



LAND AT WING NURSERY, A29
LIDSEY ROAD, WOODGATE, WEST
SUSSEX

Residential Development Proposal

Transport Statement Addendum

Prepared on behalf of Steven Keet

ADMA/17/3711s

February 2018

DOCUMENT CONTROL

Project: Land at Wing Nursery, A29 Lidsey Road, Woodgate, West Sussex
Residential Development Proposal

Document: Transport Statement Addendum

Client: Steven Keel

Reference: ADMA/17/3711s

Document Checking:

Author:	EJD	Date	5/2/2018
Checked by:	ALB	Date	16/02/2018
Approved by:	PMR	Date	16/02/2018

Status:

Issue	Date	Status	Issued by
1.	19/2/2018	Draft	PMR
2.	23/2/2018	Draft	PMR
3.			
4.			
5.			
6.			
7.			

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1 INTRODUCTION

1.1 Overview

1.1.1 This Transport Statement Addendum has been prepared by Russell Giles Partnership Ltd (RGP) in response to West Sussex County Council's (WSCC) formal consultation response regarding planning application (ref.AL/115/17/OUT) for the development of 55 dwellings and associated access on land at Wings Nursery, A29 Lidsey Road, Woodgate, West Sussex.

1.1.2 Following RGP's initial Transport Statement, WSCC issued highways comments which identified the following concerns with the development proposal on the following grounds:-

(i) Sustainability

(ii) Access

(iii) Highways Safety

(iv) Traffic Impact

1.1.3 WSCC's initial highway comments are attached for reference at **Appendix A**. RGP subsequently produced a Technical Note to counter the comments, clarify assessment points and offer additional design improvements to the scheme. This report was however met with a similar response which is attached at **Appendix B**.

1.1.4 RGP subsequently corresponded directly with WSCC highway officers to determine how the scheme could be amended to overcome the concerns raised. Working constructively alongside the WSCC highway officers a series of measures were subsequently identified, which should address the outstanding concerns. The correspondence from WSCC highways sent on the 29th of January identifying the mitigating measures is attached at **Appendix C**.

1.1.5 This Technical Note demonstrates mitigating measures to accord with WSCC correspondence of the 29th of Jan.

1.1.6 The remainder of this report is comprised of the following sections:

(i) **Section 2** reviews the site's revised access arrangements to demonstrate their accordance with DMRB TD 42/95 and its operational safety;

- (ii) **Section 3** considers the anticipated impact of the development traffic on existing queues associated with the Woodgate Level crossing, supported by trip generation assessment, traffic assignment model and capacity model;
- (iii) **Section 4** reviews the site's sustainable credentials in comparison to consented development proposals in the locale, identifies the offsite infrastructure provision to improve the potential for sustainable travel, and identifies robust Travel Planning measures and incentives aimed at reducing single occupancy car trips from the development site.
- (iv) **Section 5** provides a summary of the report's conclusions.

2 ACCESS DESIGN

2.1 Proposed Access Arrangements

- 2.1.1 The site would be served from two access points adjoining the western side of the A29 Lidsey Road. The existing access to the centre of the site would be formalised into a bell-mouth, with a priority arrangement supported by a right turn lane facility and would serve the main body of the site. Additionally, the existing field access to the north of the site would be formalised into a drive-way access to serve 4 dwellings.
- 2.1.2 The site's existing southern access would be stopped up, providing a wider benefit to the local road network by removing the potential conflict point between vehicles turning right into Willows Caravan Park (on the opposite side of Lidsey Road), and those turning right into the site's southern access.
- 2.1.3 In response to WSCC's comments, the site's access arrangements have been reconsidered against the national design guidance document the 'Design Manual for Roads and Bridges' (DMRB) criteria. This assessment focuses on the primary access, as WSCC have not raised concern with the secondary access to the north of the site.

2.2 Design Audit

- 2.2.1 This section of the report considers the proposed access in respect to its compliance with the DMRB. The proposed access has been designed in accordance with DMRB volume TD 42/95 entitled "Geometric Design of Major/Minor Priority Junctions".
- 2.2.2 The DMRB 42/95 guidance outlines standards for the geometric design of major / minor priority junctions with regard to traffic operation and safety. The guidance allows for a tailored design considering the baseline traffic flows, vehicle speeds, the access's anticipated intensity of use, carriageway gradients and proportion of HGVs on the minor and major junction arms.

Design parameters

- 2.2.3 In accordance with DMRB TD 42/95 the primary access's geometric form has been determined through establishing a number of key design parameters from ATC traffic surveys. The ATC traffic surveys are attached at **Appendix D**. A summary of the access's design parameters is provided below:-

- (i) A northbound 85th percentile design speed of 30.9mph (49.7kph)
- (ii) A southbound 85th percentile design speed of 32.2mph (51.8kph)

- (iii) An Annual Average Daily Traffic (AADT) flow of 11,650 vehicles across a seasonally neutral day.
- (iv) The proposed development is anticipated trip generation of 255 vehicle movements per day as set out within the schemes Transport Statement.
- (v) A 1.1% proportion of HGV's on the A29 Lidsey Road.

Geometric Design

- 2.2.4 The proposed access is illustrated in the attached Drawings **2017/3711/001**, **2017/3711/002**, **2017/3711/003** and **2017/3711/004**. The access bell-mouth has been designed in accordance with DMRB TD42/95 'Simple T-junction'. The right turn lane facility has been designed in accordance with DMRB 42/95 'Figure 7/4: Major / Minor Priority Junction with a Ghost Island'.
- 2.2.5 The proposed access would have a total width of 6.0m for the first c.50m of carriageway with a 3.0m lane width. The proposed bell-mouth would provide enlarged radii of 8.0m. An uncontrolled pedestrian crossing point would be provided across the bell-mouth along the pedestrian desire-line, supported by dropped kerbs and tactile paving.
- 2.2.6 The bell-mouths geometries have been subject to a vehicle swept path analysis, demonstrating concurrent vehicle manoeuvres through the access and demonstrating that a refuse truck negotiation of the access. The bell-mouth geometries and swept path analysis are demonstrated in **Drawing 2017/3711/002**.
- 2.2.7 WSCC highway officers have identified that they do not consider as a material concern, the potential for vehicles circumventing queuing traffic within the site as consequence of the railway gate closure, stating that:

"in locations such as this some road users do choose to circumnavigate queuing traffic when the level crossing is down it is not considered to be a design issue and is driver error to do such a manoeuvre. Therefore, the Highway Authority are removing this concern."
- 2.2.8 Consequently, the additional right turn exit lane would no longer be provided to enable right turning vehicles to exit the site should vehicles be required to wait in the development site as a consequence of queuing associated with the Woodgate level crossing.

- 2.2.9 The DMRB TD 42 / 95 guidance identifies that right-turn lane facilities are typically required when the minor arm of a junction exceeds 300 AADT and the major arm exceeds 13,000 AADT. The anticipated vehicle movements generated by the proposed development and the number of vehicle movements on major carriageway would not exceed the traffic threshold that would require a right turn lane facility.
- 2.2.10 However, due to the accesses proximity to the Woodgate level crossing and so the potential to cause blocking back across the railway line, and the strategic importance of the A29 Lidsey Road, a right-turn lane facility has been proposed as part of the development proposal. The proposed right turn lane facility is demonstrated in **Drawings 2017/3711/001, 2017/3711/003, 2017/3711/004.**
- 2.2.11 In accordance with DMRB guidance for 'Major / Minor Priority junctions with a Ghost Island' the right-turn lane would develop using a 1:20 taper in accordance with a 60kph design speeds (see TD 42/95 section 7.30). A 'direct taper' length over which vehicles can enter the right turn lane is introduced using a 5m taper length (see TD 42/95 section 7.34).
- 2.2.12 The proposed right-turn lane would provide a deceleration length of 25m in accordance with TD 42/95 Table 7/5a, which sets out appropriate deceleration lengths relative to the carriageway design speed. A PICADY assessment (see **Appendix E**) has been undertaken, which demonstrates that no queuing is anticipated to occur within the right-turn lane, and so a reservoir for queuing vehicles would not be required. A turning length of 10m has been provided in accordance with TD 42/95 section 7.32 and 7.33.
- 2.2.13 The right turn lane would provide minimum running-lane widths of 3.0m and also the right- turn lane would have a minimum width of 3.0m. The use of the DMRB minimum lane width is considered suitable based on the carriageway design speed, the low proportion of HGV's on the A29 (<1%), low number of HGV's requiring access to the site, and the dimensions of the adjacent right turn lane serving Willows Caravan Park, which uses the same lane widths.
- 2.2.14 A vehicle swept-path analysis has been undertaken demonstrating vehicle negotiation of the proposed right-turn lane facility. The vehicle swept path demonstrates that an 12m rigid HGV can be fully inset into right turn lane pocket passed either side by an 12m rigid HGV without conflict as shown in **Drawing 2017/3711/004.**

2.3 Visibility Requirements

- 2.3.1 The visibility requirements from the proposed access are based on the 85th percentile design speed acquired from the ATC survey on the A29 Lidsey Road (see **Appendix D**), which identified a design speed of 30.9mph for northbound traffic and 32.2mph for southbound traffic.

2.3.2 The recorded approach speed requires a stopping distance of 71m in the primary and secondary directions based on DMRB TD 9/93 'Minimum Desirable' calculation coefficients for 32.2 mph 51.8kph vehicle speeds. In accordance with this requirement, visibility measured in the primary and secondary direction achieves the necessary splays which are demonstrated in **Drawing 2017/3711/001**.

2.3.3 Forward visibility splays have also been provided to demonstrate that the proposed road island and vehicles within the turning lane are visible to oncoming traffic within the required stopping sight distance, thereby preventing overtaking manoeuvres. The forward visibility splays are demonstrated in **Drawing 2017/3711/001**.

2.4 Emergency Access

2.4.1 The geometric design of the primary access would allow fire tenders (the largest emergency vehicle) to comfortably negotiate the proposed access. A vehicle tracking exercise demonstrating manoeuvres by a refuse vehicle which is larger and less manoeuvrable than a fire tender is shown in **Drawing 2017/3711/002**.

2.5 Pedestrian Access

2.5.1 Pedestrian access to the site would be served from 1.8m wide footways flanking the north side of the site's main access road, connecting with the existing footways on the A29 Lidsey Road. Crossing facilities in the form of dropped kerbs and tactile paving would be provided to facilitate pedestrian movements across the primary and secondary access points. The proposed pedestrian facilities are demonstrated in **Drawing 2017/3711/001**.

2.6 Stage 1 Road Safety Audit

2.6.1 The revised access arrangements have been subject to second independent Stage 1 Road Safety Audit (RSA) undertaken by The Safety Forum (TSF) in February 2018. The Stage 1 RSA identified 1 issue and recommendation based on the aforementioned drawings. A copy of the Stage 1 RSA including the 'Designer's Response' is attached at **Appendix F** of this report.

3 TRAFFIC IMPACT – WOODGATE LEVEL CROSSING

3.1 Overview

- 3.1.1 WSCC's initial highways consultation response objected to the development proposal on grounds of the site's traffic impact on the local road network namely the impact on the intermittent queues associated with the Woodgate level crossing stating that:-

"the Highway Authority concludes that the development proposed under this application would add further to the already significant queue lengths on the A29 – particularly in peak periods – and the impact should, therefore, be classed as severe. Furthermore (and as documented above), as no cumulative impact assessment appears to have been undertaken, the final impact on queueing and associated delays to vehicular and pedestrian traffic is not known"

- 3.1.2 WSCC's subsequent response acknowledges that the site's impact cannot be classed as severe and suggests that 'soft' Travel Planning measures would be more applicable to mitigate the impact of the proposal, stating that

"I do not disagree that a site of this scale may not be deemed as severe on its own, however my main concern is the lack of mitigation which has currently been put forward including sustainable transport improvements and lack of firm commitments within the Travel Plan."

- 3.1.3 Mitigating Travel Planning initiatives are addressed subsequently in Section 4 of this Transport Assessment Addendum. To indicate the effect of the development proposal on existing queues, RGP has undertaken a capacity modelling assessment to quantify the impact and determine the cumulative impact.

- 3.1.4 The A29 forms part of a key strategic route to and from of Bognor Regis. Should the minor level of increase be considered unacceptable to the LHA this would have far reaching implications for any development proposals in the conurbations to the south of the Woodgate Crossing in Bognor Regis and Felpham, as it would set a precedent for any development sites with an equivalent or greater number of vehicular movements heading through the Woodgate Level Crossing. This would affect the strategic Bognor Regis Enterprise Zone proposals.

3.2 Trip Generation Assessment

- 3.2.1 To determine the site's trip generation, the TRICS trip assessment used in the original Transport Statement has been used. WSCC's highway consultation response has suggested using the Woodgate Centre (ref. AL/160/12) appeal scheme's trip generation figures in our assessment as they are marginally higher and therefore 'robust'. However, using a TRICS assessment from 2012 associated with a different development proposal would be unrepresentative of this proposal, for which RGP has applied comparative TRICS sites.

- 3.2.2 The TRICS database updates every three months, meaning there are typically discrepancies between TRICS assessments carried out at different times due to these updates, even if the same filtering parameters are used. The two trip assessments are very similar in terms of AM / PM and daily trip generation figures (6 additional trips across the day) - the minor difference in the numbers would mean the effect on assessment results is negligible.
- 3.2.3 The TRICS assessment provided in the Transport statement is representative, and any further reference to trips relates to the original assessment and not that proposed within WSCC's consultation response. The site's trip generation is demonstrated below in **Figure 3.1**.

TRICS Trip Rates Per Dwelling (55 Dwellings)			
	Arrivals	Departures	Total
AM Peak Hour	0.159	0.345	0.504
PM Peak Hour	0.327	0.139	0.466
Daily Traffic	2.331	2.313	4.644
TRICS Vehicle Trip Generation			
AM Peak Hour	9	19	28
PM Peak Hour	18	8	26
Daily Traffic	128	127	255

Figure 3.1 TRICS Assessment

3.3 Traffic Distribution

- 3.3.1 To assess the level of traffic heading toward the level crossing thereby contributing to potential queuing at the Woodgate Level Crossing, a traffic assignment model has been produced to determine the traffic distribution on the local road network. The assessment of the likely traffic flow distribution has been based on weekday AM / PM peak hours' scenario which typically exhibits the greatest traffic impact on the local road network from residential developments.
- 3.3.2 The traffic distribution has been determined using the 2011 census 'Location of usual residence and place of work' data which identifies the work destinations for people in particular area, (ward or lower output level), which can then be assigned to a key traffic routes using Geographic Information System algorithms to determine the most likely routing and the distribution of traffic from the development site.
- 3.3.3 For this assessment, data has been gathered from the 'Arun 0038' super output lower layer. The census data is attached at **Appendix G** whilst the distribution of traffic is represented as a percentage in **Appendix H**. Based on the percentage distribution shown in **Appendix I** the site's AM and PM traffic generation has been assigned to determine the flows through local junctions.

3.3.4 The assignment model reveals that the highest traffic flow associated with the site is likely to and from the north, with 71% of traffic heading in this direction, equating to a total of 13 northbound movements, and 6 southbound movements during the AM peak (08:00 – 09:00). These movements would use the Woodgate Level Crossing, as would 6 northbound and 13 southbound movements during the PM peak (17:00 – 18:00). The number of movements associated with the site that would cross the Woodgate Level crossing presents c.2% of the total traffic flow traversing the level crossing during the AM / PM peak hours, which is well within the variations that would be expected at this location, particularly given seasonal variations.

3.3.5 The in traffic associated with the development site using the Woodgate Level crossing, assuming a flat traffic profile of arrivals and departures from the site, could only ever contribute 1 vehicle per 3 minutes to existing queues. The junction has been subject to a capacity modelling assessment to determine the effects of this additional level of traffic on the operation of the level crossing below in **Section 3.4**.

3.4 Capacity Model

3.4.1 The traffic impact of the proposed development on the Woodgate Level crossing has been assessed using a LINSIG capacity model. The proposal's trip impact has been capacity tested during weekday AM / PM network peak traffic hours (08:00-09:00 and 17:00-18:00) to determine the effect on the junction when the least capacity is available on the A29, i.e. when the gates are down.

3.4.2 To determine typical barrier down times RGP commissioned survey company 'Model Data' to record the barrier down times across the AM and PM peak traffic hours. The survey identified that the barriers were down 37% of the peak hours which accords with WSCC's consultation response which suggest the barriers are down c.40% of the AM/PM peak hours. The raw survey data is attached at **Appendix J**.

3.4.3 The following scenarios were modelled for the capacity assessment:

(i) AM / PM Baseline Traffic Scenario

(ii) AM / PM Baseline Traffic + Proposed Development Traffic Scenario

3.4.4 The LINSIG output identifies a degree of saturation and maximum queue lengths associated with each stream, (i.e. the arm of the junction). A degree of saturation at 85% signifies the point at which the potential capacity improvements should be considered, whilst a degree of saturation exceeding 100% signifies significant delay increases.

3.5 Results

AM peak

3.5.1 To determine the effect of the proposed development on the AM saturation and delay a comparison has been drawn between the 'AM Baseline Traffic Scenario' and the 'AM Baseline Traffic + Proposed Development Traffic Scenario'. A summary of the LINSIG results is provided in **Figures 3.2 and 3.3** and the full LINSIG output for the junction is attached at **Appendix K**.

Item	Lane Description	Lane Type	Full Phase	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	44.4%	10.7	-	-
Wings Nursery Train Crossing	-	-	-	44.4%	10.7	-	-
1/1	Lidsey Road North Ahead	U	A	32.9%	4.0	32.7	27.4
2/1	Lidsey Road South Ahead	U	C	44.4%	6.6	37.0	45.2
3/1	Train Line East Bound Ahead	U	D	0.2%	0.1	209.0	0.2
7/1	Train Line West Bound Ahead	U	B	0.2%	0.1	209.0	0.2

Figure 3.2 'AM Baseline Traffic Scenario'

Item	Lane Description	Lane Type	Full Phase	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	45.3%	11.0	-	-
Wings Nursery Train Crossing	-	-	-	45.3%	11.0	-	-
1/1	Lidsey Road North Ahead	U	A	33.4%	4.0	32.8	27.9
2/1	Lidsey Road South Ahead	U	C	45.3%	6.9	37.8	47.7
3/1	Train Line East Bound Ahead	U	D	0.2%	0.1	209.0	0.2
7/1	Train Line West Bound Ahead	U	B	0.2%	0.1	209.0	0.2

Figure 3.3 'AM Baseline Traffic Scenario + Development Traffic'

3.5.2 The degree of saturation and delay without development traffic that occurs on the northbound arm of Lidsey Road is 44.4% and 37.0 second per PCU respectively, as shown in **Figure 3.2**.

- 3.5.3 The addition of the proposed development traffic increases degree of saturation on the northbound arm of Lidsey Road to 45.3% and the delay to 37.8 second per PCU as shown in Figure 3.3.

PM peak

- 3.5.4 To determine the effect of the proposed development on the existing degree of saturation and delay in the PM, a comparison has been drawn between the 'PM Baseline Traffic Scenario' and the 'PM Baseline Traffic + Proposed Development Traffic Scenario'. A summary of the LINSIG results is provided in Figures 3.4 and 3.5 and the full LINSIG output for the junction is attached at Appendix L.

Item	Lane Description	Lane Type	Full Phase	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	63.6%	20.8	-	-
Wings Nursery Train Crossing	-	-	-	63.6%	20.8	-	-
1/1	Lidsey Road North Ahead	U	A	63.6%	14.8	77.7	85.8
2/1	Lidsey Road South Ahead	U	C	34.1%	5.9	53.1	36.5
3/1	Train Line East Bound Ahead	U	D	0.1%	0.0	120.8	0.2
7/1	Train Line West Bound Ahead	U	B	0.1%	0.0	120.8	0.2

Figure 3.4 'PM Baseline Traffic Scenario'

Item	Lane Description	Lane Type	Full Phase	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	64.8%	21.6	-	-
Wings Nursery Train Crossing	-	-	-	64.8%	21.6	-	-
1/1	Lidsey Road North Ahead	U	A	64.8%	15.5	79.7	89.3
2/1	Lidsey Road South Ahead	U	C	34.6%	6.0	53.3	37.3
3/1	Train Line East Bound Ahead	U	D	0.1%	0.0	120.8	0.2
7/1	Train Line West Bound Ahead	U	B	0.1%	0.0	120.8	0.2

Figure 3.5 'PM Baseline Traffic Scenario + Development Traffic'

- 3.5.5 The maximum degree of saturation without development traffic occurs on the southbound arm of Lidsey Road with a 63.6% degree of saturation and a 77.7 second per PCU delay as shown in Figure 3.4.

- 3.5.6 The addition of the proposed development traffic increases the degree of saturation on the southbound arm of Lidsey Road to 64.8% and increases the delay to 79.7 second per PCU as demonstrated in **Figure 3.5**

3.6 Summary

- 3.6.1 A maximum saturation figure of 64.8% was recorded in the PM peak. The delay times would increase by a maximum of 2.2 seconds per PCU. The capacity test demonstrates that the development would have a negligible impact on delay and that the Woodgate level crossing is within theoretical capacity.

3.7 Hypothetical 'Worst Case Scenario' Capacity Model

- 3.7.1 The surveys undertaken by Modal Data to establish typical barrier down times were undertaken on Thursday the 18th of January 2017. The survey company observed relatively good traffic conditions, as a consequence of barrier closures being predominantly associated with a single train crossing, rather than a coalescence of multiple trains crossing, which would prolong the barrier down times and potential queues. The survey company did not observe more than 2 trains crossing at once per barrier closure event.
- 3.7.2 In recognition that the Woodgate crossing can experience a coalescence of 3 – 4 trains crossing in a single barrier closure event lasting c.8 – 12 minutes, a subsequent capacity model of a hypothetical scenario was run, which includes a 10minute barrier down time.

3.8 Hypothetical Capacity Model Results

AM peak Hypothetical Scenario

- 3.8.1 A summary of the LINSIG results is provided in **Figures 3.6** and **3.7** and the full LINSIG output for the junction is attached at **Appendix M**.

Item	Lane Description	Lane Type	Full Phase	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	54.3%	33.6	-	-
Wings Nursery Train Crossing	-	-	-	54.3%	33.6	-	-
1/1	Lidsey Road North Ahead	U	A	40.3%	11.6	95.4	95.5
2/1	Lidsey Road South Ahead	U	C	54.3%	22.0	123.4	145.0
3/1	Train Line East Bound Ahead	U	D	0.1%	0.0	124.9	0.2
7/1	Train Line West Bound Ahead	U	B	0.1%	0.0	124.9	0.2

Figure 3.6 'AM Baseline Traffic Hypothetical Scenario'

Item	Lane Description	Lane Type	Full Phase	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	55.4%	34.8	-	-
Wings Nursery Train Crossing	-	-	-	55.4%	34.8	-	-
1/1	Lidsey Road North Ahead	U	A	40.9%	11.8	95.8	97.2
2/1	Lidsey Road South Ahead	U	C	55.4%	23.0	126.5	148.0
3/1	Train Line East Bound Ahead	U	D	0.1%	0.0	124.9	0.2
7/1	Train Line West Bound Ahead	U	B	0.1%	0.0	124.9	0.2

Figure 3.7 'AM Baseline Traffic Hypothetical Scenario + Development Traffic'

3.8.2 The degree of saturation and delay without development traffic occurs on the northbound arm of Lidsey Road with a degree of saturation of 54.3% and a 123.4 second per PCU delay and as demonstrated in Figure 3.6.

3.8.3 The addition of the proposed development traffic increases degree of saturation on the northbound arm of Lidsey Road to 55.4% and the delay to 126.5 second per PCU as demonstrated in Figure 3.7.

PM peak Hypothetical Scenario

3.8.4 A summary of the LINSIG results is provided in Figures 3.8 and 3.9 and the full LINSIG output for the junction is attached at Appendix N.

Item	Lane Description	Lane Type	Full Phase	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	78.9%	40.2	-	-
Wings Nursery Train Crossing	-	-	-	78.9%	40.2	-	-
1/1	Lidsey Road North Ahead	U	A	78.9%	27.9	146.4	182.0
2/1	Lidsey Road South Ahead	U	C	42.3%	12.3	109.9	84.2
3/1	Train Line East Bound Ahead	U	D	0.1%	0.0	64.0	0.1
7/1	Train Line West Bound Ahead	U	B	0.1%	0.0	64.0	0.1

Figure 3.8 'PM Baseline Traffic Hypothetical Scenario'

Item	Lane Description	Lane Type	Full Phase	Deg Sat (%)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-	80.4%	41.6	-	-
Wings Nursery Train Crossing	-	-	-	80.4%	41.6	-	-
1/1	Lidsey Road North Ahead	U	A	80.4%	29.0	149.3	187.5
2/1	Lidsey Road South Ahead	U	C	42.9%	12.5	110.3	85.8
3/1	Train Line East Bound Ahead	U	D	0.1%	0.0	64.0	0.1
7/1	Train Line West Bound Ahead	U	B	0.1%	0.0	64.0	0.1

Figure 3.9 'PM Baseline Traffic Hypothetical Scenario + Development Traffic'

- 3.8.5 The maximum degree of saturation without development traffic occurs on the southbound arm of Lidsey Road with a 78.9% degree of saturation and a 146.4 second per PCU delay as demonstrated in Figure 3.8.
- 3.8.6 The addition of the proposed development traffic increases the degree of saturation on the southbound arm of Lidsey Road to 80.4% and increases the delay to 149.3 second per PCU as demonstrated in Figure 3.9.

3.9 Summary

- 3.9.1 The development proposal would increase saturation in the hypothetical barrier closure scenario by 1.5% and delay per PCU by a maximum of 2.9 seconds per PCU. A maximum saturation figure of 80.4% was recorded in the PM peak demonstrating that even under a hypothetical worst case scenario in terms of barrier closure times that the Woodgate Level Crossing is still within theoretical capacity. The capacity model demonstrates that the development proposal would have a negligible impact upon the operation of the level crossing.
- 3.9.2 It is notable that unlike level crossings such as that at the A284 at Wick, the queuing at the Woodgate Crossing does not cause blocking back into major junctions thereby causing gridlock, as is the case at Wick when queues back into the A284/A259 junction.

4 SUSTAINABILITY

4.1 Overview

4.1.1 WSCC's highways correspondence of the 8th of February identifies that the scheme does not provide contribution/improvements to sustainable transport, and that opportunities to maximise sustainable transport have not been proposed.

4.1.2 This section of the report accordingly seeks to:

- (i) Demonstrate the site's accessibility credentials and provide a comparison between recently consented scheme at Hook Lane and The Gatehouse;
- (ii) Identify infrastructural improvements to the network to improve accessibility to and from the site and provide an overall betterment to the local road network for all users;
- (iii) Identifying Travel Planning initiatives to encourage the uptake of sustainable travel modes.

4.2 Existing Accessibility Credentials.

4.2.1 The application site is located approximately 260m to the south of Woodgate village centre (equating to a 2-minute walk), and c.1km to the south of Westergate, and its associated facilities and amenities (a 12-minute walk). All walking times are based on the Chartered Institute for Highways and Transport (CIHT) guidance, 'Providing for Journeys on Foot'. The CIHT guidance states that facilities situated within 2km and 8km are accessible to pedestrians and cyclists respectively.

4.2.2 An accessibility comparison has been drawn between the proposed development site and recently consented sites on 'Land west of Westergate Street, east of Hook Lane' for 79 dwellings (planning ref. AL/39/13), and the proposal at The Gatehouse, Woodgate Planning (ref. AL/99/15/PL). The comparison reviews the respective site's proximity to public transport, sustainable infrastructure links, shopping services, and other local amenities in **Appendix O**. A summary of walking / cycle distances summarised below in **Figure 4.1**.

Distances to Amenities						
Destination	Wings Nursery Proposal		Hook Lane Development		The Gatehouse Development	
	Distance from Site	Walk / Cycle Time	Distance from Site	Walk / Cycle Time	Distance from Site	Walk / Cycle Time
Convenience Shop	0.27 km	3mins walk	0.46 km	6mins walk	0.10 km	1min walk
Post Office	0.27 km	3mins walk	0.46 km	6mins walk	0.10 km	1min walk
GP	2.24 km	7mins cycle	2.07 km	6mins cycle	2.07 km	6 mins cycle
Public House	0.17 km	2mins walk	0.56 km	7mins walk	0.03 km	<1min walk
Bus Stop	0.03 km	<1min walk	0.42 km	5mins walk	0.22 km	3mins walk
Train Station	3.84 km	12mins cycle	3.66 km	11mins cycle	3.66 km	11mins cycle
ATM	0.27 km	3mins walk	0.46 km	6mins walk	0.11 km	6mins walk
Bus Stop with services to Chichester	1.56 km	19mins walk	1.39 km	17mins walk	1.39 km	17mins walk
Nearest Primary School	0.50 km	6mins walk	0.32 km	4mins walk	0.32 km	4mins walk
Nearest Secondary School	1.65 km	20mins walk	1.47 km	18mins walk	1.47 km	18mins walk

Figure 4.1 Comparison of Walking / Cycling distances

4.2.3 The comparison drawn in **Figure 4.1** demonstrates equivalent walking and cycling times to the existing facilities in Woodgate and Westergate. The level of accessibility and the ease with which local facilities can be accessed between the respective sites is very similar.

4.2.4 The Hook Lane development proposal's Inspector's report identifies at length the suitability / accessibility of the site: -

"Westergate is well located to Bognor Regis and Barnham, where transport services are more frequent, and it would therefore be possible to utilise public transport for journeys beyond these destinations. Within Westergate, there are convenience stores and a post office as well as other facilities ... This means that residents would be able to carry out 'top-up' shopping without having to use a car and without the need to travel out of the village. The primary school is within walking distance and the Orminston Six Villages Academy secondary School, about a mile away, is within reasonable cycling distance"

4.2.5 The inspectorate's decision draws comparison between the Hook Lane proposal and the strategic major development site's in Westergate, Eastergate and Barnham:-

"land between the 3 villages of Westergate, Eastergate, and Barnham is being considered as a location for 2000+ new houses and the area is classed as being 'a particularly sustainable location' in the Sustainability Appraisal carried out to inform the emerging Local Plan. I note that the above assessments are dependent on the provision of a wider package of infrastructural and road improvements, but it nevertheless indicates that the general area is not isolated from the existing main centres of development and their associated facilities"

- 4.2.6 Measured from the central point via the nearest pedestrian access point, the proposed development site is 1040m walking distance from Westergate, the Hook Lane scheme is 900m walking distance from Westergate and The Gatehouse development 870m walking distance from Westergate as demonstrated in **Figure 4.2**



Figure 4.2 Walking Distance Comparison to Westergate

- 4.2.7 Given the weight placed by the Inspectorate on the proximity to the Westergate-Eastergate-Barnham strategic development, and the similar proximity of the three sites, the justification applied by the Inspectorate is equally applicable to the proposed development site. As demonstrated in **Figure 4.1** the proposed site is closer to bus stops and convenience facilities.
- 4.2.8 The only difference that can be drawn between the proposed development site and the Hook Lane site is the proximity relative to the railway line and Woodgate Level Crossing. The assertion being that sites south of the railway line are potentially less accessible as the barrier closure times would potentially make short journeys on foot or by bicycle less attractive.

- 4.2.9 Whether a trip is being considered on foot, bicycle or car, the fact that the level crossing barrier comes down from time-to-time is of no consequence to the choice of travel mode.
- 4.2.10 It is recognised that walking / cycling times may increase as a result of barrier closures, however the assertion that people would be any more remote and may seek to use a less sustainable means of travel, such as single vehicle occupancy trips, to access the local convenience facilities (the local shop, the ATM, the post office, schools etc...) is highly unlikely.
- 4.2.11 The barriers were closed for c.37% of the peak hour meaning that 67% of the peak hour pedestrian and cycle movement is uninhibited. Outside of peak hours, and at weekends train frequency and barrier closures reduce.
- 4.2.12 The use of a car as an alternative to sustainable trips would require journey times in excess of typical barrier closure times (identified as <3min in **Appendix J**) in order to access facilities further south, with the nearest alternative facilities being located in Bognor Regis 2.5 miles away, necessitating a >12minute 2 way journey (driving time to north Bognor is based on Google maps algorithms). The majority of convenience facilities are located north of the site, if residents were to head north drivers would still be required to wait at the barriers meaning this would be of no benefit.
- 4.2.13 The proximity to the railway line level crossing relative to the development site cannot reasonably be viewed as material when considering the level of accessibility to the development site. The site must be considered on the same terms as the Hook Lane proposal, as the alternative means of travel by private car is demonstrably inconvenient in this context.
- 4.2.14 The Gatehouse development proposal is located to the south of the level crossing, similar to that of the proposed development site. Whilst the Gatehouse proposal is of smaller scale, the principles of accessibility are still equally applicable, i.e. what is accessible to a small number of residents is still applicable to a larger number of residents – the potential demographic and tenure of residents does not vary materially in this context because of scale. WSCC highways did not raise concerns with The Gatehouse scheme's level of accessibility, and did not identify the Woodgate Level crossing as barrier to accessibility stating: -

"The site is located on the edge of an established residential area and local amenities and employment opportunities, although limited are available within a reasonable walking distance using the existing footway network."

"Although the adjacent road does not benefit from an established local cycle network, the wide roads and low vehicular speeds enable cycling to be a viable alternative for shorter journeys"

4.3 Sustainable Infrastructure Improvements & Travel Planning Initiatives

4.3.1 Recognising that the proposed development site is of a scale that would require greater mitigation of its impact, the following section of the report identifies improvements to the sustainable infrastructure to improve the site and wider local area's accessibility credentials along with Travel Planning Initiatives, which are also to reduce the potential level of single vehicle occupancy vehicle trips associated with the development proposal.

4.3.2 This section of the report additionally identifies potential developer contribution allocations to assist with wider infrastructural improvements on the local road network. The package of measures/contributions will improve the sustainable transport that the site and wider users of the local road network will benefit from.

Proposed Pedestrian Infrastructure

4.3.3 Lidsey Road is supported by lit footways along either side of the carriageway. These provide access to local bus stops, day-to-day amenities and the established residential areas of Woodgate, Westergate and Eastergate to the north and north-east of the site. To enhance the footway network additional crossing points would be provided in the following locations:-

- (i) Lidsey Road adjacent to the development frontage to facilitate pedestrian movement along the footways flanking the eastern side of Lidsey Road
- (ii) At the junction gate road Woodgate Road to facilitate pedestrian movement along the footways flanking the eastern side of Lidsey Road.
- (iii) At the junction of Oaktree Lane to facilitate pedestrian movement along the footways flanking the eastern side of Lidsey Road.
- (iv) At the junction of Willows Caravan Park to connect with relocated southbound bus stop (see **Section 4.3.6**).
- (v) 25m past the site's southern boundary, in close proximity to the relocated bus stop, a pedestrian crossing would be provided to link Lidsey Road's western footway to the relocated southbound bus stop.
- (vi) Crossing would also be provided across the primary and secondary access points.

4.3.4 A demonstration of the crossing infrastructure location is provided below in **Drawing 2017/3711/003**.

- 4.3.5 All crossing points would be uncontrolled, and provide dropped kerbs and tactile paving. The pedestrian visibility from the proposed crossing point across Lidsey Road achieves the necessary sight lines prescribed in DMRB TA 90/05, providing site lines of 1.5m x 71m as demonstrated in **Drawing 2017/3711/004**.
- 4.3.6 The proposed crossing points have been reviewed as part of the stage 1 Roads Safety and Designers Response audit attached at **Appendix F**.

Proposed Bus Infrastructure

- 4.3.7 As part of the development proposals, the bus stops immediately opposite the site would be subject to improvement. The northbound bus stop would provide a new shelter and seating and an increased area of hardstanding. The southbound bus stop would be relocated south of the willows caravan park access to provide more space for the facility, which would include a new shelter and seating and increased area of hardstanding.
- 4.3.8 The proposed relocation of the bus stop has been reviewed as part of the Stage 1 Roads Safety and Designers Response audit attached at **Appendix F**.

Proposed Cycle Infrastructure

- 4.3.9 The carriageway and footway widths between Westergate and the proposed development site are such that a dedicated cycle infrastructure cannot be provided.
- 4.3.10 To encourage cycle use, additional cycle parking adjacent to the convenience shop would be provided on Hook Lane. The cycle parking would take the form of 2 Sheffield stands (4 cycle spaces) and a small area of hard standing on what is currently the verge on the convenience store's southern boundary.

