

Pell Frischmann

Land West of Ratby

Transport Assessment Addendum
109003

Pell Frischmann

Project	Land West of Ratby
Document Title or Subject	Transport Assessment Addendum
Document Reference	109003-PEF-ZZ-XX-RP-TP-000006
Revision Reference	S2_P1
Date	06/09/2024

1 Introduction

1.1.1 Pell Frischmann (PF) has been instructed by Lagan Homes (the Client) to provide highways and transport advice and prepare a Transport Assessment (TA) report to support an outline planning application (with all matters reserved apart from access) for a phased, mixed-use development comprising about 470 dwellings (Use Class C3) or, in the alternative, up to about 450 dwellings and care home (Use Class C2). Provision of land for community hub (Use Class F2); provision of land for 1FE primary school (Use Class F1); and associated operations and infrastructure including but not limited to site re-profiling works, sustainable urban drainage system, public open space, landscaping, habitat creation, internal roads/routes, and upgrades to the public highway.

1.1.2 This addendum report has been produced to detail the traffic impact as a result of the proposed development.

2 Personal Injury Collisions

2.1.1 Personal Injury Collision Data (PIC) has been reviewed for the most recent 5-year period plus COVID period (just over 7 years in total) within the immediate vicinity of the modelled junctions (2017-2024), which includes the first four and a half months of 2024.

2.1.2 In summary, a total of 28 PICs were recorded across the study area. The study area is shown in **Figure 1**.

Figure 1. Collision Study Area



2.1.3 The study area is not uniform as it is made up of 30mph residential roads (Main Street), 40mph (Sacheverell Way), and 60mph (Desford Lane and Markfield Road) connector roads and de-restricted A-roads (A46 and A50), including the A46/A50 roundabout (The Brantings Roundabout), which acts as a link between the residential roads and the A roads. There are also several types of junctions, including several priority junctions and roundabouts that vary in size. The focus is on the most severe collisions within the study area and their proximity to the selected junctions. It should be noted that highway safety is a matter of ongoing duty and focus on the most severe collisions within the study area and their proximity to the selected junctions and reviewed by all local highway authorities. It is not anticipated that the proposed development would have any specific impact with regard to highway safety.

2.1.4 Across the study area, there were 28 collisions, in which 3 were classed as serious and the remaining 25 were all considered slight collisions. **Table 1** provides a summary of these collisions.

Table 1. Collision Summary

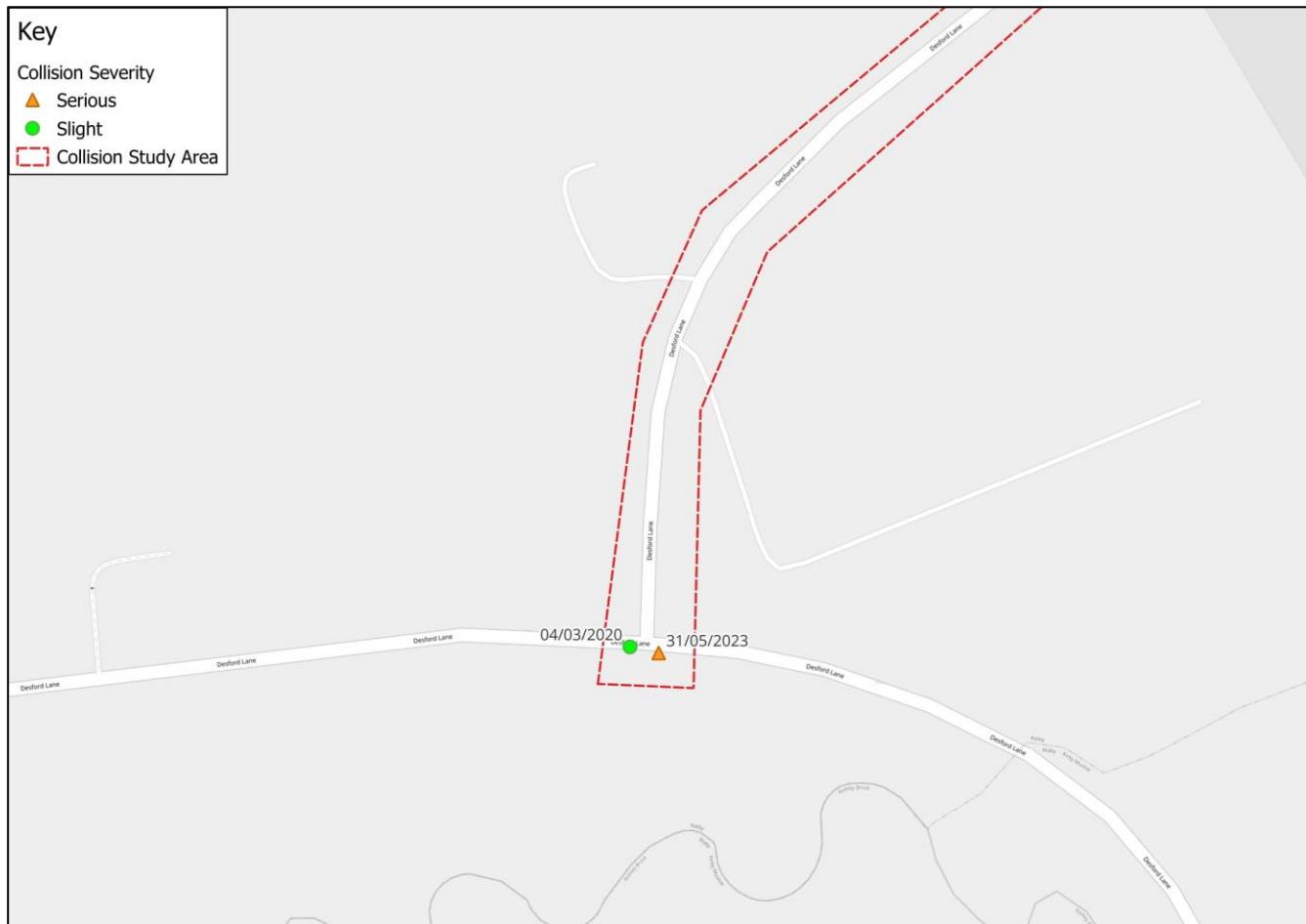
Collision Severity	Year								
	2017	2018	2019	2020	2021	2022	2023	2024	Total
Serious	1	0	0	0	0	1	1	0	3
Slight	3	4	4	5	4	2	2	1	25
Total	4	4	4	5	4	3	3	1	28

2.1.5 There were 8 collisions involving vulnerable road users, which were recorded across the study area during the assessment period. Six of the collisions involved pedestrians, and two involved cyclists. The following sections provide further details on the serious collisions and those identified as being within clusters.

Desford Lane Junction

2.1.6 Desford Lane junction has two recorded collisions. One collision was recorded as serious in severity, and the other was slight in severity. **Figure 2** shows the location of these collisions.

Figure 2. Collisions at Desford Lane Junction



2.1.7 The serious collision took place in 2023 between three vehicles when a car was leaving the northern Desford Lane arm when it collided with another car and a goods vehicle (7.5 tonnes or over), which were both travelling past the junction in opposite directions. The weather was fine with no high winds, and the road conditions were dry. One of the drivers was left with serious injuries.

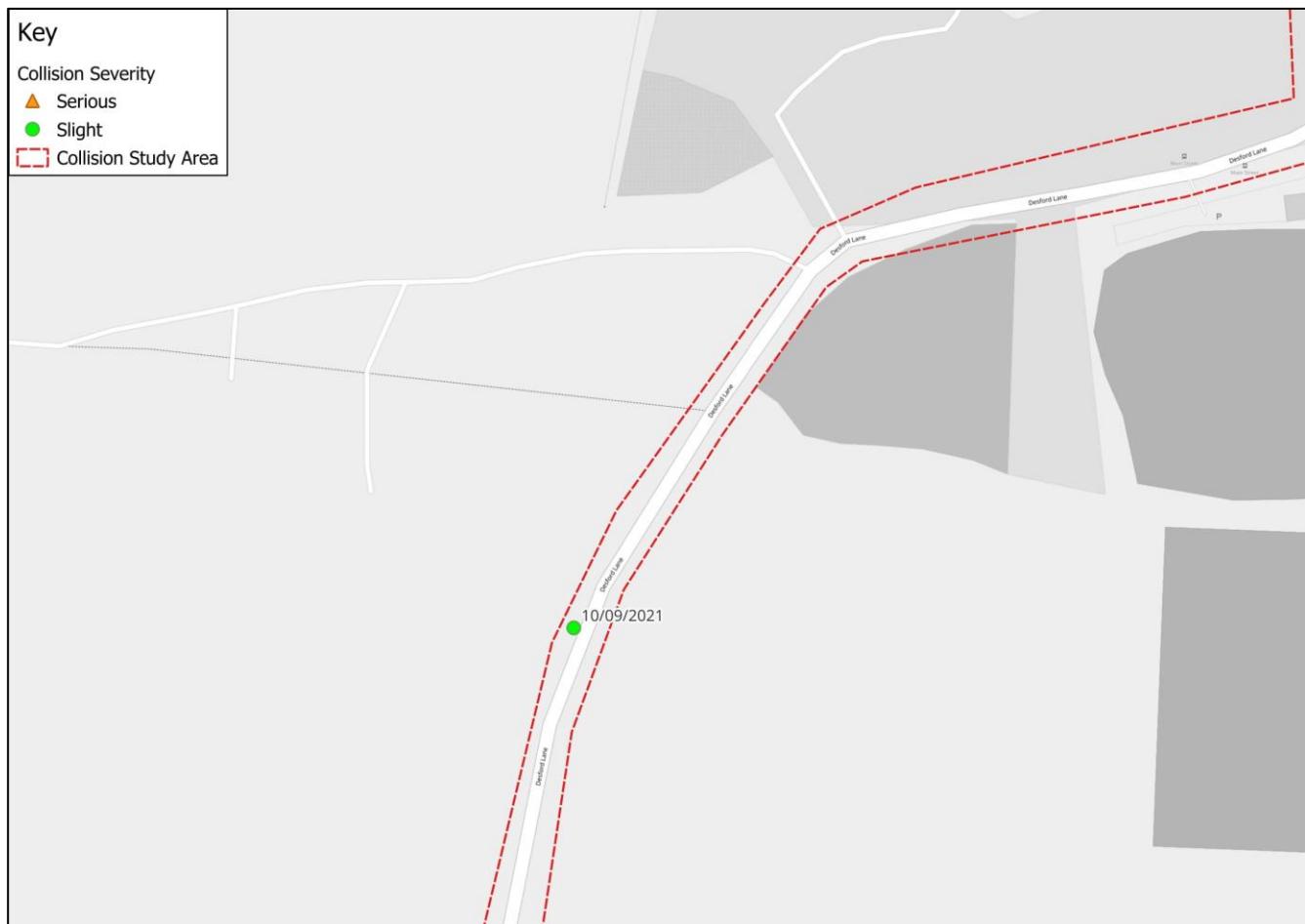
2.1.8 The slight collision occurred in 2020 when a car was attempting to turn right off the northern arm of Desford Lane but collided with another car who was manoeuvring left through the junction. This collision took place in daylight, the road was wet/damp. This left one of the drivers with slight injuries.

2.1.9 There is no indication that there are common factors linking the collision that are due to the road or junction geometry.

Desford Lane

2.1.10 One slight collision happened on Desford Lane towards the centre of Ratby. **Figure 3** shows the location of this collision.

