of Shripney Road. The footpath provides a direct link to the settlement of Shripney to the north. To the south of the site this route has recently been upgraded, where a 3 metres wide footway/cycleway is provided and connects with the existing footway/cycleways at the Rowan Way roundabout via an improved crossing facility. An upgraded footway/cycleway will also be constructed along Rowan Way to provide a link to the A259 Chichester Road and the South Coast Cycle Route.
- 9.2.5 South of the Rowan Way roundabout footway/cycleways are available on both sides of Shripney Road. These routes continue to the south towards the centre of Bognor Regis.
- 9.2.6 The South Coast Cycle Route (SCCR) runs generally west to east between Emsworth and Worthing and passes through Bognor Regis and Chichester. From Chichester this cycle route follows the A259 and when reaching North Bersted the route follows minor roads predominantly to the south of the A259 and towards the centre of Bognor Regis.
- 9.2.7 National Route 2 (NCN2) is a long distance route linking Dover with St Austell and routes along the south coast. Currently NCN2 is not continuous, however in the vicinity of Chichester and Bognor Regis this route provides a continuation of the SCCR.



9.2.8 The Barnham to Flansham Cycle Route (Whittingtons Way) runs in a north to south direction and passes to the east of the site. Whittingtons Way connects Hoe Lane in Flansham and Church Lane in Barnham and will route close to the BNRR, where a crossing/connection will be constructed. Figure 2 shows the cycling facilities in the area surrounding the development site.

9.2.9 The Oldlands Farm site is located less than 1km south of the settlement of Shripney, 1.5km north of South Bersted and approximately 2.5km to the east of North Bersted. The new housing at Felpham is around 2.2km east of the site. The closest housing area is around 900 metres south-west of the site along Rowan Road. It is considered the Oldlands Farm is located within easy access of existing housing areas by foot and cycle.

9.3 Bus Travel

9.3.1 The Oldlands Farm is located within acceptable walking distance to regular bus services along the A29 Shripney Road. Stagecoach South provides the majority of bus services in the Bognor Regis area.

9.3.2 The closest bus stops in relation to the Oldlands Farm site are located along the A29 Shripney Road. To the south of the site bus shelters are available at the Bognor Regis Retail Park. These are well maintained, well lit and timetable information is available. To the north of the site bus stops are also available in the vicinity of Shripney Lane. The stops on both sides of the road are well lit and also provide timetable information. The bus stops and shelters are approximately 450 metres from Oldlands Farm.

9.3.3 The Compass Service 66 routes between Bognor Regis and Yapton, via Walberton, Westergate, Woodgate, Shripney, Sainsburys (A29), and South Bersted. Regular journeys are provided from Monday to Saturday. Services operate at an approximate 90 minute frequency between 08:00 and 17:00 hours.



- 9.3.4 The Stagecoach Service 61 operates a circular route between Sainsburys and South Bersted. The service routes along the A29 and through the centre of Bognor Regis, then continues to Aldwick and South Bersted. Services are provided Monday to Saturday between 09:50 and 15:50 hours.
- 9.3.5 The Stagecoach Service 62 operates a circular route between Sainsburys and Nyetimber. The service also routes along the A29 and through the centre of Bognor Regis, then continues to Aldwick and Nyetimber. Services are provided Monday to Saturday between 09:30 and 15:30 hours.
- 9.3.6 From the bus services above it is possible to reach the centre of Bognor Regis where an extensive bus network is available. Services provide a good level of service throughout the town centre and connections into the surrounding residential areas and further afield.
- 9.3.7 The Stagecoach Service 65 is a circular route between Sainsburys and North Bersted, routing along the A29 Shripney Road, A259 Chichester Road, Fairlands and Rowan Way. Services are provided Monday to Saturday between 0930 – 1545 hours.
- 9.3.8 To the north of the site, in Westergate, a number of bus services are available and can be reached via the Compass Service 66. The Compass Services 85 and 85A route between Arundel and Chichester via Walberton, Fontwell, Nyton, and Oving. Services operate Monday to Saturday between the hours of 07:20 to 16:50.
- 9.3.9 Compass Service 228 routes from Westergate to Tangmere, via Barnham, Walberton, Yapton, Arundel, and Fontwell. This service provides buses during school term times. The Stagecoach Service 658 provides school time buses, between Westergate and Chichester, via Eastergate, Fontwell, Slindon, Tangmere, and Halnaker. Stagecoach Service 665 also provides school time buses, between Littlehampton and Chichester. Buses route via Yapton, Walberton, Westergate, Oving, Tangmere, and Westerton.