Additional Travel planning initiatives

- 4.3.11 The scheme's Travel Plan has been revised in accordance with WSCC's recommendations in correspondence of the 29th of Jan (**Appendix C**). The Travel Plan accordingly includes the following additional measures and incentives:-
- (i) A £150 travel vouchers to be included within welcome packs to first residents and an additional £150 if targets are not met after 5 years.
 - (ii) Provision of bus faster tickets within the travel welcome packs
 - (iii) Set up of car sharing scheme and a Bicycle Users Group (BUG)

- (iv) Commitment to provide the off-site sustainable infrastructure as identified in this report to improve opportunities for sustainable travel

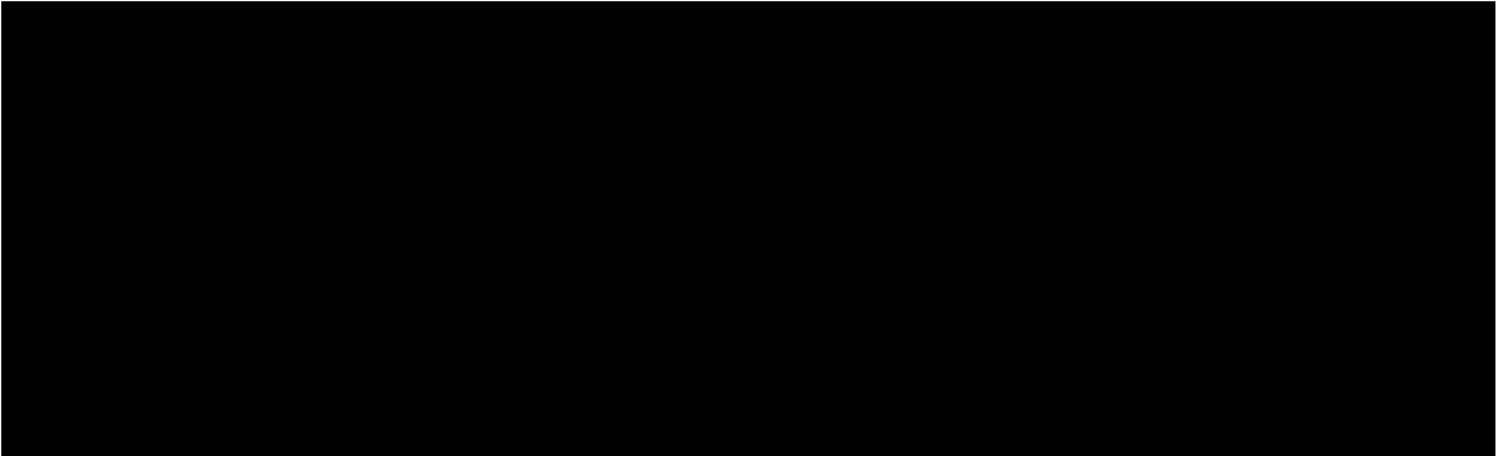
4.3.12 The full Travel Plan is attached at **Appendix P** of the report. Given the sensitivity of sustainability the Travel Plan now has a 'full' status as opposed to a 'framework' plan that would require later refinement.

4.4 Developer contributions

4.4.1 As part of the development proposals the applicant is prepared to offer a financial contribution towards the improvements associated with the future realignment of the A29, which forms part of the aforementioned strategic Barnham-Eastergate-Westergate housing site.

4.4.2 The A29 realignment would offer benefits to the development site and the wider Woodgate / Westergate conurbation and improve strategic road links between Bognor Regis and the A27.

APPENDIX A



From: Tim Townsend [REDACTED]
Sent: 27 November 2017 09:41
To: Planning.Responses
Cc: Richard Temple; Darryl Hemmings; Caroline West; Derek Whittington
Subject: AL/115/17/OUT - Outline applicaiton with some matters resevred for 55 homes - Land at Wings Nursery, Lidsey Road, Woodgate - WSCC highways and transport response dated 27th November 2017

Dear Arun Planning Department,

Please find attached WSCC highways report dated 27th November 2017 in response to the above planning application.

Should anyone receiving this email wish to discuss it, please do not hesitate to contact me.

Thank you.

Tim Townsend
Principal Planner, Highways --- Planning Services
West Sussex County Council, Ground Floor Northleigh, County Hall, Chichester PO19 1RH



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**WEST SUSSEX COUNTY COUNCIL
PLANNING SERVICES CONSULTATION**

DATE: 27th November 2017

**FROM: Tim Townsend TO: Arun District Council
FAO: Richard Temple**

SUBJECT: AL/115/17/OUT - Outline application with some matters reserved for the erection of 55No. dwellings, sustainable drainage measures, public open space, children's play area, landscaping & all other associated works. This application is a Departure from the Development Plan.

LOCATION: Wings Nursery, Lidsey Road, Aldingbourne, PO20 3SU.

DATE OF SITE VISIT: 20th November 2017

RECOMMENDATION:

Advice	☐	Modification	☐	More Information	☐
Objection	☒	No Objection	☐	Refusal	☐

S106 contribution total (see below for breakdown) - Does not include highways.

This is the Highway Authority's consultation response to the planning application for the erection of 55 dwellings on land currently known as Wings Nursery which is found west of the A29 Lidsey Road, Westergate, West Sussex.

Summary position of Highway Authority.

Following consideration of the proposal the Highway Authority objects to the proposal for the following reasons:

- It has not been demonstrated that part of the proposed access/junction arrangements where they meet the A29 Lidsey Road comply with current design guidance and/or standards, thereby potentially leading to conditions prejudicial to highway safety.
- The site does not demonstrate adequate access by pedestrians and cyclists to local facilities, regular bus and train services in accordance with recognised criteria, thereby resulting in a reliance on use of the private car.
- The development would lead to queueing within the main access to the site and increased queueing on Lidsey Road (A29) in peak periods (where in respect to the latter, queues are already prevalent) when the nearby railway crossing gates are closed.

Specific objections can be found at the foot of this report prior to the non-highways S106 information.

Site location.

The site is located on the western side of Lidsey Road, the A29, an 'A' classification road serving as one of the main routes in and out of Bognor Regis. Vehicular access to the site is shown taken from two points – one to serve 4 homes and the other the remainder of the 55 homes. The northern-most part of the site is located approximately 90m south of a railway level crossing. Access to the 4 houses is approximately 100m south of the railway, whereas the site access serving the remaining 51 would be approximately 220m away from the crossing. Footways are

shown either side of the main access with the secondary access serving the four units being designed as a private drive with highway users sharing the available space. It is understood that access is the only matter to be considered in detail with the application. All other matters, if planning permission is granted, would be considered at a reserved matters stage. However, some comments about internal access arrangements are made elsewhere in this report.

Lidsey Road is the A29 and is one of the main district distributor roads providing access in and out of Bognor Regis, running northwards into Surrey. The section the site fronts (and that generally south of the railway line) serves mainly residential dwellings – mainly to the east side of the road with approximately 9 on the western side (although there is some commercial to the rear). Also to the east, can be found Woodgate Road and Woodgate Close providing access to approximately 32 dwellings - mainly bungalows; Oak Tree Lane (approximately 35 homes – predominantly houses) and beyond that some commercial development on land known as the Woodgate Centre – itself a site where residential development was proposed on two occasions in recent years, refused both times and then dismissed at appeal on sustainability grounds (twice). Lee's Yard can be found on the eastern side of Lidsey Road which is also commercial. North and east of that can be found Willows caravan park.

The A29 in this location has a relatively straight alignment (albeit with a change in the vertical alignment where it crosses the railway), has a 30mph speed limit and street lighting (from the point northwards outside Lee's Yard). The carriageway is generally 6.5m wide, rising to 8.5m wide opposite the former 'Basket World' (the southern part of the site). It has footways on both sides of varying widths – approximately 1.0m along the western side of the road (the site side) but wider in places on the eastern side – approximately 1.0m up to 2.0m. Although running continuously northwards they terminate on the eastern side of the road on the northern side of the Willows caravan park access and on the western side, opposite Lee's Yard. There is a hatched area in the centre to assist turning vehicles using the Willows caravan park access.

Approximately 100m to the north of the site is a railway level crossing, which is closed, on average, for a total of approximately 24mins of every hour period, or 40% of the time. This is because it is used by the South Coast mainline which experiences a high volume of rail traffic. When the level crossing is closed, traffic on the A29 is halted, and vehicles are typically queued back some distance on both sides of the crossing and often beyond the junction of Woodgate Road to the south and occasionally (in peak periods) back to the 'Lidsey Bends' (where a canal once crossed/ran) and the Robin Hood Public House. This queuing prevents vehicles turning northwards out of local roads onto the northbound carriageway of the A29 and can prevent turning southwards too. This problem is more prevalent in the morning peak hour as many people use the route to travel to and from work. Therefore, traffic flows on the A29 tend to be high with many motorists heading north to gain access to the A27, the major trunk road in this area.

Access.

The proposed access arrangements comprise two junctions – one serving 4 dwellings in the form of a shared private drive with the other one a more formalised road junction with footways running either side. The latter (referred to herein as the 'primary access') has a single lane approach to the A29 Lidsey Road. Residents of the new estate, when emerging, would have to wait at the junction to turn left (northbounds) out of Woodgate Close onto the A29 if a queue of traffic resulting from the railway crossing prevailed. Only when such queuing dissipated, could drivers easily emerge. Drivers wanting to turn right (southbounds) might experience frustration being blocked by the left turners and/or traffic queue. In such circumstances it is likely that right turning drivers may choose to circumvent the waiting driver and use the opposing lane at the junction. This has been observed at Woodgate Road and neighbouring roads. This increases the safety risk should any vehicle co-incidentally be turning into the junction from the A29. While the traffic impact appears modest given the number of dwellings proposed, any blocking-back would create delays leading to emerging vehicles queueing within the estate.

The Highway Authority also has concerns that due to servicing demands, that any large delivery vehicle may find it difficult to turn into the junction while traffic is queuing in the primary site access. A large vehicle may, therefore, be required to use both lanes to enter and leave the junction. Whilst it is acknowledged that this can be a regular occurrence generally for other road junctions, because of the unusual traffic conditions created by the railway crossing closures, additional development would increase the likelihood of further conflict. Drawings provided by the Transport Consultant show that vehicles larger than cars cannot undertake this manoeuvre without encroaching on opposing lane widths, kerb lines and part of the waiting area proposed as part of the right hand turning lane. This could result in delays and inconvenience to users of the primary access and, in the worst case (because of the aforementioned blocking within the access), queuing back to the railway crossing.

It is not known whether Network Rail has been consulted about this specific point or the application as a whole. Clear evidence of consultation by the applicant with Network Rail and subsequent reply is, therefore, essential.

The risks of blocking back and circumnavigating queues associated with the secondary access are considered minimal given the low number of dwellings. Therefore, detrimental impact at that access – when considered alongside NPPF - is not considered severe on this occasion by the Highway Authority (subject of course to the visibility issue raised in the Stage 1 Road Safety Audit being satisfactorily resolved to the Highway Authority's satisfaction, further turning space and visitor parking spaces provided within the access and 'KEEP CLEAR' markings painted on the carriageway on the northbound carriageway adjacent).

Proposed Primary access road junction details (including off-site road changes).

In an attempt to accommodate the traffic associated with the main part of the development, the applicant proposes a junction arrangement comprising the following:

- 6.0m wide access road
- (What appear to be) 2 x 2m footways either side of the access road linking to existing footways on the site-side of Lidsey Road
- 6m bellmouth radii
- Alteration to the current white lined hatching on Lidsey Road (basically removing some of the hatching replacing it with a waiting area to serve the site)

Accident history (personal injury accidents – PIA).

Three PIAs have occurred along this stretch of the A29 using data taken between 2009 and 2014. It is not known why more recent data hasn't been used. Applicants are required to provide the most up-to-date records. From interrogation of the three recorded incidents in the documentation provided so far, two of these occurred at the junction of Woodgate Road with Lidsey Road with a further (serious) accident at the junction of Hook Lane with Lidsey Road north of the railway crossing. Both of the Woodgate/Lidsey Road accidents resulted in slight injuries being recorded. It should be noted that one of these accidents involved a vehicle travelling on the offside of a stationary queue of traffic as a result of the level crossing being closed in order to turn into Woodgate Road. This supports the Highway Authority's concerns that drivers may experience frustration caused by the queueing caused by the railway crossing closures and possibly undertake manoeuvres that would otherwise not be attempted.

The Highway Authority has reviewed the information provided (including swept-path diagrams of vehicles entering and leaving the junction). Based on that provided, three concerns have been identified. Namely:

1. When queueing prevails on Lidsey Road that extend across the junction, this will cause blocking-back in the access which could lead to drivers wishing to turn right attempting to circumnavigate vehicles intending to turn left.
2. Large vehicles are required to oversail the centreline of the new access road. If they attempt to do this during busy period when traffic might be blocked because of the queueing extending back from the railway crossing, such vehicles could end-up finding their paths blocked, thereby leading to potential blocking on the A29.
3. No 'KEEP CLEAR' markings shown on the A29 (although it is noted that the Stage 1 Road Safety Audit supplied with the application makes mention of this). Although this might – in-part - assist with attempting to overcome the issues raised in 1 and 2 above, it would not fully resolve the issue.
4. The proposed alterations to the road hatching is not accompanied with reference to Design Standards (Design Manual for Roads and Bridges). Therefore, in the absence of the applicants/their consultants demonstrating that the arrangements are compatible, the Highway Authority is unable to fully consider the overall proposed access arrangements. In its assessment of what is shown, it would appear the turning lane in the centre of the road would not meet full standards. When considering junction design further, the applicant might wish to look at moving the access further south in an attempt to provide opportunity for a wider turning lane – particularly important given the proximity of the railway crossing and need to minimise chance of blockage of the southbound lane of Lidsey Road when vehicles are attempting to wait to turn right into the site. In any event, the applicants/their highway consultants will need to demonstrate compatibility with design standards. Finally, the applicant/their Transport Consultants should present any changes to the Road Safety Audit team for further comments.

When assessing the road safety implications of the current proposals in light of NPPF guidance, the Highway Authority considers that potential negative road safety impacts have been identified. If measures cannot be demonstrated overcoming identified road safety issues or improving road safety, then the Highway Authority cannot support such proposals.

Road Safety Audit.

A Stage 1 Road Safety Audit accompanies the planning application, prepared by the Safety Forum (September 2017). Three problems have been identified, a summary of which is provided below (full details can be read in the Transport Statement prepared by RGP Highways and Traffic Consultants):

1. Drainage at the proposed/upgraded point of access
2. Design of tactile paving at junction
3. Trees north of access obscuring visibility for emerging vehicles

In the Designer's Response, the applicant appears to agree with all the recommendations. However, no explanation of how the recommendations would be achieved is offered. Until such time as the designer provides appropriate replies and further information, the Highway Authority is not satisfied the Audit recommendations have been accepted.

Trip generation.

Russell Giles Partnership Highways and Transport Planning Consultants have provided information to support the application. Section 4 of their Transport Statement (TS) suggests that the traffic generation would be as follows:

Trip rates per dwelling (TRICS):

- Morning peak period (08:00-09:00) – 0.159 arrivals; 0.345 departures
- Evening peak period (17:00-18:00) – 0.327 arrivals; 0.139 departures
- Daily – 2.331 arrivals; 2.313 departures (Total – 4.644)

This translates to:

Vehicle trip generation (TRICS):

- Morning peak period (08:00-09:00) – 9 arrivals; 19 departures
- Evening peak period (17:00-18:00) – 18 arrivals; 8 departures
- Daily – 128 arrivals; 127 departures (Total – 255)

The Highway Authority has looked again at the Appeal decision for the Woodgate Centre (AL/160/12) as the Inspector assessing that proposal was presented with – and accepted as robust – higher trip rates (apart from the AM arrivals where the rate was slightly lower).

Using these trip rates, the following figures arise:

Trip rates per dwelling (TRICS):

- Morning peak period (08:00-09:00) – 0.152 arrivals; 0.364 departures
- Evening peak period (17:00-18:00) – 0.388 arrivals; 0.235 departures
- Daily – 2.500 arrivals; 2.445 departures (Total – 4.950) (approx.)

This translates to:

Vehicle trip generation (TRICS) (figures in red show increases over applicant's figures):

- Morning peak period (08:00-09:00) – 9 arrivals; 20 (+1) departures
- Evening peak period (17:00-18:00) – 21 (+2) arrivals; 13 (+5) departures
- Daily – 130 (+2) arrivals; 131 (+4) departures (Total – 261 (+6)) (approx.)

The Highway Authority concludes that the development would, based on previously accepted traffic impact information, generate approximately 261 vehicular trips per-day. This level of additional traffic using the site access and Lidsey Road would not itself normally generally trigger the need to consider junction upgrading on the adjacent road (i.e. right hand turning lane). However, given the issues referred to in this report as a consequence of the railway crossing, this does make it necessary to ensure that an appropriately designed turning lane and 'KEEP CLEAR' markings be provided in an attempt to *partially* mitigate the identified highway issues documented in this report. However, for the reasons given elsewhere in this report, a degree of conflict with the NPPF still remains on road safety grounds.

Impact of railway crossing on traffic queues, pedestrians and cyclists.

The Highway Authority's 'Methodology for Transport Assessments' historically required developments to demonstrate nil-detriment or better be achieved. In light of the NPPF the County Council has reviewed this guidance. The test now looks to see whether any additional impact could be considered severe.

In order to establish what might be considered severe on this occasion, the Highway Authority has looked at a number of factors. Clearly, where traffic flows at a junction reach or exceed theoretical capacity then junction performance can become unstable. In some instances, blocking effects, increased delay and queuing could occur. This is relevant here as junction operation is influenced by the nearby railway crossing. Also, delays of over two minutes begin to have a negative effect on driver state of mind and tolerance, while delays of over three minutes may lead to adoption of behaviours such as 'u' turning and overtaking (the latter to reach a certain destination and to avoid waiting in a queue) – again a consideration for this application given the queues brought about by the railway crossing closures.

Such delays might be classed as severe, typically requiring traffic management measures in an attempt to mitigate.

In-line with good planning practice and guidance, the responsibility for resolution of such matters associated with a development proposal rests with the applicant. The applicant has not provided assessment of vehicular impact of the development on queueing on Lidsey Road. However, in terms of a 'test', the Highway Authority considers that it should object if at least one junction (or link thereto) is congested after development and mitigation and is worse off than without development. In this case there is already congestion at certain times of the day along the A29 caused by the railway crossing. Even with mitigation the development adds to this queueing and subsequent delay to traffic.

Paragraph's 60-64 of the Inspector's Appeal Decision Notice for AL/69/11 for the nearby Woodgate Centre included discussion and conclusions about the impact of the development on queueing. Paragraph 60 states the likely impact of 100 homes (the subject of that application) would increase peak queues by about seven vehicles, or about 40m in length. The result would then be instead of a single vehicle waiting to cross the railway when the gates rise there would be three or four. While the later application (AL/60/12) sought permission for 15 less homes, the impact on the queue length (including any markings and other alterations on the A29) would be similar.

Although the applicant has not undertaken a similar exercise, the Highway Authority concludes that the development proposed under this application would add further to the already significant queue lengths on the A29 – particularly in peak periods – and the impact should, therefore, be classed as severe.

Transport Sustainability.

The development site is located in the village of Woodgate which forms the southern part of an almost continuous ribbon development northwards along the A29 and eastwards along the B2223 comprising the villages of Westergate, Eastergate and Barnham. It is remote from existing major employment centres in Bognor Regis, Chichester and Littlehampton although there are a number of smaller local employment centres in the aforementioned villages. In terms of transport sustainability, the site is not well located being on the edge of the settlement boundary and remote from the nearest railway station at Barnham. The level of bus service passing the site is also limited and the main cycle and pedestrian routes are along the busy A29. Cyclists have to share limited road space with other traffic. Pedestrians have to walk adjacent to traffic along the main road – in places where footways are narrow - and have no assisted ways to cross the A29 which if provided, could provide some access opportunities to formal Public Rights of Way (PRoW) leading towards Barnham and its railway station.

An analysis of each mode of transport is as follows:

Bus Services – Bus stops are located immediately outside the site on Lidsey Road. Both the north and southbound stops are directly opposite one-another (albeit without facilities to assist pedestrians crossing to and from them). With regard to services, the 66A and 66C Stagecoach services operate along the A29 between 7.10am and 18.14pm. However, buses only call at the stops approximately once in the morning and evening peak periods and then every 1.5 hours (approx.) at other times (Mon-Fri). Also, the route only provides travel between Bognor Regis and Yapton (via Walberton). It does not provide a direct service to Chichester meaning that passengers intending to use public transport to get to destinations further-afield would have to change to another bus or use the railway, either at Barnham or Bognor Regis. The level of bus service to nearby key destinations is therefore infrequent and other than the two buses running at approximate ½ hour frequencies (albeit running opposite ways and only at very specific times) less than the desirable regular half hourly service WSCC refer to in its TA Methodology.

Bus Infrastructure - No bus shelters or realtime passenger information displays are located close to the site. If planning permission were to be secured for this site, the Highway Authority recommend that as part of any mitigation package that bus shelters and real-time passenger information be secured. Furthermore, provision for pedestrians to cross the road between stops should also be considered.

In the absence of regular bus services and suitable associated infrastructure (i.e. waiting facilities, real-time information, crossing facilities etc.), the Highway Authority considers that there is a conflict with National Planning Policy Framework (NPPF).

Cycling - The immediate area surrounding the proposed new development is not well provided for in terms of off-road and/or segregated cycling routes. Cyclists would therefore have to use part of the busy A29 to gain access to most employment centres and local facilities including Aldingbourne Primary School and Westergate Community College to the north. The A29 Lidsey Road south of Lee's Yard leading to Bognor Regis and its industrial estates is largely rural in nature, unlit and has a series of tight bends with restricted visibility close to the location of the old canal. No footways are present between Lee's Yard (found south of the site) and Marigold's Caravan Park – the latter found approximately opposite the Robin Hood public house. There is no off-road cycle infrastructure until one reaches the Bognor Regis/Felpham Relief Road found further south. As a consequence and given the amount of traffic present, which includes considerable numbers of large vehicles such as HGVs, PSV's, service and delivery vehicles, the route does not cater well for non-motorised users. Although footways are available outside (narrow – approximately 1.0m wide) and north of the site (variable widths), width of road, presence of on-street car parking (particularly north of Aldingbourne Primary School) and high amount of traffic is not conducive to regular access on foot or by bicycle. Furthermore (and also north of the site), lack of opportunities to cross the road using refuges also prevail. Finally, delays brought-about by the regular closures of the railway crossing also contribute to longer journey times.

Given the above, the Highway Authority considers that there is again conflict with the NPPF.

Rail - The nearest railway station to the proposed development is located in Barnham, approximately 4km away by road. Given this distance, it is unlikely that residents would walk to the station. As such, they would have to use either the bus service; cycle along the busy A29, get dropped-off at the station or use their private car and park at the station (or close to). Currently, the car park serving the station, as well as the side-roads in the immediate vicinity, experiences a high volume of parked cars on weekdays due to commuter traffic. Encouraging further personal vehicular traffic to travel to the site is therefore not desirable, leading to further congestion and inconvenience for all highway users in the vicinity.

Given the above, the Highway Authority considers that there is again conflict with the NPPF. Bus services do travel to and from the station but given the infrequency of services, opportunities to use it to get to the station are limited.

Pedestrians and Local Services - Due to location of the site, there are limited local facilities in the immediate area. Those within a short walking distance are Aldingbourne Primary School, a local convenience shop, 'The Prince of Wales' public house, and further north, the Aldingbourne Community Centre. Furthermore, children attending Aldingbourne Primary School and Westergate Community College further north would be more likely to be dropped off/picked up by private car given the lack of bespoke crossing facilities to assist crossing Lidsey Road for the latter. The high frequency of railway crossing closures (and associated length of barrier 'down time') also delay pedestrian access journey times to local facilities. Also and as mentioned earlier in this report, parts of the footways network found alongside Lidsey Road are narrow and can be obstructed by parked vehicles to the detriment of those wishing to travel on-foot.

Given the above, there is again conflict with the NPPF. The lack of suitable pedestrian facilities was identified previously by the Highway Authority in connection with the previous Woodgate Centre planning applications and reiterated at the subsequent Planning Appeals. This was acknowledged by the Inspectors when considering the latter.

Travel Plan.

A Travel Plan accompanies the application. Without prejudice to the comments presented elsewhere in this report by the Highway Authority – particularly with respect to sustainable travel choices and access - the following comments are made:

1. The Travel Plan provides very little commitment to and/or information about the measures that will be provided and the mechanism for delivery etc.
2. The Travel Plan does not appear to contain trip rate reduction targets in accordance with WSCC requirements. Any successful plan should demonstrate modal shift milestones that will need to be reached in order to achieve a 5 year trip rate reduction figure and how they would assist with reducing private travel and traffic impact.
3. No commitment is given to vouchers being provided to residents (WSCC currently request that £150 vouchers be offered to new households towards bus travel, cycle purchase etc.).
4. Grocery home delivery services should be incentivised (e.g. x% off first shop) and a voucher included in the welcome pack.
5. No commitment to, and details about, recovery measures that would be implemented in the event that targets are missed. Examples might be to provide personal journey planning services; incentives to existing residents within 1km of this development and an additional round of travel/bike vouchers.
6. The Highway Authority prefers an experienced external consultant in the role of Travel Plan Coordinator (TPC). The TPC's role should also include provision of a Personal Journey Planning service to all residents of the development.
7. The plan includes statements about the site being accessible which are in conflict with Highway Authority comments in this report. These should be removed. Any comments contained in the plan should be factual stating how they would (in the opinion of the applicants/their consultants) assist with delivering modal shift.

It should be noted, however, that even if a Travel Plan and measures therein could be agreed for this site, they themselves would not overcome the full sustainable deficiencies of the site as documented in this report. It would very much only remain as a tool to support a development where access by sustainable modes cannot be demonstrated.

As submitted, the TP is not agreed and further work is required.

Internal layout and parking.

Although not forming part of the detailed submission for this application, the Highway Authority makes the following observations about the internal layout. If this current application is successful, the applicant should attend to what is said below (list should not be considered exhaustive):

- There appears to be lack of convenient visitor parking throughout the layout.
- Turning for vehicles – particularly service vehicles – is lacking in certain areas of the site. This could make it difficult to access dwellings for purposes of refuse collection and, more importantly, fire appliance access.
- Given the proposed form of drainage (permeable surfacing etc.) and surfacing proposed for footways inside the development, both the internal roads and footpaths will not be adopted by the Highway Authority and will need to remain private.
- In-line with the previous point, a management company would need to be secured in a S106 Agreement for maintenance of the development (particularly roads and footways etc.) in perpetuity.
- Again in-line with comments made above, a non-adoption clause would also need to be included in any S106 Agreement to prevent post-development adoption.

Public Rights of Way (PRoW).

Comments will be sent directly from the PRoW team to the LPA.

Surface water drainage.

Comments will be sent directly from the drainage team to the LPA.

Other material considerations.

Following refusal of two planning applications for residential development at the nearby Woodgate Centre proposed under planning references AL/69/11 and AL/60/12, Planning Appeals were lodged followed by Planning Inquiries. Both Inspectors considered a number of matters relating to that site, some of which were highway-related. It is noteworthy that a number of the reasons for refusal put forward by the Highway Authority were upheld at these Appeals. Consequently, both Appeals were dismissed.

In its assessment of this current application, the Highway Authority considers that a number of highway-related safety, capacity and sustainability issues have been identified, similar if not the same as those for the Woodgate Centre. As such, a number of conflicts exist with the NPPF.

Pre-application submission.

Highways pre-application advice was sought by Transport Consultants RGP back in 2014 (the same highway consultants now representing the applicant for this planning application). This referred to holiday accommodation initially but moved to discussion about full-time/permanent dwellings. The comments expressed at that time in email dated 4th November 2014 (Dominic Smith WSCC to Alex Budd RGP) were as follows:

“Our position on this aspect is in respect to the site being for tourist purposes, where the nature of such sites reduces the number of ‘short’ trips to local services – i.e., no school run, no employment journeys etc. This is reflected in the TRICS assessment where the

daily trip rate is approximately 1/3rd of that expected for a residential development of a similar scale.

Clarification is sought as to whether the site would benefit from a small retail offering essential goods, such as milk, bread etc. for its customers.

In the event that the site is to be used as full-time residential accommodation we would have concern regarding site sustainability. Our position on this would not differ from the recently refused 'Woodgate Centre' development to the east of Lidsey Road. This was refused on sustainability grounds and upheld at appeal – there have been no material changes to the local infrastructure since this time.

The Highway Authority's current position on this matter remains the same as the comments underlined above.

Conclusion.

The Highway Authority has concerns regarding access to the proposed development. It therefore raises objections to the proposal on the grounds that it is not demonstrated that the development can be satisfactorily accommodated in highway safety and capacity terms nor can it be accessed in a sustainable way in accordance with current guidance and best practice. The latter will place reliance on the need to travel to facilities and services using private means (predominantly cars), many of which are not particularly close to the site or at times, difficult to reach because of the regular closures at the nearby railway crossing. Public transport access is infrequent and alongside the access shortcomings identified in this report, including that for pedestrians and cyclists including lack of suitable infrastructure (bus stops, real-time information etc.), conflicts with the NPPF on these points have been identified.

For the reasons given in this report, the Highway Authority raises objections on the following grounds:

1. Unsustainable development.

The proposed development is contrary to National and local Planning Policy Guidance as it is not well located in terms of accessibility to employment centres, retail centres, schools, community facilities and regular bus and train services (further exacerbated as a result of the frequent railway crossing closures nearby).

2. Highway safety for pedestrians and cyclists.

The proposed development does not provide adequate pedestrian and cycle links to local facilities in the village or to the nearest major employment centres, retail centres, schools, community facilities nor bus infrastructure to the detriment of highway safety.

3. Access.

Satisfactory junction design has not been demonstrated at the junction with A29 Lidsey Road at the point the site joins that road, thereby leading to conditions detrimental to highway safety.

4. Traffic impact.

The development, hereby proposed, would result in an increase in traffic to and from the A29 Lidsey Road and would add to the already long queues on that road caused by the regular railway crossing closures, all of which would result in conditions prejudicial to the safety and free-flow of traffic in the locality.

Tim Townsend
Planning Services

**WEST SUSSEX COUNTY COUNCIL
LOCAL DEVELOPMENT DIVISION: SECTION 106 CONSULTATION RESPONSE (excluding
Transport (known as TAD) contributions)**

DATE: 1st November 2017

FROM: Eloise Short, Monitoring and Records Team

TO: Tim Townsend, Planning Applications Team

DISTRICT COUNCIL: Arun

Application Number: AL/115/17

**The Provision of Service Infrastructure Related to: Wings Nursery, Lidsey Road,
Aldingbourne, PO20 3SU**

Planning Application details – Outline application with some matters reserved for the erection of 55No. dwellings, sustainable drainage measures, public open space, children's play area, landscaping & all other associated works. This application is a Departure from the Development Plan.

Without prejudice to the informal representations of the County Council in respect of the above planning proposal, I am writing to advise you as to the likely requirements for contributions towards the provision of additional County Council service infrastructure, other than highways and public transport that would arise in relation to the proposed development.

The basis for my advice is contained in the adopted Supplementary Planning Guidance document "The Provision of Service Infrastructure Related to New Development in West Sussex – Part 1.

The planning obligation formulae below are understood to accord with the Secretary of State's policy tests outlined by the in the *National Planning Policy Framework, 2012*.

The advice is as follows:

1. School Infrastructure Contribution

1.1 The Director for Children and Young People's Services advises that it appears that at present primary/secondary/further secondary schools within the catchment area of the proposal currently would not have spare capacity and would not be able to accommodate the children generated by the assumed potential residential development from this proposal. Accordingly, contributions would need to be requested. However, the situation will be monitored and further advice on all of the main education sectors, (i.e. Primary/Secondary/Further Secondary) should be sought if this planning application is to be progressed.

1.2 Financial Contribution

The financial contribution sought by the County Council would be based on: the estimated additional population that would be generated by the proposed development, reduced to reflect any affordable dwellings (by which we mean Social Rented dwellings, but NOT Shared Equity, Intermediate or Key Worker status dwellings) for occupation by persons

already residing in the education catchment area; the County Council's adopted floorspace standard for education provision; and the estimated costs of providing additional education floorspace. As the housing mix is not known at this stage, I propose the insertion of a formula into any legal Agreement in order that the school infrastructure contribution may be calculated at a later date. The formula should read as follows:

The Owner and the Developer covenant with the County Council that upon Commencement of Development the Owner and/or the Developer shall pay to the County Council the School Infrastructure Contribution as calculated by the County Council in accordance with the following formula:-

DfE Figure x ACP = School Infrastructure Contribution where:

Note: x = multiplied by.

ACP (Additional Child Product) = The estimated additional number of school age children likely to be generated by the development calculated by reference to the total number of dwellings, less any allowance for affordable dwellings, as approved by a subsequent reserve matters planning application. The following criteria are used to generate a child product:

Dwelling Size		Occupancy	
		House	Flat
1 bed	=	1.5	1.3
2 bed	=	1.9	1.9
3 bed	=	2.5	2.4
4+ bed =	3.0	2.8	

Using the above occupancy rates to determine an overall population increase the following factors are applied. According to 2001 census data, there are 14 persons per 1000 population in each school year group for houses and 5 persons per 1000 population in each school year group for flats. There are 7 year groups for primary (years R to 6) and 5 for secondary (years 7 to 11). For Sixth Form, a factor of 0.54 is applied to the Child Product figure as this is the average percentage of year 11 school leavers who continue into Sixth Form colleges in West Sussex.

DfE Figure = Department for Education (DfE) school building costs per pupil place (for pupils aged 4 to 16) as adjusted for the West Sussex area applicable at the date when the School Infrastructure Contribution is paid (which currently for the financial year 2017/2018 are – Primary £15,666, Secondary £23,604, Further Secondary £25,600), updated as necessary by the Royal Institute of Chartered Surveyors Building Cost Information Service All-In Tender Price Index.

- 1.3 The contributions generated by this proposal shall be spent on additional facilities at Aldingbourne CofE Primary School.

The contributions generated by this proposal shall be spent on additional facilities at St Philip Howard Catholic High School.

The contributions generated by this proposal shall be spent on a restructure of the sixth form to cater for the additional student population at St Philip Howard Catholic High School Sixth Form.

2. Library Infrastructure Contribution

- 2.1 The County Librarian advises that the proposed development would be within the area served by Bognor Regis Library and that the library would not currently be able to adequately serve the additional needs that the development would generate.

However, a scheme is approved to provide additional floorspace or facilities at the library. In the circumstances, a financial contribution towards the approved scheme would be required in respect of the extra demands for library services that would be generated by the proposed development.

2.2 Financial Contribution

The financial contribution sought by the County Council would be based on: the estimated additional population that would be generated by the proposed development, reduced to reflect any affordable dwellings (by which we mean Social Rented dwellings, but NOT Shared Equity, Intermediate or Key Worker status dwellings) for occupation by persons already residing in the library's catchment area; the County Council's adopted floorspace standard for library provision; and the estimated costs of providing additional library floorspace. As the housing mix is not known at this stage, I propose the insertion of a formula into any legal Agreement in order that the library contribution may be calculated at a later date. The formula should read as follows:

The Owner and the Developer covenant with the County Council that upon Commencement of Development the Owner and/or the Developer shall pay to the County Council the Libraries Infrastructure Contribution as calculated by the County Council in accordance with the following formula:-

$L/1000 \times AP = \text{Libraries Infrastructure Contribution where:}$

Note: x = multiplied by.

AP (Additional Persons) = The estimated number of additional persons generated by the development calculated by reference to the total number of dwellings, less any allowance for affordable dwellings, as approved by a subsequent reserve matters planning application. The following figures are given as a guideline:

Dwelling Size		Occupancy	
		House	Flat
1 bed	=	1.5	1.3
2 bed	=	1.9	1.9
3 bed	=	2.5	2.4
4+ bed =	3.0	2.8	

$L/1000$ = Extra library space in sqm. per 1,000 population x the library cost multiplier (which currently for the financial year 2017/2018 are 30sq.m and £4,591 per sqm respectively).

- 2.3 The contributions generated by this proposal shall be spent on expansion of the facilities at Bognor Regis Library.

3. Fire & Rescue Service Infrastructure

3.1 Fire Stations

The County Fire Officer advises that a financial contribution from the proposed development towards the cost of fire and rescue infrastructure, principally fire stations and services serving the area within which the proposal stands, would be required. This is necessary due to proposed development in the Southern division and the resultant need to improve service provision across the area. The proposed development should proportionately contribute towards the cost of necessary infrastructure needed to support development.

3.2 Financial Contribution (excluding provision of fire hydrants)

The financial contribution sought by the County Council would be based on: the estimated additional population that would be generated by the proposed development, reduced to reflect any affordable dwellings (by which we mean Social Rented dwellings, but NOT Shared Equity, Intermediate or Key Worker status dwellings) for occupation by persons already residing in the fire service provision area; the County Council's adopted standards of fire service cover provision; and the estimated costs of providing additional fire stations. As the housing mix is not known at this stage, I propose the insertion of a formula into any legal Agreement in order that the fire service contribution may be calculated at a later date. The formula should read as follows:

The Owner and the Developer covenant with the County Council that upon Commencement of Development the Owner and/or the Developer shall pay to the County Council the Fire and Rescue Infrastructure Contribution as calculated by the County Council in accordance with the following formula:-

$Y \times (Z / M) = \text{Fire and Rescue Infrastructure Contribution where:}$

Note: / = divided by, x = multiplied by.