Figure 3. Collisions on Desford Lane



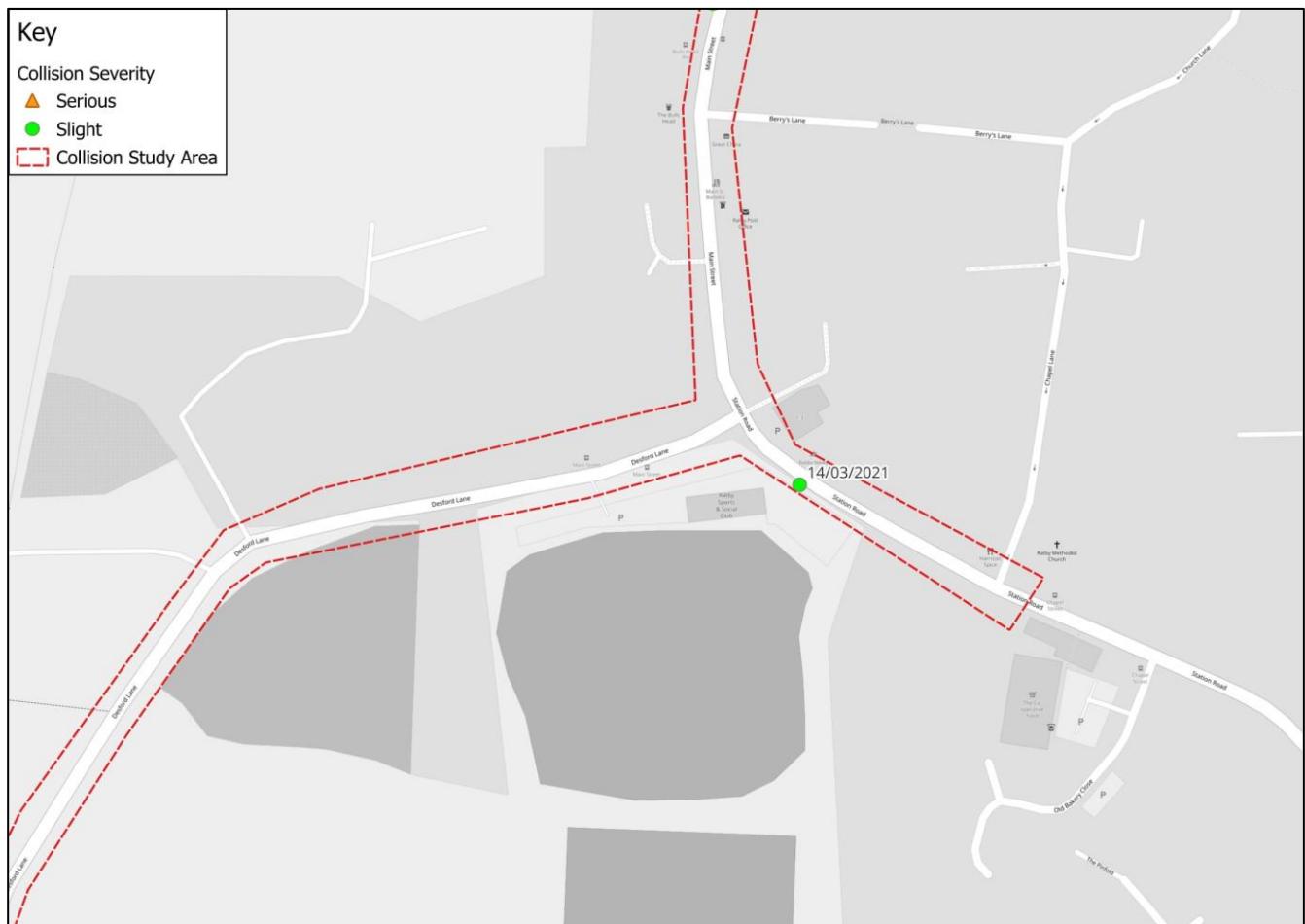
2.1.11 The slight collision took place when two cars were travelling in opposite directions along Desford Lane collided. The weather condition was noted as raining and the road surface was wet/damp. This collision resulted in both drivers of both vehicles sustaining slight injuries.

2.1.12 No further collisions were recorded or have been identified, and there is subsequently no indication that the collision occurred due to a fundamental failure in the road geometry.

Station Road/Desford Lane Junction

2.1.13 One collision occurred in the vicinity of the Station Road/Desford Lane junction. The collision was classed as slight and **Figure 4** shows the location of the collision.

Figure 4. Collisions at Station Road/Desford Lane Junction



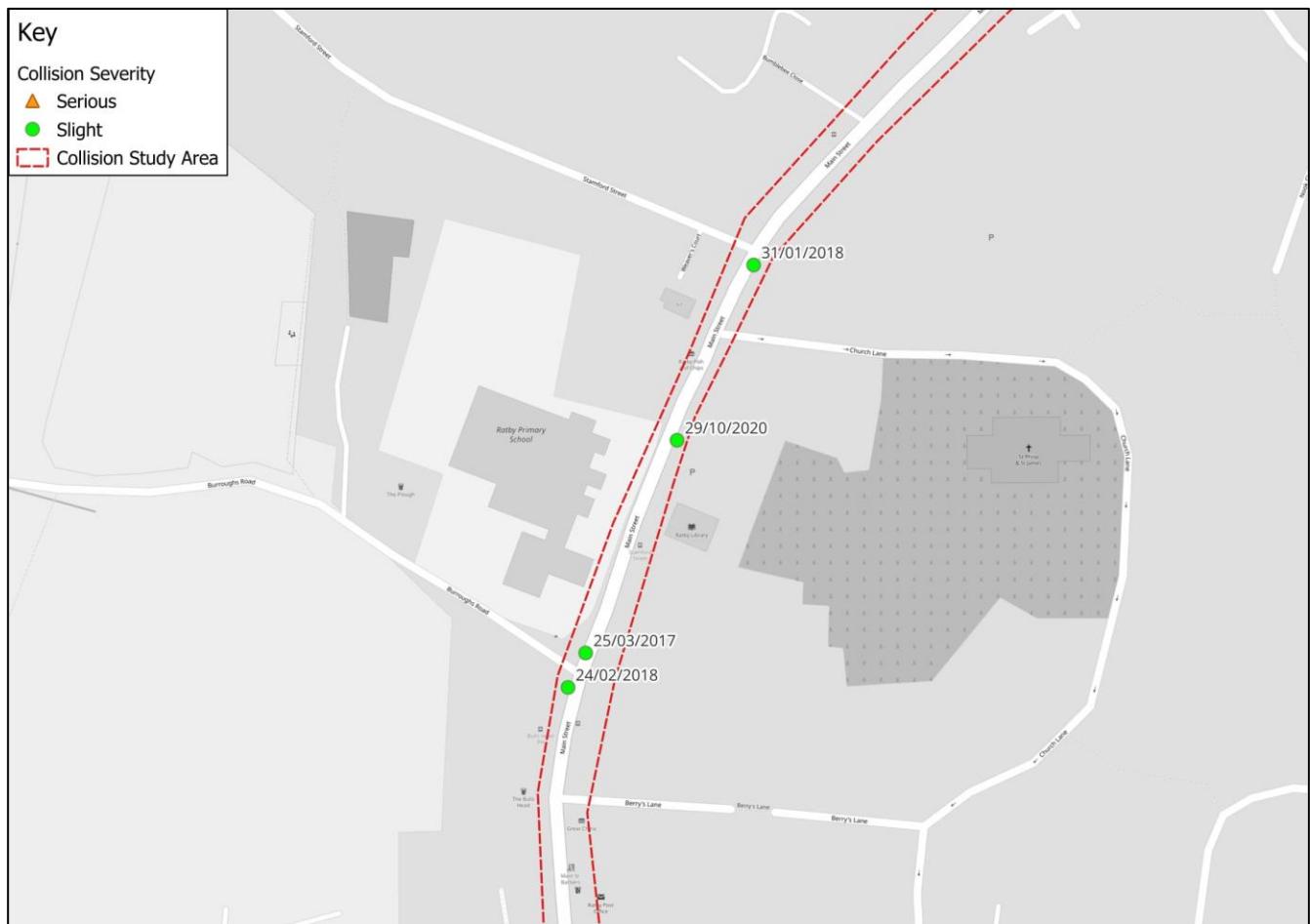
2.1.14 A slight collision occurred between two cars to the south of the junction, the collision occurred as one car was overtaking a stationary vehicle, with the other car involved in the collision travelling ahead from northwest to southeast. The road conditions were noted as being wet/damp as it was raining at the time of the collision. This left a driver and passenger with slight injuries.

2.1.15 No further collisions were recorded or have been identified, and subsequently, there is no indication that the collision occurred due to a fundamental failure in the road or junction geometry.

Main Street

2.1.16 Main Street has four recorded collisions along the road in which all four are slight collisions. **Figure 5** shows the location of these four collisions.

Figure 5. Collisions on Main Street



2.1.17 The first collision to take place on Main Street happened in 2017 when a motorcycle (over 500 cc) was travelling south when it collided with a car who was turning left onto Main Street after it had exited the junction via Burroughs Road, leaving the driver/rider of one of the vehicles with slight injuries.

2.1.18 The first of two collisions to occur in 2018 on Main Street took place when three cars collided in the middle of the Main Street/Stamford Street junction. The collision occurred in the day when the road was covered by snow, which led to two of the three drivers sustaining slight injuries.

2.1.19 The other collision that happened in 2018 was when a car was turning right onto Burroughs Road when it collided with a cyclist. The weather was fine and dry with no high winds. The cyclist was left with slight injuries.

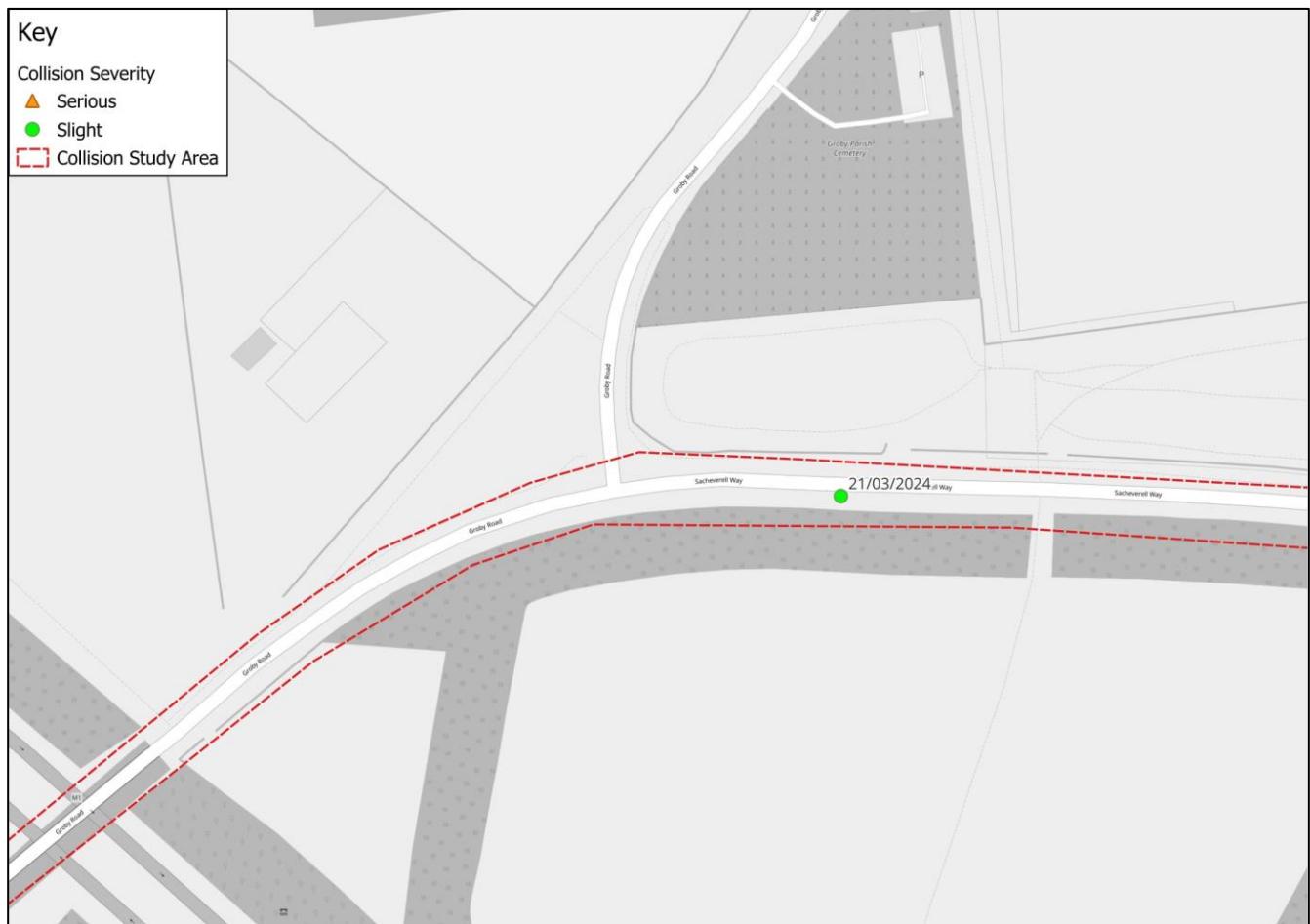
2.1.20 The final collision on Main Street occurred in 2020 when a van or goods vehicle (under 3.5 tonnes) skidded whilst travelling north on Main Street and hit a pedestrian at a zebra crossing. The pedestrian was crossing from the drivers nearside but was masked by a stationary vehicle. The collision took place in the rain, leaving the road surface wet or damp. The pedestrian received slight injuries.

2.1.21 No clusters of three or more collisions have been identified, and there is no indication that the collisions occurred due to a fundamental failure in the road or junction geometry.

Groby Road/Sacheverell Way Junction

2.1.22 One collision occurred within the vicinity of the Groby Road/Sacheverell Way junction. This collision was classed as a slight collision and its location is shown in **Figure 6**.