9.3.10 **Figure 3** shows the bus stops in the vicinity of the site. The timetables for all of the services discussed above can be found at the following website, and selecting Shripney as a location:

www.travelinesoutheast.org.uk/se/XSLT_SELTT_REQUEST?language=en

9.4 Rail Travel

9.4.1 The nearest rail station to the site is situated within Bognor Regis Town Centre, approximately 2.4 km to the south west of the site. Bognor Regis Station is managed by Southern Railways and is the terminus of a short branch from the main routes. Bus services 66, 61, and 62 provide journeys directly to the railway station, which take round 6 minutes.

9.4.2 Bognor Regis connects with the Brighton – Portsmouth/Southampton ‘Coastway West route’ and the London – Portsmouth/Southampton ‘Mainline West route’ via Barnham. Direct services to London are available via Worthing, Hove and Gatwick.

9.4.3 On weekdays the direct service from Bognor Regis takes around 1hr 40mins to London Victoria or London Bridge and service frequency is 30mins. Saturday services are also at a 30min frequency whilst Sunday services operate on an hourly basis.

9.4.4 Services to Littlehampton are provided at an hourly frequency throughout the week. Direct journeys take around 17mins from Bognor Regis.

9.4.5 The service from Bognor Regis to Portsmouth takes approximately 1hr, including a change at Barnham. Services operate every 20/30mins, every day of the week.

9.4.6 The timetables for the above services can be found from the following link and selecting Table number 188:

<http://www.networkrail.co.uk/browse%20documents/eNRT/Dec14/timetables/Table%20188.pdf>



9.5 Local Amenities And Facilities

- 9.5.1 It is proposed to provide a number of retail/commercial units within the Oldlands Farm Phase 1 site. Clearly these facilities will be easily accessible from the Phase 2 site by foot.
- 9.5.2 Beyond the Oldlands Farm site there is also a wide range of facilities and amenities in the local area. A number of retail parks are situated along the western side of Shripney Road to the south of the site, where numerous amenities including convenience food, health, retail etc. are available.
- 9.5.3 The proximity of amenities to Oldlands Farm, including those proposed within the site will allow employees to make journeys on foot or cycle. In addition the bus services discussed above allow journeys from the site to be made into Bognor Regis via a short journey.

10 Framework Travel Plan Summary

10.1 General

10.1.1 A Framework Travel Plan (FTP) was produced for the Oldlands Farm Phase 1 site.

This will provide an overarching strategy to reduce work related journeys for Oldlands Farm businesses. Consequently it is proposed to develop the FTP to include the Phase 2 site, which will further provide a consistent approach.

10.1.2 It is anticipated that the FTP will evolve as occupations at the site increase. It does not seek to take priority over the existing sustainable travel initiatives of end-users, but to enable a joined-up approach across the site to achieve effective outcomes.

10.1.3 The FTP will provide a range of measures and initiatives aimed at meeting targets set out for increasing sustainable travel options and reduce single occupancy car trips. At this stage no end-users within Phase 2 have been confirmed. The targets will be agreed with WSCC in order to take account of the final occupiers at Oldlands Farm.

10.1.4 The FTP envisages that a Steering Group will be set up by a Travel Plan Co-ordinator (TPC), Hanbury and the Site Management Organisation (SMO) in order to develop the strategy. The Steering Group will consist of stakeholders including occupiers, WSCC, public transport operators, TPC and SMO.

10.1.5 The FTP will be the responsibility of Hanbury for a period of 5-years. When the agreed targets have been met the FTP will be handed over to the Steering Group for its continued success.

10.1.6 Monitoring of the FTP will be carried out formally (TRICS SAM) at years 1, 3, & 5, whilst informal surveys will be undertaken annually by the TPC. The TPC will produce reports for the formal monitoring and submit to WSCC to assess the performance of the FTP.

10.1.7 A range of additional measures are included with the FTP which could be implemented if targets are not met within the specified timeframe.