Y = The estimated adjusted increase in population generated by the development using the following figures as a guideline:

Dwelling Size		Occupancy	
		House	Flat
1 bed	=	1.5	1.3
2 bed	=	1.9	1.9
3 bed	=	2.5	2.4
4+ bed =	3.0	2.8	

Z = the estimated costs of providing additional Fire and Rescue Infrastructure in the Southern Service Division of West Sussex at the time of payment (which, for information, for 2007/2008 was £5,530,000).

M = the projected population of the Fire and Rescue Service Southern Service Division of West Sussex in 2016 at the time of payment (which, for information, for the 2007/2008 financial year was 429,647).

- 3.4 Fire and Rescue Service Contribution to be used towards supply and installation of additional fire safety equipment to vulnerable persons homes in West Sussex Fire Rescue Services Southern Area serving Aldingbourne.

General points

Please ensure that the applicants and their agents are advised that any alteration to the housing mix, either size, nature or tenure, may generate a different population and require re-assessment of contributions. Such re-assessment should be sought as soon as the housing mix is known and not be left until signing of the section 106 Agreement is imminent.

It should be noted that the figures quoted in this letter are based on current information and will be adhered to for 3 months. Thereafter, if they are not consolidated in a signed S106 agreement they will be subject to revision as necessary to reflect the latest information as to cost and need.

Review of the contribution towards the provision of additional County Council services should be by reference to an appropriate index, preferably RICS BCIS All-In TPI. This figure is subject to annual review.

Should you require further general information or assistance in relation to the requirements for contributions towards the provision of County Council service infrastructure please contact, in the first instance, the Planning Applications Team officer, named above.

Where the developer intends to keep some of the estate roads private we will require provisions in any s106 agreement to ensure that they are properly built, never offered for adoption and that a certificate from a suitably qualified professional is provided confirming their construction standard.

Where land is to be transferred to the County Council as part of the development (e.g. a school site) that we will require the developer to provide CAD drawings of the site to aid design/layout and to ensure that there is no accidental encroachment by either the developer or ourselves.

APPENDIX B

**WEST SUSSEX COUNTY COUNCIL
PLANNING SERVICES CONSULTATION**

DATE: 4th January 2018

**FROM: Tim Townsend TO: Arun District Council
FAO: Richard Temple**

SUBJECT: AL/115/17/OUT - Outline application with some matters reserved for the erection of 55No. dwellings, sustainable drainage measures, public open space, children's play area, landscaping & all other associated works. This application is a Departure from the Development Plan.

LOCATION: Wings Nursery, Lidsey Road, Aldingbourne, PO20 3SU.

DATE OF SITE VISIT: 20th November 2017

RECOMMENDATION:

Advice	☐	Modification	☐	More Information	☐
Objection	☒	No Objection	☐	Refusal	☐

S106 contribution total (see below for breakdown) - Does not include highways.

This is the second County Highway Authority (CHA) consultation response to the planning application for the erection of 55 dwellings on land currently known as Wings Nursery which is found west of the A29 Lidsey Road, Westergate, West Sussex. It responds to additional information provided on behalf of the applicant by their planning and highway consultants, namely:

1. Technical Note (Ref: ADMA/17/3711s) – December 2017, produced by Russell-Giles Partnership (RGP) transport consultants.
2. Letter dated 8th December 2017 from Whaleback Planning Consultants.

Summary position of Highway Authority.

Following further consideration of the proposal in light of the additional information provided and other policy considerations (including Local Plan), the Highway Authority objects to the proposal on road safety, sustainable access and traffic impact grounds given the deficiencies of each as currently presented by the applicant. Full details of the CHA's reasons for objecting can be found in the text of this report with specific objections found at the foot of the report (prior to the non-highways S106 information).

Site location.

The site is located on the western side of Lidsey Road, the A29, an 'A' classification road serving as one of the main routes in and out of Bognor Regis. Vehicular access to the site is shown taken from two points – one to serve 4 homes and the other the remainder of the 55 homes. The northern-most part of the site is located approximately 90m south of a railway level crossing. Access to the 4 houses is approximately 100m south of the railway, whereas the site access serving the remaining 51 would be approximately 220m away from the crossing. Footways are shown either side of the main access with the secondary access serving the four units being designed as a private drive with highway users sharing the available space. It is understood that access is the only matter to be considered in detail with the application. All other matters, if

planning permission is granted, would be considered at a reserved matters stage. However, some comments about internal access arrangements are made elsewhere in this report.

Lidsey Road is the A29 and is one of the main district distributor roads providing access in and out of Bognor Regis, running northwards into Surrey. The section the site fronts (and that generally south of the railway line) serves mainly residential dwellings – mainly to the east side of the road with approximately 9 on the western side (although there is some commercial to the rear). Also to the east, can be found Woodgate Road and Woodgate Close providing access to approximately 32 dwellings - mainly bungalows; Oak Tree Lane (approximately 35 homes – predominantly houses) and beyond that some commercial development on land known as the Woodgate Centre – itself a site where residential development was proposed on two occasions in recent years, refused both times and then dismissed at appeal on sustainability grounds (twice). Lee's Yard can be found on the eastern side of Lidsey Road which is also commercial. North and east of that can be found Willows caravan park.

The A29 in this location has a relatively straight alignment (albeit with a change in the vertical alignment where it crosses the railway), has a 30mph speed limit and street lighting (from the point northwards outside Lee's Yard). The carriageway is generally 6.5m wide, rising to 8.5m wide opposite the former 'Basket World' (the southern part of the site). It has footways on both sides of varying widths – approximately 1.0m along the western side of the road (the site side) but wider in places on the eastern side – approximately 1.0m up to 2.0m. Although running continuously northwards they terminate on the eastern side of the road on the northern side of the Willows caravan park access and on the western side, opposite Lee's Yard. There is a hatched area in the centre to assist turning vehicles using the Willows caravan park access.

Approximately 100m to the north of the site is a railway level crossing, which is closed, on average, for a total of approximately 24mins of every hour period, or 40% of the time. This is because it is used by the South Coast mainline which experiences a high volume of rail traffic. When the level crossing is closed, traffic on the A29 is halted, and vehicles are typically queued back some distance on both sides of the crossing and often beyond the junction of Woodgate Road to the south. Occasionally (in peak periods) the queue extends back to the 'Lidsey Bends' (where a canal once crossed/ran) and on rare occasions, the Robin Hood Public House. This queuing prevents vehicles turning northwards out of local roads onto the northbound carriageway of the A29 and can prevent turning southwards too. This problem is more prevalent in the morning peak hour as many people use the route to travel to and from work. Therefore, traffic flows on the A29 tend to be high with many motorists heading north to gain access to the A27, the major trunk road in this area.

Access.

The proposed access arrangements comprise two junctions – one serving 4 dwellings in the form of a shared private drive with the other one a more formalised road junction with footways running either side. The latter (referred to herein as the 'primary access') has a single lane approach to the A29 Lidsey Road. Residents of the new estate, when emerging, would have to wait at the junction to turn left (northbounds) out of Woodgate Close onto the A29 if a queue of traffic resulting from the railway crossing prevailed. Only when such queuing dissipated, could drivers easily emerge. Drivers wanting to turn right (southbounds) might experience frustration being blocked by the left turners and/or traffic queue. In such circumstances it is likely that right turning drivers may choose to circumvent the waiting driver and use the opposing lane at the junction. This has been observed at Woodgate Road and neighbouring roads. This increases the safety risk should any vehicle co-incidentally be turning into the junction from the A29. While the traffic impact appears modest solely based on the application when viewed on its own, any blocking-back would create delays leading to emerging vehicles queueing within the estate. Furthermore, delays might increase/queues become longer when the site is assessed cumulatively with Local Plan Allocations and other committed developments in the locality.

The Highway Authority also has concerns that due to servicing demands, that any large delivery vehicle may find it difficult to turn into the junction while traffic is queuing in the primary site access. A large vehicle may, therefore, be required to use both lanes to enter and leave the junction. Whilst it is acknowledged that this can be a regular occurrence generally for other road junctions, because of the unusual traffic conditions created by the railway crossing closures, additional development would increase the likelihood of further conflict. Drawings provided by the Transport Consultant show that vehicles larger than cars cannot undertake this manoeuvre without encroaching on opposing lane widths, kerb lines and part of the waiting area proposed as part of the right hand turning lane. This could result in delays and inconvenience to users of the primary access and, in the worst case (because of the aforementioned blocking within the access), queuing back to the railway crossing.

It is not known whether Network Rail has been consulted about this specific point or the application as a whole. Clear evidence of consultation by the applicant with Network Rail and subsequent reply is, therefore, essential.

The risks of blocking back and circumnavigating queues associated with the secondary access are considered minimal given the low number of dwellings. Therefore, detrimental impact at that access – when considered alongside NPPF - is not considered severe on this occasion by the Highway Authority (subject of course to the visibility issue raised in the Stage 1 Road Safety Audit being satisfactorily resolved to the Highway Authority's satisfaction, further turning space and visitor parking spaces provided within the access and 'KEEP CLEAR' markings painted on the carriageway on the northbound carriageway adjacent).

Proposed Primary access road junction details (including off-site road changes).

In an attempt to accommodate the traffic associated with the main part of the development, the applicant proposes a junction arrangement comprising the following:

- 6.0m wide access road
- (What appear to be) 2 x 2m footways either side of the access road linking to existing footways on the site-side of Lidsey Road
- 6m bellmouth radii
- Alteration to the current white lined hatching on Lidsey Road (basically removing some of the hatching replacing it with a waiting area to serve the site)

Accident history (personal injury accidents – PIA).

Three PIAs have occurred along this stretch of the A29 using data taken between 2009 and 2014. It is not known why more recent data hasn't been used. Applicants are required to provide the most up-to-date records. From interrogation of the three recorded incidents in the documentation provided so far, two of these occurred at the junction of Woodgate Road with Lidsey Road with a further (serious) accident at the junction of Hook Lane with Lidsey Road north of the railway crossing. Both of the Woodgate/Lidsey Road accidents resulted in slight injuries being recorded. It should be noted that one of these accidents involved a vehicle travelling on the offside of a stationary queue of traffic as a result of the level crossing being closed in order to turn into Woodgate Road. This supports the Highway Authority's concerns that drivers may experience frustration caused by the queueing caused by the railway crossing closures and possibly undertake manoeuvres that would otherwise not be attempted.

The Highway Authority has reviewed the information provided (including swept-path diagrams of vehicles entering and leaving the junction). Based on that provided, four concerns have been identified. Namely:

1. When queueing prevails on Lidsey Road that extend across the junction, this will cause blocking-back in the access which could lead to drivers wishing to turn right attempting to circumnavigate vehicles intending to turn left.
2. Large vehicles are required to oversail the centreline of the new access road. If they attempt to do this during busy period when traffic might be blocked because of the queueing extending back from the railway crossing, such vehicles could end-up finding their paths blocked, thereby leading to potential blocking on the A29.
3. No 'KEEP CLEAR' markings shown on the A29 (although it is noted that the Stage 1 Road Safety Audit supplied with the application makes mention of this). Although this might – in part - assist with attempting to overcome the issues raised in 1 and 2 above, it would not fully resolve the issue.
4. The proposed alterations to the road hatching is not accompanied with reference to Design Standards (Design Manual for Roads and Bridges). Therefore, in the absence of the applicants/their consultants demonstrating that the arrangements are compatible, the Highway Authority is unable to fully consider the overall proposed access arrangements. In its assessment of what is shown, it would appear the turning lane in the centre of the road would not meet full standards. When considering junction design further, the applicant might wish to look at moving the access further south in an attempt to provide opportunity for a wider turning lane – particularly important given the proximity of the railway crossing and need to minimise chance of blockage of the southbound lane of Lidsey Road when vehicles are attempting to wait to turn right into the site. In any event, the applicants/their highway consultants will need to demonstrate compatibility with design standards. Finally, the applicant/their Transport Consultants should present any changes to the Road Safety Audit team for further comments. Although the applicant's Transport Consultants consider Lidsey Road to not be a 'true DMRB environment', DMRB is, nevertheless, the Design Standard required for designing right hand turning lanes. Manual for Streets does not provide this information, nor is it a Design Standard.

When assessing the road safety implications of the current proposals in light of NPPF guidance, the Highway Authority considers that potential negative road safety impacts have been identified. If measures cannot be demonstrated overcoming identified road safety issues or improving road safety, then the Highway Authority cannot support such proposals.

Road Safety Audit.

A Stage 1 Road Safety Audit accompanies the planning application, prepared by the Safety Forum (September 2017). Three problems have been identified, a summary of which is provided below (full details can be read in the Transport Statement prepared by RGP Highways and Traffic Consultants):

1. Drainage at the proposed/upgraded point of access
2. Design of tactile paving at junction
3. Trees north of access obscuring visibility for emerging vehicles

In the Designer's Response, the applicant appears to agree with all the recommendations. These will be checked again at any detailed design stage, should the development proceed.

Trip generation.

Russell Giles Partnership Highways and Transport Planning Consultants have provided information to support the application. Solely based on the development as presented (and not taking into account other committed developments, DRAFT Local Plan allocations in the area nor, does it appear, current background traffic flow information) Section 4 of their Transport Statement (TS) suggests that the traffic generation would be as follows:

Trip rates per dwelling (TRICS):

- Morning peak period (08:00-09:00) – 0.159 arrivals; 0.345 departures
- Evening peak period (17:00-18:00) – 0.327 arrivals; 0.139 departures
- Daily – 2.331 arrivals; 2.313 departures (Total – 4.644)

This translates to:

Vehicle trip generation (TRICS):

- Morning peak period (08:00-09:00) – 9 arrivals; 19 departures
- Evening peak period (17:00-18:00) – 18 arrivals; 8 departures
- Daily – 128 arrivals; 127 departures (Total – 255)

The Highway Authority has looked again at the Appeal decision for the Woodgate Centre (AL/160/12) as the Inspector assessing that proposal was presented with – and accepted as robust – higher trip rates (apart from the AM arrivals where the rate was slightly lower).

Using these trip rates, the following figures arise:

Trip rates per dwelling (TRICS):

- Morning peak period (08:00-09:00) – 0.152 arrivals; 0.364 departures
- Evening peak period (17:00-18:00) – 0.388 arrivals; 0.235 departures
- Daily – 2.500 arrivals; 2.445 departures (Total – 4.950) (approx.)

This translates to:

Vehicle trip generation (TRICS) (figures in red show increases over applicant's figures):

- Morning peak period (08:00-09:00) – 9 arrivals; 20 (+1) departures
- Evening peak period (17:00-18:00) – 21 (+2) arrivals; 13 (+5) departures
- Daily – 130 (+2) arrivals; 131 (+4) departures (Total – 261 (+6)) (approx.)

The Highway Authority concludes that the development would, based on previously accepted traffic impact information, generate approximately 261 vehicular trips per-day. This level of additional traffic using the site access and Lidsey Road would not itself normally generally trigger the need to consider junction upgrading on the adjacent road (i.e. right hand turning lane). However, given the issues referred to in this report as a consequence of the railway crossing, this does make it necessary to ensure that an appropriately designed turning lane and 'KEEP CLEAR' markings be provided in an attempt to *partially* mitigate the identified highway issues documented in this report. However, for the reasons given elsewhere in this report, a degree of conflict with the NPPF still remains on road safety grounds.

As stated above, as no cumulative impact assessment appears to have been undertaken by the applicant (taking into account committed developments and those proposed in the DRAFT Arun Local Plan), it is not possible to establish the future impact of the development on the road network

in the locality. The impacts of this development need to be considered cumulatively with the permitted developments in the area and the proposed site allocations in the emerging Arun Local Plan, notably the BEW Strategic Development Location.

Impact of railway crossing on traffic queues, pedestrians and cyclists.

The Highway Authority's 'Methodology for Transport Assessments' historically required developments to demonstrate nil-detriment or better be achieved. In light of the NPPF the County Council has reviewed this guidance. The test now looks to see whether any additional impact could be considered severe.

In order to establish what might be considered severe on this occasion, the Highway Authority has looked at a number of factors. Clearly, where traffic flows at a junction reach or exceed theoretical capacity then junction performance can become unstable. In some instances, blocking effects, increased delay and queuing could occur. This is relevant here as junction operation is influenced by the nearby railway crossing. Also, delays of over two minutes begin to have a negative effect on driver state of mind and tolerance, while delays of over three minutes may lead to adoption of behaviours such as 'u' turning and overtaking (the latter to reach a certain destination and to avoid waiting in a queue) – again a consideration for this application given the queues brought about by the railway crossing closures.

Such delays might be classed as severe, typically requiring traffic management measures in an attempt to mitigate.

In-line with good planning practice and guidance, the responsibility for resolution of such matters associated with a development proposal rests with the applicant. The applicant has not provided assessment of vehicular impact of the development on queueing on Lidsey Road. However, in terms of a 'test', the Highway Authority considers that it should object if at least one junction (or link thereto) is congested after development and mitigation and is worse off than without development. In this case there is already congestion at certain times of the day along the A29 caused by the railway crossing. Even with mitigation the development adds to this queueing and subsequent delay to traffic.

Paragraph's 60-64 of the Inspector's Appeal Decision Notice for AL/69/11 for the nearby Woodgate Centre included discussion and conclusions about the impact of the development on queueing. Paragraph 60 states the likely impact of 100 homes (the subject of that application) would increase peak queues by about seven vehicles, or about 40m in length. The result would then be instead of a single vehicle waiting to cross the railway when the gates rise there would be three or four. While the later application (AL/60/12) sought permission for 15 less homes, the impact on the queue length (including any markings and other alterations on the A29) would be similar.

Although the applicant has not undertaken a similar exercise, the Highway Authority concludes that the development proposed under this application would add further to the already significant queue lengths on the A29 – particularly in peak periods – and the impact should, therefore, be classed as severe. Furthermore (and as documented above), as no cumulative impact assessment appears to have been undertaken, the final impact on queueing and associated delays to vehicular and pedestrian traffic is not known.

Transport Sustainability.

The development site is located in the village of Woodgate which forms the southern part of an almost continuous ribbon development northwards along the A29 and eastwards along the B2223 comprising the villages of Westergate, Eastergate and Barnham. It is remote from existing major employment centres in Bognor Regis, Chichester and Littlehampton although there are a number of smaller local employment centres in the aforementioned villages. In terms of transport sustainability, the site is not well located being on the edge of the settlement boundary and remote

from the nearest railway station at Barnham. The level of bus service passing the site is also limited and the main cycle and pedestrian routes are along the busy A29. Cyclists have to share limited road space with other traffic. Pedestrians have to walk adjacent to traffic along the main road – in places where footways are narrow - and have only limited assisted ways to cross the A29.

An analysis of each mode of transport is as follows:

Bus Services – Bus stops are located immediately outside the site on Lidsey Road. Both the north and southbound stops are directly opposite one-another (albeit without facilities to assist pedestrians crossing to and from them). With regard to services, the 66A and 66C Stagecoach services operate along the A29 between 7.10am and 18.14pm. However, buses only call at the stops approximately once in the morning and evening peak periods and then every 1.5 hours (approx.) at other times (Mon-Fri). Also, the route only provides travel between Bognor Regis and Yapton (via Walberton). It does not provide a direct service to Chichester meaning that passengers intending to use public transport to get to destinations further-afield would have to change to another bus or use the railway, either at Barnham or Bognor Regis. The level of bus service to nearby key destinations is therefore infrequent and other than the two buses running at approximate ½ hour frequencies (albeit running opposite ways and only at very specific times) less than the desirable regular half hourly service WSCC refer to in its TA Methodology.

The new Technical Note prepared by the applicant's transport consultants makes reference in paragraph 2.20 to several other bus services, namely:

- 85
- 85A
- 228*
- 658, and
- 665

With regard to service frequencies and where they call, the 85 and 85A - Chichester – Westergate – Arundel – run approximately two hourly Mondays to Saturdays (WSCC Contracted). The 658 - Chichester – Westergate (School service), provides one return journey on schooldays. The 665 - Littlehampton – Westergate – Chichester - is again a school service and again runs one return journey on schooldays.

(*228 was a closed school contract not open to the general public and no longer exists).

Two important points to note here are (1) that services are generally infrequent – particularly the school services and, (2) that they start and finish at Westergate, adjacent to the Ormiston Six Villages Academy. This means that to access them on-foot would require a 1.4km walk or, if transport was used, to get a lift there either by car or to try to use the 66 service to try to coincide with those other services. Bearing in-mind the recommended maximum walking distances of around 400-500 metres to reach a frequent service (or services), the 1.4km from the site somewhat exceeds this. Taking these constraints together, these other services provide little assistance to the site in sustainability terms.

Bus Infrastructure - No bus shelters or realtime passenger information displays are located close to the site. If planning permission were to be secured for this site, the Highway Authority recommend that as part of any mitigation package that bus shelters and real-time passenger information be secured. Furthermore, provision for pedestrians to cross the road between stops should also be considered.

In the absence of regular bus services and suitable associated infrastructure (i.e. waiting facilities, real-time information, crossing facilities etc.), the Highway Authority considers that there is conflict with National Planning Policy Framework (NPPF).

Cycling - The immediate area surrounding the proposed new development is not well provided for in terms of off-road and/or segregated cycling routes. Cyclists would therefore have to use part of the busy A29 to gain access to most employment centres and local facilities including Aldingbourne Primary School and Westergate Community College to the north. The A29 Lidsey Road south of Lee's Yard leading to Bognor Regis and its industrial estates is largely rural in nature, unlit and has a series of tight bends with restricted visibility close to the location of the old canal. No footways are present between Lee's Yard (found south of the site) and Marigold's Caravan Park – the latter found approximately opposite the Robin Hood public house. There is no off-road cycle infrastructure until one reaches the Bognor Regis/Felpham Relief Road found further south. As a consequence and given the amount of traffic present, which includes considerable numbers of large vehicles such as HGVs, PSV's, service and delivery vehicles, the route does not cater well for non-motorised users. Although footways are available outside (narrow – approximately 1.0m wide) and north of the site (variable widths), width of road, presence of on-street car parking (particularly north of Aldingbourne Primary School) and high amount of traffic is not conducive to regular access on foot or by bicycle. Furthermore (and also north of the site), lack of opportunities to cross the road using refuges also prevail. Finally, delays brought-about by the regular closures of the railway crossing also contribute to longer journey times.

Given the above, the Highway Authority considers that there is again conflict with the NPPF.

Rail - The nearest railway station to the proposed development is located in Barnham, approximately 4km away by road. Given this distance, it is unlikely that residents would walk to the station. As such, they would have to use either the bus service; cycle along the busy A29, get dropped-off at the station or use their private car and park at the station (or close to). Currently, the car park serving the station, as well as the side-roads in the immediate vicinity, experiences a high volume of parked cars on weekdays due to commuter traffic. Encouraging further personal vehicular traffic to travel to the site is therefore not desirable, leading to further congestion and inconvenience for all highway users in the vicinity.

Given the above, the Highway Authority considers that there is again conflict with the NPPF. Bus services do travel to and from the station but given the infrequency of services, opportunities to use them to get to the station are limited.

Pedestrians and Local Services - Due to location of the site, there are limited local facilities in the immediate area. Those within a short walking distance are Aldingbourne Primary School, a local convenience shop, 'The Prince of Wales' public house, and further north, the Aldingbourne Community Centre. Furthermore, children attending Aldingbourne Primary School and Ormiston Six Village Academy further north would be more likely to be dropped off/picked up by private car given the lack of bespoke crossing facilities to assist crossing Lidsey Road for the latter. The high frequency of railway crossing closures (and associated length of barrier 'down time') also delay pedestrian access journey times to local facilities. Also and as mentioned earlier in this report, parts of the footways network found alongside Lidsey Road are narrow and are often obstructed by parked vehicles to the detriment of those wishing to travel on-foot.

Given the above, there is again conflict with the NPPF. The lack of suitable pedestrian facilities was identified previously by the Highway Authority in connection with the previous Woodgate Centre planning applications and reiterated at the subsequent Planning Appeals. This was acknowledged by the Inspectors when considering the latter.

Travel Plan.

A Travel Plan accompanies the application. Without prejudice to the comments presented elsewhere in this report by the Highway Authority – particularly with respect to sustainable travel choices and access - the following comments are made:

1. The Travel Plan provides very little commitment to and/or information about the measures that will be provided and the mechanism for delivery etc.
2. The Travel Plan does not appear to contain trip rate reduction targets in accordance with WSCC requirements. Any successful plan should demonstrate modal shift milestones that will need to be reached in order to achieve a 5 year trip rate reduction figure and how they would assist with reducing private travel and traffic impact.
3. No commitment is given to vouchers being provided to residents (WSCC currently request that £150 vouchers be offered to new households towards bus travel, cycle purchase etc.).
4. Grocery home delivery services should be incentivised (e.g. x% off first shop) and a voucher included in the welcome pack.
5. No commitment to, and details about, recovery measures that would be implemented in the event that targets are missed. Examples might be to provide personal journey planning services; incentives to existing residents within 1km of this development and an additional round of travel/bike vouchers.
6. The Highway Authority prefers an experienced external consultant in the role of Travel Plan Coordinator (TPC). The TPC's role should also include provision of a Personal Journey Planning service to all residents of the development.
7. The plan includes statements about the site being accessible which are in conflict with Highway Authority comments in this report. These should be removed. Any comments contained in the plan should be factual stating how they would (in the opinion of the applicants/their consultants) assist with delivering modal shift.

It should be noted, however, that even if a Travel Plan and measures therein could be agreed for this site, they themselves would not overcome the full sustainable deficiencies of the site as documented in this report. It would very much only remain as a tool to support a development where access by sustainable modes cannot be demonstrated.

The applicant's Transport Consultant has replied saying that as the submitted Travel Plan is of a 'Framework' nature, full details will be worked-on with WSCC at any full planning application stage. In the absence of further detailed information at this stage (and still without prejudice to the case made by the CHA in this report), if this outline application is approved, the CHA recommends that a suitable planning condition be attached to any consent to secure an appropriately detailed TP containing – amongst other things – the measures and recommendations made in points 1-7 above and that it be provided before any dwellings are occupied.

Internal layout and parking.

Although not forming part of the detailed submission for this application, the Highway Authority makes the following observations about the internal layout. If this current application is successful, the applicant should attend to what is said below (list should not be considered exhaustive):

- There appears to be lack of convenient visitor parking throughout the layout.

- Turning for vehicles – particularly service vehicles – is lacking in certain areas of the site. This could make it difficult to access dwellings for purposes of refuse collection and, more importantly, fire appliance access.
- Given the proposed form of drainage (permeable surfacing etc.) and surfacing proposed for footways inside the development, both the internal roads and footpaths will not be adopted by the Highway Authority and will need to remain private.
- In-line with the previous point, a management company would need to be secured in a S106 Agreement for maintenance of the development (particularly roads and footways etc.) in perpetuity.
- Again in-line with comments made above, a non-adoption clause would also need to be included in any S106 Agreement to prevent post-development adoption.

Public Rights of Way (PRoW).

Comments will be sent directly from the PRoW team to the LPA.

Surface water drainage.

Comments will be sent directly from the drainage team to the LPA.

Other material considerations.

Following refusal of two planning applications for residential development at the nearby Woodgate Centre proposed under planning references AL/69/11 and AL/60/12, Planning Appeals were lodged followed by Planning Inquiries. Both Inspectors considered a number of matters relating to that site, some of which were highway-related. It is noteworthy that a number of the reasons for refusal put forward by the Highway Authority were upheld at these Appeals. Consequently, both Appeals were dismissed.

In its assessment of this current application, the Highway Authority considers that a number of highway-related safety, capacity and sustainability issues have been identified, similar if not the same as those for the Woodgate Centre. As such, a number of conflicts exist with the NPPF.

Arun Local Plan.

Little reference is made to the forthcoming Arun Local Plan and no consideration of the impact the development will have on the allocations for Woodgate, Eastergate, Westergate, nor what it would contribute towards any Strategic Infrastructure Package associated with the Local Plan allocation. In the absence of this information, the full impact of the development cannot be known.

Pre-application submission.

Highways pre-application advice was sought by Transport Consultants RGP back in 2014 (the same highway consultants now representing the applicant for this planning application). This referred to holiday accommodation initially but moved to discussion about full-time/permanent dwellings. The comments expressed at that time in email dated 4th November 2014 (Dominic Smith WSCC to Alex Budd RGP) were as follows:

***“Our position on this aspect is in respect to the site being for tourist purposes, where the nature of such sites reduces the number of ‘short’ trips to local services – i.e., no school run, no employment journeys etc. This is reflected in the TRICS assessment where the daily trip rate is approximately 1/3rd of that expected for a residential development of a similar scale.*”**

Clarification is sought as to whether the site would benefit from a small retail offering essential goods, such as milk, bread etc. for its customers.

In the event that the site is to be used as full-time residential accommodation we would have concern regarding site sustainability. Our position on this would not differ from the recently refused 'Woodgate Centre' development to the east of Lidsey Road. This was refused on sustainability grounds and upheld at appeal – there have been no material changes to the local infrastructure since this time.

The Highway Authority's current position on this matter remains the same as the comments underlined above.

Conclusion.

The Highway Authority has concerns regarding access to the proposed development. It therefore raises objections to the proposal on the grounds that it is not demonstrated that the development can be satisfactorily accommodated in highway safety and traffic impact terms nor can it be accessed in a sustainable way in accordance with current guidance and best practice. The latter will place reliance on the need to travel to facilities and services using private means (predominantly cars), many of which are not particularly close to the site or at times, difficult to reach because of the regular closures at the nearby railway crossing. Public transport access is infrequent and alongside the access shortcomings identified in this report, including that for pedestrians and cyclists including lack of suitable infrastructure (bus stops, real-time information etc.), conflicts with the NPPF on these points have been identified.

For the reasons given in this report, the Highway Authority raises objections on the following grounds:

1. Sustainable access to and from development.

The proposed development has, in places, substandard walking and cycling infrastructure in proximity to it providing only limited opportunities for sustainable access to employment, retail, schools and community facilities – some of which are some distance away from the site and limited in terms of number and what they provide. This requires such users to negotiate the often busy and, in places, narrow A29 and to traverse distances often in-excess of recommended guidance to reach such destinations and/or frequent bus and rail services – the latter to reach larger employment and retail centres - thereby resulting in reliance on travel by private means (most likely car). This is further exacerbated by the regular down-time of the railway crossing gates which cause delay to travel, thereby extending travel times; all of which is not conducive to such means of travel and contrary to National and Local Planning Policy Guidance.

2. Access.

Satisfactory junction design has not been demonstrated at the junction with A29 Lidsey Road at the point the site joins that road, which would lead to conditions detrimental to highway safety.

3. Traffic impact.

The development, hereby proposed, would result in an increase in traffic to and from the A29 Lidsey Road, adding to the already long queues on that road caused by the regular railway crossing closures, which would result in conditions further prejudicial to the free-flow of traffic in the locality.

4. Cumulative traffic impact.

The cumulative traffic impact of the development has not been demonstrated by the applicant alongside Local Plan allocations (DRAFT or otherwise) and other committed developments. Therefore it is not known what the final level of traffic impact of the development would be/have on the surrounding area, contrary to planning policy guidance.

Tim Townsend
Planning Services

**WEST SUSSEX COUNTY COUNCIL
LOCAL DEVELOPMENT DIVISION: SECTION 106 CONSULTATION RESPONSE (excluding
Transport (known as TAD) contributions)**

DATE: 1st November 2017

FROM: Eloise Short, Monitoring and Records Team

TO: Tim Townsend, Planning Applications Team

DISTRICT COUNCIL: Arun

Application Number: AL/115/17

**The Provision of Service Infrastructure Related to: Wings Nursery, Lidsey Road,
Aldingbourne, PO20 3SU**

**Planning Application details – Outline application with some matters reserved for the
erection of 55No. dwellings, sustainable drainage measures, public open space, children's
play area, landscaping & all other associated works. This application is a Departure from
the Development Plan.**

Without prejudice to the informal representations of the County Council in respect of the above planning proposal, I am writing to advise you as to the likely requirements for contributions towards the provision of additional County Council service infrastructure, other than highways and public transport that would arise in relation to the proposed development.

The basis for my advice is contained in the adopted Supplementary Planning Guidance document "The Provision of Service Infrastructure Related to New Development in West Sussex – Part 1.

The planning obligation formulae below are understood to accord with the Secretary of State's policy tests outlined by the in the *National Planning Policy Framework, 2012*.

The advice is as follows:

1. School Infrastructure Contribution

- 1.1 The Director for Children and Young People's Services advises that it appears that at present primary/secondary/further secondary schools within the catchment area of the proposal currently would not have spare capacity and would not be able to accommodate the children generated by the assumed potential residential development from this proposal. Accordingly, contributions would need to be requested. However, the situation will be monitored and further advice on all of the main education sectors, (i.e. Primary/Secondary/Further Secondary) should be sought if this planning application is to be progressed.

1.2 Financial Contribution

The financial contribution sought by the County Council would be based on: the estimated additional population that would be generated by the proposed development, reduced to reflect any affordable dwellings (by which we mean Social Rented dwellings, but NOT

Shared Equity, Intermediate or Key Worker status dwellings) for occupation by persons already residing in the education catchment area; the County Council's adopted floorspace standard for education provision; and the estimated costs of providing additional education floorspace. As the housing mix is not known at this stage, I propose the insertion of a formula into any legal Agreement in order that the school infrastructure contribution may be calculated at a later date. The formula should read as follows:

The Owner and the Developer covenant with the County Council that upon Commencement of Development the Owner and/or the Developer shall pay to the County Council the School Infrastructure Contribution as calculated by the County Council in accordance with the following formula:-

DfE Figure x ACP = School Infrastructure Contribution where:

Note: x = multiplied by.

ACP (Additional Child Product) = The estimated additional number of school age children likely to be generated by the development calculated by reference to the total number of dwellings, less any allowance for affordable dwellings, as approved by a subsequent reserve matters planning application. The following criteria are used to generate a child product:

Dwelling Size		Occupancy	
		House	Flat
1 bed	=	1.5	1.3
2 bed	=	1.9	1.9
3 bed	=	2.5	2.4
4+ bed =	3.0	2.8	

Using the above occupancy rates to determine an overall population increase the following factors are applied. According to 2001 census data, there are 14 persons per 1000 population in each school year group for houses and 5 persons per 1000 population in each school year group for flats. There are 7 year groups for primary (years R to 6) and 5 for secondary (years 7 to 11). For Sixth Form, a factor of 0.54 is applied to the Child Product figure as this is the average percentage of year 11 school leavers who continue into Sixth Form colleges in West Sussex.

DfE Figure = Department for Education (DfE) school building costs per pupil place (for pupils aged 4 to 16) as adjusted for the West Sussex area applicable at the date when the School Infrastructure Contribution is paid (which currently for the financial year 2017/2018 are – Primary £15,666, Secondary £23,604, Further Secondary £25,600), updated as necessary by the Royal Institute of Chartered Surveyors Building Cost Information Service All-In Tender Price Index.

- 1.3 The contributions generated by this proposal shall be spent on additional facilities at Aldingbourne CofE Primary School.

The contributions generated by this proposal shall be spent on additional facilities at St Philip Howard Catholic High School.

The contributions generated by this proposal shall be spent on a restructure of the sixth form to cater for the additional student population at St Philip Howard Catholic High School Sixth Form.

2. Library Infrastructure Contribution

- 2.1 The County Librarian advises that the proposed development would be within the area served by Bognor Regis Library and that the library would not currently be able to adequately serve the additional needs that the development would generate.

However, a scheme is approved to provide additional floorspace or facilities at the library. In the circumstances, a financial contribution towards the approved scheme would be required in respect of the extra demands for library services that would be generated by the proposed development.

2.2 Financial Contribution

The financial contribution sought by the County Council would be based on: the estimated additional population that would be generated by the proposed development, reduced to reflect any affordable dwellings (by which we mean Social Rented dwellings, but NOT Shared Equity, Intermediate or Key Worker status dwellings) for occupation by persons already residing in the library's catchment area; the County Council's adopted floorspace standard for library provision; and the estimated costs of providing additional library floorspace. As the housing mix is not known at this stage, I propose the insertion of a formula into any legal Agreement in order that the library contribution may be calculated at a later date. The formula should read as follows:

The Owner and the Developer covenant with the County Council that upon Commencement of Development the Owner and/or the Developer shall pay to the County Council the Libraries Infrastructure Contribution as calculated by the County Council in accordance with the following formula:-

$L/1000 \times AP = \text{Libraries Infrastructure Contribution}$ where:

Note: x = multiplied by.

AP (Additional Persons) = The estimated number of additional persons generated by the development calculated by reference to the total number of dwellings, less any allowance for affordable dwellings, as approved by a subsequent reserve matters planning application. The following figures are given as a guideline:

Dwelling Size		Occupancy	
		House	Flat
1 bed	=	1.5	1.3
2 bed	=	1.9	1.9
3 bed	=	2.5	2.4
4+ bed	= 3.0	2.8	

$L/1000$ = Extra library space in sqm. per 1,000 population x the library cost multiplier (which currently for the financial year 2017/2018 are 30sq.m and £4,591 per sqm respectively).