Figure 6. Collisions at Groby Road/Sacheverell Way Junction



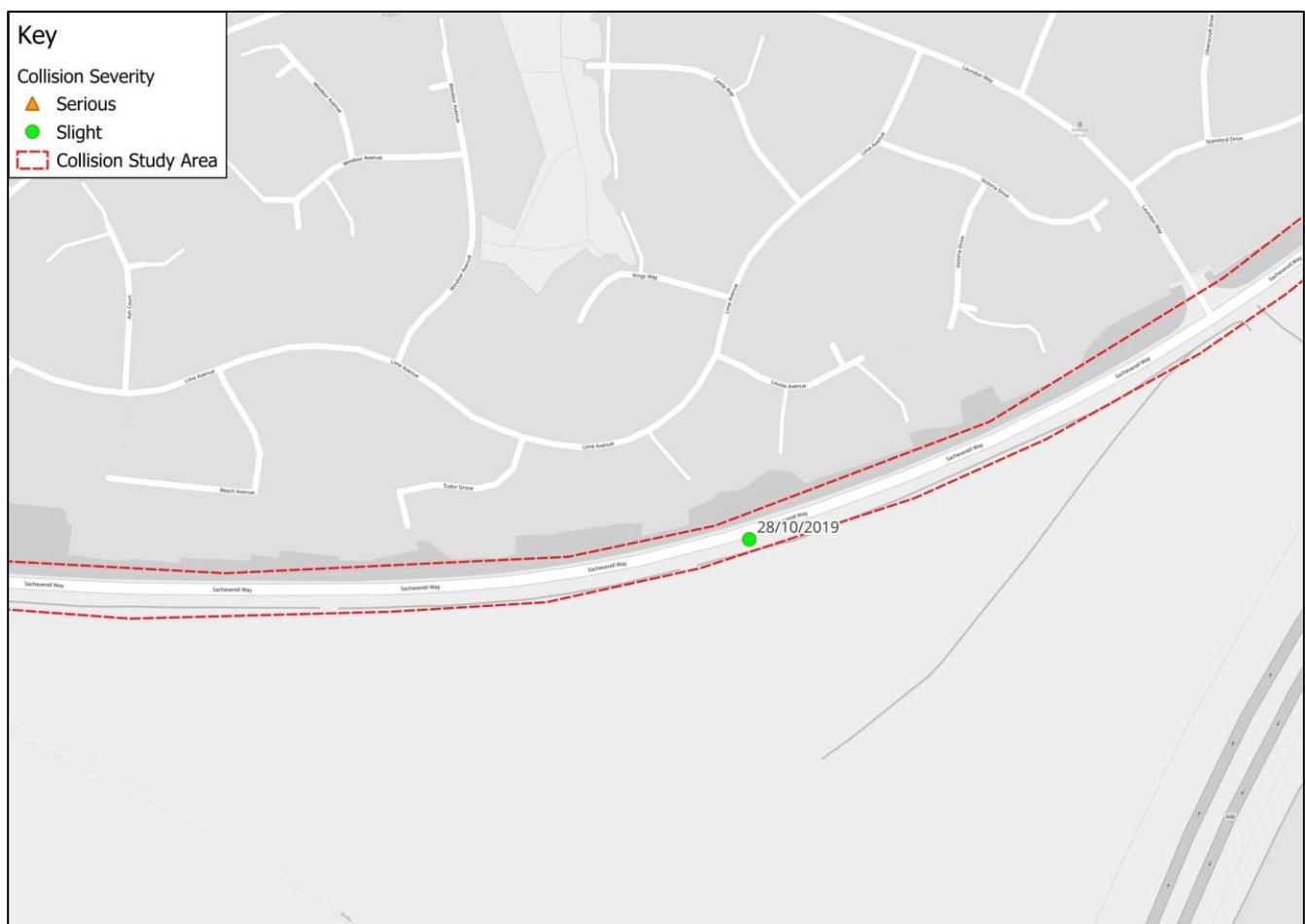
2.1.23 The collision occurred in 2024 and was recorded as slight. The collision involved one car that was travelling west in the dark but street lit. The driver was left with slight injuries.

2.1.24 No further collisions were recorded or have been identified, and there is no indication that the collision occurred due to a fundamental failure in the road or junction geometry.

Sacheverell Way

2.1.25 There was one slight collision identified on Sacheverell Way. **Figure 7** shows the location of this collision.

Figure 7. Collisions on Sacheverell Way



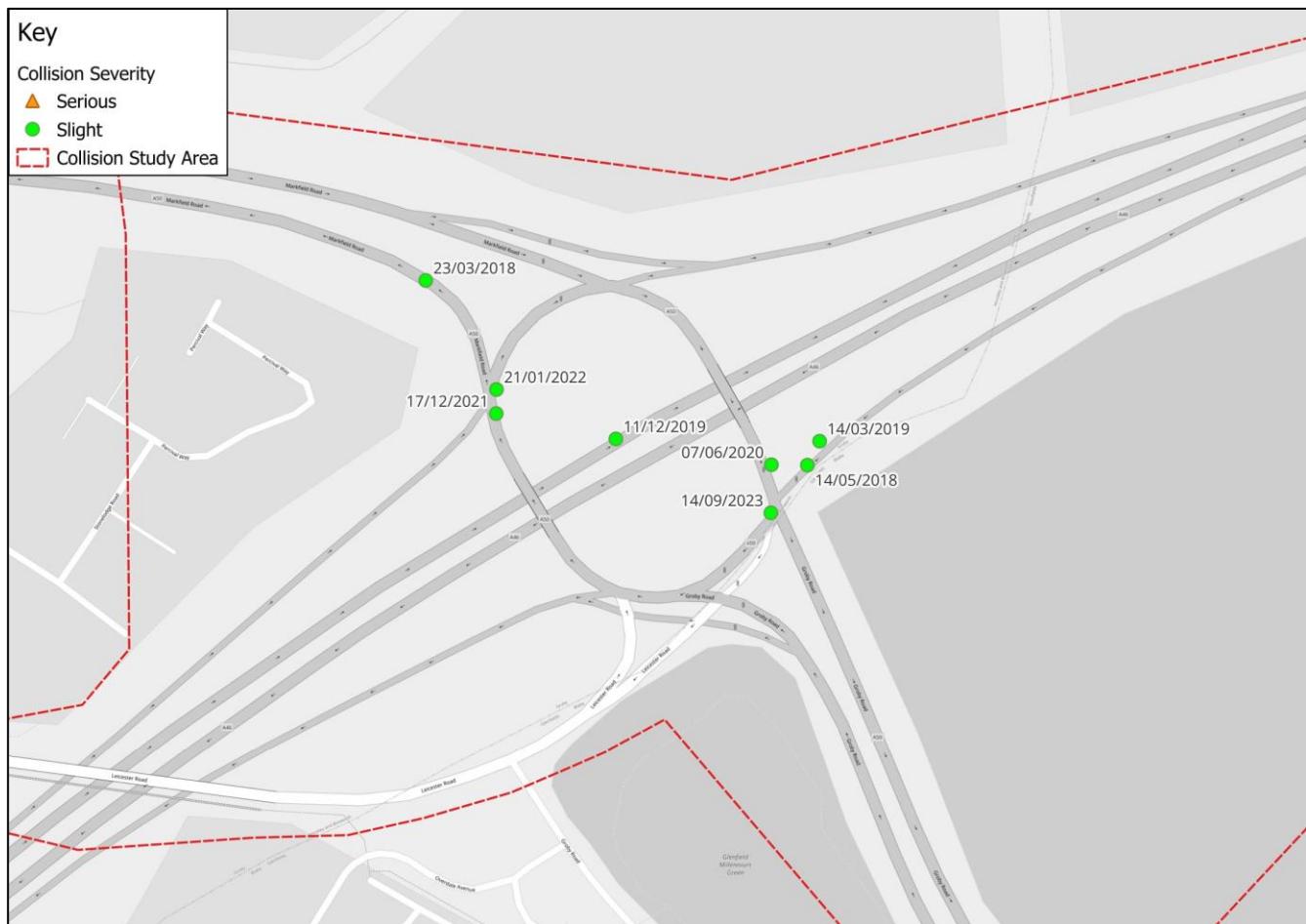
2.1.26 The slight collision took place in 2019 between three cars due to a rear end shunt in congestion. At the time of the collision, the weather was fine with no high winds, but the road was frosty/icy. One of the drivers of the three cars sustained slight injuries.

2.1.27 No further collisions were recorded or have been identified, and there is no indication that the collisions occurred due to the road geometry.

Brantings Roundabout

2.1.28 There are eight recorded collisions that have occurred within the vicinity of the Brantings Roundabout, with one of these collisions occurring on the A46 through flow below. **Figure 8** shows the location of these collisions.

Figure 8. Collisions on Brantings Roundabout



2.1.29 The first collision to take place at this roundabout was in 2018 when a car leaving the roundabout to the northwest onto the A50 skidded and hit the offside of a goods vehicle (7.5 tonnes and over) who was also leaving the roundabout at the same exit. The weather at the time of the collision was clear and dry with no high winds. This left the driver of the car with slight injuries.

2.1.30 On the off-slip road from the A46 eastbound, there were two recorded collisions. Both collisions occurred as vehicles were entering the roundabout. The first collision occurred when a light goods vehicle hit the nearside of a car that was already in the middle of the roundabout, leaving the driver and three passengers with slight injuries. The other collision was between two goods vehicles when the vehicle leaving the roundabout skidded into the vehicle that was entering the roundabout. This left the driver of the vehicle leaving the roundabout with slight injuries.

2.1.31 Two collisions occurred on the A46 westbound off-slip road approaching the roundabout. The collisions took place at an automated traffic signal. Both collisions involved two cars, which left two drivers and a car passenger all with slight injuries.

2.1.32 A further collision occurred on the roundabout at automated traffic signals in the middle of the junction when a car was moving off from the junction and collided with another car who was entering the roundabout. This left the driver and two passengers of the car already in the middle of the junction with slight injuries. The weather was fine and dry.

2.1.33 One collision occurred adjacent to the A50 eastbound arm. This collision occurred in 2023 between two cars when a car had just entered the roundabout from the A46 westbound off-slip road and collided with another car who was already on the roundabout as it was passing the A46 westbound off-slip road arm. The weather was fine and dry, but it did occur during darkness, but the street lighting was unknown. One of the drivers and a passenger received slight injuries.

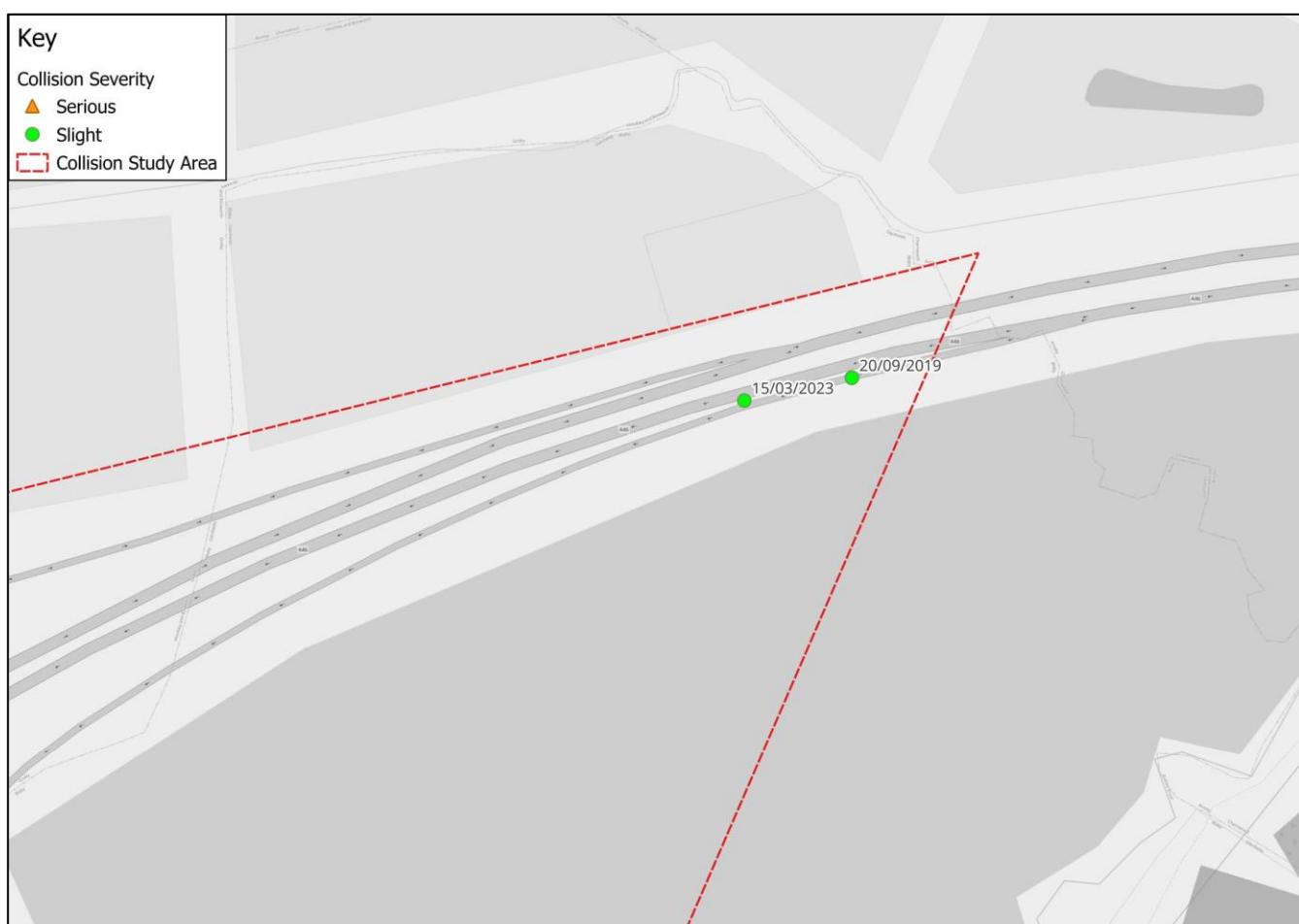
2.1.34 The final collision took place in 2019 on the A46 eastbound in wet/damp road conditions when it was dark, but street lit when a car collided with the rear of two cars that were held up in traffic waiting to go. This left the driver and two passengers of the car who hit the rear of the other two cars as well as the driver of one of the stationary vehicles with slight injuries.