11 Summary and Conclusion

11.1 Summary

- 11.1.1 This Transport Assessment supports an outline planning application for Phase 2 development at Oldlands Farm, Bognor Regis for a mix of employment uses. The site is circa 4.76Ha and situated north-east of the Phase 1 area, which has recently been granted planning consent. Oldlands Farm site is located east of the A29 Shripney Road and south of the new Bognor Regis Northern Relief Road (BNRR).
- 11.1.2 The site lies within the enterprise@BognorRegis area which has been identified as a significant and deliverable growth opportunity. A mix of employment uses is proposed which accord with the Arun District Council (ADC) Local Plan. Oldlands Farm straddles two policy areas (Policy Site 5 and Site 6), where Site 5 has a commercial allocation and Site 6 has employment allocation.
- 11.1.3 It is proposed to develop up to 21,300sqm GFA, which will include B1, B2, & B8 use classes. Dependant on the determination of final mix of uses on site, up to no.12 buildings will be provided to cater for either the B2 and/or B8 uses. The B1 uses are ancillary and will occupy no more than 10% of the overall floor space.
- 11.1.4 Access for Phase 2 will be taken via the recently constructed A29 Shripney Road / BNRR roundabout and the spine road for Phase 1. The carriageway width will vary between 6.7 and 7.3m through Phase 2, which will include footways on both sides of the access road. A cycle facility will also be provided on the south/eastern side to ensure continuous and safe routes are available for pedestrians and cyclist to access the employment site.
- 11.1.5 A total of 336 car parking spaces are to be provided for Option 1 to serve the no.8 units, which will include a total of 16 disabled parking bays. For Option 2 a total of 468 spaces including 22 disabled spaces will be provided for the no.12 buildings. It is considered that the proposed parking provision is in-line with the WSCC guidance for the B2 and B8 uses.



- 11.1.6 The latest version of the TRICS was interrogated to establish relevant and suitable trip rates to represent the current proposals. In order to provide a robust assessment the peak hour trip rates for B2 uses were applied to the total GFA to derive the worst-case trip generation. These trips were then distributed and assigned to the local highway network in accord with the EBR viability study report produced by Systra.
- 11.1.7 Committed developments were also obtained from the Systra report, which considered an assessment period of 2031 to align with the Arun Local Plan period. The assessment period up to 2031 is considerable longer than necessary for the Phase 2 application, nonetheless utilising the same period enables a consistent approach and provides a very robust traffic assessment to be carried out.
- 11.1.8 Junction capacity modelling has been undertaken at key junctions on the local highway network. This also considered an assessment period up to 2031. For all the scenarios assessed the junctions considered are forecast to operate satisfactorily and within acceptable thresholds during the AM and PM peak hours. The predicted queues will be minimal at each junction.
- 11.1.9 Sensitivity testing has been carried out which considers the LEC site to the east of the railway line and the two associated link road alignments options. Junction capacity modelling for both scenarios forecast that the RFC values would be within acceptable thresholds. For the link road option routing through Oldlands Farm, the capacity assessment results forecast that queuing at the BNRR arm of the A27/BNRR roundabout would be in the order of 10pcus during the AM peak. Further analysis concluded that a minor increase (1.0m) to the entry width of the BNRR, would improve capacity and reduce the predicted queue by half. It should be noted that the Systra report also mentioned the same solution, however the Phase 2 scheme was not included. Consequently, it is deemed that reduction in spare capacity and increase in queues is largely due to the LEC site and link road, rather than the addition of Phase 2 traffic.



- 11.1.10 The assessments include the higher consented trip generation for Oldlands Farm Phase 1, however the current occupiers will generate significantly less trips than consented. It is concluded that the Phase 2 proposals will not have a detrimental effect in terms of traffic on the local highway network. The capacity modelling demonstrates that the junctions considered will perform satisfactorily when the development is in place.
- 11.1.11 The latest proposals will result in a positive impact on the local highway network, where the trip generation will be significantly less than that already consented for the site. This highway benefit will occur not only during the peak hours, but also throughout the day.
- 11.1.12 Accident analysis concludes that there are no clusters of accidents or patterns of similar accidents recorded in the area. Driver/rider error and injudicious action such as failing to give-way, failing to look properly and travelling too fast for conditions appear to be the causes of the majority of accidents.
- 11.1.13 The existing local network provides footways with a good level of street lighting allowing journeys to the surrounding residential and commercial areas. The infrastructure allows for walking and cycling to local facilities such as retail parks, bus services, health facilities, food outlets etc. The site is located within acceptable walking distance to regular bus services along the A29 Shripney Road, where journeys to Bognor Regis, South Bersted and Westergate can be made. Onward journeys to destinations further afield can be made from these locations. The nearest rail station is situated at Bognor Regis approximately 2.4 km to the south. A 6-minute journey by bus allows access to the trains services.
- 11.1.14 A range of amenities and retail opportunities are available in the vicinity of the site and along the A29. These amenities are reachable on foot, by cycle and by bus.
- 11.1.15 It is proposed to incorporate the Phase 2 scheme into the Framework Travel Plan for Oldlands Farm in order to provide a consistent approach to the implementation of measures and initiatives, and monitoring process.