- 2.3 The contributions generated by this proposal shall be spent on expansion of the facilities at Bognor Regis Library.

3. **Fire & Rescue Service Infrastructure**

3.1 Fire Stations

The County Fire Officer advises that a financial contribution from the proposed development towards the cost of fire and rescue infrastructure, principally fire stations and services serving the area within which the proposal stands, would be required. This is necessary due to proposed development in the Southern division and the resultant need to improve service provision across the area. The proposed development should proportionately contribute towards the cost of necessary infrastructure needed to support development.

3.2 Financial Contribution (excluding provision of fire hydrants)

The financial contribution sought by the County Council would be based on: the estimated additional population that would be generated by the proposed development, reduced to reflect any affordable dwellings (by which we mean Social Rented dwellings, but NOT Shared Equity, Intermediate or Key Worker status dwellings) for occupation by persons already residing in the fire service provision area; the County Council's adopted standards of fire service cover provision; and the estimated costs of providing additional fire stations. As the housing mix is not known at this stage, I propose the insertion of a formula into any legal Agreement in order that the fire service contribution may be calculated at a later date. The formula should read as follows:

The Owner and the Developer covenant with the County Council that upon Commencement of Development the Owner and/or the Developer shall pay to the County Council the Fire and Rescue Infrastructure Contribution as calculated by the County Council in accordance with the following formula:-

$Y \times (Z / M)$ = Fire and Rescue Infrastructure Contribution where:

Note: / = divided by, x = multiplied by.

Y = The estimated adjusted increase in population generated by the development using the following figures as a guideline:

Dwelling Size		Occupancy	
		House	Flat
1 bed	=	1.5	1.3
2 bed	=	1.9	1.9
3 bed	=	2.5	2.4
4+ bed	= 3.0	2.8	

Z = the estimated costs of providing additional Fire and Rescue Infrastructure in the Southern Service Division of West Sussex at the time of payment (which, for information, for 2007/2008 was £5,530,000).

M = the projected population of the Fire and Rescue Service Southern Service Division of West Sussex in 2016 at the time of payment (which, for information, for the 2007/2008 financial year was 429,647).

- 3.4 Fire and Rescue Service Contribution to be used towards supply and installation of additional fire safety equipment to vulnerable persons homes in West Sussex Fire Rescue Services Southern Area serving Aldingbourne.

General points

Please ensure that the applicants and their agents are advised that any alteration to the housing mix, either size, nature or tenure, may generate a different population and require re-assessment of contributions. Such re-assessment should be sought as soon as the housing mix is known and not be left until signing of the section 106 Agreement is imminent.

It should be noted that the figures quoted in this letter are based on current information and will be adhered to for 3 months. Thereafter, if they are not consolidated in a signed S106 agreement they will be subject to revision as necessary to reflect the latest information as to cost and need.

Review of the contribution towards the provision of additional County Council services should be by reference to an appropriate index, preferably RICS BCIS All-In TPI. This figure is subject to annual review.

Should you require further general information or assistance in relation to the requirements for contributions towards the provision of County Council service infrastructure please contact, in the first instance, the Planning Applications Team officer, named above.

Where the developer intends to keep some of the estate roads private we will require provisions in any s106 agreement to ensure that they are properly built, never offered for adoption and that a certificate from a suitably qualified professional is provided confirming their construction standard.

Where land is to be transferred to the County Council as part of the development (e.g. a school site) that we will require the developer to provide CAD drawings of the site to aid design/layout and to ensure that there is no accidental encroachment by either the developer or ourselves.

APPENDIX C

Edward Dodd

Subject: Wings Nursery

From: Steven Shaw [REDACTED]
Sent: 29 January 2018 18:19
To: Phil Russell [REDACTED]
Cc: 'michael@a [REDACTED]
[REDACTED]
[REDACTED]

Subject: RE: Wings Nursery

Phil,

Further to my earlier emails last week I have now had the opportunity to review the application and can provide the following response.

Firstly, I would like to assure you that this application will get a fair and consistent assessment as with all the applications we assess and that there is no reason for this application to be assessed in a different manner. I also have no concerns or issues with Tim continuing to be the Highway Authority officer who shall be assessing this application. Tim is an experienced and knowledgeable officer and knows the locality that this application is within extremely well.

I have reviewed the application and the comments that the Highway Authority have provided and taking each current area of objection in turn; I can provide the following:

Access

In relation to the access, having reviewed the Highway Authority comments and the concerns raised within this, whilst I acknowledge that in locations such as this some road users do choose to circumnavigate queuing traffic when the level crossing is down it is not considered to be a design issue and is driver error to do such a manoeuvre. Therefore the Highway Authority are removing this concern.

In relation to other concerns about the site access which specifically relate to its design the Highway Authority would look for a design review of these highway works to be completed with reference made to how they meet the standards contained within the Design Manual for Roads & Bridges (DMRB) and highlight any departures from standard. Whether or not we agree whether use of the DMRB or the Manual for Streets is the most appropriate for this location is irrelevant, as Tim has previously stated and as you are aware, MfS does not include designs for right turn pockets. The points made in bullet point 4 on page 4 of the Highway Authority comments remain valid and need to be considered as part of this design review. It is noted that in the Dec 2017 Technical Note revised access arrangements have been proposed which include a two lane exit from the site and keep clear markings on both access points. I will also ask one of our engineers to review the access arrangements and provide any comments we have in relation to the design. Any revised design should also be passed to the Safety Auditors who carried out the Stage 1 Audit for further comments. Should they decide to make further recommendations, an updated Designer's Response will also be necessary.

Traffic Impact

I understand from the planning agent, Gareth Giles, that you are providing further information to demonstrate that the proposed development will not have a significant traffic impact. I'm happy to review that as and when further information is submitted. Whilst I do not disagree that a site of this scale may not be deemed as severe on its own, however my main concern is the lack of mitigation which has currently been put forward including sustainable transport improvements and lack of firm commitments within the travel plan. The issue of traffic impact is obviously linked with sustainable travel options and I consider that this is the main area of work that needs to be undertaken.

Sustainability

As stated above my main concern relates to accessibility and the current lack of mitigation in any form. I acknowledge that the NPPF states that accessibility has to be considered relative to its context and we are certainly not expecting city centre levels of accessibility in this location. However, paragraph 29 of the NPPF states, "*... the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.*" However, I cannot see, in lieu of any meaningful contribution/improvements to sustainable transport how we could deem that opportunities to maximise sustainable transport has been achieved in this location; in line with the NPPF. We must also continue to be mindful of the relevance of the Woodgate Centre appeal decision, which was considered under the NPPF.

I acknowledge the recent planning applications which have been approved in the locality, however these are generally north of the railway line, which could be argued to have a greater level of access via sustainable forms of travel to local services and facilities. I also consider the other main difference between this application and AL/39/13 is that both improvements to pedestrian and cycling facilities and a contribution towards the strategic sustainable transport improvements associated with the proposed realignment of the A29 were offered and secured as part of the planning permission.

I would therefore look for you to come up with a package of measures/contributions (including to the strategic improvements as part of the A29 realignment) that will improve the sustainable transport offer that the site will benefit from. Please also note that as part of the travel plan the Highway Authority shall be insisting on £150 travel vouchers to be included within welcome packs to first residents and an additional £150 if targets are not met after 5 years.

I hope this email provides you with reassurance that this application will continue to be subject to a fair assessment and also provides you with the opportunity to present further information to WSCC to progress the application.

I am more than happy to discuss in more detail should that be beneficial and please feel free to keep me up to date as work progresses on the application.

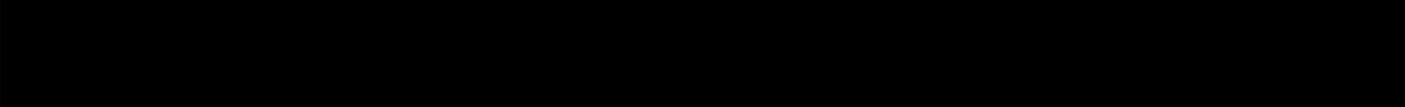
Regards

Steven Shaw BA (Hons) MSc MCIHT

County Highways (Development Management) Team Manager
Economy, Planning, and Place Directorate

West Sussex County Council, Ground Floor, Northleigh, County Hall, Chichester PO19 1RH

Sent: 26 January 2018 09:45



Subject: FW: Wings Nursery
Importance: High

Phil,

Thank you for your email in relation to AL/115/17/OUT and sorry for not responding sooner.

I have read your email and spoken with Tim about the application and he has advised me where we currently are. I still just need to pull a few things together but I hope to have a response to you and our updated position by early next week.

I can assure you that you will get a fair hearing and the assessment of this application will be no different to any other application within the County. I have no issues or concerns with Tim assessing this application and he will continue to be the case officer on behalf of the Highway Authority.

Have a good weekend and I'm more than happy to speak once you have our updated position which, as I said before, I hope to have with you early next week.

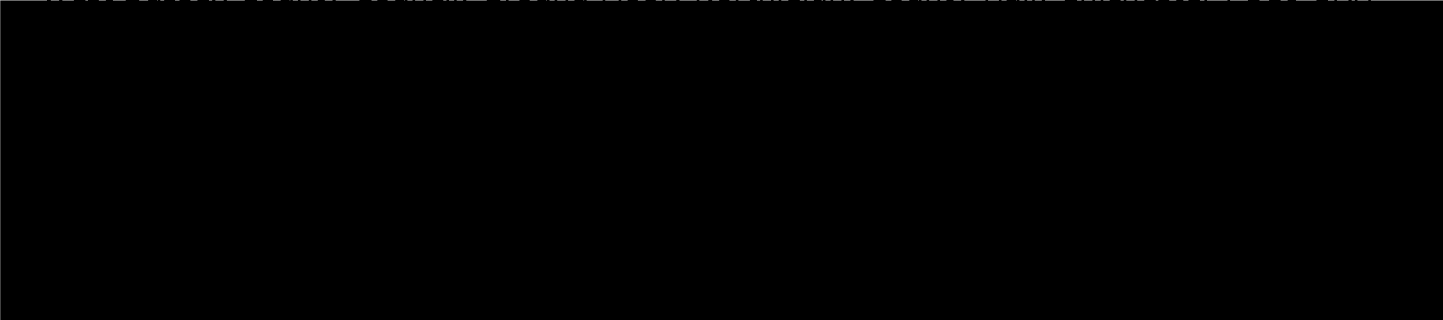
Regards

Steven Shaw BA (Hons) MSc MCIHT

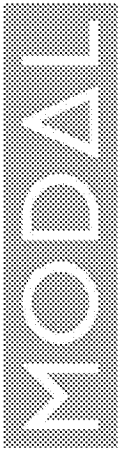
County Highways (Development Management) Team Manager

Economy, Planning, and Place Directorate

West Sussex County Council, Ground Floor, Northleigh, County Hall, Chichester PO19 1RH



APPENDIX D



modaldata.com

Globals

Report id	CustomList-190
Designer	Modal Dlr2_(modified)
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2018-02-01T15:42:30
Legal	Copyright (c)1997 - 2014 MetroCount
Graphic	header.bmp
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Method	4.0.0.0
Electric	Part metric
Speed Unit	mph
Length Unit	metre
Mass Unit	tonne

Dataset

Site Name	Woodgate
Site Attributes	ATC 2
File Name	S:\RGPL-012 Modal Data Limited\MetroCount\MTE 4.06\Data\Woodgate 0 2018-02-01 1042.EC1
File Type	Plus
Algorithm	Factory default axle
Counters	Lidsey Road
Lane	1
Direction	7
Direction Text	7 - North bound A/B, South bound B/A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2018-01-22T10:10:35
Start Time	2018-01-22T10:10:35
Finish Time	2018-02-01T10:42:35
Operator	RM
Configuration	00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Tagging	Default Profile
Title	MetroCount Traffic Executive
Graphs Log	
Header	
Footer	85
Parameter 1	95
Parameter 2	10
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End Time	ARX
Cable Scheme	0
Low Speed	90
High Speed	3%
Speed Limit	0.000
Separation	Headway
Separation Type	AB
Direction	15
Entered Direction	

LIDSEY ROAD, WOODGATE, BOGNOR REGIS														NORTHBOUND												MODAL											
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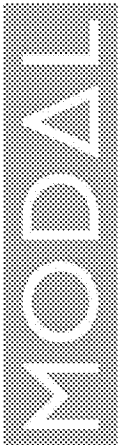
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LIDSEY ROAD, WOODGATE, BOGNOR REGIS														NORTHBOUND														MODAL													
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1900	1	244	3	26	1	0	0	0	0	0	0	0	275	0	5	19	40	30	88	70	16	5	2	0	0	0	26.3	32.7													
2000	0	126	0	7	0	0	0	0	0	0	0	0	133	0	1	3	14	17	26	52	14	4	2	0	0	0	28.9	34.4													
2100	0	112	0	4	0	0	0	0	0	0	0	0	116	0	2	10	13	12	33	33	10	3	0	0	0	0	27.2	34.4													
2200	1	78	1	3	1	0	0	0	0	0	0	0	84	1	6	7	7	8	14	22	14	5	0	0	0	0	27.2	35.8													
2300	0	22	0	3	0	0	0	0	1	0	0	0	26	0	0	0	1	6	7	4	3	4	1	0	0	0	31	41.4													
08-09	3	531	9	58	3	8	0	0	0	0	0	2	614	1	57	148	142	94	131	37	3	1	0	0	0	0	19.4	38.2													
17-18	4	396	9	15	0	2	1	0	0	2	0	0	429	3	30	57	59	88	132	51	8	1	0	0	0	0	22.5	29.8													
10-16	17	2128	33	206	12	12	1	8	6	10	0	5	2438	2	113	480	365	249	713	434	70	9	3	0	0	0	0	22.8	30.9												
00-05	2	66	0	10	0	0	0	2	2	0	0	0	82	0	0	0	5	1	12	16	24	11	6	5	2	0	0	36.4	45.6												
00-00	37	5855	79	544	28	32	5	14	12	14	1	9	6630	10	324	1072	1008	908	1885	1063	245	76	27	7	3	0	0	23.4	31.3												

LIDSEY ROAD, WOODGATE, BOGNOR REGIS													NORTHBOUND												MODAL											
Report Id - CustomList-190 Site Name - Woodgate Description - Lidsey Road Direction - AB																									modaldata.com											
27 January 2018																																				
Time	01	02	03	04	05	06	07	08	09	10	11	12	Total	01	02	03	04	05	06	07	08	09	10	11	12	Mean	Var									
0000	0	25	0	2	0	0	0	0	0	0	0	0	27	0	0	0	3	4	3	11	5	1	0	0	0	0	30.3	35								
0100	0	20	0	1	0	0	0	0	0	0	0	0	21	0	0	0	0	7	7	4	1	2	0	0	0	0	33.5	29.6								
0200	0	14	0	1	0	0	0	0	0	0	0	0	15	0	0	0	1	1	4	5	3	0	1	0	0	0	36.4	41.8								
0300	0	13	0	1	0	0	0	0	0	0	0	0	14	0	0	0	1	2	4	3	2	1	1	0	0	0	36.3	45								
0400	0	23	0	1	0	0	0	0	0	0	0	0	24	0	0	0	2	1	1	5	8	4	2	1	0	0	35.8	40.7								
0500	1	67	0	6	1	0	0	2	0	0	0	0	77	0	0	7	11	6	14	12	8	10	5	4	0	0	30.7	43.8								
0600	0	116	1	9	0	0	0	0	0	0	0	0	126	0	0	12	12	15	25	41	9	7	2	2	1	0	28.4	35.1								
0700	0	150	1	17	1	0	0	1	0	0	0	0	170	0	7	30	18	16	59	27	10	2	1	0	0	0	24.1	31.3								
0800	1	253	1	25	0	1	0	0	1	0	0	0	282	1	22	59	27	45	67	54	5	1	1	0	0	0	22.3	31.1								
0900	4	326	7	20	0	1	0	0	1	0	0	0	359	0	7	82	92	45	63	55	11	1	3	0	0	0	21.7	30.6								
1000	7	369	6	18	0	2	1	0	0	1	0	0	404	1	30	105	108	63	57	36	2	0	0	2	0	0	19.2	28.2								
1100	1	365	10	23	1	3	0	2	1	1	0	0	407	0	35	103	88	34	98	36	10	1	1	1	0	0	20.2	28.6								
1200	1	340	4	20	0	6	1	2	1	0	0	0	375	4	66	106	77	51	54	13	3	0	1	0	0	0	17	27.3								
1300	1	347	2	12	0	4	0	1	0	2	0	0	369	0	21	76	57	30	119	48	15	3	0	0	0	0	22.6	30.4								
1400	0	327	4	19	0	4	0	1	0	0	1	0	356	1	10	87	45	43	110	48	10	1	1	0	0	0	22.5	30.4								
1500	0	295	7	15	0	0	0	0	0	0	0	0	317	0	24	68	28	29	97	60	7	4	0	0	0	0	22.8	31.3								
1600	2	293	3	9	0	2	0	1	0	0	0	0	310	1	33	68	34	21	74	64	12	2	1	0	0	0	22.2	32								
1700	2	246	1	16	0	1	0	0	0	0	0	1	267	1	17	34	44	31	84	37	16	3	0	0	0	0	23.4	30.9								
1800	0	244	4	9	0	2	0	0	0	0	0	0	259	0	27	59	37	14	57	55	8	1	1	0	0	0	21.9	31.1								
1900	1	134	0	8	0	0	0	0	0	0	0	0	143	0	8	11	26	16	27	36	13	4	2	0	0	0	25.6	34.4								
2000	0	96	1	4	0	1	0	0	0	0	0	0	102	0	0	17	14	6	21	26	13	3	2	0	0	0	26.5	35.3								
2100	0	77	0	2	0	0	0	0	0	0	0	0	79	0	2	8	5	9	19	22	10	2	0	1	0	0	28.3	35.1								
2200	0	105	0	9	1	0	0	0	1	0	0	0	116	0	1	4	13	5	35	33	20	3	1	0	0	0	29.4	36								
2300	0	60	0	0	1	0	0	0	0	0	0	0	61	0	1	4	6	5	17	18	6	3	1	0	0	0	28.5	34.9								
00-09	1	253	1	25	0	1	0	0	1	0	0	0	282	1	22	59	27	45	67	54	5	1	1	0	0	0	0	22.3	31.3							
10-18	2	246	1	16	0	1	0	0	0	0	0	1	267	1	17	34	44	31	84	37	16	3	0	0	0	0	0	23.4	30.9							
10-16	10	2043	33	107	1	19	2	6	2	4	1	0	2228	6	186	545	403	250	535	241	47	9	3	3	0	0	0	20.6	29.5							
00-05	0	95	0	6	0	0	0	0	0	0	0	0	101	0	0	0	5	7	14	31	25	11	5	3	0	0	34	40.7								
00-00	21	4305	52	247	5	27	2	10	5	4	1	1	4680	9	311	940	747	491	1111	752	213	62	28	13	1	2	0	0	22.7	31.5						

LIDSEY ROAD, WOODGATE, BOGNOR REGIS										NORTHBOUND										MODAL										
Report Id - CustomList-190 Site Name - Woodgate Description - Lidsey Road Direction - AB																				modaldata.com										
28 January 2018																														
Time	01	02	03	04	05	06	07	08	09	10	11	12	Total	01	02	03	04	05	06	07	08	09	10	11	12	Mean	Var			
0000	1	49	0	1	0	0	0	0	0	0	0	0	51	0	0	2	4	8	13	13	7	3	1	0	0	0	29.2	36.5		
0100	0	17	0	0	1	0	0	0	0	0	0	0	18	0	0	0	0	7	6	2	0	0	0	0	0	0	34.4	26.5		
0200	0	15	0	0	0	0	0	0	0	0	0	0	15	0	0	1	0	1	5	5	3	0	0	0	0	0	34.7	41.2		
0300	0	16	0	3	0	0	0	0	0	0	0	0	19	0	0	0	1	0	5	5	3	2	1	2	0	0	0	35.6	43.4	
0400	0	18	0	1	0	0	0	0	0	0	0	0	19	0	0	0	0	2	3	4	8	1	1	0	0	0	0	38.7	42.5	
0500	0	36	0	7	0	0	0	0	0	0	0	0	43	0	0	0	0	6	15	12	7	3	0	0	0	0	0	35.8	43.2	
0600	0	74	0	6	0	0	0	1	1	0	0	0	82	0	1	3	4	3	20	19	16	11	5	0	0	0	0	32.1	48.5	
0700	0	78	1	4	0	0	0	0	0	0	0	0	83	0	2	6	10	10	22	16	12	4	1	0	0	0	0	27.5	36.5	
0800	1	128	1	13	0	1	0	0	0	0	0	0	144	0	1	18	12	7	36	44	23	2	1	0	0	0	0	27.9	35.6	
0900	3	189	1	14	0	1	1	1	0	0	0	0	210	0	4	20	23	15	84	50	9	3	2	0	0	0	0	26.4	32.2	
1000	1	327	3	21	0	1	0	0	0	0	0	0	353	1	2	23	49	58	137	62	19	2	0	0	0	0	0	25.6	31.5	
1100	3	330	4	9	0	1	0	0	0	0	0	0	347	1	6	27	42	60	119	71	14	7	0	0	0	0	0	25.6	31.5	
1200	7	341	15	15	1	5	0	0	0	0	0	0	384	1	31	97	43	35	105	63	9	0	0	0	0	0	0	21.8	30.4	
1300	4	358	5	15	0	2	0	0	0	1	0	0	385	0	25	65	60	26	140	52	16	0	1	0	0	0	0	23	30.2	
1400	6	340	5	10	3	4	0	1	0	0	0	0	369	1	10	37	64	50	117	74	11	5	0	0	0	0	0	24.7	31.5	
1500	3	303	6	7	0	0	0	0	0	0	0	0	320	0	12	64	35	36	107	61	4	1	0	0	0	0	0	23.2	30.4	
1600	2	303	2	10	0	2	0	0	0	0	2	0	321	0	3	34	48	43	118	57	14	1	3	0	0	0	0	25.3	31.5	
1700	0	223	2	10	0	2	0	0	0	1	0	0	238	0	13	27	27	15	70	51	26	4	3	1	0	0	0	26.1	34	
1800	0	171	1	5	0	0	0	0	0	0	0	0	177	0	8	27	23	12	53	33	18	2	1	0	0	0	0	25	33.6	
1900	0	143	1	4	0	0	0	0	0	0	1	0	149	0	0	6	8	18	50	52	13	2	0	0	0	0	0	28.5	34	
2000	0	76	0	8	0	0	0	0	0	0	0	0	84	0	0	6	6	14	27	25	5	1	0	0	0	0	0	27.1	32.2	
2100	1	47	0	4	0	0	0	0	0	0	0	0	52	0	0	1	2	8	14	17	8	2	0	0	0	0	0	30	35.6	
2200	0	40	0	5	0	0	0	0	0	0	0	0	45	0	0	0	2	1	15	18	4	3	1	0	0	0	0	32	37.8	
2300	0	15	0	5	0	0	0	0	0	0	0	0	20	0	0	0	2	6	3	4	1	2	1	0	0	0	0	30.5	40.9	
04-09	1	128	1	13	0	1	0	0	0	0	0	0	144	0	1	18	12	7	36	44	23	2	1	0	0	0	0	27.9	35.6	
17-18	0	223	2	10	0	2	0	0	0	1	0	0	238	0	13	27	27	15	70	51	26	4	3	1	0	0	0	26.1	34	
10-16	24	1999	38	77	4	13	0	2	1	0	0	0	2158	4	86	313	293	265	725	383	73	15	1	0	0	0	0	23.9	30.9	
00-05	1	115	0	5	1	0	0	0	0	0	0	0	122	0	0	3	5	8	28	32	21	16	3	6	0	0	0	33.1	41.6	
00-00	32	3637	47	177	5	19	1	4	3	3	0	0	3928	4	118	464	465	425	1271	816	255	75	25	7	2	1	0	0	25.6	32.4

LIDSEY ROAD, WOODGATE, BOGNOR REGIS													NORTHBOUND												MODAL											
Report Id - CustomLst-190 Site Name - Woodgate Description - Lidsey Road Direction - AB																									modaldata.com											
29 January 2018																																				
Time	01	02	03	04	05	06	07	08	09	10	11	12	Total	01	02	03	04	05	06	07	08	09	10	11	12	Mean	Vpn									
0000	0	10	0	2	0	0	0	0	0	0	0	0	12	0	0	0	1	1	0	7	1	1	1	0	0	0	33.1	37.3								
0100	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	32.4	-								
0200	0	5	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	0	2	2	1	1	0	0	0	0	37.7	-								
0300	1	13	0	3	0	0	0	0	0	0	0	0	17	0	0	0	1	0	2	3	6	2	0	0	0	0	38.3	44.7								
0400	0	45	0	5	0	0	0	0	0	0	0	0	50	0	0	4	3	5	8	12	6	8	2	1	0	0	32.2	43.6								
0500	1	125	0	19	0	0	0	0	0	0	0	0	145	0	1	4	4	7	18	53	35	13	6	2	2	0	0	33.5	40.9							
0600	4	337	3	45	2	0	1	0	0	0	0	0	392	0	13	36	46	41	106	102	34	11	3	0	0	0	0	26.4	33.6							
0700	9	613	8	74	0	7	0	2	2	0	0	1	716	0	14	130	133	232	176	27	4	0	0	0	0	0	0	21.3	27.3							
0800	6	479	8	50	2	6	1	4	1	2	0	0	559	0	19	107	100	82	177	70	2	2	0	0	0	0	0	22.2	29.5							
0900	3	324	4	41	1	2	0	1	0	1	0	0	377	0	29	63	40	31	153	50	9	1	1	0	0	0	0	22.9	30							
1000	1	332	6	31	1	2	0	1	1	0	0	2	377	0	23	69	52	79	126	26	1	0	0	0	0	1	0	21.7	28.4							
1100	4	403	6	34	1	2	2	1	0	0	0	0	453	1	48	137	43	102	106	13	1	0	0	2	0	0	0	18.8	26.2							
1200	0	316	13	32	1	2	0	2	0	0	0	0	366	1	41	67	46	73	102	31	4	1	0	0	0	0	0	20.8	28.4							
1300	1	329	8	37	0	1	0	2	0	0	0	0	378	2	42	66	54	52	124	31	7	0	0	0	0	0	0	21	29.1							
1400	2	350	6	27	2	1	1	0	2	1	0	0	392	2	35	115	52	35	105	38	8	0	0	1	0	0	0	20.3	28.1							
1500	0	360	9	23	0	4	1	0	0	0	0	0	397	0	12	114	69	72	73	42	14	1	0	0	0	0	0	20.8	29.3							
1600	3	365	8	26	5	4	0	1	2	1	0	0	415	5	56	89	86	79	83	15	2	0	0	0	0	0	0	18.6	27.3							
1700	2	370	5	16	1	3	0	0	0	0	0	1	398	0	23	62	61	54	147	42	6	3	0	0	0	0	0	22.6	29.5							
1800	4	246	4	20	1	0	0	0	0	0	0	0	275	0	17	54	34	32	108	24	5	1	0	0	0	0	0	22.2	29.3							
1900	1	197	2	16	1	2	0	0	0	0	0	0	219	1	15	37	26	21	51	50	14	3	1	0	0	0	0	24	32.7							
2000	1	107	0	8	0	0	0	1	1	0	0	0	118	0	6	14	9	10	35	30	7	5	1	0	0	0	0	26.4	33.8							
2100	1	91	0	2	0	0	0	0	0	0	0	0	94	0	2	8	10	12	25	20	12	2	2	1	0	0	0	27.5	35.3							
2200	0	63	0	2	0	0	0	0	0	0	0	0	65	0	0	4	7	10	22	14	7	1	0	0	0	0	0	26.9	33.8							
2300	0	20	0	1	0	0	0	0	0	0	0	0	21	0	0	0	2	3	6	8	1	1	0	0	0	0	0	29.4	34.4							
04-09	6	479	8	50	2	6	1	4	1	2	0	0	559	0	19	107	100	82	177	70	2	2	0	0	0	0	0	22.2	29.5							
17-18	2	370	5	16	1	3	0	0	0	0	0	1	398	0	23	62	61	54	147	42	6	3	0	0	0	0	0	22.6	29.5							
10-16	8	2090	48	184	5	12	4	6	3	1	0	2	2363	6	201	568	316	413	636	181	35	2	0	3	0	1	0	20.5	28.4							
00-05	1	74	0	12	0	0	0	0	0	0	0	0	87	0	0	4	5	7	10	24	15	13	4	3	0	2	0	33.9	43.8							
00-00	44	5501	90	516	18	36	6	15	9	5	0	4	6244	12	396	1180	879	1034	1753	710	188	58	18	9	3	3	0	0	22.3	30						



modaldata.com

Globals

Report id	CustomList-190
Designer	Modal Dlr2_(modified)
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2018-02-01T15:49:55
Legal	Copyright (c)1997 - 2014 MetroCount
Graphic	header.bmp
Language	English
Country	United Kingdom
Time	UTC + 0 min
Create Method	4.0.0.0
Electric	Part metric
Speed Unit	mph
Length Unit	metre
Mass Unit	tonne

Dataset

Site Name	Woodgate
Site Attributes	ATC 2
File Name	S:\RGPL-012 Modal Data Limited\MetroCount\MTE 4.08\Data\Woodgate 0 2018-02-01 1042.EC1
File Type	Plus
Algorithm	Factory default axle
Counters	Lidsey Road
Lane	1
Direction	7
Direction Text	7 - North bound A/B, South bound B/A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2018-01-22T10:10:35
Start Time	2018-01-22T10:10:35
Finish Time	2018-02-01T10:42:35
Operator	RM
Configuration	00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Range	Default Profile
Time	MetroCount Traffic Executive
Graphic Logo	
Header	
Footer	
Percentage 1	85
Percentage 2	95
Trace	10
Filter Start	2018-01-23T00:00:00
Filter End	2018-01-30T00:00:00
Class Scheme	ARX
Low Speed	0
High Speed	90
Vehicle Type	%
Speed Limits	
Separation	0.000
Separation Type	Headway
Direction	BA
Enclosed Direction	15

LIDSEY ROAD, WOODGATE, BOGNOR REGIS										SOUTHBOUND										MODAL										
Report Id - CustomList-190 Site Name - Woodgate Description - Lidsey Road Direction - BA																				modaldata.com										
23 January 2018																														
Time	01	02	03	04	05	06	07	08	09	10	11	12	Total	01	02	03	04	05	06	07	08	09	10	11	12	Mean	Var			
0000	0	19	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	3	6	6	3	1	0	0	0	0	35.6	41.4		
0100	0	12	0	0	0	0	0	0	0	0	0	0	12	0	0	1	0	2	3	6	0	0	0	0	0	0	32.8	34		
0200	0	5	0	0	0	0	0	1	0	0	0	0	6	0	0	0	0	1	2	1	0	0	0	0	1	0	0	37.8	-	
0300	0	6	0	2	1	0	0	0	0	0	0	0	9	0	0	0	1	0	2	3	1	1	1	0	0	0	0	32.9	-	
0400	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	1	1	5	4	3	0	0	0	0	0	35.5	40.7	
0500	0	31	0	3	0	0	0	0	1	1	0	0	36	0	0	1	0	1	7	16	6	4	1	0	0	0	0	33.1	39.6	
0600	2	94	0	9	1	0	0	0	0	0	0	0	106	0	3	0	0	2	39	46	12	2	1	1	0	0	0	31	34.7	
0700	2	280	1	20	0	4	0	0	1	0	0	0	308	0	4	33	29	50	114	66	11	0	1	0	0	0	0	25.4	31.8	
0800	5	409	3	16	2	0	0	0	0	0	0	0	435	2	5	26	29	84	208	70	9	0	0	0	0	0	2	26	30.9	
0900	3	370	1	31	2	3	0	3	1	0	0	0	414	0	3	3	13	97	193	85	17	3	0	0	0	0	0	27.2	31.3	
1000	4	309	0	22	0	1	0	0	3	0	0	0	339	2	1	7	20	77	137	87	8	0	0	0	0	0	0	26.9	31.8	
1100	3	323	0	30	0	2	0	0	3	0	0	0	361	1	2	4	8	61	171	105	8	1	0	0	0	0	0	27.7	31.8	
1200	2	341	0	22	0	2	0	0	0	1	0	1	369	0	0	4	8	84	154	107	10	2	0	0	0	0	0	27.9	32.4	
1300	1	371	2	35	1	0	0	1	0	0	0	0	411	1	1	9	25	112	166	83	12	1	1	0	0	0	0	26.5	31.3	
1400	1	378	0	31	1	0	0	0	0	0	0	0	411	0	6	7	11	83	201	94	9	0	0	0	0	0	0	26.9	30.9	
1500	1	493	2	35	3	2	0	0	0	0	0	0	536	1	7	13	32	123	275	70	12	2	0	1	0	0	0	26.1	30	
1600	2	563	1	47	1	1	0	0	0	1	0	0	616	1	4	24	32	156	285	99	13	0	0	0	1	0	0	26.2	30.4	
1700	9	639	0	19	1	1	0	0	0	0	0	0	669	2	9	12	19	93	393	132	9	0	0	0	0	0	0	27	30.6	
1800	2	432	0	20	1	0	0	0	1	0	0	0	456	0	1	8	19	62	208	123	29	5	1	0	0	0	0	28.3	32.7	
1900	3	263	1	7	1	0	0	0	0	1	0	0	276	0	3	3	16	41	125	68	15	2	3	0	0	0	0	28	32.4	
2000	0	148	0	8	1	0	0	0	0	0	0	0	157	0	0	7	7	8	63	55	14	3	0	0	0	0	0	29.1	33.8	
2100	0	113	0	3	1	0	0	1	0	0	0	0	118	0	0	1	2	11	52	37	9	3	3	0	0	0	0	30.1	34.2	
2200	0	83	0	4	0	0	0	1	1	0	0	0	89	0	0	1	10	12	19	27	17	2	0	1	0	0	0	29.6	36.5	
2300	0	46	0	0	1	0	0	0	0	0	0	0	47	0	0	0	1	5	12	11	11	6	0	1	0	0	0	32.6	38.9	
00-09	5	409	3	16	2	0	0	0	0	0	0	0	435	2	5	26	29	84	208	70	9	0	0	0	0	0	2	0	26	30.9
10-18	9	639	0	19	1	1	0	0	0	0	0	0	669	2	9	12	19	93	393	132	9	0	0	0	0	0	0	27	30.6	
10-16	12	2315	4	175	5	7	0	1	6	1	0	1	2427	5	17	44	104	540	1104	546	59	6	1	1	0	0	0	26.9	31.5	
00-05	0	56	0	2	1	0	0	1	0	0	0	0	60	0	0	1	1	2	10	18	17	8	2	0	0	0	1	0	34.8	41.2
00-00	40	5742	11	364	18	16	0	7	11	4	0	1	6214	10	49	164	282	1164	2832	1399	248	44	13	4	1	1	0	0	27.3	31.8