2.1.35 There are no clusters of collisions where there is a common causality between the collisions to suggest a fundamental failure in the road or junction, which would be exacerbated by the development proposals.

A46 Westbound Off-Slip Road

2.1.36 Two collisions were recorded on the A46 adjacent to the westbound off-slip road approach. Both of these collisions were slight and **Figure 9** shows the location of them.

Figure 9. Collisions on A46 Westbound Off-Slip Road Approach



2.1.37 The first of the two collisions occurred in 2019 when a car was slowing down to eventually come to a halt when another car did not slow down quickly enough resulting in a rear end shunt. The weather was fine and clear, and the road was dry. A vehicle passenger sustained slight injuries.

2.1.38 The other collision took place in 2023 between two cars when one car was attempting to change into the next right lane but collided with another car in doing so. At the time of the collision, it was raining, and it was also dark with no street lighting. One of the drivers received slight injuries.

2.1.39 No further collisions were recorded or have been identified. Subsequently no clusters of three or more collisions have been identified within the study period and there is no indication that the collisions occurred due to a fundamental failure in the road geometry.

Markfield Road

2.1.40 Two collisions occurred on Markfield Road, one of them was recorded as serious whilst the other was slight. **Figure 10** shows the location of these two collisions.

Figure 10. Collisions on Markfield Road



2.1.41 The serious collision took place in 2022 when a van/goods vehicle (3.5 tonnes and under) who was travelling north had a collision in the rain with wet/damp road conditions. This left the driver with serious injuries.

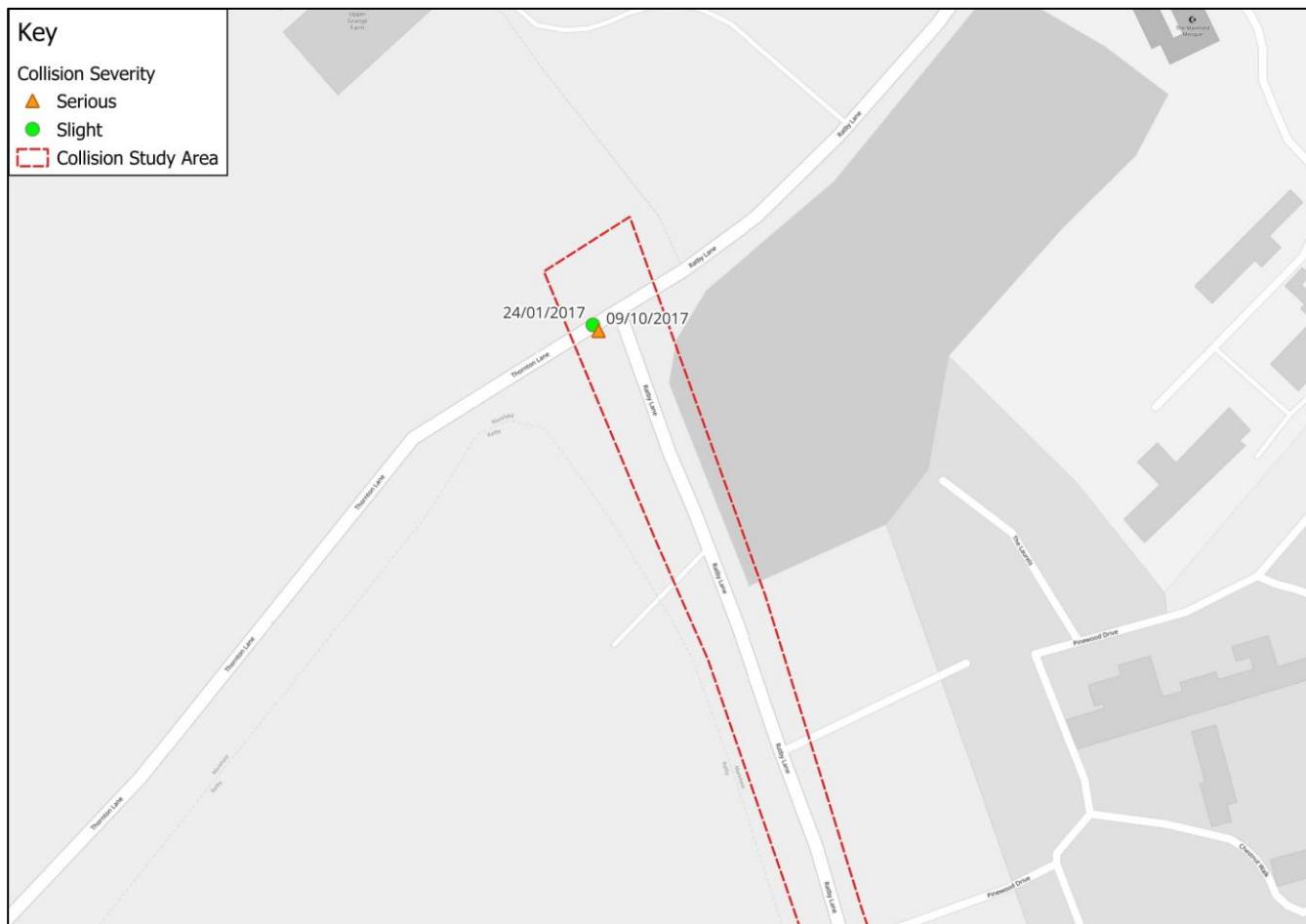
2.1.42 The slight collision occurred approximately 80m south of the above incident and occurred in 2020, involving one car travelling north around a right-hand bend on a wet/damp road. The driver sustained slight injuries.

2.1.43 No further collisions were recorded or have been identified. Given no clusters of three or more collisions have been identified and the collisions are spread along the link, there is no indication that the collisions occurred due to a fundamental failure in the road geometry.

Thornton Lane/Ratby Lane Junction

2.1.44 There are two recorded collisions at the Thornton Lane/Ratby Lane junction, one was a serious collision, and the other was a slight collision. The location of the collisions is shown in **Figure 11**.

Figure 11. Collisions at Thornton Lane/Ratby Lane Junction



2.1.45 The serious collision took place in 2017 between two cars when one car was leaving Ratby Lane to enter the junction but collided with a car who was travelling west on Thornton Lane past the junction. At the time of the collision, the weather was raining so the road was wet/damp. This left one driver with serious injuries while the other driver sustained slight injuries.

2.1.46 The slight collision also occurred in 2017 between a car and a bicycle. The collision happened when the car was attempting to turn right from Ratby Lane onto Thornton Lane when it collided with a bicycle who was travelling east on Thornton Lane. The road was frosty/icy at the time of the collision, and it was dark with no street lighting. The rider of the bicycle received slight injuries.

2.1.47 No further collisions were recorded or have been identified. Given no clusters of three or more collisions have been identified, there is no indication that the collisions occurred due to a fundamental failure in the road geometry.

PIC Summary

2.1.48 A review of the recorded traffic collisions that resulted in personal injury has been undertaken for the most recent 5-year period plus COVID period (just over 7 years in total) within the immediate vicinity of the modelled junctions (2017-2024), which includes the first four and a half months of 2024. The study area consists of a mixture of residential roads, connecting roads, and de-restricted A-roads, as well as several types of junctions.

2.1.49 There were 28 recorded collisions in total, of which 3 were classified as serious collisions and 25 were slight collisions. The analysis of the record does not show any clear common trends; hence, the existing highway layout is not considered to form any safety concerns likely to be exacerbated as a result of the development proposals.

3 Trip Distribution

4 Assessment Parameters

4.1 Introduction

4.1.1 This section of the TAA describes the key assessment parameters and evidence-based assumption used in this TAA. These feed into the formation of the traffic flow diagrams and thus the traffic impact assessment.

4.2 PRTM Assessment

4.2.1 Traffic impacts were assessed using information obtained from PRTM (Pan-Regional Transport Model) owned and operated by Leicestershire.

4.2.2 The PRTM is a strategic model. Its outputs need to be converted to a format that can be applied to understanding the traffic impacts at a local level. PRTM's output link flows are deemed accurate, but its output turning movements are not. It is therefore necessary to derive forecast turning movements. LCC's modelling team recommend "that the absolute difference in PRTM link flows be used to grow the observed turning count's link totals to create link targets for the doubly constrained Furness process, with the observed turning count's 'turns' forming the prior matrix. Usually, HDM expects to see a relative absolute difference used as the convergence criteria, with a bound of 2% usually being acceptable." That process has been followed, and forecast flows have been produced for the study area junctions.

4.2.3 Details of the PRTM approach and methodologies, including the assessment scenarios, were agreed upon with LCC. The PRTM report subsequently displays the study area based on the PRTM outputs and proposed junctions to be assessed in further detail. A summary of the PRTM report is presented within [Appendix A](#).

4.3 Base Traffic Surveys

4.3.1 Base classified junction turning count surveys and queue length surveys were undertaken at the off-site junctions on Tuesday 2nd July 2024. The surveys were undertaken between 07:00 – 10:00 and 16:00 – 19:00. The survey data is presented within [Appendix B](#).

4.4 Assessment Scenarios

4.4.1 The following assessment scenarios have been developed from the PRTM assessment:

- 2024 Base
- 2028 Furnessed Future
- 2028 + Development (250 Dwellings, 50 from the North and 200 from the south)
- 2031 Furnessed Future
- 2031+ Development (Full Development with Spine Road)

4.5 Traffic Flow Diagrams

4.5.1 The above key assumptions and assessment parameters have been applied to the traffic survey flows to predict the base and future year traffic flows. The traffic flow diagrams have been used to inform the junction modelling assessments presented in the following section of this report and can be viewed in [Appendix C](#).

5 Potential Highway Impact

5.1 Introduction

5.1.1 This section of the highway report examines the impact of the proposed site on the surrounding highway network in terms of junction operation.

5.1.2 The following junctions have been assessed within this section.

- Junction 1 – Desford Lane – Priority Junction
- Junction 2 - Station Road/ Desford Lane – Priority Junction
- Junction 3 – Main Street/ Markfield Road – Mini-roundabout
- Junction 4 – Groby Road/ Sacheverell Way – Priority Junction
- Junction 5 – Leicester Road/ Sacheverell Way – Roundabout
- Junction 6 – A46/ Groby Road/ Markfield Road – Signalised Roundabout
- Junction 7 – Thornton Road/ Ratby Lane – Priority Junction
- Junction 8 – Desford Lane/ Site Access – Priority Junction
- Junction 9 – Markfield Road/ Site Access – Priority Junction

5.1.3 **Figure 12** displays the location of the assessment junctions.

Figure 12. Assessed Junctions



5.2 Modelling Software and Interpretation

5.2.1 The traffic impact of the proposals has been assessed using TRL industry-standard modelling software JUNCTIONS 9 (PICADY) for priority junctions.

5.2.2 PICADY models return results in Ratio to Flow Capacity (RFC) and queueing in each 15-minute time segment, measured in the number of passenger car units (PCUs).

5.2.3 RFC values between 0.00 and 0.85 indicate satisfactory operating conditions, values of between 0.85 and 1.00 represent variable operation (i.e., queues building at the junction resulting in increased vehicle delay moving through the junction). RFC values in excess of 1.00 represent overloaded conditions.

5.2.4 The traffic impact of the proposals has been assessed using JCT industry-standard modelling software LinSig for signal-controlled junctions.

5.2.5 The results from LinSig models are expressed in Practical Reserve Capacity (PRC), which is calculated based on a maximum Degree of Saturation (DoS) on each signalised approach and is a measure of how much additional traffic could pass through a junction whilst maintaining a maximum DoS of 90% on all links/streams. Therefore, if the worst link's DoS is 90%, the PRC then would be 0%. Negative numbers indicate that the junction would experience longer delays and overloading.

5.2.6 The DoS is a function of Demand vs Capacity and the results are interpreted using the following bands:

- 0%-90% - The junction operates within capacity; traffic clears the junction every cycle of the signals.
- 90%-100% - Traffic will experience some delay; it is unlikely as to whether every queued vehicle at the start of the green phase will clear the junction within the same cycle, an arm experiencing a DoS above 90% is considered to be failing.
- 100%+ - The arm is significantly over capacity; queues may exponentially increase as traffic struggles to clear the junction.

5.2.7 LinSig also illustrates the queuing results as Mean Maximum Queuing (MMQ), which is the estimated mean number of vehicles (or PCUs) that have added onto the back of the queue up to the time when the queue finally clears at the junction stop line.