11.2 Conclusion

- 11.2.1 The Phase 2 scheme is within the enterprise@BognorRegis area and the proposals are in accord with local policy. The parking allocation is in line with WSCC guidance. Junction capacity assessments demonstrate that the local highway network can satisfactorily accommodate the proposals. The traffic impact can be deemed to be positive and the proposals can be regarded as providing a highway benefit due to the reduction in traffic generated over that already accepted. The site is within easy access of local amenities and facilities, and reachable by public transport. A framework travel plan will encompass the site and aim to minimise the level of work related car trips. For these reasons it is considered that there should be no highway objections to the Phase 2 employment proposals.



Figure 1: Site Location

Key

- Service 66
- Service 61
- Service 65
- Service 62
- Bus stop
- site

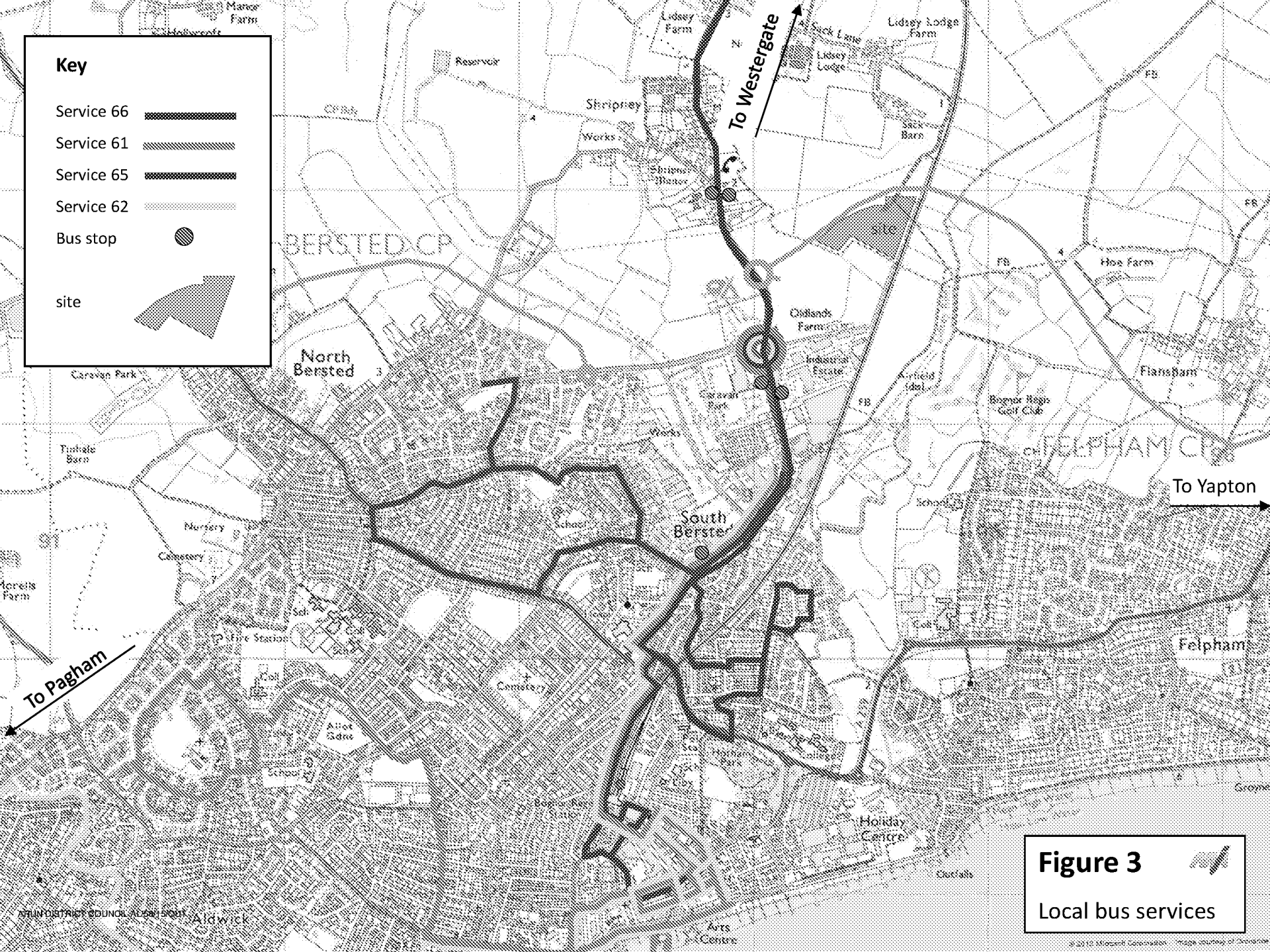


Figure 3

Local bus services



Appendix A

Masterplans

(1643-L-001-01 & 1643-L-001-02)