LIDSEY ROAD, WOODGATE, BOGNOR REGIS														SOUTHBOUND														MODAL													
Report Id - CustomLst-190 Site Name - Woodgate Description - Lidsey Road Direction - BA																												modaldata.com													
24 January 2018																																									
Time	01	02	03	04	05	06	07	08	09	10	11	12	Total	01	02	03	04	05	06	07	08	09	10	11	12	Mean	Var														
0000	0	23	0	2	0	0	0	0	0	0	0	0	25	0	0	1	0	1	1	9	8	4	1	0	0	0	34.8	40													
0100	0	7	0	2	0	0	0	1	0	0	0	0	10	0	0	0	1	0	5	2	1	1	0	0	0	0	34.1	-													
0200	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	36.9	-													
0300	0	8	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	1	3	1	3	0	0	0	0	0	37.3	-													
0400	0	7	0	1	0	0	0	0	0	0	0	0	8	0	0	0	0	1	4	1	2	0	0	0	0	0	34.6	-													
0500	1	30	0	3	0	0	0	0	1	0	0	0	35	2	0	1	0	13	12	4	3	0	0	0	0	0	29.6	35.8													
0600	0	92	0	11	1	0	1	0	0	2	0	0	107	0	0	0	0	13	33	47	11	3	0	0	0	0	30.4	34.2													
0700	1	254	0	21	0	2	0	0	0	0	0	0	278	0	6	3	12	52	115	80	8	1	1	0	0	0	27.3	31.8													
0800	3	418	0	26	3	0	0	0	0	0	0	0	450	1	7	7	32	104	226	69	3	0	0	1	0	0	25.7	30.2													
0900	3	325	0	31	5	1	0	1	0	0	0	0	366	0	1	7	9	66	176	92	14	1	0	0	0	0	27.8	31.9													
1000	2	314	0	27	1	2	0	0	2	1	1	0	350	0	0	2	12	80	174	73	8	1	0	0	0	0	27.2	31.1													
1100	2	336	0	26	1	0	0	1	0	0	0	0	366	0	2	2	6	57	183	107	8	1	0	0	0	0	28.1	31.8													
1200	2	357	0	40	2	0	0	0	0	0	0	0	401	1	1	5	9	70	176	117	17	5	0	0	0	0	28.2	32.2													
1300	0	318	1	36	1	1	0	1	1	0	0	0	359	0	0	4	11	53	156	104	29	2	0	0	0	0	28.6	33.3													
1400	4	350	0	28	0	1	0	0	2	1	0	0	386	0	4	8	38	115	147	62	11	1	0	0	0	0	25.6	30.6													
1500	5	509	0	35	1	0	0	0	0	1	0	0	551	1	4	7	40	113	275	103	7	0	1	0	0	0	26.5	30.4													
1600	2	532	0	31	0	0	0	1	0	1	0	0	567	1	1	12	28	162	273	82	7	1	0	0	0	0	26	30.2													
1700	6	625	0	25	0	0	0	0	1	0	0	0	657	1	6	10	27	102	364	139	5	2	1	0	0	0	27.1	30.9													
1800	3	482	0	23	0	0	0	1	0	0	0	1	510	0	1	5	10	62	246	163	22	1	0	0	0	0	28.6	32													
1900	3	278	0	5	1	0	0	0	0	0	0	0	287	2	0	6	8	38	143	66	20	3	1	0	0	0	28.3	32.7													
2000	1	129	0	9	0	0	0	0	0	2	0	0	141	0	1	2	0	13	61	41	20	3	0	0	0	0	30	35.1													
2100	0	123	1	6	1	0	0	0	0	0	0	0	131	0	0	2	3	22	43	47	9	3	1	1	0	0	29.3	33.6													
2200	0	84	0	2	1	0	0	0	1	0	0	0	88	0	0	2	0	4	32	34	11	2	3	0	0	0	31.4	36.5													
2300	0	41	0	0	0	0	0	0	0	0	0	0	41	0	0	0	0	3	13	11	12	1	1	0	0	0	32.3	37.8													
08-09	3	418	0	26	3	0	0	0	0	0	0	0	450	1	7	7	32	104	226	69	3	0	0	1	0	0	0	25.7	30.2												
17-18	6	625	0	25	0	0	0	0	1	0	0	0	657	1	6	10	27	102	364	139	5	2	1	0	0	0	0	27.1	30.9												
10-16	15	2184	1	192	6	4	0	2	5	3	1	0	2413	2	11	28	116	488	1111	566	80	10	1	0	0	0	0	27.3	31.5												
00-05	0	47	0	5	0	0	0	1	0	0	0	0	53	0	0	1	0	2	3	22	12	11	2	0	0	0	35.1	42.1													
00-00	38	5644	2	390	18	7	1	6	8	8	1	1	6124	9	34	86	245	1131	2852	1471	238	45	11	2	0	0	0	27.6	31.8												

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LIDSEY ROAD, WOODGATE, BOGNOR REGIS												SOUTHBOUND												MODAL															
Report Id - CustomLst-190 Site Name - Woodgate Description - Lidsey Road Direction - BA																								modaldata.com															
25 January 2018																																							
Time	01	02	03	04	05	06	07	08	09	10	11	12	Total	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	Mean	Var
0000	0	38	0	1	0	0	0	0	0	1	0	0	40	0	0	0	0	1	4	15	14	4	1	0	0	0	0	0	0	0	1	0	0	0	0	35.7	38.9		
0100	0	9	0	2	0	0	0	0	0	0	0	0	11	0	0	0	0	0	3	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	38.9	41.4		
0200	1	5	0	0	0	0	0	1	0	0	0	0	7	0	0	1	0	1	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	32.8	-		
0300	0	3	0	2	0	0	0	0	0	0	0	0	5	0	0	1	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.8	-		
0400	0	9	0	0	0	0	0	0	0	2	0	0	11	0	0	0	0	1	4	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	31.6	37.6		
0500	1	29	0	4	0	0	0	0	0	0	0	0	34	1	0	1	0	3	8	9	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	31.6	37.6		
0600	0	97	1	9	2	0	0	0	0	0	1	0	110	0	0	0	3	3	44	49	9	1	1	0	0	0	0	0	0	0	0	0	0	0	0	30.3	33.6		
0700	2	258	1	20	0	1	0	0	0	0	0	0	282	0	0	3	4	32	164	74	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	28.2	31.1		
0800	6	392	2	28	0	1	0	1	0	1	0	0	431	4	3	14	38	99	202	65	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	25.6	30		
0900	1	352	1	31	3	1	0	0	0	2	0	0	391	0	2	6	9	67	193	92	20	1	1	0	0	0	0	0	0	0	0	0	0	0	0	27.9	32		
1000	5	322	0	26	2	2	0	0	0	2	0	0	359	1	4	5	15	63	150	107	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	27.6	32		
1100	5	376	0	29	1	1	0	1	0	0	0	0	413	0	2	11	7	90	188	107	6	0	2	0	0	0	0	0	0	0	0	0	0	0	0	27.4	31.5		
1200	3	344	3	29	1	1	1	2	1	0	0	0	385	1	0	4	6	38	215	106	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.5	31.8		
1300	5	348	0	24	3	0	1	0	2	1	0	0	384	1	2	11	12	72	160	116	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.4	31.8		
1400	7	388	0	35	4	2	0	0	0	1	0	0	438	4	52	26	29	67	159	94	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	30.9		
1500	5	479	0	31	1	1	1	1	1	0	1	0	520	0	6	43	56	109	201	95	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.2	30.9		
1600	2	581	2	40	2	0	0	0	0	2	1	2	632	1	1	14	29	133	319	121	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.9	31.3		
1700	7	696	1	43	0	0	0	0	0	0	1	0	748	1	7	7	29	107	397	176	23	1	0	0	0	0	0	0	0	0	0	0	0	0	0	27.4	31.3		
1800	6	487	1	23	1	0	0	0	0	0	0	0	518	1	4	25	34	81	208	141	23	1	0	0	0	0	0	0	0	0	0	0	0	0	0	27	32		
1900	3	273	1	13	2	0	0	0	0	2	0	1	295	2	2	3	24	27	110	99	21	6	1	0	0	0	0	0	0	0	0	0	0	0	0	28.6	33.8		
2000	0	173	1	8	0	1	0	1	0	1	0	0	184	0	0	6	2	12	61	76	24	2	1	0	0	0	0	0	0	0	0	0	0	0	0	30.4	34.7		
2100	2	137	0	6	0	0	0	0	0	0	0	0	146	0	1	2	1	15	49	57	17	3	1	0	0	0	0	0	0	0	0	0	0	0	30.2	34.7			
2200	0	100	0	4	0	0	0	0	0	0	0	0	104	0	0	2	6	7	42	33	10	3	1	0	0	0	0	0	0	0	0	0	0	0	29.5	34.7			
2300	0	57	0	2	0	0	0	0	0	0	0	0	59	0	0	0	0	0	24	22	11	2	0	0	0	0	0	0	0	0	0	0	0	0	31.6	36.9			
08-09	6	392	2	28	0	1	0	1	0	1	0	0	431	4	3	14	38	99	202	65	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	25.6	30		
17-18	7	696	1	43	0	0	0	0	0	0	1	0	748	1	7	7	29	107	397	176	23	1	0	0	0	0	0	0	0	0	0	0	0	0	0	27.4	31.3		
10-16	30	2257	3	174	12	7	3	4	6	2	1	0	2499	7	66	100	135	439	1073	625	56	6	2	0	0	0	0	0	0	0	0	0	0	0	0	26.5	31.5		
00-05	1	64	0	5	0	0	0	1	3	0	0	0	74	0	0	2	0	3	11	22	23	9	3	0	0	0	0	0	0	0	0	0	0	0	34.6	40.3			
00-00	61	5953	14	410	22	11	3	11	11	10	1	0	6507	17	86	185	304	1028	2905	1661	268	40	11	0	0	0	0	0	0	0	0	0	0	0	0	27.4	32		

LIDSEY ROAD, WOODGATE, BOGNOR REGIS										SOUTHBOUND										MODAL									
Report Id - CustomList-190 Site Name - Woodgate Description - Lidsley Road Direction - BA																				modaldata.com									
28 January 2018																													
Time	01	02	03	04	05	06	07	08	09	10	11	12	Total	01	02	03	04	05	06	07	08	09	10	11	12	Mean	Vpn		
0000	0	61	1	1	1	0	0	0	0	0	0	0	63	0	1	1	2	1	17	26	11	2	1	1	0	0	31.6	85	
0100	1	40	0	2	0	0	0	0	0	0	0	0	43	0	0	0	4	5	14	13	3	2	1	1	0	0	34.7	40.3	
0200	0	17	0	1	0	0	0	0	0	0	0	0	18	0	1	0	0	1	2	10	1	1	1	0	0	0	33.4	38	
0300	0	12	0	0	0	0	0	0	0	0	0	0	12	0	0	2	0	2	3	1	2	1	1	0	0	0	33.9	44.5	
0400	0	9	0	0	0	0	0	1	0	0	0	0	10	0	0	0	1	2	1	2	3	1	0	0	0	0	36.5	-	
0500	1	16	0	2	0	0	0	0	1	0	0	0	20	0	0	1	0	0	1	7	6	3	2	0	0	0	35.1	41.8	
0600	1	29	0	2	0	0	0	0	0	0	0	0	32	0	0	0	1	1	7	8	12	2	1	0	0	0	33	36.7	
0700	1	48	0	4	0	0	0	0	0	0	0	0	53	0	0	0	2	5	11	23	6	3	3	0	0	0	32.1	36	
0800	4	90	0	7	0	0	0	0	0	0	0	0	101	0	0	3	2	4	24	46	17	4	1	0	0	0	31.4	36	
0900	2	136	0	7	1	1	0	0	0	0	0	0	147	0	0	6	6	10	50	63	11	1	0	0	0	0	29.1	33.6	
1000	2	307	3	8	1	0	0	0	0	0	0	0	321	0	0	1	7	35	159	97	19	3	0	0	0	0	28.9	32.7	
1100	4	378	1	9	1	0	0	0	0	0	0	0	393	0	1	7	16	33	167	144	22	3	0	0	0	0	28.6	32.9	
1200	2	399	3	17	2	0	0	0	0	0	0	0	423	0	4	6	20	97	178	102	13	3	0	0	0	0	27.2	31.8	
1300	4	373	1	11	0	2	0	0	0	0	0	0	391	0	5	17	29	36	145	140	16	3	0	0	0	0	27.6	32.7	
1400	2	321	0	9	1	2	0	0	0	0	0	1	336	0	0	2	9	63	113	111	31	6	1	0	0	0	29	34	
1500	9	312	1	15	1	1	0	0	0	0	0	0	339	1	1	6	9	47	128	119	21	6	0	1	0	0	28.8	33.1	
1600	6	305	2	11	2	0	0	0	0	1	1	0	328	0	1	4	16	45	133	97	28	3	1	0	0	0	28.8	33.3	
1700	3	279	1	4	2	0	0	0	0	0	0	0	289	2	2	12	23	25	97	105	21	1	1	0	0	0	28	33.3	
1800	3	208	1	5	1	0	0	1	0	0	0	0	219	1	1	3	4	8	103	68	24	6	1	0	0	0	30.1	34.4	
1900	0	154	0	5	1	0	0	0	1	0	0	0	161	0	0	0	1	7	56	67	25	3	1	0	1	0	31.3	35.6	
2000	1	124	0	6	0	0	0	1	1	0	0	0	133	0	0	1	4	17	42	53	10	6	0	0	0	0	29.9	34.2	
2100	1	77	0	3	1	0	0	0	0	0	0	0	82	0	0	4	0	5	20	33	16	2	1	1	0	0	31.6	36.9	
2200	1	49	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	2	15	23	6	1	2	1	0	0	32.2	36.5	
2300	0	45	0	2	0	0	0	0	0	0	0	0	47	0	0	2	2	2	13	15	6	1	0	0	0	0	31.5	39.6	
04-09	4	90	0	7	0	0	0	0	0	0	0	0	101	0	0	3	2	4	24	46	17	4	1	0	0	0	31.4	36	
17-18	3	279	1	4	2	0	0	0	0	0	0	0	289	2	2	12	23	25	97	105	21	1	1	0	0	0	28	33.3	
10-16	23	2090	9	69	6	5	0	0	0	0	0	1	2203	1	11	39	90	311	890	713	122	24	1	1	0	0	0	28.3	32.9
00-05	1	139	1	4	0	0	0	1	0	0	0	0	146	0	2	3	2	7	28	54	28	11	6	3	1	0	0	33.2	39.6
00-00	48	3789	14	131	14	6	0	3	3	1	2	0	4011	4	17	78	153	449	1490	1375	338	76	22	6	2	0	0	29.2	33.8

LIDSEY ROAD, WOODGATE, BOGNOR REGIS										SOUTHBOUND										MODAL									
Report Id - CustomList-190 Site Name - Woodgate Description - Lidsley Road Direction - BA																				modaldata.com									
29 January 2018																													
Year	Mo	Da	Co	Co	Co	Co	Co	Co	Co	Total	00	01	02	03	04	05	06	07	08	09	10	11	12	Mean	Upp				
0000	1	17	0	1	0	0	0	0	0	19	0	0	0	0	0	2	7	7	0	1	1	1	1	0	37.2	85			
0100	0	8	0	1	0	0	0	0	0	10	0	0	0	0	2	3	5	0	0	0	0	0	0	0	34.3	-			
0200	0	8	0	4	0	0	0	0	0	13	0	0	0	0	4	3	0	5	0	1	0	0	0	0	36	42.5			
0300	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	1	0	0	0	0	0	0	35.3	-			
0400	0	6	0	1	0	0	0	0	0	7	0	0	0	0	1	4	0	0	2	0	0	0	0	0	36.4	-			
0500	0	30	0	5	0	0	0	1	1	37	0	0	1	2	7	9	12	4	1	0	0	0	0	0	33.1	37.6			
0600	1	86	0	14	0	0	0	0	0	101	1	0	0	0	1	24	50	21	4	0	0	0	0	0	32.3	36.5			
0700	0	254	1	15	1	1	0	0	0	272	0	1	6	16	47	133	59	10	0	0	0	0	0	0	27	31.3			
0800	5	402	0	25	2	3	0	0	0	438	0	3	11	13	56	208	125	18	4	0	0	0	0	0	28	32.2			
0900	4	331	1	44	1	0	0	0	1	385	1	5	6	11	91	165	88	17	1	0	0	0	0	0	27	31.5			
1000	4	302	1	19	0	1	0	0	0	328	2	0	7	5	99	177	36	1	0	0	0	0	0	1	26	29.3			
1100	3	306	1	29	0	2	0	0	0	342	0	4	7	21	105	167	34	3	0	0	1	0	0	0	25.4	28.9			
1200	2	341	5	34	2	1	0	1	0	388	0	2	13	28	110	169	62	3	1	0	0	0	0	0	25.7	30			
1300	1	351	1	22	4	1	0	0	0	381	3	2	5	7	72	197	76	17	2	0	0	0	0	0	27.3	31.8			
1400	4	404	1	28	2	0	0	0	0	440	1	3	9	20	103	186	104	13	0	0	1	0	0	0	27	31.8			
1500	3	449	0	31	1	0	0	0	0	486	1	1	8	7	75	274	100	17	2	1	0	0	0	0	27.7	31.3			
1600	3	547	1	32	3	1	0	0	0	587	2	2	35	45	165	249	79	5	4	0	0	0	0	0	25.1	30			
1700	12	628	4	41	2	0	0	0	1	689	1	6	11	31	166	356	104	11	2	0	0	0	0	0	26.5	30.2			
1800	4	442	0	15	2	1	0	0	0	464	1	0	8	16	92	228	93	21	4	1	0	0	0	0	27.5	31.1			
1900	1	264	0	19	1	0	0	0	1	286	0	0	4	15	39	94	107	22	3	1	0	1	0	0	29.1	33.8			
2000	0	128	0	4	1	0	0	0	1	134	0	0	2	1	14	45	53	13	5	1	0	0	0	0	30.4	34.9			
2100	1	99	0	3	0	0	0	0	0	103	0	0	0	2	6	31	46	14	3	1	0	0	0	0	31	35.1			
2200	1	99	0	5	0	0	0	0	0	105	0	0	1	3	11	40	28	16	3	2	1	0	0	0	30.4	35.8			
2300	2	46	0	1	0	0	0	0	0	49	0	0	0	1	2	13	16	6	3	1	0	0	0	0	33.1	41.2			
08-09	5	402	0	25	2	3	0	0	0	438	0	3	11	13	56	208	125	18	4	0	0	0	0	0	28	32.2			
17-18	12	628	4	41	2	0	0	0	1	689	1	6	11	31	166	356	104	11	2	0	0	0	0	0	26.5	30.2			
10-16	17	2153	9	163	9	5	0	3	2	1	2365	7	12	49	88	564	1170	412	54	5	1	2	0	0	26.6	30.9			
00-05	1	42	0	7	0	0	0	0	0	52	0	0	0	0	0	9	19	12	6	3	2	1	0	0	36.1	40.9			
00-00	52	5551	16	393	22	11	0	6	7	6067	13	29	135	243	1256	2772	1288	252	54	14	6	4	0	0	0	27.3	31.3		

modular arithmetic

Time	Q1	Q2	Q3	Q4	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	Total	Min	Q1n	Q2n	Q3n	Q4n	Min	Q1n	Q2n	Q3n	Q4n	Min	Q1n	Q2n	Q3n	Q4n	Mean	Variance			
1	1	1	2	3	4	5	6	7	8	9	10	11	12					8	5	13	15	23	25	30	35	40	45	50	55	60	65	70	75	80	85		
2																		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85			
3																		71	270	900	1755	7108	18114	9961	1943	370	98	28	10	4	2	1	1	3	1	27.6	342

APPENDIX E

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

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Filename: Wings

Path: T:\RGP\2017 Projects (3701-3800)\3711 Wings Nursery\Technical Assessments\Junction Modelling\PICADY

Report generation date: 14/02/2018 10:58:46

« Wings Nursery - Baseline 2018 + Proposed Development, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
Wings Nursery - Baseline 2018 + Proposed Development				
Stream B-AC	0.04	6.34	0.04	A
Stream C-A	-	-	-	-
Stream C-B	0.01	5.78	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Baseline 2018, AM" model duration: 08:00 - 09:30

"D2 - Baseline 2018, PM" model duration: 07:00 - 08:30

"D3 - Baseline 2018 + Proposed Development, AM " model duration: 08:00 - 09:30

"D4 - Baseline 2018 + Proposed Development, PM" model duration: 07:00 - 08:30

"D5 - Baseline 2023 + Proposed Development, AM" model duration: 08:00 - 09:30

"D6 - Baseline 2023 + Proposed Development, PM" model duration: 07:00 - 08:30

Run using Junctions 8.0.4.487 at 14/02/2018 10:58:43

File summary

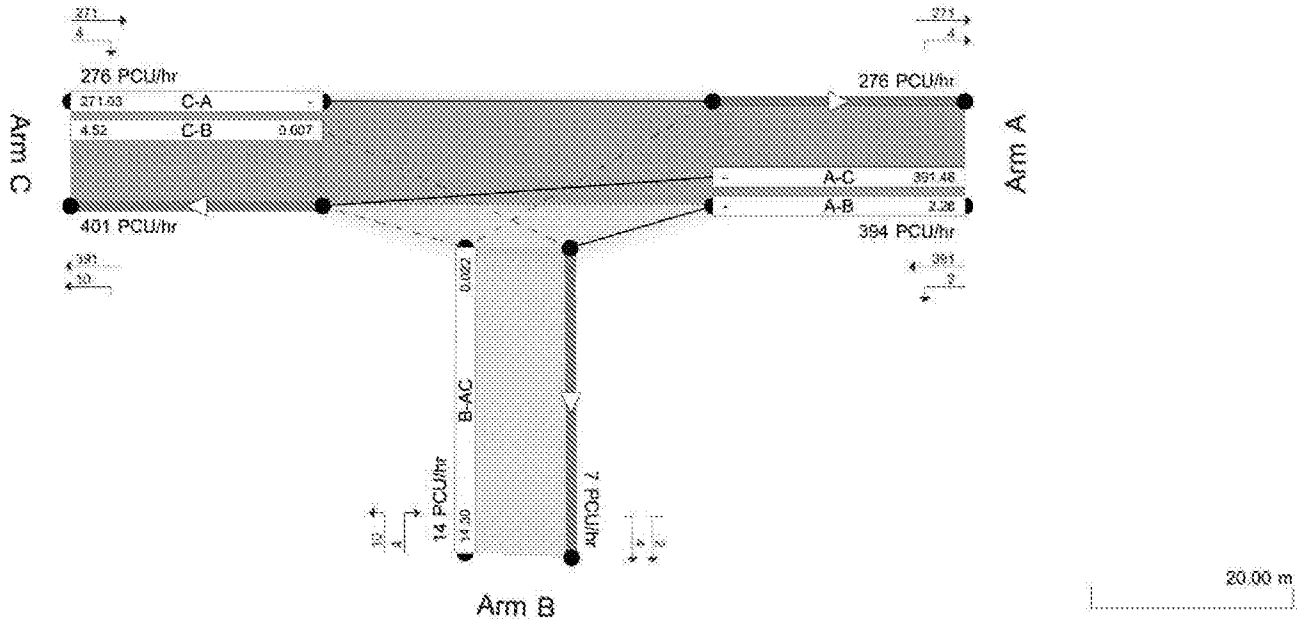
Title	Wings Nursery Junction
Location	
Site Number	
Date	14/02/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	remotechi
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of ARCADY.

Wings Nursery - Baseline 2018 + Proposed Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Wings Nursery	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Baseline 2018 + Proposed Development, AM	Baseline 2018 + Proposed Development	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.21	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Lidsey Road South		Major
B	B	Proposed Development		Minor
C	C	Lidsey Road North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	9.00		0.00	✓	3.00	250.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.52										250	234

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	723.855	0.115	0.290	0.182	0.414
1	B-C	811.399	0.108	0.273	-	-
1	C-B	781.320	0.263	0.263	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	523.00	100.000
B	ONE HOUR	✓	19.00	100.000
C	ONE HOUR	✓	366.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	3.000	520.000
	B	6.000	0.000	13.000
	C	360.000	6.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.01	0.99
	B	0.32	0.00	0.68
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-A-C	0.04	6.34	0.04	A
C-A	-	-	-	-
C-B	0.01	5.78	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	14.30	14.21	0.00	650.74	0.022	0.02	5.655	A
C-A	271.03	271.03	0.00	-	-	-	-	-
C-B	4.52	4.49	0.00	677.68	0.007	0.01	5.347	A
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	391.48	391.48	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	17.08	17.06	0.00	624.74	0.027	0.03	5.923	A
C-A	323.63	323.63	0.00	-	-	-	-	-
C-B	5.39	5.39	0.00	657.57	0.008	0.01	5.519	A
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	467.47	467.47	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	20.92	20.88	0.00	588.34	0.036	0.04	6.343	A
C-A	396.37	396.37	0.00	-	-	-	-	-
C-B	6.61	6.60	0.00	629.75	0.010	0.01	5.776	A
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	572.53	572.53	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	20.92	20.92	0.00	588.34	0.036	0.04	6.343	A
C-A	396.37	396.37	0.00	-	-	-	-	-
C-B	6.61	6.61	0.00	629.75	0.010	0.01	5.776	A
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	572.53	572.53	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	17.08	17.11	0.00	624.73	0.027	0.03	5.926	A
C-A	323.63	323.63	0.00	-	-	-	-	-
C-B	5.39	5.40	0.00	657.57	0.008	0.01	5.521	A
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	467.47	467.47	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	14.30	14.33	0.00	650.73	0.022	0.02	5.656	A
C-A	271.03	271.03	0.00	-	-	-	-	-
C-B	4.52	4.52	0.00	677.68	0.007	0.01	5.347	A
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	391.48	391.48	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
Version: 8.0.4.487 [15039,24/03/2014]				
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Filename: Wings Nursery PICADY Assessment.arc8

Path: T:\RGP\2017 Projects (3701-3800)\3711 Wings Nursery\Technical Assessments\Junction Modelling\PICADY

Report generation date: 14/02/2018 10:59:55

- » Wings Nursery - Baseline 2018 + Proposed Development, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
Wings Nursery - Baseline 2018 + Proposed Development				
Stream B-AC	0.01	5.77	0.01	A
Stream C-A	-	-	-	-
Stream C-B	0.02	5.44	0.02	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Baseline 2018, AM" model duration: 08:00 - 09:30

"D2 - Baseline 2018, PM" model duration: 07:00 - 08:30

"D3 - Baseline 2018 + Proposed Development, AM" model duration: 08:00 - 09:30

"D4 - Baseline 2018 + Proposed Development, PM" model duration: 07:00 - 08:30

"D5 - Baseline 2023 + Proposed Development, AM" model duration: 08:00 - 09:30

"D6 - Baseline 2023 + Proposed Development, PM" model duration: 07:00 - 08:30

Run using Junctions 8.0.4.487 at 14/02/2018 10:59:52

File summary

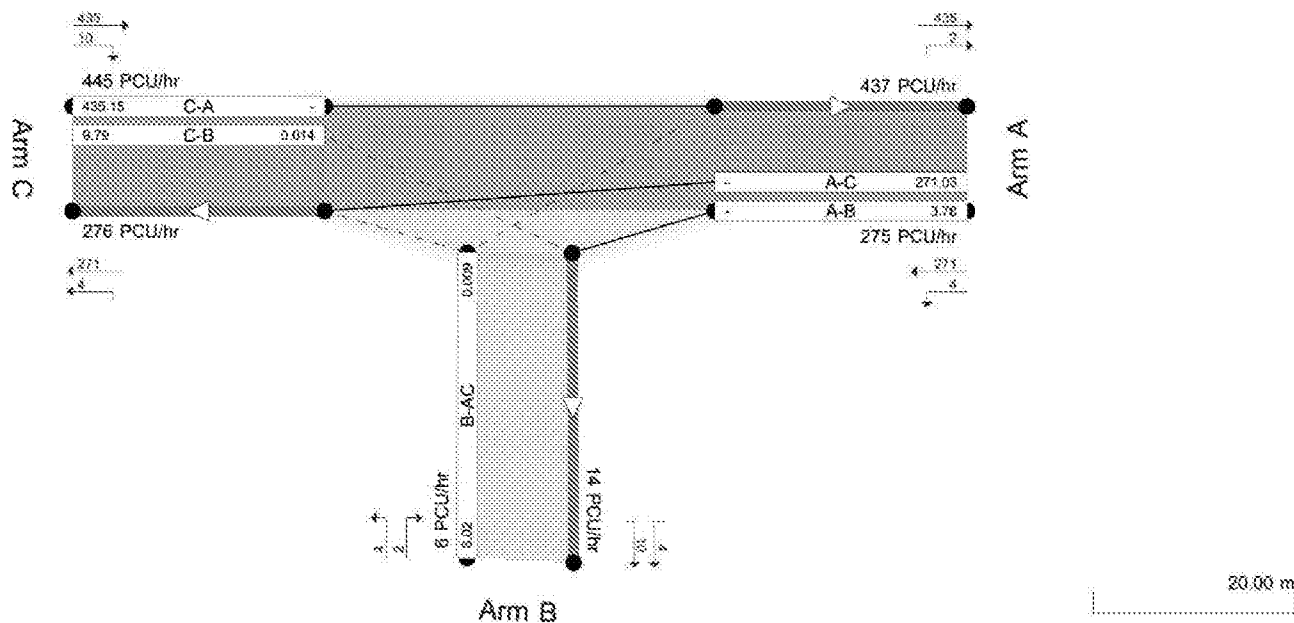
Title	Wings Nursery Junction
Location	
Site Number	
Date	14/02/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	remotechi
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of ARCADY.

Wings Nursery - Baseline 2018 + Proposed Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Wings Nursery	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Baseline 2018 + Proposed Development, PM	Baseline 2018 + Proposed Development	PM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	5.57	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Lidsey Road South		Major
B	B	Proposed Development		Minor
C	C	Lidsey Road North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	9.00		0.00	✓	3.00	250.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.52										250	234

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	723.855	0.115	0.290	0.182	0.414
1	B-C	811.399	0.108	0.273	-	-
1	C-B	781.320	0.263	0.263	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	365.00	100.000
B	ONE HOUR	✓	8.00	100.000
C	ONE HOUR	✓	591.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	5.000	360.000
	B	2.000	0.000	6.000
	C	578.000	13.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.01	0.99
	B	0.25	0.00	0.75
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-A-C	0.01	5.77	0.01	A
C-A	-	-	-	-
C-B	0.02	5.44	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:00-07:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	6.02	5.99	0.00	683.53	0.009	0.01	5.313	A
C-A	435.15	435.15	0.00	-	-	-	-	-
C-B	9.79	9.73	0.00	708.99	0.014	0.01	5.148	A
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	271.03	271.03	0.00	-	-	-	-	-

Main results: (07:15-07:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	7.19	7.18	0.00	662.32	0.011	0.01	5.494	A
C-A	519.61	519.61	0.00	-	-	-	-	-
C-B	11.69	11.67	0.00	694.95	0.017	0.02	5.268	A
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	323.63	323.63	0.00	-	-	-	-	-

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	8.81	8.80	0.00	632.26	0.014	0.01	5.773	A
C-A	636.39	636.39	0.00	-	-	-	-	-
C-B	14.31	14.30	0.00	675.54	0.021	0.02	5.443	A
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	396.37	396.37	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	8.81	8.81	0.00	632.25	0.014	0.01	5.773	A
C-A	636.39	636.39	0.00	-	-	-	-	-
C-B	14.31	14.31	0.00	675.54	0.021	0.02	5.443	A
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	396.37	396.37	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	7.19	7.20	0.00	662.32	0.011	0.01	5.496	A
C-A	519.61	519.61	0.00	-	-	-	-	-
C-B	11.69	11.70	0.00	694.95	0.017	0.02	5.270	A
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	323.63	323.63	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	6.02	6.03	0.00	683.52	0.009	0.01	5.315	A
C-A	435.15	435.15	0.00	-	-	-	-	-
C-B	9.79	9.80	0.00	708.99	0.014	0.01	5.150	A
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	271.03	271.03	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
Version: 8.0.4.487 [15039,24/03/2014]				
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Filename: Wings Nursery PICADY Assessment.arc8

Path: T:\RGP\2017 Projects (3701-3800)\3711 Wings Nursery\Technical Assessments\Junction Modelling\PICADY

Report generation date: 14/02/2018 11:00:53

- » Wings Nursery - Baseline 2023 + Proposed Development, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
Wings Nursery - Baseline 2023 + Proposed Development				
Stream B-AC	0.04	6.47	0.04	A
Stream C-A	-	-	-	-
Stream C-B	0.01	5.85	0.01	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Baseline 2018, AM" model duration: 08:00 - 09:30

"D2 - Baseline 2018, PM" model duration: 07:00 - 08:30

"D3 - Baseline 2018 + Proposed Development, AM" model duration: 08:00 - 09:30

"D4 - Baseline 2018 + Proposed Development, PM" model duration: 07:00 - 08:30

"D5 - Baseline 2023 + Proposed Development, AM" model duration: 08:00 - 09:30

"D6 - Baseline 2023 + Proposed Development, PM" model duration: 07:00 - 08:30

Run using Junctions 8.0.4.487 at 14/02/2018 11:00:49

File summary

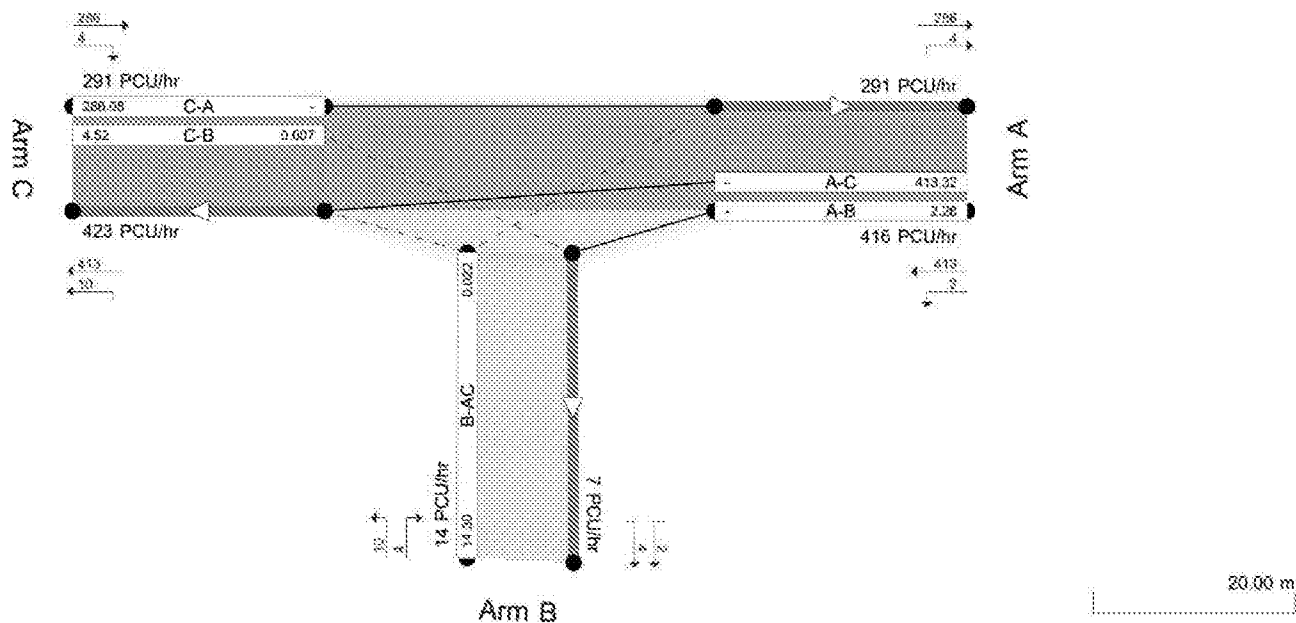
Title	Wings Nursery Junction
Location	
Site Number	
Date	14/02/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	remotechi
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of ARCADY.