5.3 Junction 1 – Desford Lane/ Desford Lane

5.3.1 A model of the Desford Lane/ Desford Lane priority junction was created using Junctions 9 PICADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix D**.

Table 2. Desford Lane/ Desford Lane Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2024 Base						
Desford Lane (North) – LT	0	11	0.18	0	8	0.13
Desford Lane (North) – RT	2	25	0.63	1	16	0.52
Desford Lane (East) – RT	0	6	0.19	0	5	0.15
2028 Furnessed Future						
Desford Lane (North) – LT	1	45	0.58	0	10	0.19
Desford Lane (North) – RT	6	73	0.89	2	24	0.62
Desford Lane (East) – RT	1	7	0.31	1	6	0.28
2028 Furnessed Future + Development						
Desford Lane (North) – LT	1	43	0.58	0	9	0.17
Desford Lane (North) – RT	6	72	0.89	1	21	0.56
Desford Lane (East) – RT	1	7	0.31	1	6	0.30
2031 Furnessed Future						

Desford Lane (North) – LT	12	351	1.17	1	16	0.32
Desford Lane (North) – RT	32	290	1.16	3	42	0.77
Desford Lane (East) – RT	1	9	0.42	1	7	0.36
2031 Furnessed Future + Development						
Desford Lane (North) – LT	17	390	1.22	1	14	0.35
Desford Lane (North) – RT	37	348	1.21	2	37	0.71
Desford Lane (East) – RT	2	11	0.53	2	7	0.45

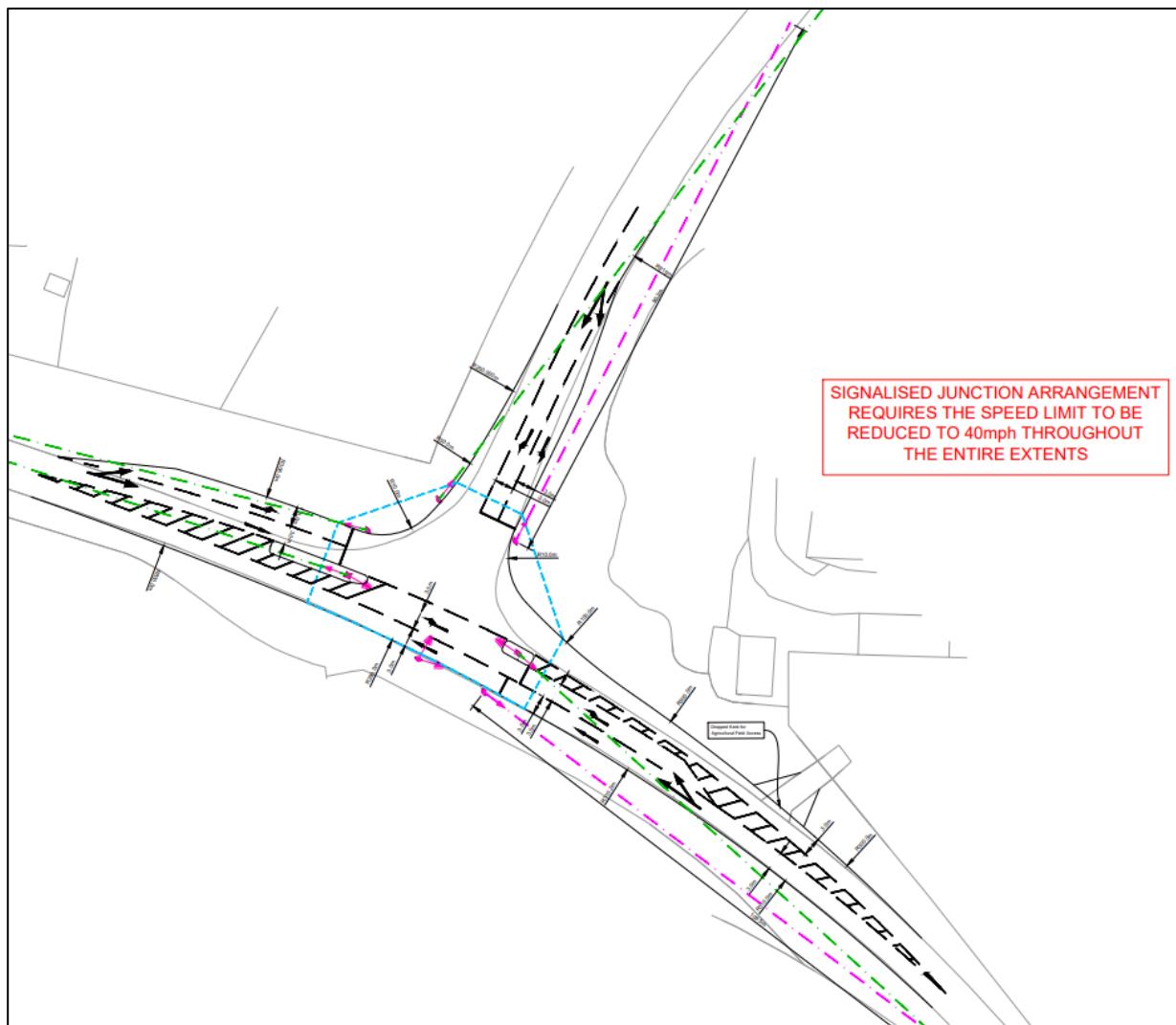
5.3.2 The results show that the junction operates within capacity in all scenarios except for the two 2031 scenarios. The additional movements as part of the development proposals only result in a minor increase in RFC. Essentially, the additional vehicles from the proposed development are being added to the back of the queue as the junction is already operating over capacity in the AM peak. However, the modelling shows that in the 2028 assessment, there is essentially no impact with/without development.

5.3.3 Given the junction is forecast to operate over capacity due to background anticipated growth in the 2031 base scenario, the highway authority will need to undertake improvements at this junction in order to mitigate the impact of the anticipated local growth. A potential mitigation scheme has been produced which demonstrates that local growth and the associated development impacts can be mitigated. The development proposals will need to appropriately financially contribute towards the delivery of an improvement scheme, likely based on the number of additional development trips through the junction compared to the increased background traffic.

Mitigation

5.3.4 The mitigation scheme identified involved the upgrading of the existing priority junction to a signalised arrangement. The scheme is shown in **Figure 14** with Drawing **109003-PEF-ZZ-XX-DR-TR-00010_S2-P01** showing the full extents of the scheme.

Figure 13. Identified Mitigation Scheme - Desford Lane/ Desford Lane



5.3.5 The scheme required the speed limit through the junction to be reduced to 40mph throughout the entire extents. A model of the Desford Lane/ Desford Lane signalisation mitigation was created using LinSig software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix E**.

Table 3. Desford Lane/ Desford Lane – Mitigation Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	Degree of Saturation	Queue (PCU)	Delay (s)	Degree of Saturation
2028 Furnessed Future + Development						
Desford Lane (West)	16	25	79.3%	8	15	62.5%
Desford Lane (North)	9	45	76.7%	5	43	62.0%
Desford Lane (East)	5	18	55.2%	6	13	49.9%
PRC (%)	13.4%			43.9%		
2031 Furnessed Future + Development						
Desford Lane (West)	22	34	89.3%	11	18	71.1%
Desford Lane (North)	13	55	87.4%	6	44	70.1%
Desford Lane (East)	8	37	86.9%	7	18	68.7%
PRC (%)	0.8%			26.6%		

5.3.6 The results of the mitigation modelling show that the junction would operate within capacity in all future year assessment scenarios. The junction would offer an overall net benefit over the anticipated future junction operation and accommodate all future planned local growth in the area including the development proposals.

5.4 Junction 2 – Station Road/ Desford Lane

5.4.1 A model of the Station Road/ Desford Lane – Priority Junction was created using Junctions 9 PICADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix F**.

Table 4. Station Road/ Desford Lane/ Main Street Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2024 Base						
Desford Lane – LT	1	9	0.40	1	11	0.49
Desford Lane – RT	0	10	0.08	0	12	0.16
Main Street - RT	1	14	0.56	1	12	0.51
2028 Furnessed Future						
Desford Lane – LT	1	11	0.50	2	16	0.67
Desford Lane – RT	0	13	0.09	0	16	0.22
Main Street - RT	3	25	0.76	1	14	0.57
2028 Furnessed Future + Development						
Desford Lane – LT	2	14	0.62	2	19	0.71
Desford Lane – RT	0	15	0.16	0	19	0.27
Main Street - RT	4	29	0.80	2	16	0.62
2031 Furnessed Future						
Desford Lane – LT	2	15	0.64	3	21	0.74
Desford Lane – RT	0	16	0.12	0	21	0.27
Main Street - RT	7	50	0.89	2	18	0.67
2031 Furnessed Future + Development						
Desford Lane – LT	1	14	0.59	2	17	0.66
Desford Lane – RT	1	19	0.32	0	16	0.27
Main Street - RT	7	46	0.88	1	10	0.42

5.4.2 The results of the junction modelling show that the junction operates within the theoretical maximum capacity in all modelling scenarios, but beyond the 0.85 RFC threshold on the Main Street arm in the AM 2031 scenarios. Furthermore, with the development proposals in place, there is a reduction in demand at the junction in the 2031 scenario due to the inclusion of the spine road and the resulting re-distribution of traffic on the network. As such, no mitigation measures are required to facilitate the development proposals at this junction.

5.5 Junction 3 – Markfield Road/ Groby Road/ Main Street

5.5.1 A model of the Markfield Road/ Groby Road/ Main Street mini roundabout was created using Junctions 9 ARCADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix G**.

Table 5. Markfield Road/ Groby Road/ Main Street Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC

2024 Base						
Markfield Road	1	8	0.43	1	7	0.33
Groby Road	1	11	0.57	1	11	0.57
Main Street	1	8	0.46	1	10	0.56
2028 Furnessed Future						
Markfield Road	1	10	0.55	1	8	0.40
Groby Road	3	20	0.76	3	17	0.74
Main Street	2	11	0.60	3	18	0.74
2028 Furnessed Future + Development						
Markfield Road	1	12	0.58	1	8	0.43
Groby Road	3	22	0.78	3	20	0.77
Main Street	2	14	0.69	3	20	0.76
2031 Furnessed Future						
Markfield Road	2	13	0.62	1	9	0.44
Groby Road	5	31	0.85	4	26	0.83
Main Street	2	15	0.71	4	24	0.81
2031 Furnessed Future + Development						
Markfield Road	2	15	0.67	1	8	0.35
Groby Road	8	44	0.91	5	27	0.84
Main Street	2	13	0.64	4	25	0.80

5.5.2 The results of the junction modelling show that the junction operates within the theoretical maximum capacity in all modelling scenarios, with the 2031 Furnessed Future + Development representing variable operation given Groby Road has an RFC of 0.91 in the AM and 0.84 in the PM peak. Despite this, the queues on the Groby Road arm remain relatively short, with a maximum queue of 8 PCUs. It should also be noted that the development proposals also result in a reduction in demand on the Main Street arm due to the re-distribution effect of the new spine road link through the development. Therefore, no mitigation measures are considered to be required to facilitate the development proposals.

5.6 Junction 4 – Groby Road/ Sacheverell Way

5.6.1 A model of the Groby Road/ Sacheverell was created using Junctions 9 PICADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix H**.