Wings Nursery - Baseline 2023 + Proposed Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Wings Nursery	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Baseline 2023 + Proposed Development, AM	Baseline 2023 + Proposed Development	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.32	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Lidsey Road South		Major
B	B	Proposed Development		Minor
C	C	Lidsey Road North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	9.00		0.00	✓	3.00	250.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.52										250	234

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	723.855	0.115	0.290	0.182	0.414
1	B-C	811.399	0.108	0.273	-	-
1	C-B	781.320	0.263	0.263	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	552.00	100.000
B	ONE HOUR	✓	19.00	100.000
C	ONE HOUR	✓	386.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	3.000	549.000
	B	6.000	0.000	13.000
	C	380.000	6.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.01	0.99
	B	0.32	0.00	0.68
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-A-C	0.04	6.47	0.04	A
C-A	-	-	-	-
C-B	0.01	5.85	0.01	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	14.30	14.21	0.00	643.36	0.022	0.02	5.722	A
C-A	286.08	286.08	0.00	-	-	-	-	-
C-B	4.52	4.49	0.00	671.93	0.007	0.01	5.393	A
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	413.32	413.32	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	17.08	17.06	0.00	615.84	0.028	0.03	6.011	A
C-A	341.61	341.61	0.00	-	-	-	-	-
C-B	5.39	5.39	0.00	650.70	0.008	0.01	5.578	A
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	493.54	493.54	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	20.92	20.88	0.00	577.26	0.036	0.04	6.470	A
C-A	418.39	418.39	0.00	-	-	-	-	-
C-B	6.61	6.60	0.00	621.35	0.011	0.01	5.855	A
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	604.46	604.46	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	20.92	20.92	0.00	577.26	0.036	0.04	6.470	A
C-A	418.39	418.39	0.00	-	-	-	-	-
C-B	6.61	6.61	0.00	621.35	0.011	0.01	5.855	A
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	604.46	604.46	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	17.08	17.12	0.00	615.83	0.028	0.03	6.012	A
C-A	341.61	341.61	0.00	-	-	-	-	-
C-B	5.39	5.40	0.00	650.70	0.008	0.01	5.580	A
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	493.54	493.54	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	14.30	14.33	0.00	643.35	0.022	0.02	5.722	A
C-A	286.08	286.08	0.00	-	-	-	-	-
C-B	4.52	4.52	0.00	671.93	0.007	0.01	5.393	A
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	413.32	413.32	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
Version: 8.0.4.487 [15039,24/03/2014]				
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Filename: Wings Nursery PICADY Assessment.arc8

Path: T:\RGP\2017 Projects (3701-3800)\3711 Wings Nursery\Technical Assessments\Junction Modelling\PICADY

Report generation date: 14/02/2018 11:01:51

- » Wings Nursery - Baseline 2023 + Proposed Development, PM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
Wings Nursery - Baseline 2023 + Proposed Development				
Stream B-AC	0.01	5.86	0.01	A
Stream C-A	-	-	-	-
Stream C-B	0.02	5.49	0.02	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Baseline 2018, AM" model duration: 08:00 - 09:30

"D2 - Baseline 2018, PM" model duration: 07:00 - 08:30

"D3 - Baseline 2018 + Proposed Development, AM" model duration: 08:00 - 09:30

"D4 - Baseline 2018 + Proposed Development, PM" model duration: 07:00 - 08:30

"D5 - Baseline 2023 + Proposed Development, AM" model duration: 08:00 - 09:30

"D6 - Baseline 2023 + Proposed Development, PM" model duration: 07:00 - 08:30

Run using Junctions 8.0.4.487 at 14/02/2018 11:01:48

File summary

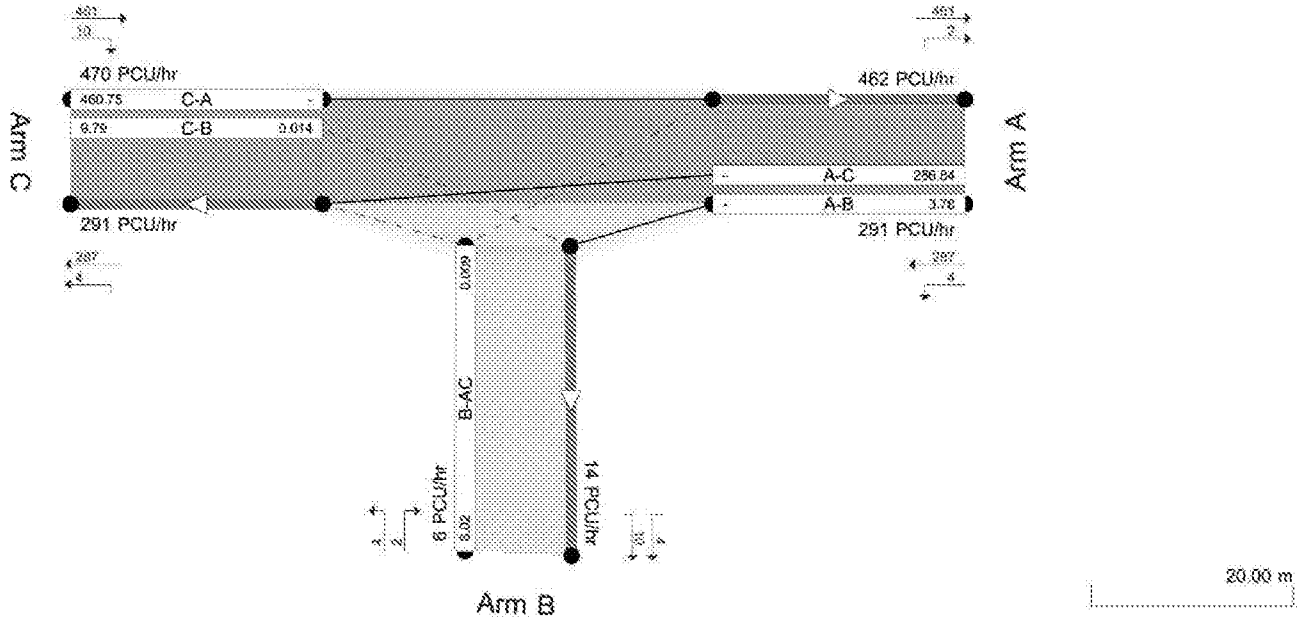
Title	Wings Nursery Junction
Location	
Site Number	
Date	14/02/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	remotech
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of ARCADY.

Wings Nursery - Baseline 2023 + Proposed Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Wings Nursery	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Baseline 2023 + Proposed Development, PM	Baseline 2023 + Proposed Development	PM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	5.63	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Lidsey Road South		Major
B	B	Proposed Development		Minor
C	C	Lidsey Road North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	9.00		0.00	✓	3.00	250.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.52										250	234

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	723.855	0.115	0.290	0.182	0.414
1	B-C	811.399	0.108	0.273	-	-
1	C-B	781.320	0.263	0.263	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	386.00	100.000
B	ONE HOUR	✓	8.00	100.000
C	ONE HOUR	✓	625.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	5.000	381.000
	B	2.000	0.000	6.000
	C	612.000	13.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.01	0.99
	B	0.25	0.00	0.75
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-A-C	0.01	5.86	0.01	A
C-A	-	-	-	-
C-B	0.02	5.49	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:00-07:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	6.02	5.99	0.00	677.30	0.009	0.01	5.362	A
C-A	460.75	460.75	0.00	-	-	-	-	-
C-B	9.79	9.73	0.00	704.83	0.014	0.01	5.179	A
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	286.84	286.84	0.00	-	-	-	-	-

Main results: (07:15-07:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	7.19	7.18	0.00	654.73	0.011	0.01	5.558	A
C-A	550.18	550.18	0.00	-	-	-	-	-
C-B	11.69	11.67	0.00	689.98	0.017	0.02	5.306	A
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	342.51	342.51	0.00	-	-	-	-	-

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A-C	8.81	8.80	0.00	622.65	0.014	0.01	5.864	A
C-A	673.82	673.82	0.00	-	-	-	-	-
C-B	14.31	14.29	0.00	669.46	0.021	0.02	5.494	A
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	419.49	419.49	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	8.81	8.81	0.00	622.65	0.014	0.01	5.864	A
C-A	673.82	673.82	0.00	-	-	-	-	-
C-B	14.31	14.31	0.00	669.46	0.021	0.02	5.494	A
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	419.49	419.49	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	7.19	7.20	0.00	654.72	0.011	0.01	5.561	A
C-A	550.18	550.18	0.00	-	-	-	-	-
C-B	11.69	11.70	0.00	689.98	0.017	0.02	5.309	A
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	342.51	342.51	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-A	6.02	6.03	0.00	677.29	0.009	0.01	5.364	A
C-A	460.75	460.75	0.00	-	-	-	-	-
C-B	9.79	9.80	0.00	704.83	0.014	0.01	5.179	A
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	286.84	286.84	0.00	-	-	-	-	-

APPENDIX F

WINGS NURSERY, LIDSEY, WEST SUSSEX

PROPOSED NEW ACCESS

Stage 1 Road Safety Audit – Revision 1

February 2018

SR/LS/18/1665/RSA1

Revision Status	Prepared by: (Name)	Checked by: (Name)	Approved by: (Signature)	Date Approved:
Original	Steve Richards	Laurie Shaw		21/02/2018
Designer's Response				
Authority's Response				
Audit Response				

Client:	
Russell Giles Partnership	The Safety Forum Ltd
The Old Stables Fry's Yard Bridge St Godalming Surrey GU7 1HP	PO Box 831 Godalming Surrey GU7 9HT
Date: 21 February 2018	

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1.0	INTRODUCTION.....	3
2.0	ITEMS CONSIDERED	5
3.0	MATTERS ARISING FROM THIS STAGE 1 AUDIT.	6
4.0	AUDITOR STATEMENT	7

APPENDIX A Location Plan

APPENDIX B Road Safety Audit Response

1.0 INTRODUCTION

- 1.1 This report results from a revised Stage 1 Road Safety Audit (RSA) carried out on the proposed access arrangements, for a Residential Development at Wings Nursery, Lidsey Road, Lidsey, West Sussex.
- 1.2 The highway proposals include: the construction of a new access junctions and the installation of tactile paving and uncontrolled crossing points in Lidsey Road between Hook Lane and the entrance to Willows Caravan Park.
- 1.3 The Stage 1 RSA was carried out at the request of Alex Budd of Russell Giles Partnership. A previous Stage 1 RSA was carried out by the Safety Forum in January 2015; one issue was resolved the second issue was included in the second RSA. A second Stage 1 RSA was carried out by The Safety Forum in September 2017, three issues and one observation was included, these were all resolved. This Stage 1 Audit examines revised highway proposals.
- 1.4 The Road Safety Audit Brief was supplied by Russell Giles Partnership. The Brief was approved by Alex Budd. The Road Safety Audit Team was approved by Alex Budd.
- 1.5 The Audit was carried out between 21st and 22nd February 2018 by consultants working on behalf of The Safety Forum Limited. The Audit Team, which is established from The Safety Forum Ltd and independent of the project design team, has had no involvement with the project:

The Auditors were:

Steve Richards – Team Leader, MCIHT, MSoRSA

Laurie Shaw – Team Member (MSoRSA, Cert of Comp)

- 1.6 The report has been prepared in accordance with the Design Manual for Roads and Bridges (DMRB) Highways Directive (HD) 19/15.
- 1.7 The Audit consisted of a desktop study and a site visit. The site visit was carried out on 21st February 2018, between 11:30 and 12:30 hours by all member of the Audit Team together. The weather was bright and sunny and the road surface was dry. Traffic conditions were moderate.
- 1.8 Issues relating to the health & safety of operatives constructing, operating or maintaining the highway are not covered by Road Safety Audit. Only issues relating to the design and construction of facilities for highway maintenance that may potentially contribute to a Road Safety Matter are considered by the Road Safety Audit process.

Road Safety Audit is not a technical check that the design conforms to Standards and/or best practice guidance. Design Organisations are responsible for ensuring that their designs have been subjected to the appropriate design reviews (including, where applicable, Non-Motorised User (NMU) assessment and review) prior to Road Safety Audit.

Road Safety Audit is not a check that the scheme has been constructed in accordance with the design.

Whilst reference is made to certain design standards, where safety may be compromised by a reduction in standard, this report is not intended to provide a design check. The Auditors have only reported on matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme or the appropriateness of the design. Consequently, the Auditors accept no responsibility for the design or construction of the scheme.

- 1.9 The recommendations in this report are aimed at addressing the road safety problems; however there may be other alternative acceptable ways to overcome a specific problem, when other practical issues are considered. The recommendations contained herein do not absolve the Designer of his/her responsibilities.
- 1.10 The Auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit, and would encourage the Designer to consult them on this matter.
- 1.11 The LHA response to the RSA should be formally recorded and reported to the Designer and the RSA Team so that a record of the Audit process is contained in the *As Built* design pack to be provided and retained by the LHA on final completion.
- 1.12 All problems identified in this Road Safety Audit Report are indicated on a location plan in Appendix A

2.0 ITEMS CONSIDERED

- 2.1 The Road Safety Audit was undertaken on the scheme detailed in the following Russell Giles Partnership documentation.

Drawing No.	Rev	Title
2017/3711/001	D	Swept Path Analysis and Visibility Splays
2017/3711/002	D	Swept Path Analysis
2017/3711/003	D	Site Overview and Visibility Splays
2017/3711/004	-	Right Turn Lane, Forward Visibility Splays, Swept Path Analysis and Geometry's

- 2.2 No departure from standards or other information was submitted to the Audit Team.

3.0 MATTERS ARISING FROM THIS STAGE 1 AUDIT.

3.1 PROBLEM

LOCATION: East side of Lidsey Road between the new proposed junctions.

SUMMARY: Risk of loss of control collisions.

The Audit Team noted that there is a build-up of detritus in the channel on the east side of Lidsey Road between the two new junctions. There is a risk of loss of control type collisions if surface water freezes during the winter months.

RECOMMENDATION

Ensure that the surface water drainage is adequate along this length of Lidsey Road and that there are a sufficient number of road gullies to drain the surface water.

4.0 AUDITOR STATEMENT

4.1 We certify that this audit has been carried out in accordance with HD 19/15.

AUDIT TEAM LEADER

Steve Richards
The Safety Forum Ltd
PO Box 831
Godalming
Surrey
GU7 9HT

Signed 

Date: 21 February 2018

AUDIT TEAM MEMBER

Laurie Shaw

Signed 

Date: 21 February 2018

APPENDIX A: LOCATION PLAN

APPENDIX B: Road Safety Audit Response

Auditors: Steve Richards (Team Leader) and Name (Team Member).

Date Response Completed:

Scheme: Wings Nursery, Lidsey Road, Proposed Access Arrangements – Rev 1

This response is to a Stage 1 Road Safety Audit to the design standard detailed within HD19/15 of Volume 5, Section 2, Part 2, of the Design Manual for Roads and Bridges, as detailed by the Highways Agency.

Problem no. in safety audit report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measure (detail description)
3.1	Yes	Yes	The drainage adjacent to the site frontage will be addressed at a detailed design stage. This will likely entail the provision of additional gullies to drain into the ditch fronting the site.

Principal Engineer's / Audit Project Sponsor's Statement:

Road Safety Audit for Wings Nursery, Lidsey Road, Proposed Access Arrangements – Rev 1

I certify that I have considered the items raised in the Stage 1 Road Safety Audit Report and I am content to accept all of its recommendations except for the ones listed above. I have stated my reasons for not accepting them and I seek the Chief Engineer's endorsement of my proposals.

..... Date.....

Principal Engineer

Chief Engineer's / Director's Decision:

I accept these proposals by the Principal Engineer.

..... Date.....

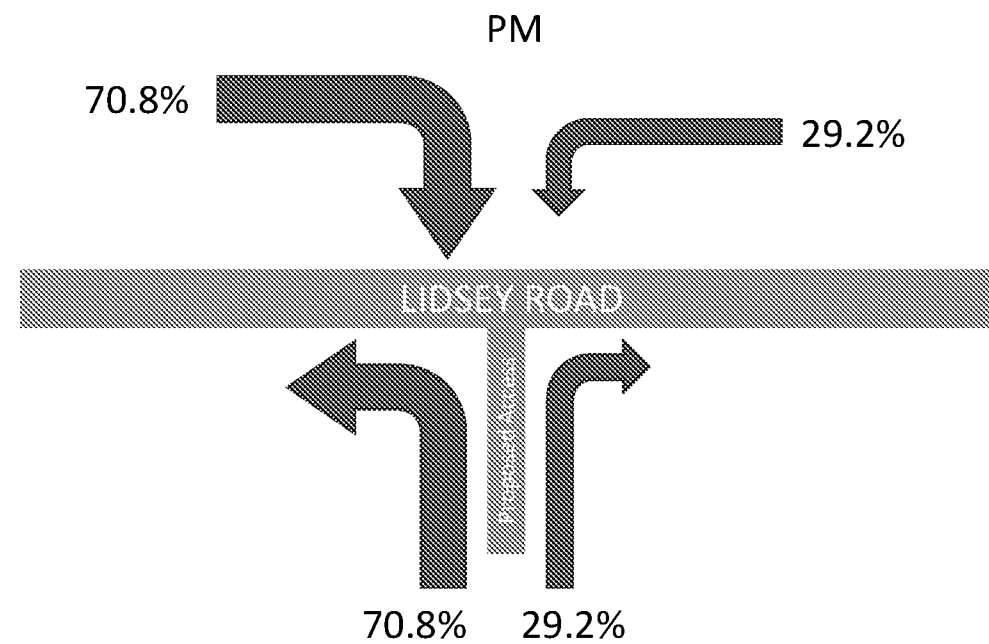
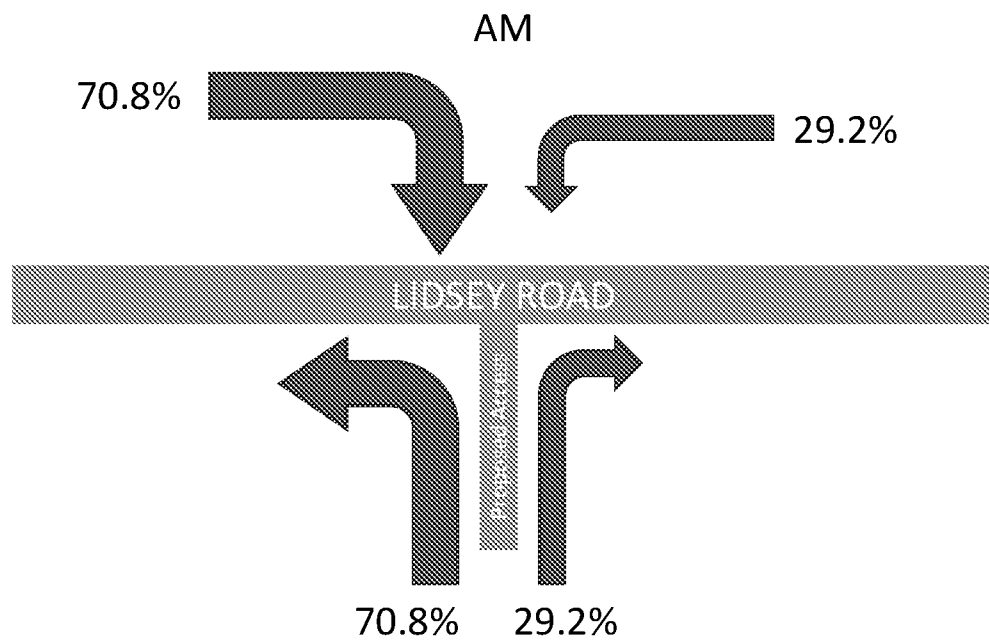
Chief Engineer

APPENDIX G

currently residing in						
place of work	E01031394 : Arun 003B	%				
E01031393 : Arun 003A	49	6.6%	North	South	North	South
E01031394 : Arun 003B	22	3.0%	1		6.6%	
E01031395 : Arun 003C	2	0.3%	1		3.0%	
E01031396 : Arun 003D	12	1.6%	1		0.3%	
E01031397 : Arun 003E	16	2.2%	1		1.6%	
E01031466 : Arun 003F	19	2.6%	1		2.2%	
Sub Total	120	16.2%	1		2.6%	
E02006542 : Arun 001	31	4.2%	1		4.2%	
E02006543 : Arun 002	2	0.3%	1		0.3%	
E02006545 : Arun 004	18	2.4%		1		2.4%
E02006546 : Arun 005	4	0.5%	1		0.5%	
E02006547 : Arun 006	21	2.8%		1		2.8%
E02006548 : Arun 007	5	0.7%		1		0.7%
E02006549 : Arun 008	2	0.3%	1		0.3%	
E02006550 : Arun 009	13	1.8%		1		1.8%
E02006551 : Arun 010	5	0.7%		1		0.7%
E02006552 : Arun 011	10	1.3%		1		1.3%
E02006553 : Arun 012	11	1.5%		1		1.5%
E02006554 : Arun 013	3	0.4%		1		0.4%
E02006555 : Arun 014	36	4.9%		1		4.9%
E02006556 : Arun 015	3	0.4%		1		0.4%
E02006557 : Arun 016	5	0.7%		1		0.7%
E02006558 : Arun 017	39	5.3%		1		5.3%
E02006559 : Arun 018	2	0.3%		1		0.3%
E02006560 : Arun 019	1	0.1%		1		0.1%
E02006561 : Chichester 001	0	0.0%	1			
E02006562 : Chichester 002	0	0.0%	1			
E02006563 : Chichester 003	1	0.1%	1		0.1%	
E02006564 : Chichester 004	1	0.1%	1		0.1%	
E02006565 : Chichester 005	3	0.4%	1		0.4%	
E02006566 : Chichester 006	25	3.4%	1		3.4%	
E02006567 : Chichester 007	6	0.8%	1		0.8%	
E02006568 : Chichester 008	56	7.5%	1		7.5%	
E02006569 : Chichester 009	3	0.4%	1		0.4%	
E02006570 : Chichester 010	96	12.9%	1		12.9%	
E02006571 : Chichester 011	12	1.6%	1		1.6%	
E02006572 : Chichester 012	28	3.8%		1		3.8%
E02006573 : Chichester 013	8	1.1%		1		1.1%
E02006574 : Chichester 014	9	1.2%		1		1.2%
Sub Total	459	61.9%				
E020065341 : Arun 002	130	16.2%				

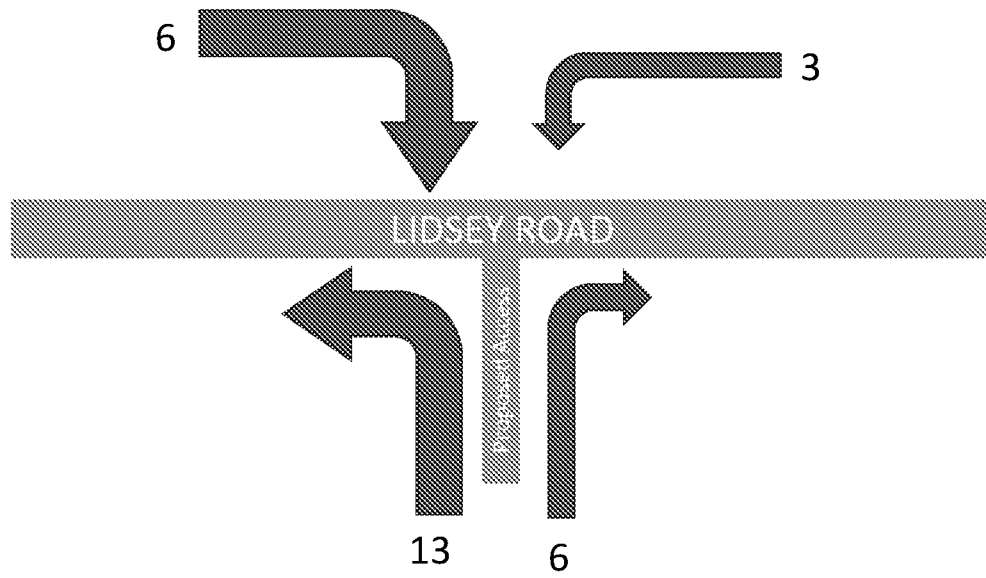
Arun	391	44.6%				
Chichester	349	33.4%				
Worthing	35	4.7%	1		4.7%	
Horsham	16	2.2%	1		2.2%	
Portsmouth	15	2.0%	1		2.0%	
Adur	14	1.9%	1		1.9%	
Westminster, City of London	10	1.3%	1		1.3%	
Brighton and Hove	10	1.3%	1		1.3%	
Havant	7	0.9%	1		0.9%	
Fareham	5	0.7%	1		0.7%	
Guildford	5	0.7%	1		0.7%	
Crawley	5	0.7%	1		0.7%	
Camden	3	0.4%	1		0.4%	
East Hampshire	3	0.4%	1		0.4%	
Mid Sussex	3	0.4%	1		0.4%	
Wychavon	2	0.3%	1		0.3%	
Southwark	2	0.3%	1		0.3%	
Southampton	2	0.3%	1		0.3%	
Lewes	2	0.3%	1		0.3%	
Wellingborough	1	0.1%	1		0.1%	
Wolverhampton	1	0.1%	1		0.1%	
Basildon	1	0.1%	1		0.1%	
Great Yarmouth	1	0.1%	1		0.1%	
Croydon	1	0.1%	1		0.1%	
Enfield	1	0.1%	1		0.1%	
Greenwich	1	0.1%	1		0.1%	
Havering	1	0.1%	1		0.1%	
Hillingdon	1	0.1%	1		0.1%	
Islington	1	0.1%	1		0.1%	
Isle of Wight	1	0.1%	1		0.1%	
Hastings	1	0.1%	1		0.1%	
Gosport	1	0.1%	1		0.1%	
Hart	1	0.1%	1		0.1%	
Rushmoor	1	0.1%	1		0.1%	
Tast Valley	1	0.1%	1		0.1%	
Winchester	1	0.1%	1		0.1%	
Elmbridge	1	0.1%	1		0.1%	
Epsom and Ewell	1	0.1%	1		0.1%	
Reigate and Banstead	1	0.1%	1		0.1%	
Runnymede	1	0.1%	1		0.1%	
Waverley	1	0.1%	1		0.1%	
Poole	1	0.1%	1		0.1%	
The Vale of Glamorgan	1	0.1%	1		0.1%	
Sub Total	163	22.0%			79.8%	
Total	742	100.0%			29.2%	OK

APPENDIX H

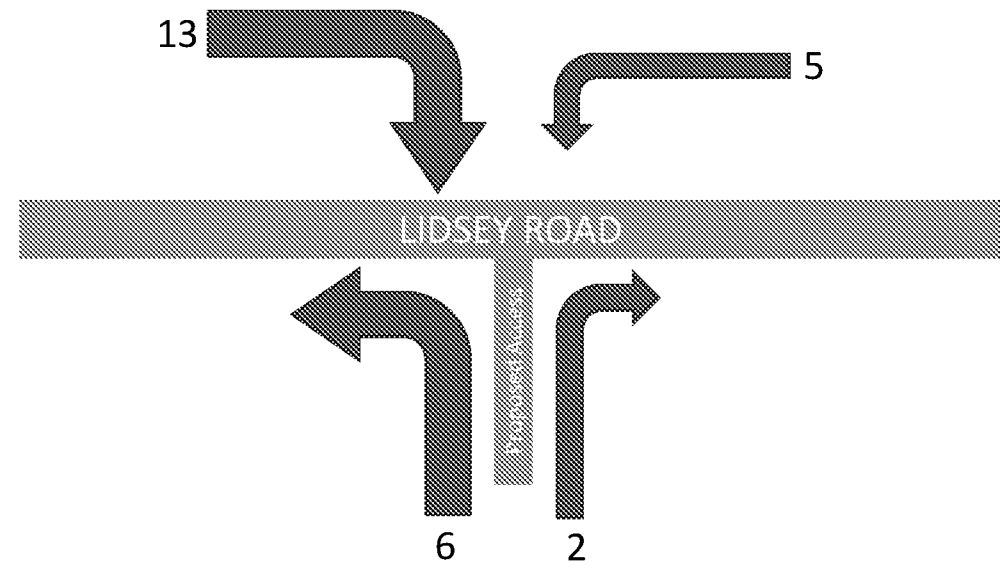


APPENDIX I

AM



PM



APPENDIX J

Wings Nursery Railway Crossing

18/01/2018 08:00 - 09:00

MODAL

modaldata.com

TIME	Barriers (Up or Down)	Queue Past Site Access	Time Barriers are Down
08:00 - 08:02	UP		
08:02 - 08:05	DOWN	YES	00:02:45
08:05 - 08:08	UP		
08:08 - 08:09	DOWN	YES	00:01:20
08:09 - 08:24	UP		
08:24 - 08:26	DOWN	NO	00:02:30
08:26 - 08:30	UP		
08:30 - 08:33	DOWN	YES	00:02:40
08:33 - 08:34	UP		
08:34 - 08:36	DOWN	YES	00:01:40
08:36 - 08:40	UP		
08:40 - 08:42	DOWN	YES	00:02:40
08:42 - 08:43	UP		
08:43 - 08:46	DOWN	NO	00:02:40
08:46 - 08:48	UP		
08:48 - 08:49	DOWN	YES	00:01:30
08:49 - 09:00	UP		
TOTAL			00:17:45

Wings Nursery Railway Crossing

18/01/2018 08:00 - 09:00

MODAL

modaldata.com

TIME	Barriers (Up or Down)	Queue Past Site Access	Time Barriers are Down
17:00 - 17:01	UP		
17:01 - 17:03	DOWN	YES	00:02:50
17:03 - 17:04	UP		
17:04 - 17:08	DOWN	NO	00:03:30
17:08 - 17:20	UP		
17:20 - 17:23	DOWN	NO	00:03:00
17:23 - 17:29	UP		
17:29 - 17:31	DOWN	NO	00:02:35
17:31 - 17:32	UP		
17:32 - 17:35	DOWN	NO	00:02:15
17:35 - 17:38	UP		
17:38 - 17:40	DOWN	NO	00:01:50
17:40 - 17:43	UP		
17:43 - 17:45	DOWN	NO	00:02:30
17:45 - 17:46	UP		
17:46 - 17:51	DOWN	YES	00:04:15
17:51 - 17:56	UP		
17:56 - 17:58	DOWN	NO	00:02:25
17:58 - 18:00	UP		
TOTAL			00:25:10

APPENDIX K

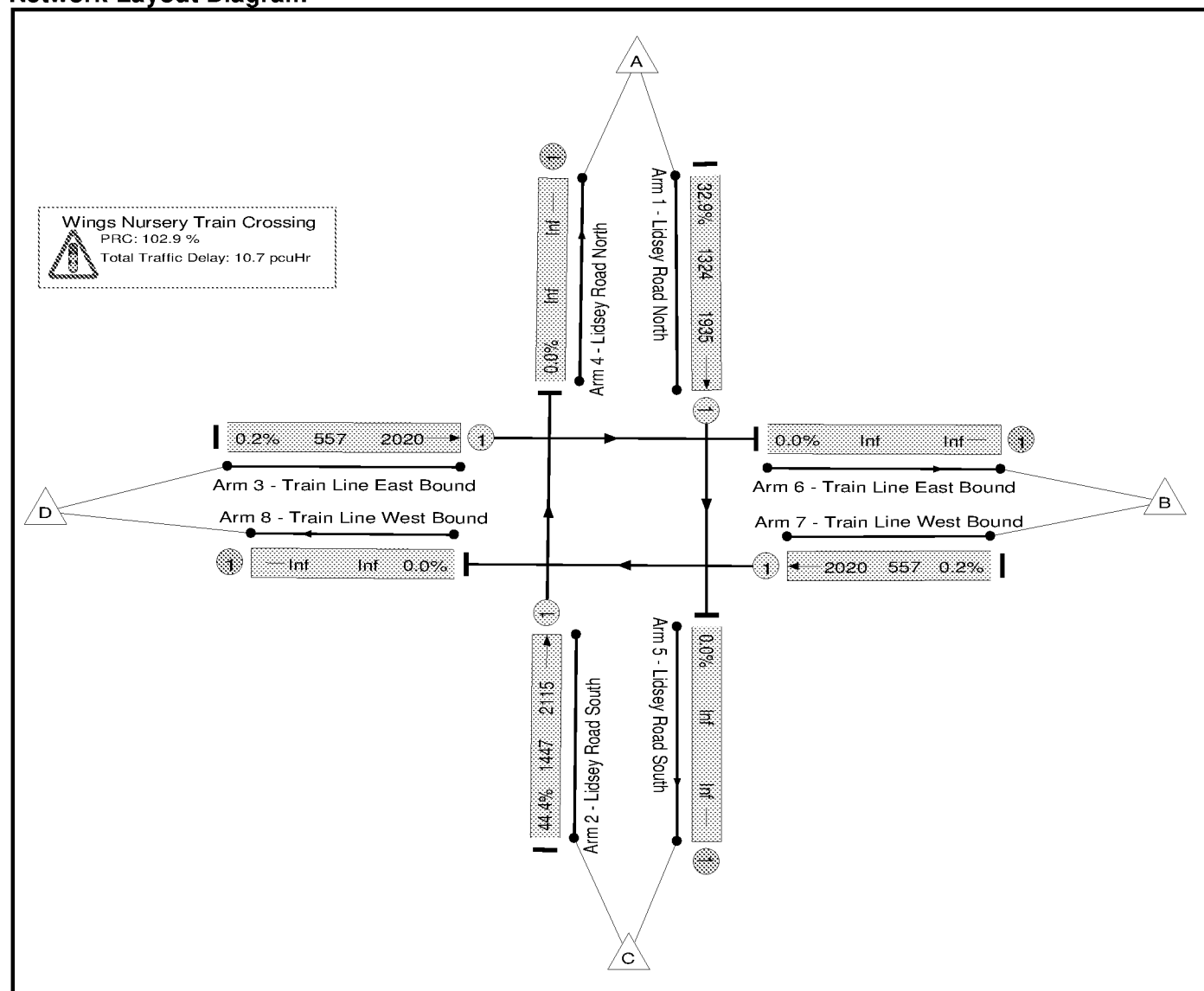
Basic Results Summary
Basic Results Summary

User and Project Details

Project:	Wings Nursery
Title:	Woodgate Level Crossing Junction Modelling
Location:	Lidsey Road, Woodgate, Chichester, West Sussex, PO20 3ST
File name:	Wings Nursery LinSig Train Gates AM
Author:	SMO
Company:	RGP
Address:	Unit 2, West Barn, Norton Lane, Chichester, PO20 3AF
Notes:	

Scenario 1: 'Scenario 1' (FG1: 'Baseline AM 2018', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

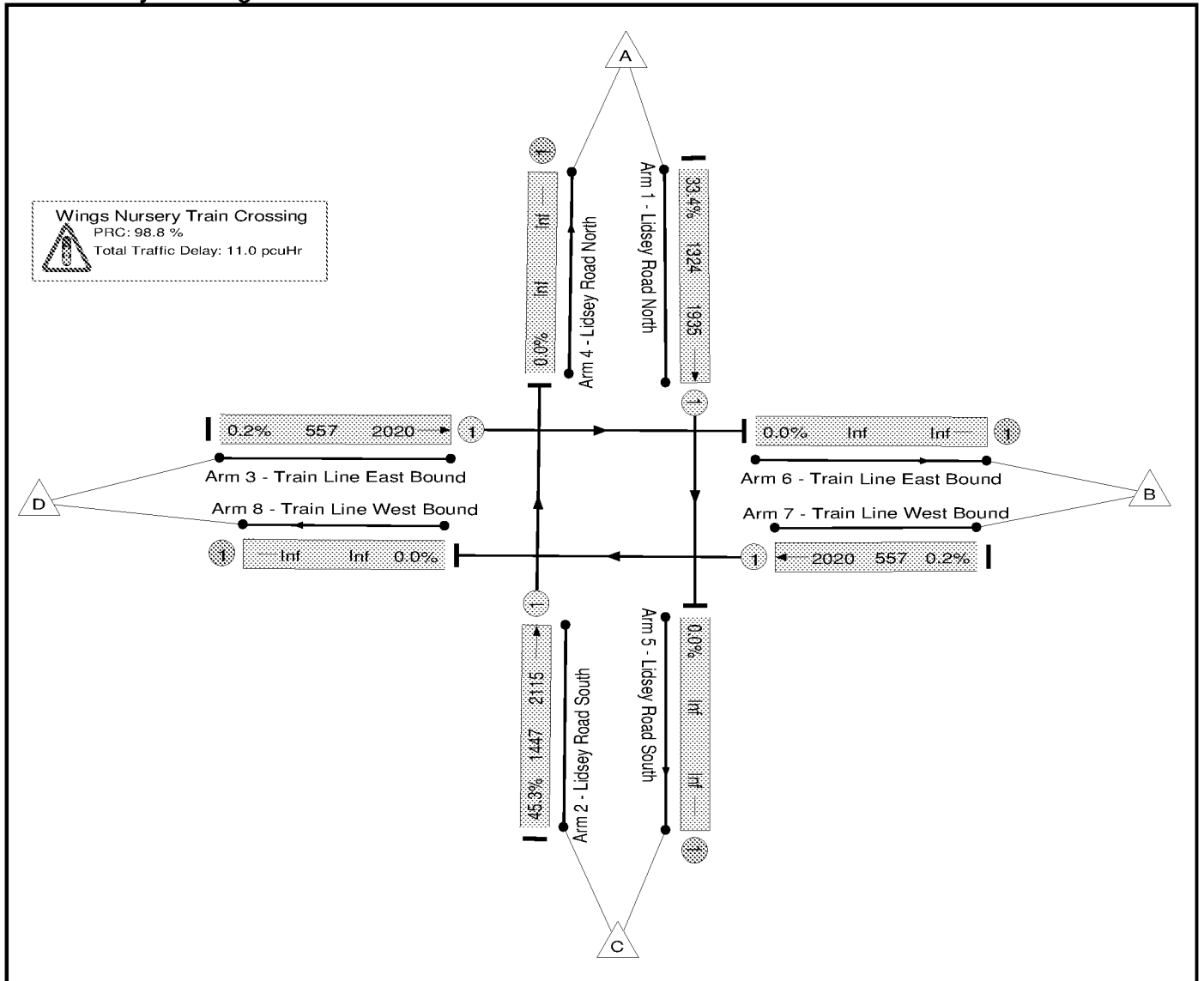


Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	44.4%	0	0	0	10.7	-	-
Wings Nursery Train Crossing	-	-	-		-	-	-	-	-	-	44.4%	0	0	0	10.7	-	-
1/1	Lidsey Road North Ahead	U	A		8	2455	-	436	1935	1324	32.9%	-	-	-	4.0	32.7	27.4
2/1	Lidsey Road South Ahead	U	C		8	2455	-	642	2115	1447	44.4%	-	-	-	6.6	37.0	45.2
3/1	Train Line East Bound Ahead	U	D		8	985	-	1	2020	557	0.2%	-	-	-	0.1	209.0	0.2
7/1	Train Line West Bound Ahead	U	B		8	985	-	1	2020	557	0.2%	-	-	-	0.1	209.0	0.2
C1 PRC for Signalled Lanes (%): 102.9 PRC Over All Lanes (%): 102.9 Total Delay for Signalled Lanes (pcuHr): 10.67 Total Delay Over All Lanes(pcuHr): 10.67 Cycle Time (s): 3600																	

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	45.3%	0	0	0	11.0	-	-
Wings Nursery Train Crossing	-	-	-		-	-	-	-	-	-	45.3%	0	0	0	11.0	-	-
1/1	Lidsey Road North Ahead	U	A		8	2455	-	442	1935	1324	33.4%	-	-	-	4.0	32.8	27.9
2/1	Lidsey Road South Ahead	U	C		8	2455	-	655	2115	1447	45.3%	-	-	-	6.9	37.8	47.7
3/1	Train Line East Bound Ahead	U	D		8	985	-	1	2020	557	0.2%	-	-	-	0.1	209.0	0.2
7/1	Train Line West Bound Ahead	U	B		8	985	-	1	2020	557	0.2%	-	-	-	0.1	209.0	0.2
C1 PRC for Signalled Lanes (%): 98.8 PRC Over All Lanes (%): 98.8 Total Delay for Signalled Lanes (pcuHr): 11.03 Total Delay Over All Lanes(pcuHr): 11.03 Cycle Time (s): 3600																	