Table 6. Groby Road/ Sacheverell Way Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2024 Base						
Groby Road (North)	1	18	0.56	1	11	0.31
Sacheverell Way – RT	1	10	0.32	0	7	0.13
2028 Furnessed Future						
Groby Road (North)	2	27	0.67	1	14	0.42
Sacheverell Way – RT	1	10	0.34	0	8	0.14
2028 Furnessed Future + Development						
Groby Road (North)	2	32	0.71	1	16	0.46
Sacheverell Way – RT	1	11	0.35	0	8	0.14

2031 Furnessed Future						
Groby Road (North)	3	38	0.76	1	16	0.45
Sacheverell Way – RT	1	11	0.36	0	8	0.15
2031 Furnessed Future + Development						
Groby Road (North)	14	139	1.01	1	20	0.53
Sacheverell Way – RT	1	12	0.38	0	8	0.15

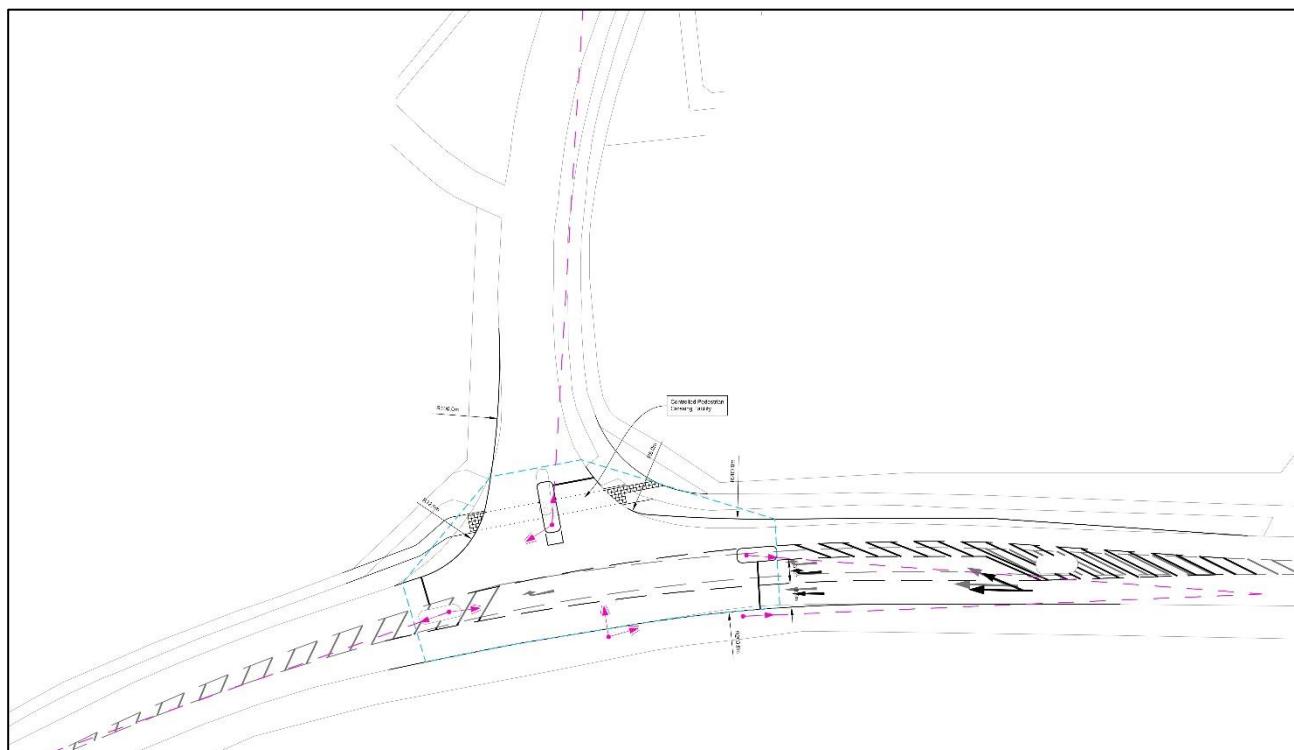
5.6.2 The modelling results show that the junction is operating within capacity in all modelling scenarios except for the 2031 Furnessed Future + Development scenario, in which the Groby Road arm of the junction has an RFC value of 1.01, so the junction is operating in overloaded conditions. As such, mitigation of this junction is proposed to facilitate the development proposals.

5.6.3 It should also be noted that the 2028 interim with development scenario shows the junction operating within capacity and as such, only the full development build out triggers the need for improvements.

Mitigation

5.6.4 The mitigation scheme identified involved the upgrading of the existing priority junction to a signalised arrangement. The scheme is shown in **Figure 14** with Drawing **109003-PEF-ZZ-XX-DR-TR-00012_S2-P01** showing the full extents of the scheme. It should be noted that the existing 7.5t vehicle restriction TRO (except for loading) will remain north on Groby Road with the scheme in place.

Figure 14. Identified Mitigation Scheme – Groby Road/ Sacheverell Way



5.6.5 The scheme incorporates a pedestrian crossing across the northern Groby Road arm of the junction. A model of the Groby Road/Sacheverell Way signalisation mitigation was created using LinSig software. **Table 7** summarises the operation of the junction. The modelling outputs are included in **Appendix I**.

Table 7. Groby Road/Sacheverell Way - Mitigation Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	Degree of Saturation	Queue (PCU)	Delay (s)	Degree of Saturation
2028 Furnessed Future + Development						
Groby Road (South)	14	23	69.6%	9	17	51.4%
Groby Road (North)	7	48	68.9%	4	46	52%
Sacheverell Way	5	11	40.7%	6	10	39.5%
PRC (%)	29.4%			73%		
2031 Furnessed Future + Development						
Groby Road (South)	19	31	83.1%	11	18	58.3%
Groby Road (North)	10	57	82.1%	5	47	55.1%
Sacheverell Way	6	12	45.8%	7	11	45.3%
PRC (%)	8.3%			54.5%		

5.6.6 The results of the mitigation modelling show that the junction would operate within capacity in all future year scenarios. The junction would offer an overall net benefit over the existing junction operation.

5.7 Junction 5 – Leicester Road/ Sacheverell Way

5.7.1 A model of the Leicester Road/ Sacheverell Way roundabout was created using Junctions 9 PICADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix J**.

Table 8. Leicester Road/Sacheverell Way Roundabout Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2024 Base						
Leicester Road (West)	0	3	0.27	0	3	0.25
Leicester Road (East)	0	2	0.16	0	2	0.12
Sacheverell Way	1	3	0.38	2	5	0.61
2028 Furnessed Future						
Leicester Road (West)	0	3	0.28	0	3	0.28
Leicester Road (East)	0	2	0.19	0	2	0.13
Sacheverell Way	1	4	0.43	2	6	0.65
2028 Furnessed Future + Development						
Leicester Road (West)	0	3	0.29	0	3	0.28
Leicester Road (East)	0	2	0.1	0	2	0.13
Sacheverell Way	1	4	0.43	2	6	0.66
2031 Furnessed Future						
Leicester Road (West)	0	3	0.29	0	3	0.28
Leicester Road (East)	0	2	0.21	0	2	0.13
Sacheverell Way	1	4	0.45	2	7	0.68
2031 Furnessed Future + Development						
Leicester Road (West)	1	3	0.31	0	3	0.29
Leicester Road (East)	0	2	0.23	0	2	0.14

Sacheverell Way	1	4	0.46	2	7	0.70
-----------------	---	---	------	---	---	------

5.7.2 The results of the junction modelling show that the roundabout operates within capacity in all modelling scenarios, with a maximum of 0.70. As such, no mitigation measures are required to facilitate the development proposals.

5.8 Junction 6 – Brantings Roundabout

5.8.1 A model of the Brantings Roundabout was created using Junctions 9 PICADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix K**.

Table 9. Brantings Roundabout Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2024 Base						
Groby Road	3	24	40.3%	7	24	59.7%
Leicester Road	3	5	45.7%	1	4	28.1%
A46 (South)	2	4	23.8%	1	4	20.0%
Markfield Road	16	15	81.8%	11	10	65.2%
A46 (North)	9	32	81.4%	7	28	65.1%
PRC	6.3%			36.9%		
2028 Furnessed Future						
Groby Road	4	23	42.8%	7	25	61.8%
Leicester Road	4	6	50.2%	1	4	29.6%
A46 (South)	2	5	27.5%	1	4	18.0%
Markfield Road	18	17	85.7%	13	11	69.7%
A46 (North)	13	43	92.0%	8	31	70.3%
PRC	-2.2%			26.8%		
2028 Furnessed Future + Development						
Groby Road	4	23	42.8%	8	25	63.2%
Leicester Road	4	6	51.7%	1	4	29.8%
A46 (South)	2	5	28.3%	1	4	17.9%
Markfield Road	17	15	83.8%	14	12	71.0%
A46 (North)	13	43	92.0%	8	31	70.1%
PRC	-2.2%			26.7%		
2031 Furnessed Future						
Groby Road	4	23	44.9%	8	27	68.0%
Leicester Road	4	6	52.4%	1	4	29.7%
A46 (South)	2	6	28.2%	1	4	17.3%
Markfield Road	18	16	85.9%	13	12	69.5%
A46 (North)	12	39	90.4%	8	30	67.9%
PRC	-1.2%			29.5%		
2031 Furnessed Future + Development						
Groby Road	4	40	44.9%	9	26	67.9%
Leicester Road	4	6	55.6%	2	4	31.8%

A46 (South)	2	6	28.8%	1	4	18.7%
Markfield Road	19	18	88.6%	14	12	71.1%
A46 (North)	13	23	90.8%	9	32	70.1%
PRC	-0.8%			26.6%		

5.8.2 The results of the junction modelling show that the roundabout would operate marginally over capacity in all future (AM) modelling scenarios. As traffic is redistributed, in the development scenario, the development shows minimal impact as part of the proposals. As such, no mitigation measures are required to facilitate the development proposals.

5.9 Junction 7 – Thornton Lane/Ratby Lane

5.9.1 A model of the Thornton Lane/Ratby Lane was created using Junctions 9 PICADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix L**.

Table 10. Thornton Lane/Ratby Lane Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2024 Base						
Ratby Lane – LT	0	7	0.03	0	6	0.05
Ratby Lane – RT	1	14	0.40	0	10	0.20
Thornton Lane - RT	0	5	0.50	0	5	0.03
2028 Furnessed Future						
Ratby Lane – LT	0	9	0.06	0	7	0.06
Ratby Lane – RT	1	22	0.59	1	13	0.40
Thornton Lane - RT	0	5	0.07	0	5	0.02
2028 Furnessed Future + Development						
Ratby Lane – LT	0	9	0.06	0	7	0.06
Ratby Lane – RT	2	22	0.61	1	13	0.40
Thornton Lane - RT	0	5	0.03	0	5	0.02
2031 Furnessed Future						
Ratby Lane – LT	0	11	0.06	0	8	0.06
Ratby Lane – RT	2	29	0.69	1	15	0.48
Thornton Lane - RT	0	5	0.07	0	5	0.02
2031 Furnessed Future + Development						
Ratby Lane – LT	0	18	0.10	0	8	0.07
Ratby Lane – RT	4	48	0.82	1	17	0.53
Thornton Lane - RT	0	5	0.05	0	5	0.02

5.9.2 The results of the junction modelling show that the junction operates within capacity in all modelling scenarios, with a maximum of 0.82. As such, no mitigation measures are required to facilitate the development proposals.

5.10 Junction 8 – Desford Lane/ Site Access

5.10.1 A model of the Desford Lane/ Site Access was created using Junctions 9 PICADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix M**.

Table 11. Desford Lane/Site Access Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2028 Furnessed Future + Development						
Site Access	0	9	0.20	0	9	0.14
Desford Lane – RT	0	7	0.08	0	8	0.17
2031 Furnessed Future + Development						
Site Access	1	19	0.55	1	17	0.44
Desford Lane – RT	0	8	0.20	0	8	0.09

5.10.2 The results of the junction modelling show that the southern site access operates within capacity in all modelling scenarios, with a maximum of 0.55. As such, the site's southern access proposals are considered appropriate.

5.11 Junction 9 – Markfield Road/ Site Access

5.11.1 A model of the Markfield Road/ Site Access was created using Junctions 9 PICADY software. **Table 2** summarises the operation of the junction. The modelling Outputs are included in **Appendix N**.

Table 12. Markfield Road/Site Access Modelling Results

Arm / Movement	AM Peak			PM Peak		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2028 Furnessed Future + Development						
Site Access	0	10	0.20	0	9	0.10
Markfield Road – RT	0	6	0.04	0	7	0.10
2031 Furnessed Future + Development						
Site Access	3	25	0.72	1	13	0.44
Markfield Road – RT	0	7	0.17	0	9	0.30

5.11.2 The results of the junction modelling show that the northern site access operates within capacity in all modelling scenarios, with a maximum of 0.72. As such, the site's northern access proposals are considered appropriate.

5.12 Summary

5.12.1 No highway safety issues have been identified on the local highway network which would subsequently be exacerbated as a result of the development proposals. As such, no highway safety specific mitigation measures are considered required in order to facilitate the development proposals.

5.12.2 The resulting development impacts have been assessed using the agreed parameters at the junctions as set out within the PRTM Note, and where required, the potential mitigation measures identified comprise physical work to the junctions. The purpose of the assessment is to demonstrate that the development impacts, based on a robust set of assumptions, can be mitigated and the likely scale of the potential mitigation is understood.

5.12.3 All junctions except for two junctions are forecast to operate within their theoretical maximum capacity in the 2031 Furnessed Future + Development assessment scenario. The forecast development-related traffic does not result in a 'severe' impact on the operation of the local highway network at the remaining junctions and the inclusion of the site spine road results in redistribution effects on the local which benefits some local junctions in Ratby.

5.12.4 The modelling results have shown there is a need for improvement measures to facilitate the development proposals at the following junctions:

- Desford Lane/Desford Lane
- Groby Road/Sacheverell Way

5.12.5 The improvements schemes proposed at the two junctions mitigates the impact of the proposed development, and as such, the development proposals will not result in a severe highway impact. Both mitigation schemes involve the signalisation of the junctions.

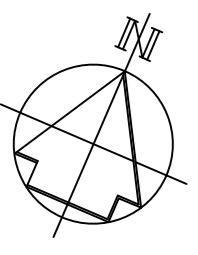
5.12.6 The scheme identified at the Desford Lane/Desford Lane junction is required primarily to mitigate the impact of the anticipated local background growth, which development traffic would have a minor additional impact upon. Subsequently, the development proposals will appropriately financially contribute towards the implementation of this or a similar scheme.

5.12.7 The 2028 scenario results also demonstrate that this development build out can be occupied prior to any requirement for the spine road to be implemented.