APPENDIX L

Basic Results Summary

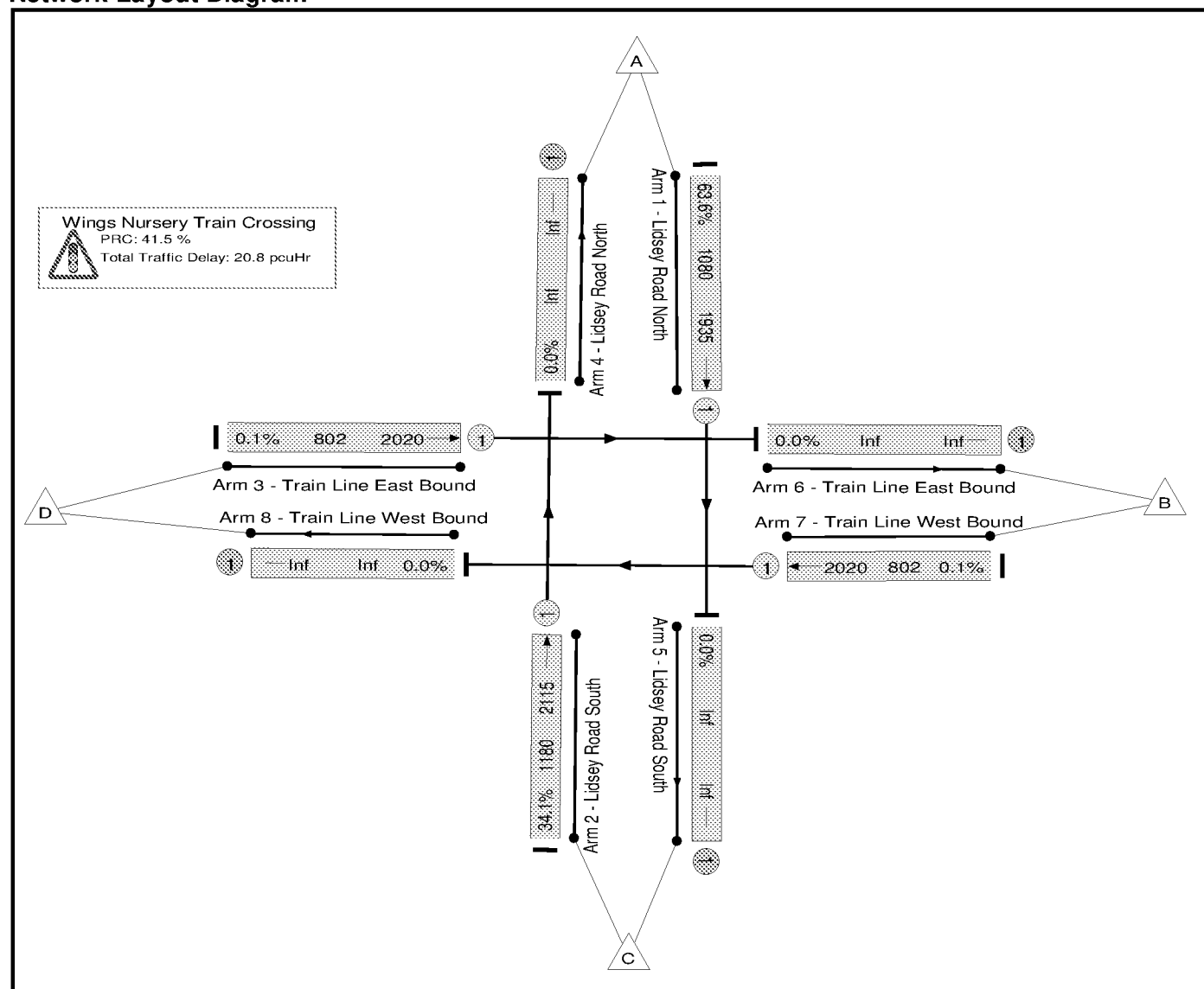
Basic Results Summary

User and Project Details

Project:	Wings Nursery
Title:	Woodgate Level Crossing Junction Modelling
Location:	Lidsey Road, Woodgate, Chichester, West Sussex, Po20 3ST
File name:	Wings Nursery LinSig Train Gates PM
Author:	SMO
Company:	RGP
Address:	Unit 2, West Barn, Norton Lane, Chichester, PO20 3AF
Notes:	

Scenario 1: 'Scenario 1' (FG1: 'Baseline PM 2018', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

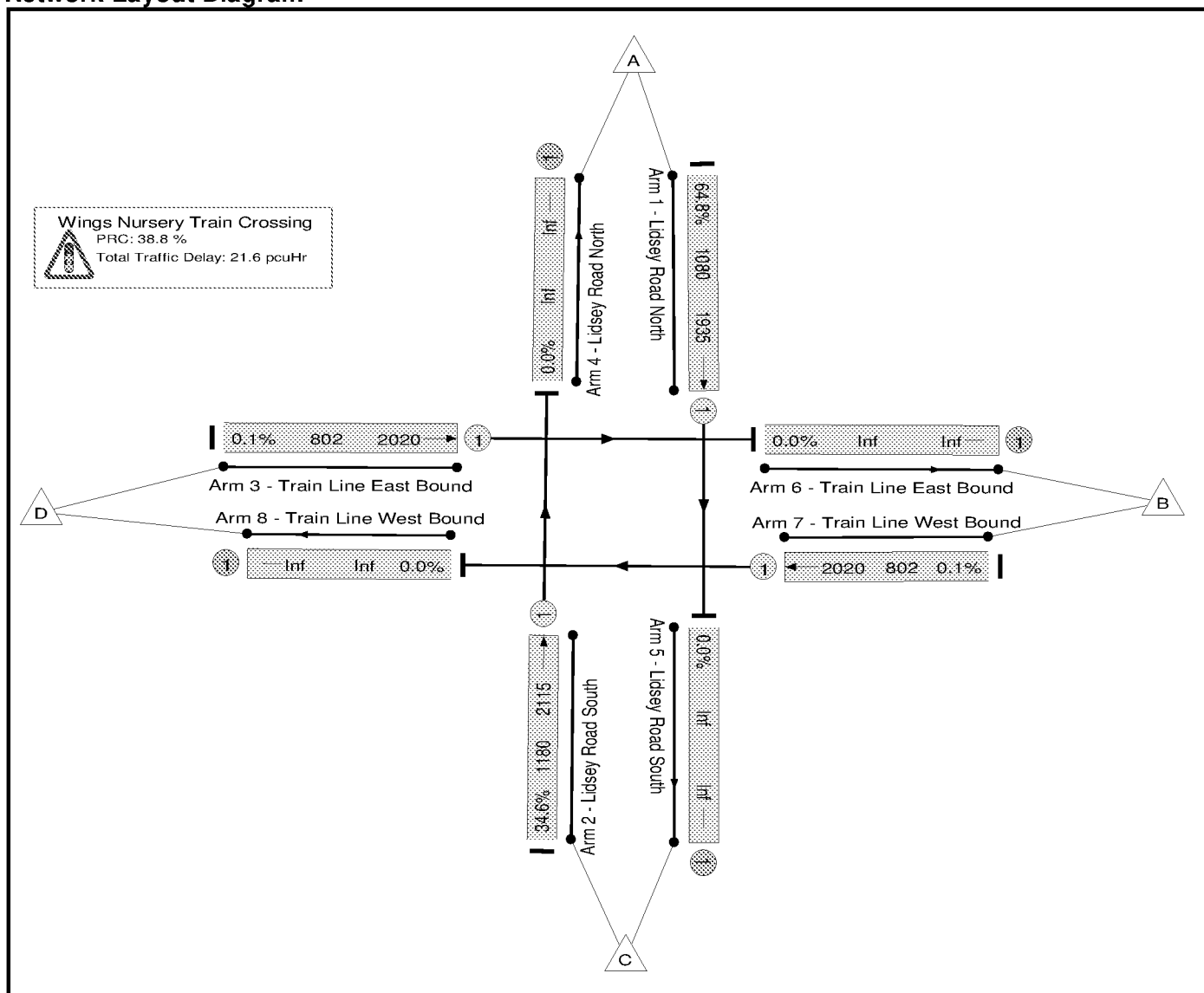


Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	63.6%	0	0	0	20.8	-	-
Wings Nursery Train Crossing	-	-	-		-	-	-	-	-	-	63.6%	0	0	0	20.8	-	-
1/1	Lidsey Road North Ahead	U	A		9	2000	-	687	1935	1080	63.6%	-	-	-	14.8	77.7	85.8
2/1	Lidsey Road South Ahead	U	C		9	2000	-	402	2115	1180	34.1%	-	-	-	5.9	53.1	36.5
3/1	Train Line East Bound Ahead	U	D		9	1420	-	1	2020	802	0.1%	-	-	-	0.0	120.8	0.2
7/1	Train Line West Bound Ahead	U	B		9	1420	-	1	2020	802	0.1%	-	-	-	0.0	120.8	0.2
C1 PRC for Signalled Lanes (%): 41.5 PRC Over All Lanes (%): 41.5 Total Delay for Signalled Lanes (pcuHr): 20.83 Total Delay Over All Lanes(pcuHr): 20.83 Cycle Time (s): 3600																	

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	64.8%	0	0	0	21.6	-	-
Wings Nursery Train Crossing	-	-	-		-	-	-	-	-	-	64.8%	0	0	0	21.6	-	-
1/1	Lidsey Road North Ahead	U	A		9	2000	-	700	1935	1080	64.8%	-	-	-	15.5	79.7	88.3
2/1	Lidsey Road South Ahead	U	C		9	2000	-	408	2115	1180	34.6%	-	-	-	6.0	53.3	37.3
3/1	Train Line East Bound Ahead	U	D		9	1420	-	1	2020	802	0.1%	-	-	-	0.0	120.8	0.2
7/1	Train Line West Bound Ahead	U	B		9	1420	-	1	2020	802	0.1%	-	-	-	0.0	120.8	0.2
C1 PRC for Signalled Lanes (%): 38.8 PRC Over All Lanes (%): 38.8 Total Delay for Signalled Lanes (pcuHr): 21.61 Total Delay Over All Lanes(pcuHr): 21.61 Cycle Time (s): 3600																	

APPENDIX M

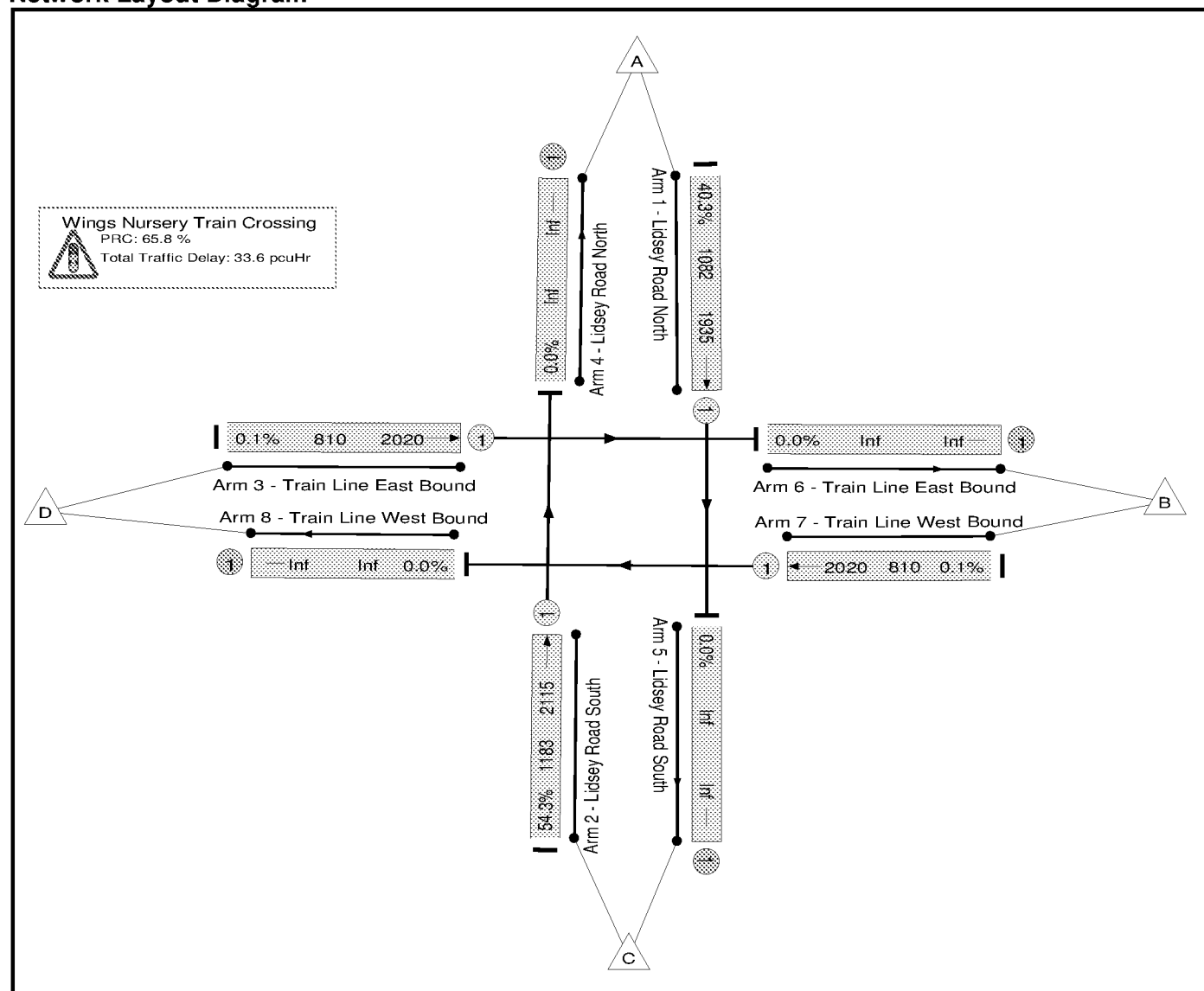
Basic Results Summary
Basic Results Summary

User and Project Details

Project:	Wings Nursery
Title:	Woodgate Level Crossing Junction Modelling
Location:	Lidsey Road, Woodgate, Chichester, West Sussex, PO20 3ST
File name:	Wings Nursery LinSig Train Gates AM 10 min down time
Author:	SMO
Company:	RGP
Address:	Unit 2, West Barn, Norton Lane, Chichester, PO20 3AF
Notes:	

Scenario 1: 'Scenario 1' (FG1: 'Baseline AM 2018', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

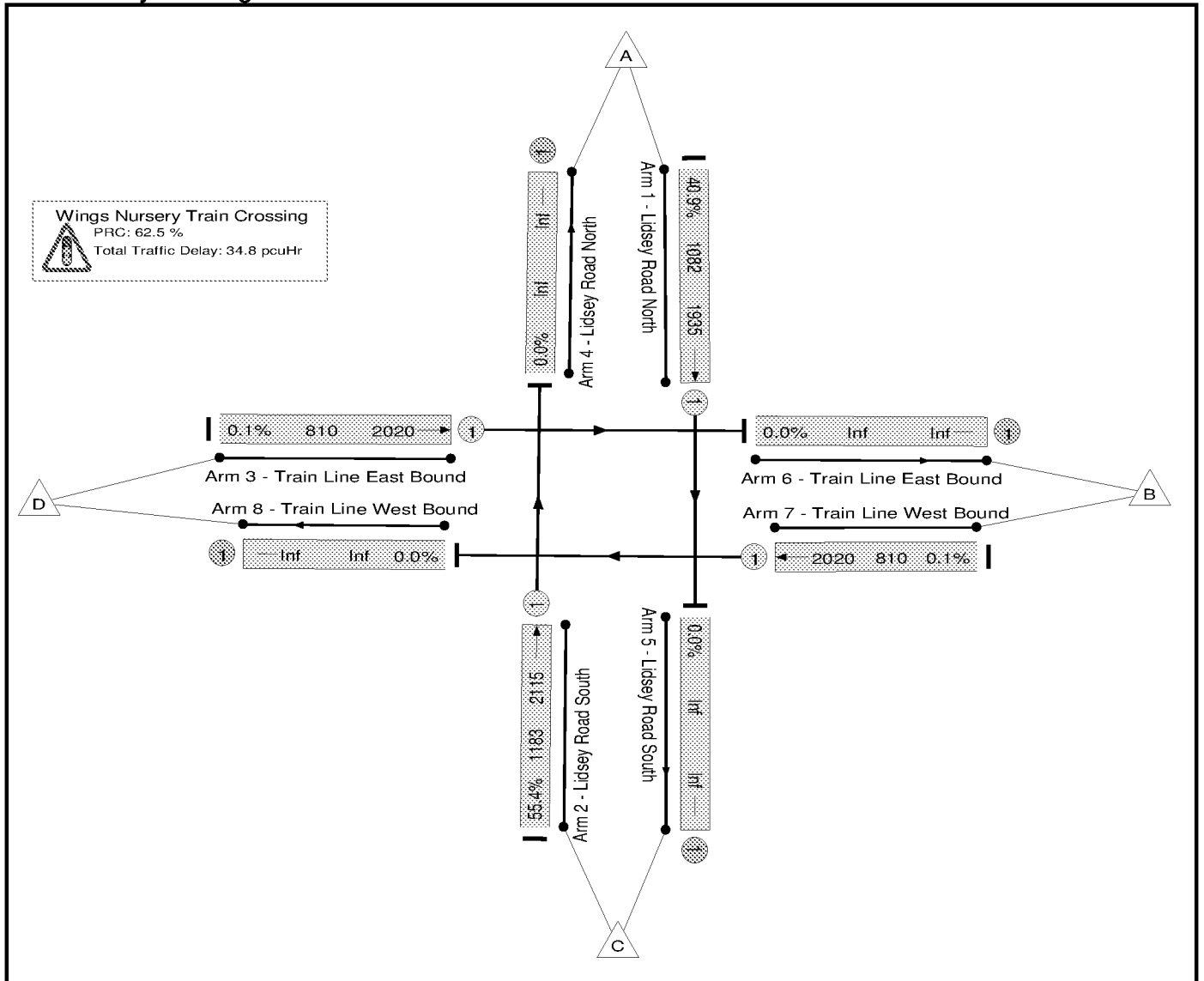
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	54.3%	0	0	0	33.6	-	-
Wings Nursery Train Crossing	-	-	-		-	-	-	-	-	-	54.3%	0	0	0	33.6	-	-
1/1	Lidsey Road North Ahead	U	A		8	2005	-	436	1935	1082	40.3%	-	-	-	11.6	95.4	95.5
2/1	Lidsey Road South Ahead	U	C		8	2005	-	642	2115	1183	54.3%	-	-	-	22.0	123.4	145.0
3/1	Train Line East Bound Ahead	U	D		8	1435	-	1	2020	810	0.1%	-	-	-	0.0	124.9	0.2
7/1	Train Line West Bound Ahead	U	B		8	1435	-	1	2020	810	0.1%	-	-	-	0.0	124.9	0.2
C1 PRC for Signalled Lanes (%): 65.8 PRC Over All Lanes (%): 65.8 Total Delay for Signalled Lanes (pcuHr): 33.62 Total Delay Over All Lanes(pcuHr): 33.62 Cycle Time (s): 3600																	

Basic Results Summary

Scenario 2: 'Scenario 2' (FG2: 'Proposed Development AM 2018', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	55.4%	0	0	0	34.8	-	-
Wings Nursery Train Crossing	-	-	-		-	-	-	-	-	-	55.4%	0	0	0	34.8	-	-
1/1	Lidsey Road North Ahead	U	A		8	2005	-	442	1935	1082	40.9%	-	-	-	11.8	95.8	97.2
2/1	Lidsey Road South Ahead	U	C		8	2005	-	655	2115	1183	55.4%	-	-	-	23.0	126.5	148.0
3/1	Train Line East Bound Ahead	U	D		8	1435	-	1	2020	810	0.1%	-	-	-	0.0	124.9	0.2
7/1	Train Line West Bound Ahead	U	B		8	1435	-	1	2020	810	0.1%	-	-	-	0.0	124.9	0.2
C1 PRC for Signalled Lanes (%): 62.5 PRC Over All Lanes (%): 62.5 Total Delay for Signalled Lanes (pcuHr): 34.85 Total Delay Over All Lanes(pcuHr): 34.85 Cycle Time (s): 3600																	

APPENDIX N

Basic Results Summary

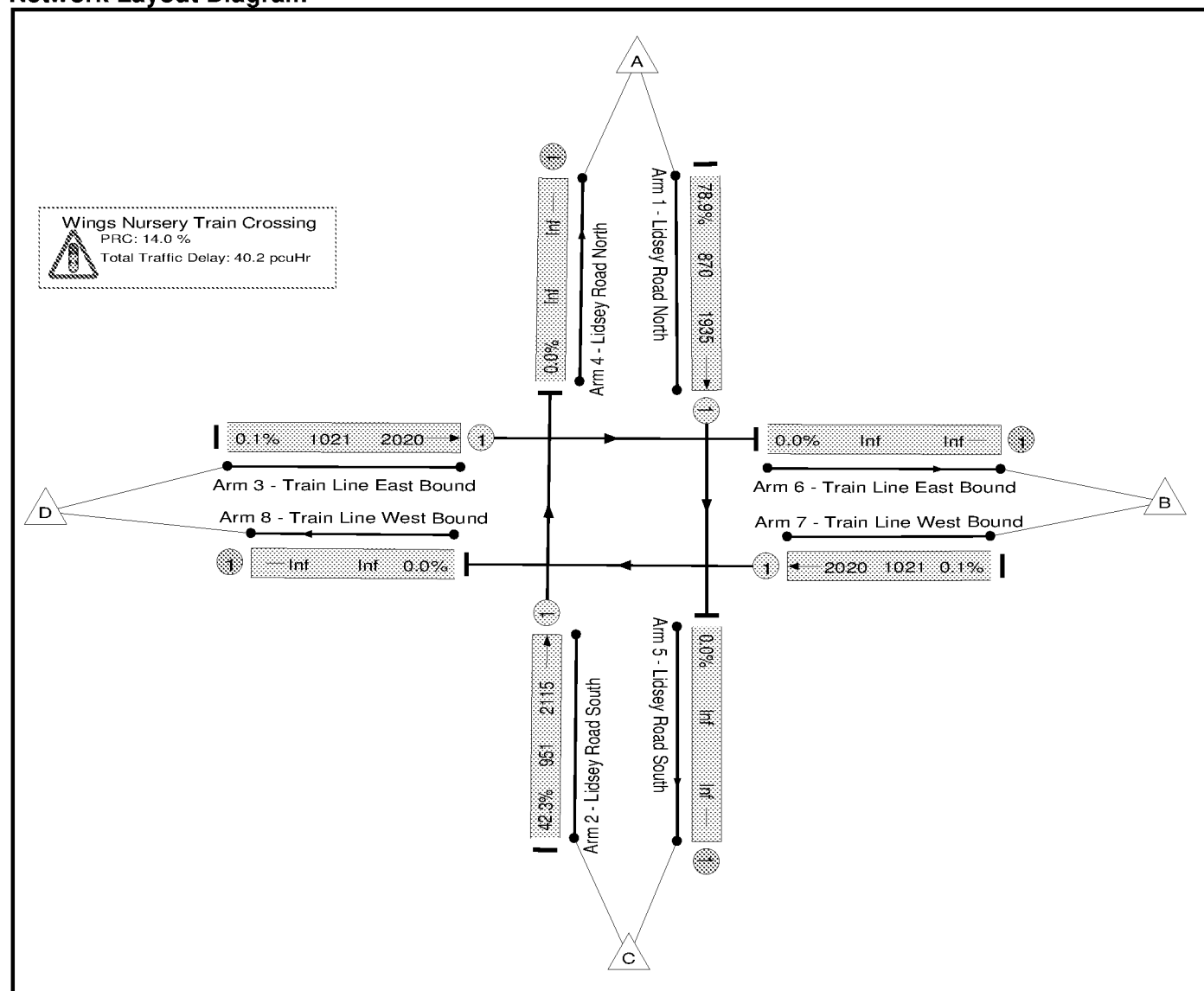
Basic Results Summary

User and Project Details

Project:	Wings Nursery
Title:	Woodgate Level Crossing Junction Modelling
Location:	Lidsey Road, Woodgate, Chichester, West Sussex, PO20 3ST
File name:	Wings Nursery LinSig Train Gates PM 10 min down time
Author:	SMO
Company:	RGP
Address:	Unit 2, West Barn, Norton Lane, Chichester, PO20 3AF
Notes:	

Scenario 1: 'Scenario 1' (FG1: 'Baseline PM 2018', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

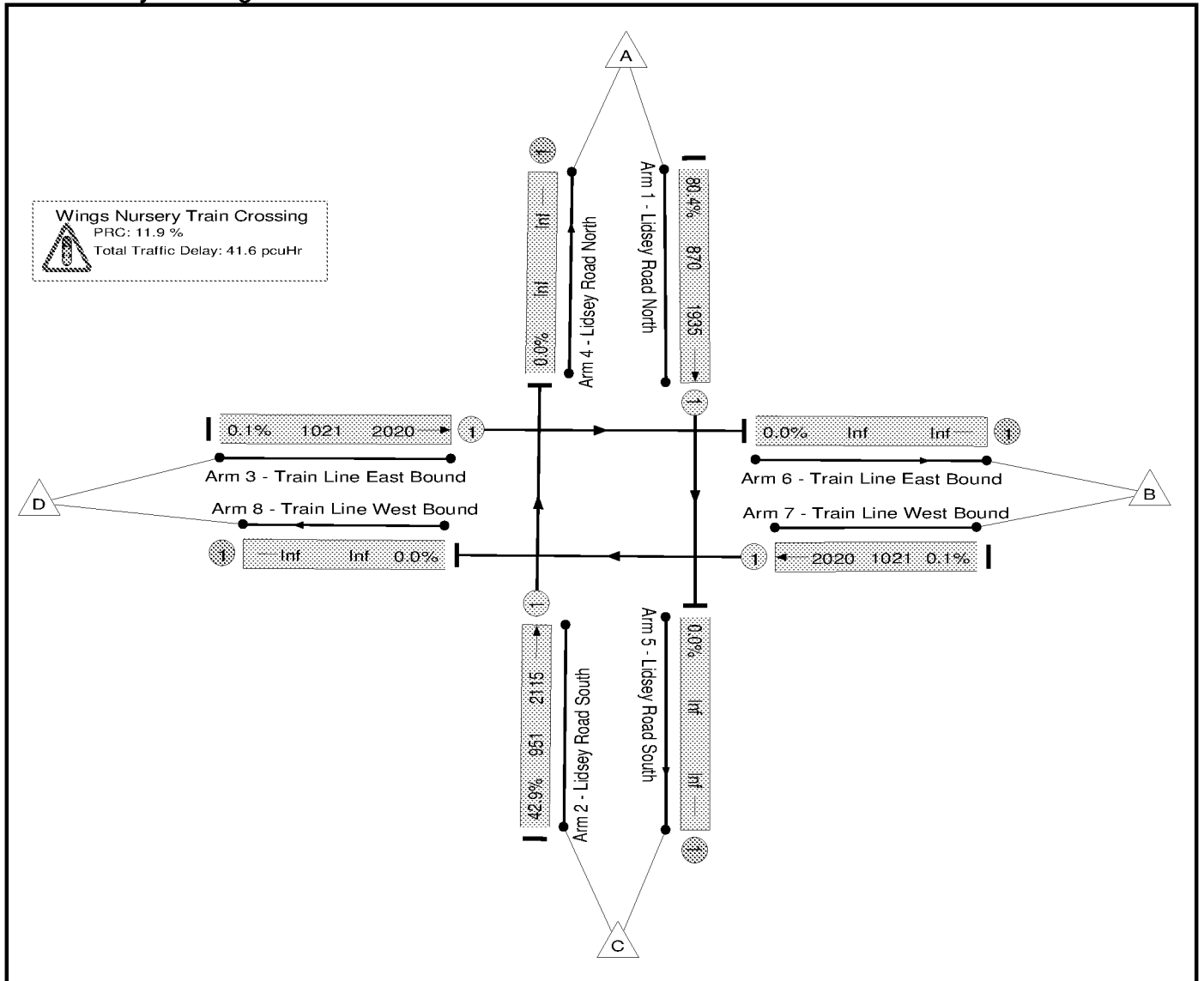


Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	
Network	-	-	-		-	-	-	-	-	-	78.9%	0	0	0	40.2	-	-	
Wings Nursery Train Crossing	-	-	-		-	-	-	-	-	-	78.9%	0	0	0	40.2	-	-	
1/1	Lidsey Road North Ahead	U	A		9	1610	-	687	1935	870	78.9%	-	-	-	27.9	146.4	182.0	
2/1	Lidsey Road South Ahead	U	C		9	1610	-	402	2115	951	42.3%	-	-	-	12.3	109.9	34.2	
3/1	Train Line East Bound Ahead	U	D		9	1810	-	1	2020	1021	0.1%	-	-	-	0.0	64.0	0.1	
7/1	Train Line West Bound Ahead	U	B		9	1810	-	1	2020	1021	0.1%	-	-	-	0.0	64.0	0.1	
C1																		
PRC for Signalled Lanes (%):							14.0	Total Delay for Signalled Lanes (pcuHr):					40.25	Cycle Time (s): 3600				
PRC Over All Lanes (%):							14.0	Total Delay Over All Lanes(pcuHr):					40.25					

Network Layout Diagram

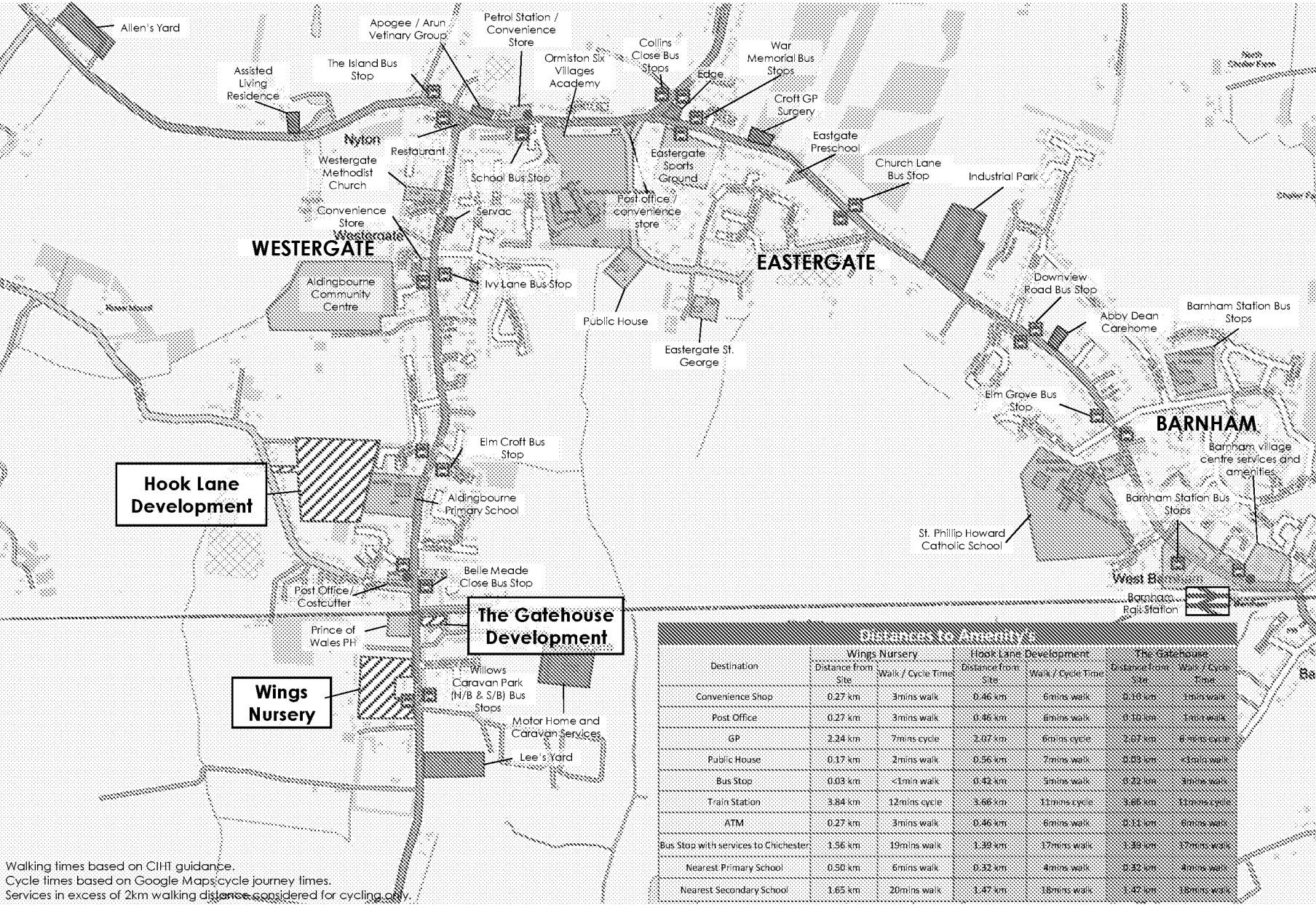


Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	80.4%	0	0	0	41.6	-	-
Wings Nursery Train Crossing	-	-	-		-	-	-	-	-	-	80.4%	0	0	0	41.6	-	-
1/1	Lidsey Road North Ahead	U	A		9	1610	-	700	1935	870	80.4%	-	-	-	29.0	149.3	187.5
2/1	Lidsey Road South Ahead	U	C		9	1610	-	408	2115	951	42.9%	-	-	-	12.5	110.3	35.8
3/1	Train Line East Bound Ahead	U	D		9	1810	-	1	2020	1021	0.1%	-	-	-	0.0	64.0	0.1
7/1	Train Line West Bound Ahead	U	B		9	1810	-	1	2020	1021	0.1%	-	-	-	0.0	64.0	0.1
C1 PRC for Signalled Lanes (%): 11.9 PRC Over All Lanes (%): 11.9 Total Delay for Signalled Lanes (pcuHr): 41.56 Total Delay Over All Lanes(pcuHr): 41.56 Cycle Time (s): 3600																	

APPENDIX O



Walking times based on CIHT guidance.
Cycle times based on Google Maps cycle journey times.
Services in excess of 2km walking distance considered for cycling only.

LEGEND

SITE LOCATIONS

RAIL STATION

RAILWAY

BUS STOPS

CYCLE ROUTES

NATIONAL CYCLE ROUTE

2KM WALK ISOCHRONE

RETAIL

EDUCATION

LEISURE

HEALTH CARE

EMPLOYMENT

Transport Planning and Infrastructure Design Consultants
Newmans, Barnham, West Sussex, PO21 1DE
140514032412, Fax: 01402 241422
www.rgp.co.uk

Client: ADM Architects

Project: Wings Nursery

Title: Site Location & Accessibility Plan

Plan No: Plan 01	Job No: 37/11	Date: 23/02/2018	Scale: NTS
Drawn By: SMO	Checked By: ALB	Approved By: PMR	Rev: -

Destination	Distances to Amenities			
	Wings Nursery		Hook Lane Development	
	Distance from Site	Walk / Cycle Time	Distance from Site	Walk / Cycle Time
Convenience Shop	0.27 km	3mins walk	0.46 km	6mins walk
Post Office	0.27 km	3mins walk	0.46 km	6mins walk
GP	2.24 km	7mins cycle	2.07 km	6mins cycle
Public House	0.17 km	2mins walk	0.56 km	7mins walk
Bus Stop	0.03 km	<1min walk	0.42 km	5mins walk
Train Station	3.84 km	12mins cycle	3.66 km	11mins cycle
ATM	0.27 km	3mins walk	0.46 km	6mins walk
Bus Stop with services to Chichester	1.56 km	19mins walk	1.39 km	17mins walk
Nearest Primary School	0.50 km	6mins walk	0.32 km	4mins walk
Nearest Secondary School	1.65 km	20mins walk	1.47 km	18mins walk

APPENDIX P



**WINGS NURSERY, LIDSEY
ROAD, WOODGATE, WEST
SUSSEX**

Residential Development

Residential Travel Plan

**Prepared on behalf of Michael
Bish**

ADMA/17/3711s

February 2018

DOCUMENT CONTROL

Project: Wings Nursery, Lidsey Road, Woodgate, West Sussex
Residential Development

Document: Residential Travel Plan

Client: Michael Bish

Reference: ADMA/17/3711s

Document Checking:

Author: EJD

Date 06/10/2017

Checked by: ALB

Date 06/10/2017

Approved by: ALB

Date 23/02/2018

Status:

Issue	Date	Status	Issued by
1.	31/07/17	Draft	EJD
2.	06/10/17	Final	EJD
3.	23/02/18	Final 02	EJD
4.			
5.			
6.			
7.			

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PLANS

Plan 01	Site Location and Accessibility Plan
Plan 02	Cycling Route Map

APPENDICES

Appendix A	Site Layout
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1 INTRODUCTION

- 1.1.1 This Residential Travel Plan (RTP) has been prepared by Russell Giles Partnership Ltd (RGP) on behalf of Michael Bish to support an outline planning application for a residential development comprised of 55 dwellings on land to the west of the A29 Lidsey Road, Woodgate, West Sussex.
- 1.1.2 This RTP has been designed to mitigate the long-term effect of traffic impacts associated with the development and to encourage residents to use sustainable travel methods as an alternative to travel by private car. Building on the highly accessible nature of the site, this RTP sets out a number of 'hard' infrastructural and 'soft' information-led initiatives, which would be implemented prior to new residents occupying the development.
- 1.1.3 In developing this Residential Travel Plan, RGP has reviewed relevant national guidance and best practice. In addition, the production of this RTP meets the Building Research Establishment's Environmental Assessment Methodology (BREEAM) requirements for credit TRA5: Travel Plan, as well as contributing towards TRA1: Public Transport Accessibility, TRA2: Proximity to Amenities, TRA3: Cyclist Facilities and TRA4: Maximum Car Parking Capacity.

1.2 What is a Travel Plan?

- 1.2.1 A Travel Plan is a package of measures tailored to the needs of an individual site and aimed at promoting greener, cleaner travel choices by reducing reliance on the use of the private car. The development of such measures can enable individuals to reduce the impact of travel and transport on the environment whilst providing a range of benefits to individuals and the local community, including financial savings.
- 1.2.2 Travel Plans are introduced predominantly for regular journeys, such as journeys to or from work and school and help to raise awareness of the impacts of travel decisions. In some instances, it is not practical to achieve modal shift from single occupancy car to a more sustainable mode, however by promoting existing transport options and providing a range of alternatives, there are opportunities for individuals to contribute to improving the local environment and their own personal health and well-being.
- 1.2.3 In addition, the key lifetime event of home relocation represents an ideal opportunity for new residents to evaluate their travel patterns and behaviour, particularly if this is combined with the provision of relevant / up-to-date travel information.
- 1.2.4 For **residents**, a RTP can:
- (i) improve access to essential services and employment opportunities;
 - (ii) help provide less stressful options for travel, particularly in relation to regular commuter journeys;

- (iii) present opportunities to incorporate physical exercise into daily routines;
- (iv) reduce journey times to local destinations;
- (v) reduce the cost of travel, or eliminate the need to buy a car; and
- (vi) provide a more vibrant community to live in.

1.2.5 For the **local community**, a RTP can:

- (i) make local streets less congested, less dangerous, less noisy and less polluted;
- (ii) enhance public transport services and associated infrastructure;
- (iii) improve the environment and the routes available for cycling and walking; and
- (iv) help create a place which is better to live in, work in and visit and which attracts investment.

1.2.6 For **developers**, a RTP can:

- (i) satisfy the requirements of local planning and highway authorities, permitting development; and
- (ii) enhance an establishment's image ('green credentials' and 'social corporate responsibility').

1.3 The "Life Cycle" of a Travel Plan

1.3.1 A Travel Plan is an evolving strategy and process, which requires continuous input and monitoring, as well as commitment from the future end-user / operator of the development. **Figure 1.1** below illustrates the "life-cycle" of the Travel Plan from its inception, through to the implementation and monitoring stages.

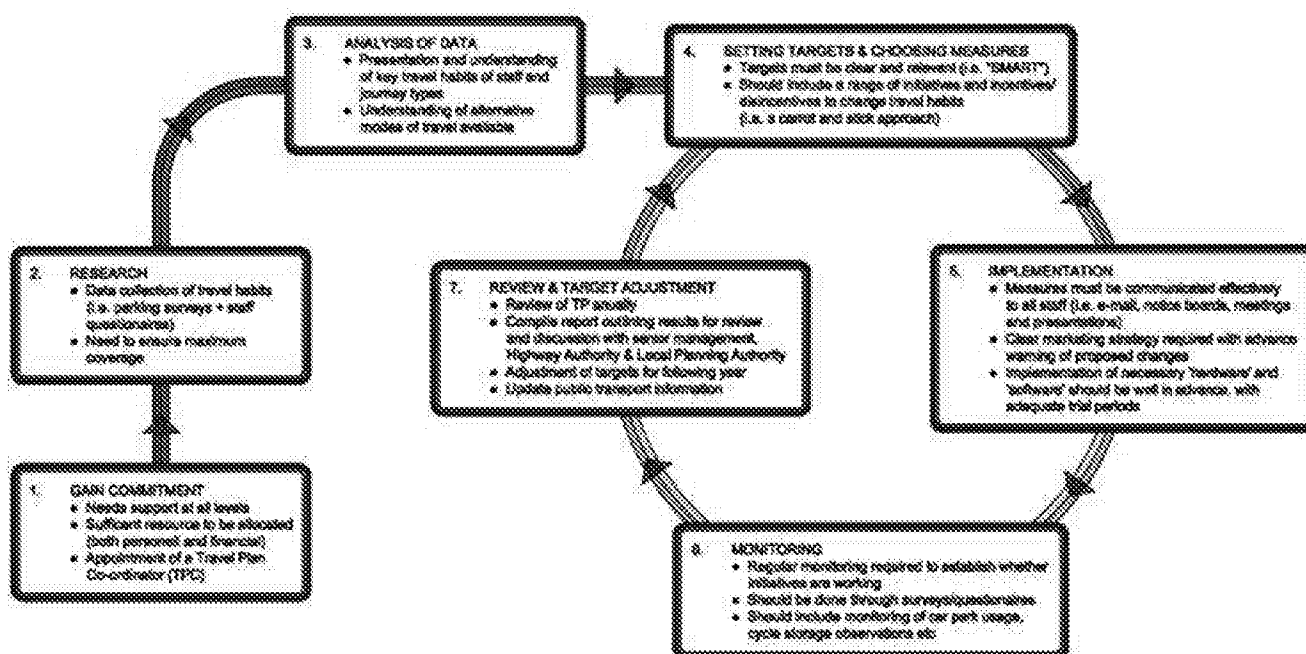


Figure 1.1: Travel Plan 'Life Cycle'

1.3.2 As illustrated by **Figure 1.1**, there are 7 principal stages required to effectively implement a Travel Plan. These are discussed in greater detail within the relevant sections of this document.

1.4 Travel Plan Coordinator

1.4.1 One aspect that will be vital to the success of the Residential Travel Plan is the role of Travel Plan Coordinator (TPC). The role of the TPC is imperative to the success of the Travel Plan and is further discussed in **Section 6** of this report.

2 SITE DESCRIPTION AND ACCESSIBILITY CREDENTIALS

2.1 Introduction

- 2.1.1 This section reviews the existing provision of public transport infrastructure, services and amenities situated within the vicinity of the site.

2.2 Site Description

- 2.2.1 The application site (circa 2.4 ha) is located on the western side of the A29 Lidsey Road, approximately 260m to the south of Woodgate and 1km to the south of Westergate as shown in **Plan 01**. The site is currently comprised of open fields and a horticultural nursery.

2.3 Accessibility Credentials

Pedestrian Accessibility

- 2.3.1 Lidsey Road is supported by good quality, lit footways along either side of the carriageway. These provide access to local bus stops, day-to-day amenities and the established residential areas of Woodgate, Westergate and Eastergate to the north and north-east. To the south of the site's access the footway extends to a distance of approximately 100m.
- 2.3.2 In addition, a public footpath which follows the alignment of the disused Chichester to Arun Canal can be accessed approximately 0.8km to the south of the site's access. The footpath provides an attractive walking route to the nearby hamlets of Colworth, Merston and the Runcion to the west, and Barnham, Yapton and Ford to the east.
- 2.3.3 The Chartered Institute of Highways and Transportation (CIHT) publication 'Providing for Journeys on Foot' (2000) states that the average length of a journey on foot is 1 kilometre. It further recommends a preferred maximum walking distance of 2 kilometres for commuting journeys. As shown on the attached **Plan 01**, the local bus stops and convenience shopping facilities are within 1km of the site.

Cycle Accessibility

- 2.3.4 Owing to its semi-rural location, there is limited provision of dedicated on/off-street cycleway infrastructure within the vicinity of the site. A short section of the National Cycle Network Route 2 (St Austell to Dover) which connects Bognor Regis to Middleton-on-sea, Yapton, Climping and Littlehampton can be accessed via the A29 Lidsey Road, approximately 5.5km to the south of the site. The local cycle routes are demonstrated in **Plan 02**.

- 2.3.5 The CIHT's publication 'Cycle Friendly Infrastructure' (1996), suggests that reasonably fit individuals can comfortably cycle a distance of 8 kilometres to workplace destinations. The surrounding villages of Fontwell, Walberton and Barnham, including Barnham railway station are therefore accessible by bicycle.

Accessibility by Bus

- 2.3.6 The site benefits from a bus stop located in the immediate vicinity of the site which serves both northbound and southbound buses. These stops are served by No.66A and 66C (Compass Travel), which operate on a reasonably frequent basis Monday to Saturday, providing access to local destinations including Bognor Regis, Westergate and Yapton.
- 2.3.7 In addition, the bus services provide opportunities for interchange with local and national rail services at both Bognor Regis and Barnham railway stations. A summary of available bus services is provided in **Figure 2.1**.

Service No.	Route Summary	Typical Daytime Frequency	Operating Hours
66A	Bognor Regis – Yapton – Bognor Regis	Mon-Sat: every 3-4 hours	Mon-Fri: 07:23-17:52 Sat: 07:27-18:13
66C	Bognor Regis – Yapton – Bognor Regis	Mon-Sat: every 4 hours	Mon-Sat: 08:27-16:47
85	Arundel- Walberton - Fontwell - Chichester	Mon-Fri: 4 per day	Mon-Fri: 07:20 – 16:15
85A	Arundel - Walberton - Barnham - Chichester	Mon-Fri: 2 per day	Mon-Fri: 10:19 – 14:19
665	Littlehampton - Westergate - Chichester High School	Mon-Fri: 1 per day	Mon-Fri: 08:02 – 14:51

Figure 2.1: Bus Services Available from Willows Caravan Park Bus Stops

Accessibility by Train

- 2.3.8 Barnham rail station is located approximately 4km (via Westergate and Eastergate) to the east of the site. The station provides access to regular rail services, operated by Southern to a host of local and regional destinations as shown in **figure 2.2**. Given the site's semi-rural location it is considered to benefit from having a good level of accessibility to rail services.

Destination	Route Summary	Typical Journey Time	Typical Frequency
Bognor Regis	Barnham – Bognor Regis	6 – 8 min	4 every hour
Littlehampton	Barnham – Ford – Littlehampton	9 – 11 min	2 every hour
Portsmouth	Barnham – Chichester – Havant – Portsmouth	31 – 44 min	3 every hour
Brighton	Barnham – Worthing – Shoreham-by-sea – Hove – Brighton	40 – 46 min	2 every hour
Southampton	Barnham – Chichester – Havant – Fareham – Southampton	1hr 5min – 1hr 7min	2 every hour
London Victoria	Barnham – Horsham – Crawley – Gatwick Airport – Clapham Junction – London Victoria	1hr 22min – 1hr 37min	4 every hour

Figure 2.2: Rail Services Available from Barnham Railway Station

Accessibility by Taxi

- 2.3.9 Barnham Station Taxis operate within the Woodgate area provide a range of services including airport runs, 6-8 seater taxis, and pre-booked taxis.

3 PROPOSED DEVELOPMENT

3.1 Overview

- 3.1.1 The proposed development is comprised of 55 residential dwellings and associated access. A site plan demonstrating the proposed layout is provided in **Appendix A**.

3.2 Pedestrian and Cycle Infrastructure

- 3.2.1 Manual for Streets (MfS) guidance suggests that the provision of appropriate pedestrian and cycle links between housing and local facilities is essential to create sustainable travel habits for residents and reduce the reliance on private car trips.
- 3.2.2 The sites footways connect seamlessly with the existing infrastructure facilitating pedestrian access to and from the site and into Woodgate. In addition, the site's internal design would encourage low vehicle speeds allowing cyclists to use the internal carriageways safely.
- 3.2.3 Lidsey Road is supported by lit footways along either side of the carriageway. These provide access to local bus stops, day-to-day amenities and the established residential areas of Woodgate, Westergate and Eastergate to the north and north-east of the site. To enhance the footway network additional crossing points would be provided in the following locations:-
- (i) Lidsey Road adjacent to the development frontage to facilitate pedestrian movement along the footways flanking the eastern side of Lidsey Road
 - (ii) At the junction gate road Woodgate Road to facilitate pedestrian movement along the footways flanking the eastern side of Lidsey Road.
 - (iii) At the junction of Oaktree Lane to facilitate pedestrian movement along the footways flanking the eastern side of Lidsey Road.
 - (iv) At the junction of Willows Caravan Park to connect with relocated southbound bus stop (see **Section 3.5**).
 - (v) 25m past the site's southern boundary, in close proximity to the relocated bus stop, a pedestrian crossing would be provided to link Lidsey Road's western footway to the relocated southbound bus stop.
 - (vi) Crossing would also be provided across the primary and secondary access points.

- 3.2.4 To encourage cycle use, additional cycle parking adjacent to the convenience shop would be provided on Hook Lane. The cycle parking would take the form of 2 Sheffield stands (4 cycle spaces) and a small area of hard standing on what is currently the verge on the convenience store's southern boundary.

3.3 Vehicular & Pedestrian Access

- 3.3.1 The proposed development would be served from 2 accesses adjoining the western side of the A29 Lidsey Road. The main access to the site would be flanked by 1.8m wide footways on either side of the carriageway, tying in with the existing footways on the A29 Lidsey Road. Crossing facilities in the form of dropped kerbs and tactile paving would be provided to facilitate pedestrian movements across the access.

3.4 Car and Cycle Parking Provision

- 3.4.1 Vehicle parking will be provided in line with WSCC Residential Parking Demand Calculator tool. Cycle parking would be provided in line with WSCC residential cycle parking standards within secure cycle parking will be provided for each dwelling either within units' integral design or in garages/ storage sheds.

3.5 Proposed Bus Infrastructure

- 3.5.1 As part of the development proposals, the bus stops immediately opposite the site would be subject to improvement. The northbound bus stop would provide a new shelter and seating and an increased area of hardstanding. The southbound bus stop would be relocated south of the Willows Caravan Park access to provide more space for the facility, which would include a new shelter and seating and increased area of hardstanding.

4 AIMS, OBJECTIVES AND TARGETS

4.1 Aims and Objectives

- 4.1.1 It is now widely accepted that it is not possible to build our way out of congestion. Instead the approach has been to reduce the need to travel by increasing travel choice.
- 4.1.2 Research has shown that modal shift is most effective when targeting regular journeys, which are short in length, such as the daily commute. In addition, it is known that once travel patterns of individuals have been established it is more difficult to encourage them to change. A vital element is therefore to encourage new residents to consider the benefits of using sustainable transport prior to moving into their new home by providing information (i.e. public transport timetables and walk / cycle route maps) and incentives.
- 4.1.3 The overall aim of this Residential Travel Plan therefore is to reduce the long-term reliance upon the private car by effecting a change in attitude to travel and increasing awareness of alternative modes and the associated benefits of sustainable transport.
- 4.1.4 This is most effectively achieved through the provision of clear and concise information, including:
- (i) routing, timetable and ticketing information for bus and train services;
 - (ii) cost data comparing public transport and private car journeys;
 - (iii) the health benefits of walking and cycling, safety advice and recommended routes; and
 - (iv) details of West Sussex's Car Share scheme.
- 4.1.5 Without such information, the car is often perceived to be the easiest travel option, even if from a cost and duration of journey perspective this may not be the case. Similarly, if a resident is unaware of the availability of local shops and services then they may choose to travel a greater distance than they need to in order to access a service, which would undoubtedly impact upon their modal choice.
- 4.1.6 The objectives of this RTP can therefore be summarised as follows:
- (i) To reduce the number of households travelling as single occupancy car drivers for various journey purposes to and from the residential development;

- (ii) To identify a range of 'hard' and 'soft' measures that would facilitate a reduction in the generation of private car trips to and from the residential development, thereby leading to a corresponding increase in the proportion of residents travelling by sustainable modes such as public transport, car sharing, walking and cycling;
- (iii) To promote the financial, environmental and personal health benefits associated with the 'active' travel modes of walking and cycling;
- (iv) To address the everyday needs of residents with regards to accessing a full range of facilities and services providing employment, education, medical, and leisure opportunities;
- (v) To promote the TP and encourage participation amongst new households within national travel awareness events such as 'Bike, Walk and Liftshare' week.

4.2 Targets

4.2.1 Targets are important since they give the Travel Plan direction from its inception, providing a measurable goal to aim for. The DfT's 'Making Residential Travel Plans Work: Guidelines for New Development' (2007) document, states that targets are required as they provide the TP with a clear and measurable direction over the initial 5-year lifecycle.

4.2.2 Site specific targets have been based on the DfT's "SMART" criteria so that the outcomes can be quantified and an assessment of what the Travel Plan has or will achieve can be made.

Specific
Measurable
Achievable
Realistic
Time-bound

4.2.3 Since the aim is to reduce the dependency on private car trips for various journey purposes, it seems appropriate to set a target that is clear and concise and relates well to the overall aim of the RTP.

4.2.4 This RTP would seek to reduce trips by 10% of the first year's vehicle trip generation over a 5-year period. This will be based on initial surveys conducted on the sites traffic generation after the first year of developments completion however in preparation of this RTP, the anticipated number of reduced trips has been based on the TRICS assessment undertaken as part of the associated Transport Statement. The anticipated trip generation, separated by mode, are provided in **Figure 4.1**.

TRICS Trip Rate per Dwelling (55 Dwellings)									
Mode	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
All modes	0.286	0.658	0.944	0.507	0.221	0.728	3.753	3.715	7.468
Car Driver	0.159	0.345	0.504	0.327	0.139	0.466	2.331	2.313	4.644
Car Passenger	0.227	0.537	0.764	0.437	0.180	0.617	3.077	3.058	6.135
Walk	0.050	0.109	0.159	0.053	0.038	0.091	0.582	0.550	1.132
Cycle	0.003	0.006	0.009	0.009	0.000	0.009	0.051	0.057	0.108
Bus	0.006	0.003	0.009	0.006	0.003	0.009	0.039	0.039	0.078
Rail	0.000	0.003	0.003	0.003	0.000	0.003	0.006	0.009	0.015
TRICS Traffic Generation									
All modes	16	36	52	28	12	40	206	204	411
Car Driver	9	19	28	18	8	26	128	127	225
Car Passenger	12	30	42	24	10	34	169	168	337
Walk	3	6	9	3	2	5	32	30	62
Cycle	0	0	0	0	0	0	3	3	6
Bus	0	0	0	0	0	0	2	2	4
Rail	0	0	0	0	0	0	0	0	1

Figure 4.1: Anticipated Residential Trip Generation by Mode

4.2.5 As demonstrated above, the residential dwellings are anticipated to generate 255 daily two-way vehicle trips with 28 trips in the AM peak, and 26 in the PM peak. This RTP would seek to reduce these trips by 10% (26 daily vehicle trips) over a 5-year period resulting in 229 trips per day with 25 and 23 in the AM and PM peaks respectively. Following the initial site survey, the target number of trips will be reviewed to reflect the recorded modal split of trips.

4.2.6 It is considered that these 26 vehicle trips would be redistributed to another mode of travel. Therefore, the likely modal split has been estimated using 2011 Census data 'Method of Travel to Work' for the Barnham ward. The anticipated modal split for the redistributed trips is shown in **Figure 4.2**.

Mode of Travel	Percentage	Trips
Car Passenger	21%	5
Walk	27%	7
Cycle	10%	3
Bus	2%	1
Rail	39%	10
Total	100%	26

Figure 4.2: Anticipated Modal Split for the Redistributed Vehicle Trips (based on National Census Data 2011)

4.2.7 In view of **Figure 4.2** it is anticipated that the majority of trips would be redistributed to rail journeys over the course of the 5 years of the plan.

5 MEASURES AND INITIATIVES

5.1 Background

- 5.1.1 To assist in achieving these targets this section considers the Residential Travel Plan initiatives that will be introduced, refined and expanded upon during the initial 5-year life of the RTP.
- 5.1.2 As with any Travel Plan, it is important to identify a range of measures which will actively encourage new households relocating to the proposed development to travel by alternatives to the private car for a variety of journey purposes. It is also necessary to ensure that selected measures are appropriate to the site's location, having regard to the existing provision of transport infrastructure / services and demographics of households within the surrounding area.
- 5.1.3 The implementation of 'hard' measures relate to the provision of off / on-site infrastructure to support sustainable travel behaviour and typically take the form of new foot / cycleways and enhanced bus stops. 'Soft' measures predominately involve the distribution of travel information.
- 5.1.4 While the proposed measures are primarily tailored towards new households at the proposed development, it is recognised that other end-users (i.e. visitors) will also benefit from the provision of infrastructure and information aimed at encouraging sustainable travel behaviour. The list is not exhaustive and the appointed Travel Plan Co-ordinator will actively investigate other potential initiatives, which are likely to reduce the number of single occupancy vehicle journeys.

5.2 Measures and Initiatives

Travel Information – Travel Welcome Pack

- 5.2.1 Research has demonstrated that modal shift away from use of the private car to more sustainable forms is more effective when targeting regular journeys, which are short in length. Furthermore, it is recognised by both Transport Planning practitioners and academics that the lifetime event of home relocation, which is of relevance to new residents, represents a change in the situational context, providing a 'window of opportunity' for enabling previous habitual travel behaviour (i.e. private car use) to be reconsidered.
- 5.2.2 When this is combined with the provision of information on sustainable alternatives (e.g. public transport timetables and walking/cycling maps), it is likely that new residents will be more pre-conceived to changing their travel behaviour towards the use of sustainable modes such as public transport, walking and cycling.

- 5.2.3 Information pertaining to all modes of transport available for journeys to and from the site will be communicated within the Travel Welcome Pack (TWP) distributed to all residents. The following information, which can be obtained from West Sussex County Council's website, would be included:
- (i) An outline of the main aims / objectives and the role of individuals in achieving the aspirations of the TWP;
 - (ii) Details of the financial, environmental and personal health benefits associated with the 'active' travel modes of walking and cycling;
 - (iii) A map demonstrating walking and cycling routes available in the local area;
 - (iv) Public transport fares and maps showing the location of the nearest bus stops / rail station and up-to-date bus and rail service timetables;
 - (v) Contact details of the appointed Travel Plan Co-ordinator.
- 5.2.4 The information will be prepared immediately prior to initial occupation of the residential units and would be updated on a biennial basis as part of the review process for the first 5 years.

Car Sharing

- 5.2.5 Car sharing involves two or more people travelling together for all or part of a journey. It represents a relatively convenient, flexible and cost-effective mode of travel if car sharers live and work in similar locations.
- 5.2.6 As part of the Travel Plan, West Sussex's car sharing website www.westsussexcarshare.com, part of www.liftshare.com (the UK's largest car share database) will be promoted. These services are free to sign up to and aim to facilitate car sharing on a regular basis by enabling users to contact others who they could potentially share with.
- 5.2.7 Liftshare is the UK's largest car share database with over 400,000 registered members. Liftshare operates over 1200 car share schemes around the UK. Typically, around 45% of registered members regularly car share, often as part of their journey to and from work.
- 5.2.8 The Liftshare website provides a 'savings calculator' to enable members to work out the cost savings of car sharing as part of a regular journey. It is noteworthy that for journeys comprised of 5 miles, an individual can potentially save in the order of £350 per annum if travelling within a standard sized vehicle (i.e. between 1.4 and 2.0 litres).

Public Transport

- 5.2.9 There are currently good services via bus and rail available within close proximity of the development. This suggests a significant potential for encouraging new residents to travel by public transport.
- 5.2.10 To promote the use of existing public transport services, up-to-date and relevant timetable / route map information would also be sought from bus operators for inclusion within the TWP. This would include a list of services and destinations available from local stops within Woodgate. In addition, bus taster tickets would be provided allowing future residents the opportunity to use local bus services for a trial period.
- 5.2.11 Rail service information for Barnham railway station would also be provided within the TWP listing available destinations as well as typical journey times and frequencies. The TWP would also include information for residents on how to get to and from the railway station.

On-Site Infrastructure

- 5.2.12 The proposed development would include internal footways connecting to the wider pedestrian network, thereby increasing the development's permeability for pedestrians, and the attractiveness via this method of transport.
- 5.2.13 In accordance with local planning policy, all units will be provided with secure and sheltered cycle storage capable of accommodating a number of cycles. The provision of secure storage will increase the likelihood of new residents owning and using their cycles. Further information about cycle routes and storage facilities at other local destinations will be contained within the TWP.
- 5.2.14 As part of the residential development, all units will be provided with the capability to have broadband services, thereby enabling residents to work from home, and hence reduce the need to travel off-site during the working day. The provision of broadband services will also enable goods purchased online to be delivered directly to each household, further minimising the number of private car journeys.

Off-Site Infrastructure

- 5.2.15 A number of improvements to off-site infrastructure would be provided to promote access by active modes of transport. These would include improvements to the existing bus stops, the implementation of new pedestrian crossing facilities, and the provision of additional cycle parking adjacent to the convenience shop. The proposed infrastructure improvements are described in **Section 3.5** and full details regarding design are contained within the Transport Assessment Addendum.

Additional Cycling Promotion

- 5.2.16 In addition to the proposed storage facilities and information about safe cycle routes, new residents would be encouraged to establish a Bicycle User Group (BUG). This BUG would provide information on events such as 'Bike-to-Work'. Furthermore, in collaboration with the Travel Plan Co-ordinator, the BUG could negotiate discounts with local retailers on behalf of new residents regarding the purchase of cycles and associated equipment.
- 5.2.17 The BUG would also provide information regarding the Government backed 'Cycle-to-Work' Scheme', which allows employees to purchase a bicycle tax-free via their employer. The implementation of such a scheme would promote a number of benefits including:
- (i) Reduced cost of purchasing a bicycle to an employee, equivalent to saving on Income Tax and National Insurance.
 - (ii) An employer would save National Insurance contributions since the scheme is based on a salary sacrifice and would redeem the VAT on the purchase; and
 - (iii) The information provided by BUG would provide the resident with the necessary information to encourage their employer to implement a 'Cycle-to-Work' scheme.

Financial Incentives

- 5.2.18 To encourage future residents to utilise sustainable travel opportunities, travel vouchers with a value of £150 per household would be provided as part of the TWP. The vouchers would allow residents to purchase bus tickets or cycles from local retailers.

5.3 Effectiveness of Travel Plan Measures

- 5.3.1 The measures and initiatives detailed above would reduce the level of car use associated with the site, consequently increasing the use of sustainable modes and achieving the target set. However, the list is not exhaustive and the appointed TPC is encouraged to investigate other potential initiatives, especially those which would reduce the number of trips made by car.

5.4 Remedial Measures

5.4.1 In the event that the trip rate target has not been achieved after the 5th year of Residential Travel Plan Implementation, the TPC will initiate the following remedial measures:

- (i) Issue additional £150 travel vouchers;
- (ii) Promote West Sussex's Carshare scheme to all residents and visitors; and
- (iii) Provide increased funding to the Travel Plan Co-ordinator for the purposes of organising initiatives in conjunction with national travel awareness events.

5.4.2 The remedial measures listed above represent the final attempt to influence travel behaviour and patterns amongst residents.

6 MANAGEMENT, MONITORING AND REVIEW

6.1 Introduction

- 6.1.1 This section of the report sets out a strategy for managing the implementation of 'hard' and 'soft' measures, as well as a framework for monitoring and reviewing the RTP.

6.2 Management

Travel Plan Co-ordinator

- 6.2.1 The TPC is responsible for implementing and promoting the Residential Travel Plan. This includes commissioning a biennial (i.e. end of Years 1, 3 and 5) travel audit in accordance with the TRICS Standard Assessment Methodology (SAM) for Travel Plans, ensuring up to date travel information is displayed and communicating with WSCC's Travel Plan Officer.

- 6.2.2 The Travel Plan Co-ordinator would be responsible for undertaking the following key tasks:

- (i) On-going promotion / marketing of the RTP and associated measures including the preparation of Travel Welcome Packs;
- (ii) Organising the implementation of household travel surveys to be undertaken on a biennial basis, following the establishment of baseline travel patterns and behaviour;
- (iii) Preparing biennial RTP Monitoring reports highlighting the main results of each survey; and
- (iv) Acting as the main point of contact for new households, WSCC's Travel Plan Officer and other relevant stakeholders.

- 6.2.3 To ensure effective communication between new households and other internal / external stakeholders, the contact details (see below) of the Travel Plan Co-ordinator including telephone number and e-mail address will be published within the TWP's.

6.3 Monitoring and Review

- 6.3.1 The Residential Travel Plan will be reviewed on a biennial basis for at least five years to assess its progress towards the overall target and identify the requirement for future improvement and refinement. The TPC will arrange for multi modal TRICS SAM compatible surveys to be conducted biennially by an accredited data collection company.

6.3.2 In addition, residents will complete a RTP survey to trace the travel patterns associated with the development.

6.3.3 It is advised that the following items are considered as part of the monitoring process:

- (i) Home characteristics (i.e. type of development, household size, no. of bedrooms and no. of car parking space);
- (ii) Current travel patterns (typical travel mode, alternative travel mode, travel distance and journey time to workplaces);
- (iii) Attitude towards sustainable travel modes; and
- (iv) Comments relating to the operation and implications of the Travel Plan.

6.3.4 Data gathered from the household travel survey described above would be used to derive the modal split for the residential development. Additional monitoring would include the following aspects:

- (i) The level of car parking usage within the residential development;
- (ii) The number of residents registered with WSCC's 'Carshare' scheme; and
- (iii) Comments made by residents relating to the operation of the RTP.

6.3.5 The TPC will update the RTP and compile a Monitoring Report on a biennial basis. The report will outline the results of the biennial review and incorporate the findings of on-going informal monitoring carried out through the preceding period. A copy of the report be sent to WSCC's Travel Plan Officer for comment and discussion as well as being filed for records.

6.3.6 To maintain the emphasis of the RTP it is suggested that the results of the monitoring / review process are communicated to all residents. This could be done by displaying data on a noticeboard and/or community website, including an article in a local newsletter or in conjunction with a Travel Plan event e.g. National Liftshare Week (October), European Mobility Week (September) or Cycle to Work events (June) etc.

6.4 Action Plan

6.4.1 **Figure 6.1** outlines an Action Plan highlighting relevant timescales and individuals responsible for ensuring the co-ordination / implementation of key measures.

MEASURES	TIMESCALES
Appoint Travel Plan Co-ordinator to oversee the implementation of sustainable travel measures	2 months prior to initial occupation
Ensure installation of on-site pedestrian and cycle infrastructure	2 months prior to initial occupation
Ensure installation of off-site bus, pedestrian and cycle infrastructure improvements	2 months prior to initial occupation
Prepare Travel Welcome Packs containing information on the aims / objectives of the RTP, access by sustainable travel modes and contact details of the Travel Plan Co-ordinator	2 months prior to initial occupation and then on-going
Recruit residents interested in forming a Bicycle User Group (BUG).	Within the first 2 months of initial occupation and then on-going
Conduct Household Travel Surveys	Within the first 6 months of occupation
Update TP with revised trip rate targets and submit to WSCC for review	Within the first 6 months of occupation
Repeat Household Travel Surveys	On the anniversary of the baseline survey and then on a biennial basis (i.e. once every two years) for a minimum 5-year period
Prepare RTP Monitoring Report and submit to WSCC Travel Plan Officer	Within 2 months of undertaking Household Travel Survey
Organisation of marketing initiatives in association with national travel awareness events	As and when events occur although particularly those events which fall between survey periods.

Figure 6.1: Action Plan

6.5 Annual Budget

- 6.5.1 The TPC is responsible for managing the agreed budget for the Residential Travel Plan, appropriate to ensure its proper implementation as detailed above. Aside from infrastructure works which are included in the development construction costs, funding is required to cover initial set up, printing, marketing, surveys and travel plan events.
- 6.5.2 This investment in resources, both in terms of appointment of a TPC and monetary, support the implementation, review and monitoring of the Travel Plan and mitigate against any financial burden which may be imposed as a consequence of failure to meet the agreed targets.

6.6 Approval

6.6.1 This Residential Travel Plan is prepared by Russell Giles Partnership Ltd on behalf of Michael Bish.

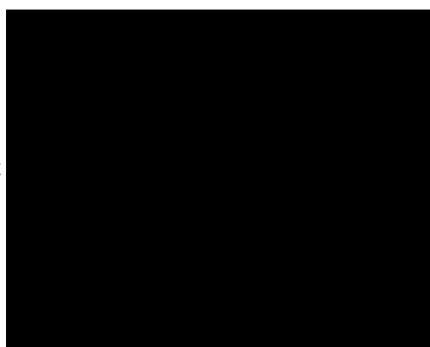
6.6.2 I hereby approve this Residential Travel Plan for implementation at the following site:

Wings Nursery, Lidsey Road, Woodgate, West Sussex

Ed Dodd

Graduate Transport Planner – RGP

Signed:



Date: 23/02/2018

.....

Travel Plan Co-ordinator

Name:

.....

Signed:

.....

Date:

.....

PLANS

Destination	Local Summary	Typical Journey Time	Typical Frequency
Littlehampton	Barnham – Ford – Littlehampton	11 mins	Every 30 mins
London Victoria	Barnham – Hoxham – VIC	1 hour 37 mins	Every 20 mins
Southampton Central	Barnham – Havant – SCC	1 hour 1 min	Every 30 mins
Brighton	Barnham – Worthing – Brighton	46 mins	Every 30 mins
Portsmouth Harbour	Barnham – Chichester – PMH	36 mins	Every 15 mins
Locales	Local Summary	Typical Frequency	Operating Hours
66A	Bongar – Warberton	Twice a Day	11:15 – 15:40
66C	Bongar – Warberton	Once every 4 Hours	8:15 – 17:35
85	Arundel – Chichester	Once every 2 hours	07:01 – 16:33
85A	Arundel – Chichester	Once every 2 hours	07:01 – 16:33
665	Littlehampton – Chichester	Twice a day	07:21 – 16:01
228	Westergate – Tangmere	Once a day	15:50 – 16:40
458	Chichester – Westergate	Twice a day	07:30 – 15:22

RAILTIMETABLE (Barnham Station)			
DESTINATION	MAJOR CALLING POINTS	DURATION	FREQUENCY
Bognor Regis	Barnham – Bognor Regis	6 – 8 min	4 every hour
Littlehampton	Barnham – Ford – Littlehampton	9 – 11 min	2 every hour
Portsmouth	Barnham – Chichester – Havant – Portsmouth	31 – 44 min	3 every hour
Brighton	Barnham – Worthing – Shoreham-by-sea – Hove – Brighton	40 – 46 min	2 every hour
Southampton	Barnham – Chichester – Havant – Fareham – Southampton	1hr 5min – 1hr 7min	2 every hour
London Victoria	Barnham – Horsham – Crawley – Gatwick Airport – Clapham Junction – London Victoria	1hr 22min – 1hr 37min	4 every hour

BUS TIMETABLE			
ROUTE	ROUTE SUMMARY	TYPICAL FREQUENCY	HOURS OF OPERATION
66A	Bognor Regis – Yapton – Bognor Regis	Mon-Sat: every 3-4 hours	Mon-Fri: 07:23-17:52 Sat: 07:27-18:13
66C	Bognor Regis – Yapton – Bognor Regis	Mon-Sat: every 4 hours	Mon-Sat: 08:27-16:47

LEGEND



SITE LOCATION



RAIL STATION



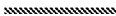
RAILWAY



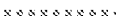
LOCAL BUS STOPS



2KM WALKING ISOCHRONE



LOCAL CYCLEWAY



LOCAL FOOTPATHS



LOCAL AMENITIES



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www.rgp.co.uk

Client: Michael Bish
Project: Wings Nursery, Lidsey Road

Title: Site Location & Accessibility Plan

Plan No: Plan 01	Job No: 3711	Date: June 17	Scale: NTS
Drawn By: EJD	Checked By: ALB	Approved By: PMR	Rev: -

LEGEND



SITE LOCATION



UNSURFACED CYCLEWAY



SURFACED CYCLEWAY



UNSURFACED ROAD



SURFACED ROAD



LOCAL CYCLE ROUTE

Note: as per WSCC cycle journey planner



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Client:

Michael Bish

Project:

Wings Nursery, Lidsey Road

Title:

Cycling Route Map

Plan No:
Plan 01

Job No:
3711

Date:
June 2017

NTS

Drawn By:
SMO

Checked By:
ALB

Approved By:
PMR

Rev: -

APPENDIX A

Willows

SCALE
5 METRE 25 METRE 50 METRE

LIDSEY ROAD

Wings

Landscape Wildlife Area

Stockhearn
House

Stockhearn

The
Cott

Chippings Cottage

Aston

A 29