5.12.8 As such, the development proposals are considered acceptable in highway terms.

This report is to be regarded as confidential to our Client and is intended for their use only and may not be assigned except in accordance with the contract. Consequently, and in accordance with current practice, any liability to any third party in respect of the whole or any part of its contents is hereby expressly excluded, except to the extent that the report has been assigned in accordance with the contract. Before the report or any part of it is reproduced or referred to in any document, circular or statement and before its contents or the contents of any part of it are disclosed orally to any third party, our written approval as to the form and context of such a publication or disclosure must be obtained.

Report Ref.		109003-Pef-Zz-Xx-Rp-Tp-000006_S2_P0.3 - Transport Assessment Addendum				
File Path		P:\Data\109003 - Ratby Phases 3 & 4 Outline\01 - WIP\Documents\Transport Planning\109003-PEF-ZZ-XX-RP-TP-000006_S2_P0.3 - Transport Assessment Addendum.docx				
Rev	Suit	Description	Date	Originator	Checker	Approver
P1	S2	Initial Draft	06/09/24	JF	LT	CH
Ref. reference. Rev revision. Suit suitability.						



GENERAL NOTES
 G1. DO NOT SCALE THIS DRAWING.
 G2. ANY DIMENSIONAL DISCREPANCIES SHOULD BE NOTIFIED TO THE ENGINEER IMMEDIATELY.
 G3. ALL DIMENSIONS ARE IN MILLIMETRES (mm)
 ALL LEVELS ARE IN METRES (m) AND ARE ABOVE
 ORDNANCE DATA LINE AT NEWLYN, CORNWALL UNLESS
 NOTED OTHERWISE.
 G4. NORTH SHOWN INDICATIVE ONLY.
 G5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH
 ALL RELEVANT SPECIFICATIONS, DRAWINGS, DETAILS
 AND OTHER DESIGN INFORMATION.
 G6. ALL DRAWINGS AND WRITTEN MATERIAL CONTAINED
 WITHIN, CONSTITUTE ORIGINAL AND UNPUBLISHED
 WORK OF THE ENGINEER AND MAY NOT BE DUPLICATED,
 USED, REPRODUCED OR DISCLOSED WITHOUT WRITTEN
 CONSENT OR EXPRESS PERMISSION FROM THE
 ENGINEER.
 G7. ALL INFORMATION CONTAINED IN THIS DOCUMENT IS
 COPYRIGHT ©
 G8. WHILE PELL FRISCHMANN CONSULTANTS LTD'S
 A THIRD PARTY TO UNDERTAKE TEMPORARY WORKS
 DESIGN, OR VARIES THE PELL FRISCHMANN DESIGN IN
 ANY WAY, THEN THE CONTRACTOR WILL TAKE FULL
 RESPONSIBILITY FOR ALL DESIGN
 ASPECTS, INCLUDING A DESIGN RISK ASSESSMENT. THE
 CONTRACTOR SHALL INFORM PELL FRISCHMANN OF ANY
 PROPOSED VARIANCES TO THE DESIGN.



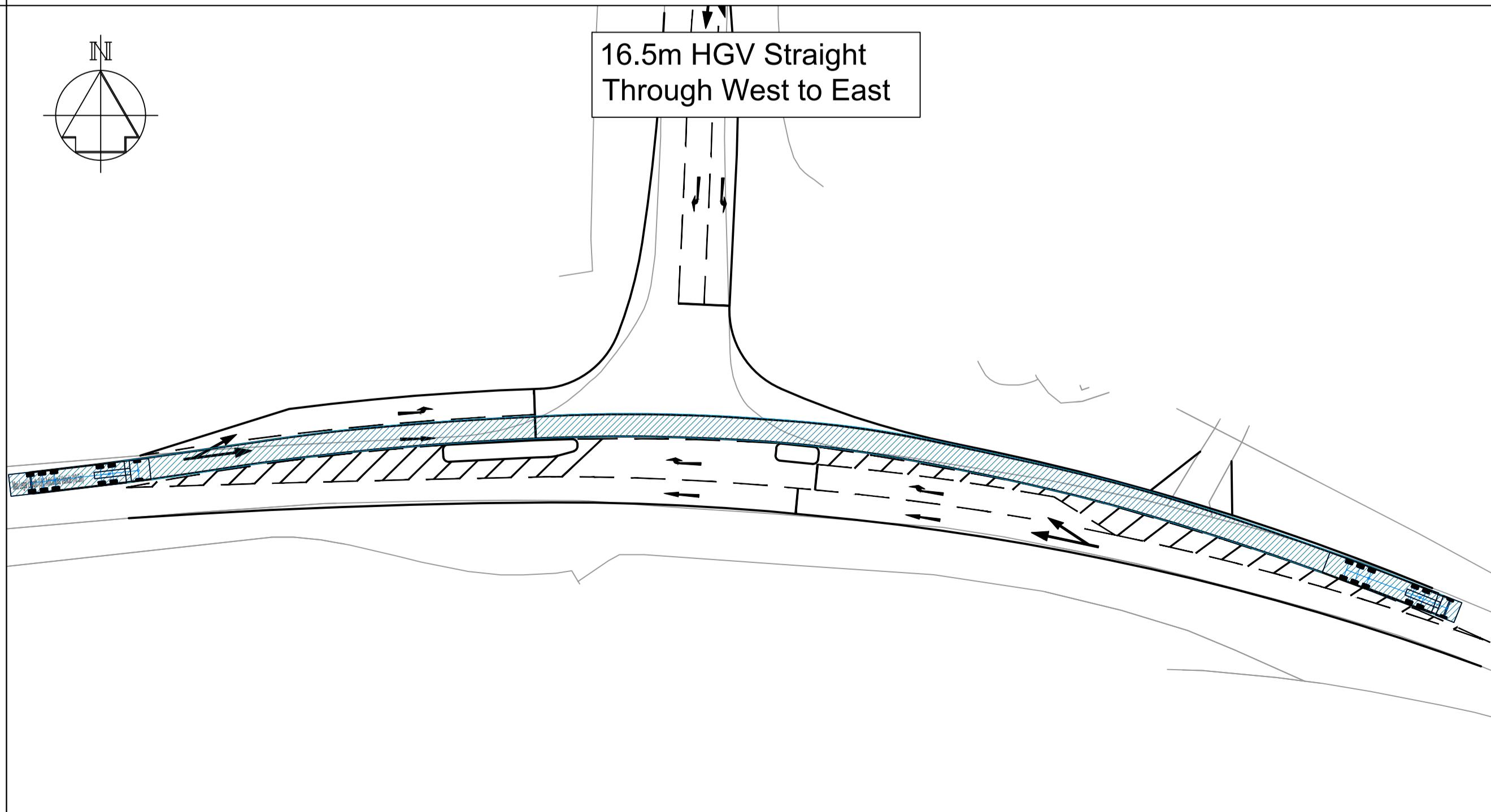
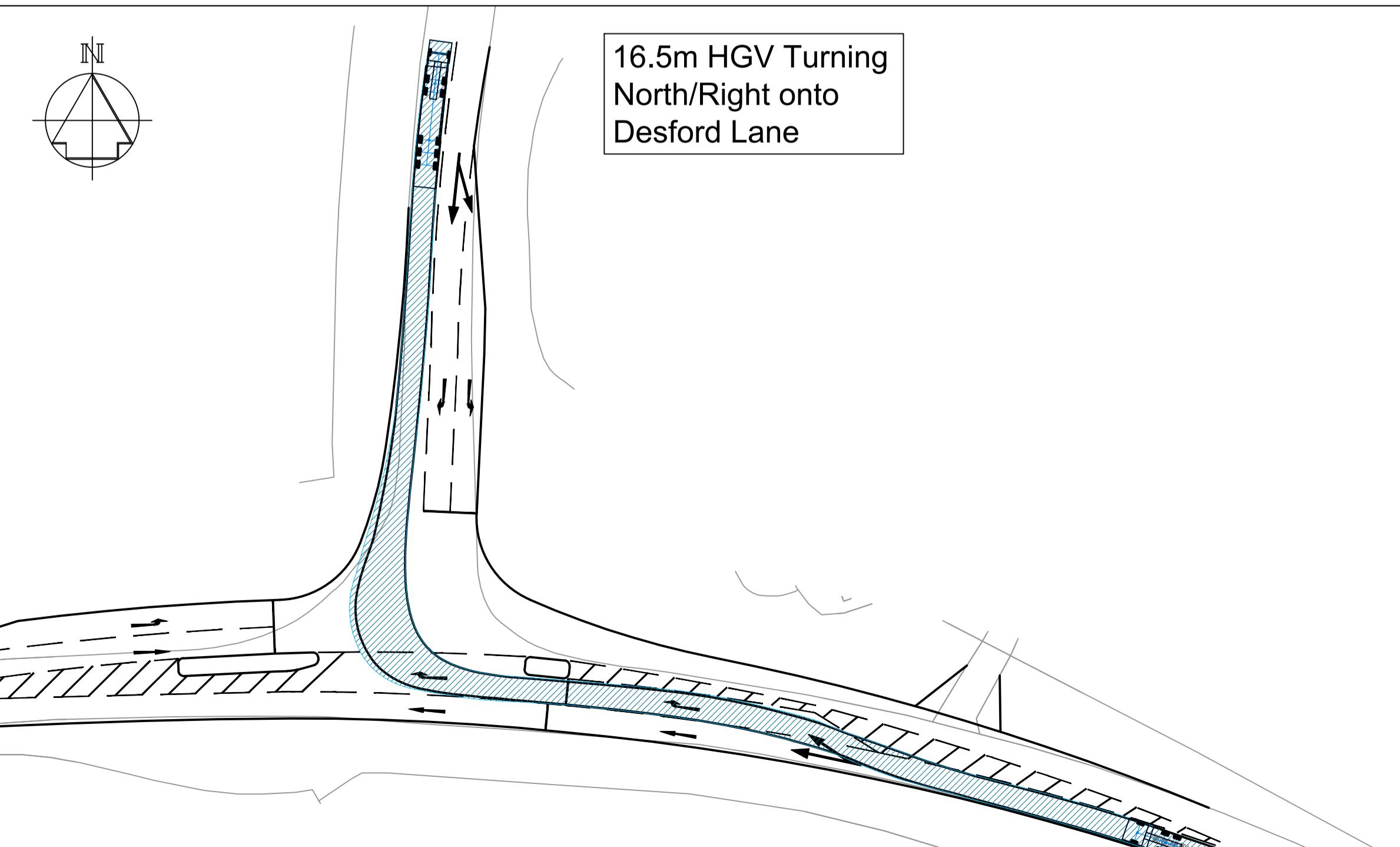
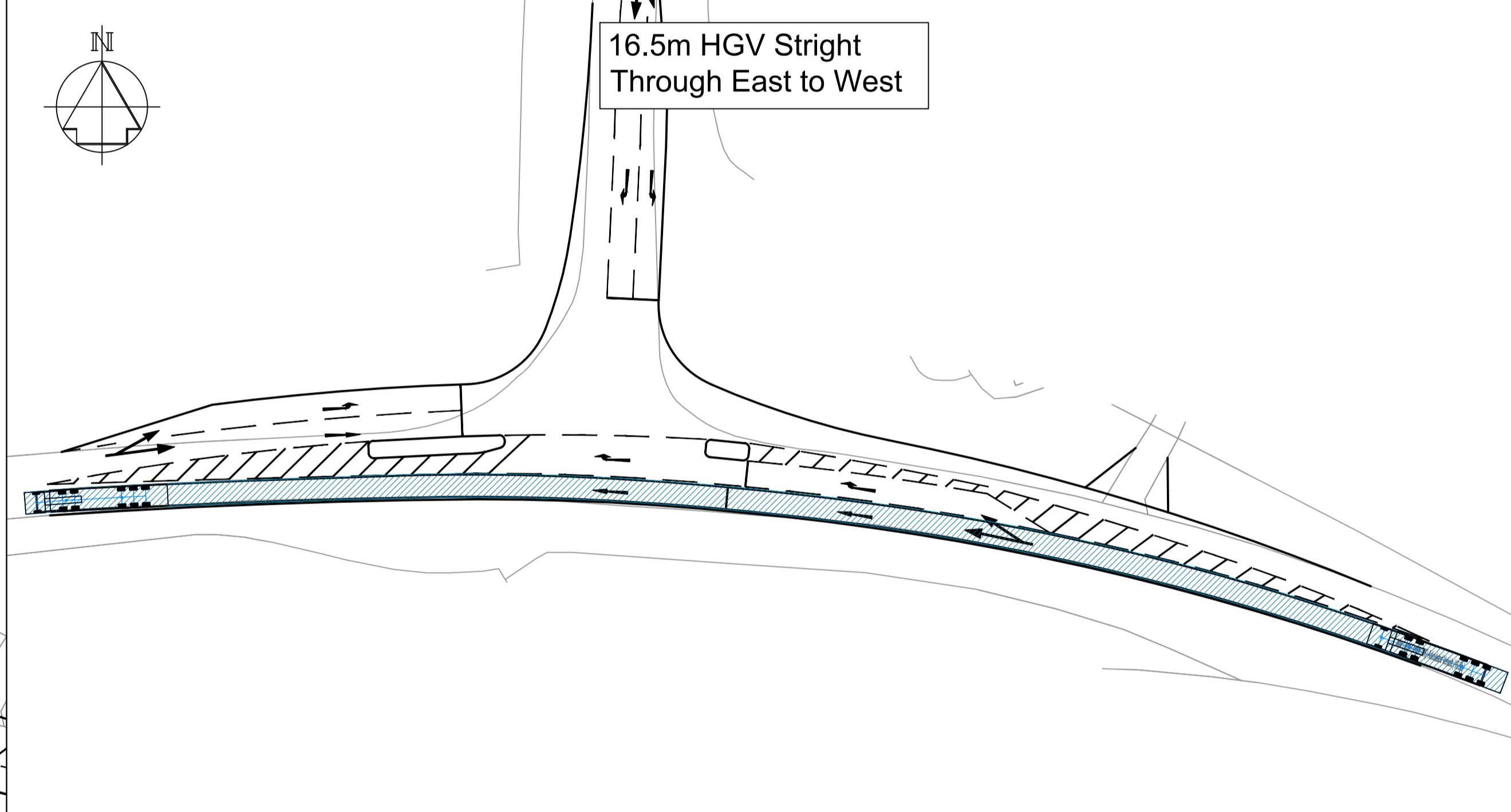
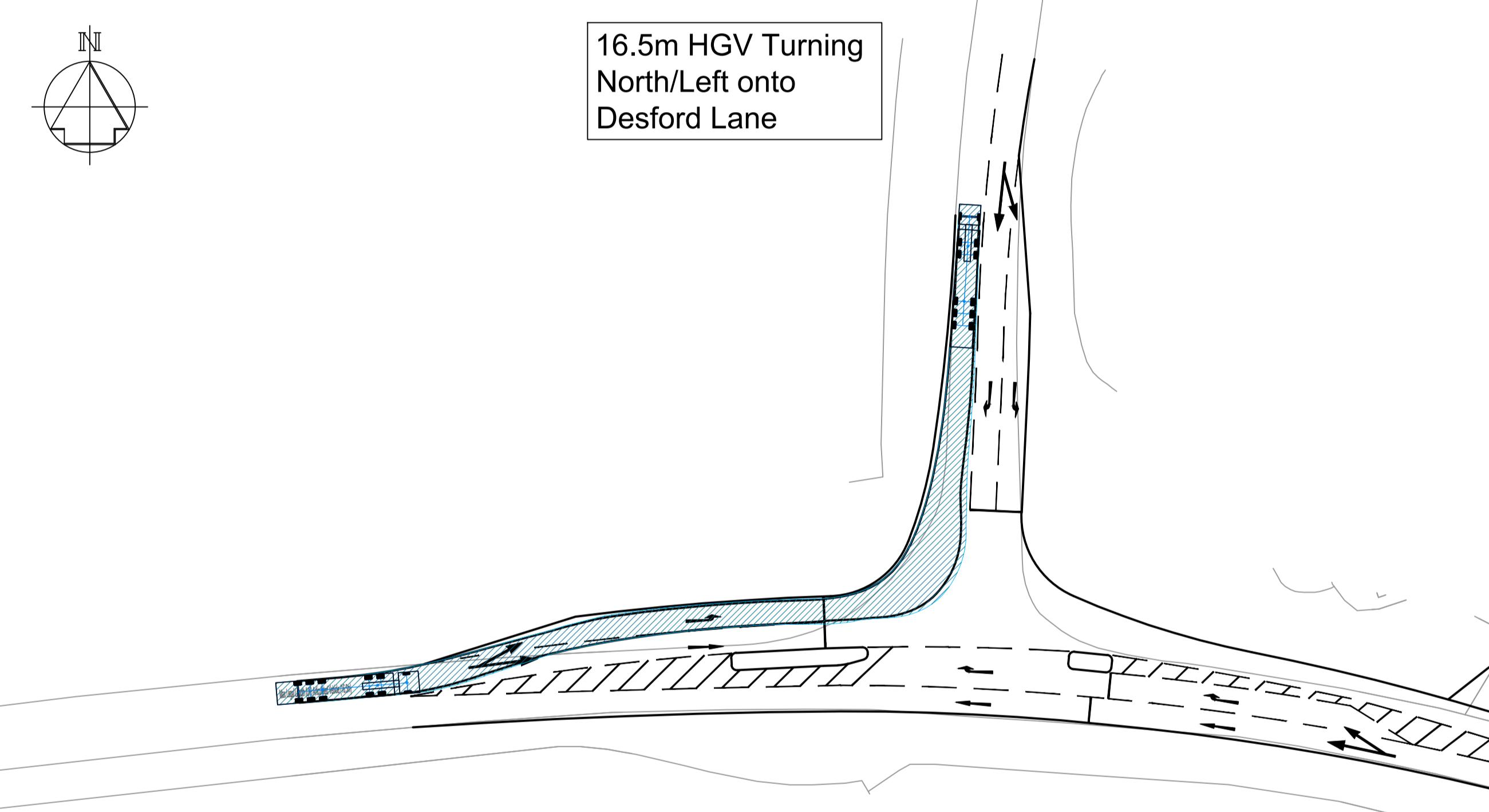
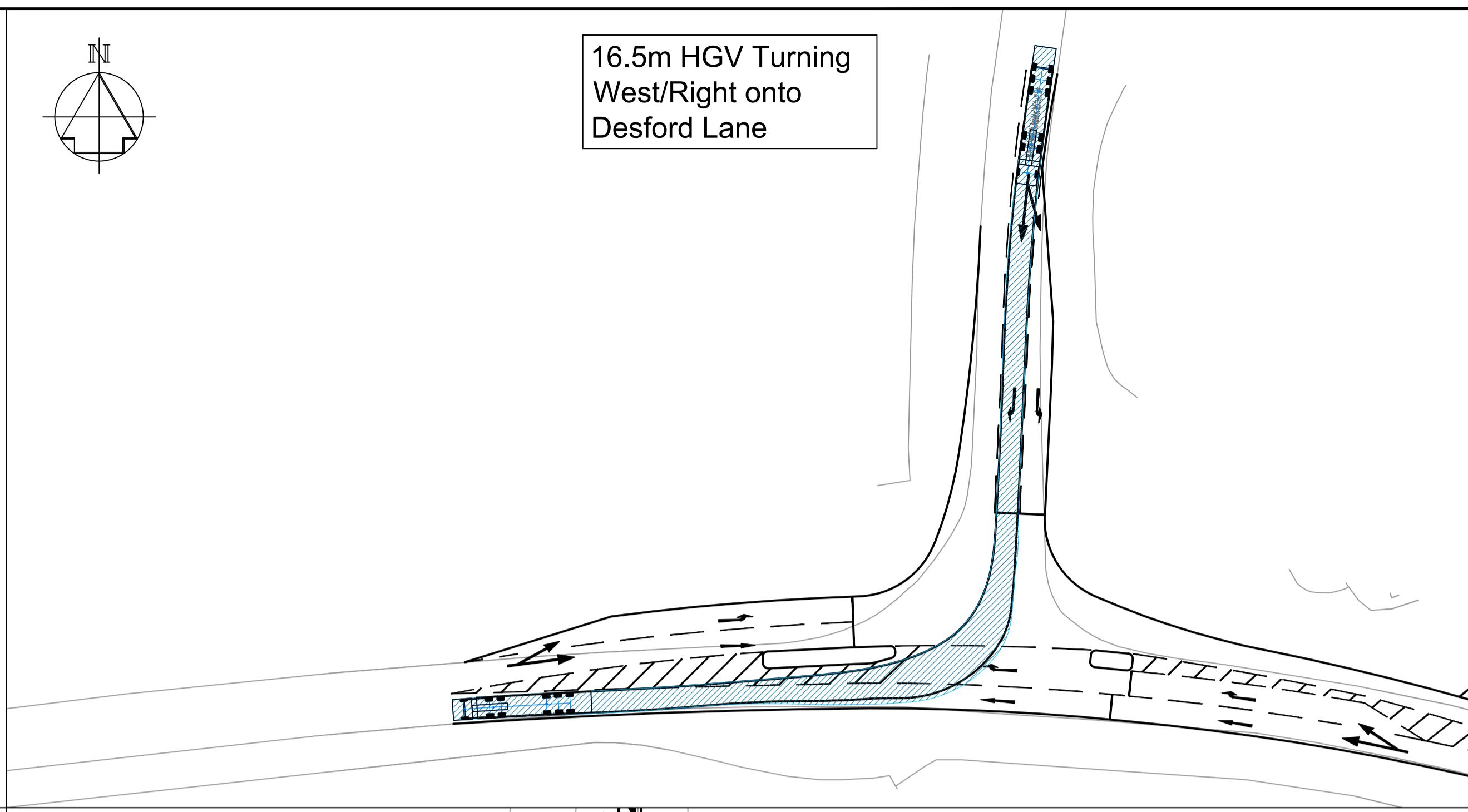
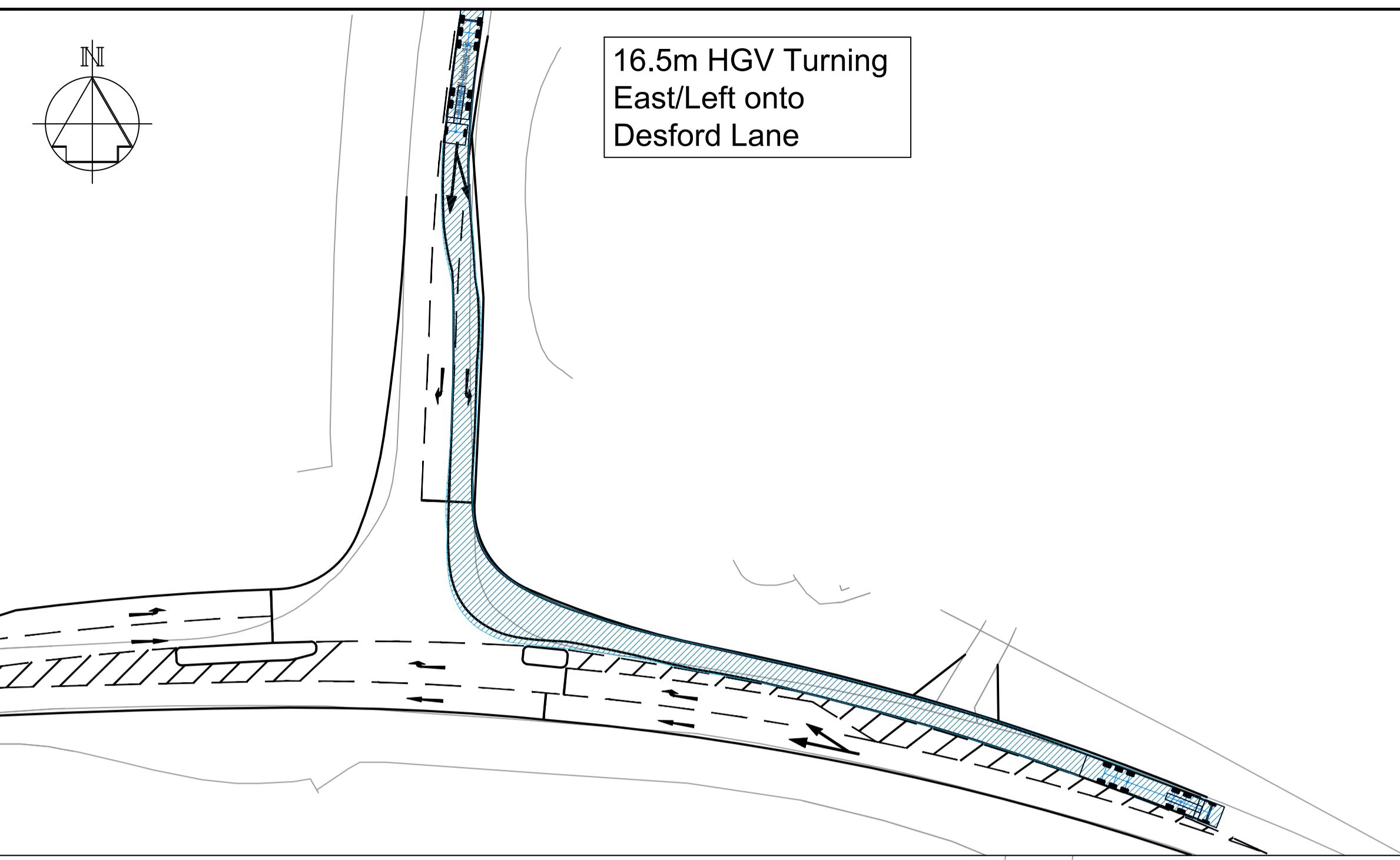
4th FLOOR, THE POYNT, WOLLATON STREET, NOTTINGHAM NG1 3PW
 Telephone +44 (0)115 784 6960
 Email: pfectng@pellfrischmann.com
www.pellfrischmann.com

Architect/Client/Contractor

LAGAN HOMES

REV. FIRST ISSUE SP LH LT 00.08.24
 REV. DESCRIPTION DRN CHK APP DATE

Pell Frischmann

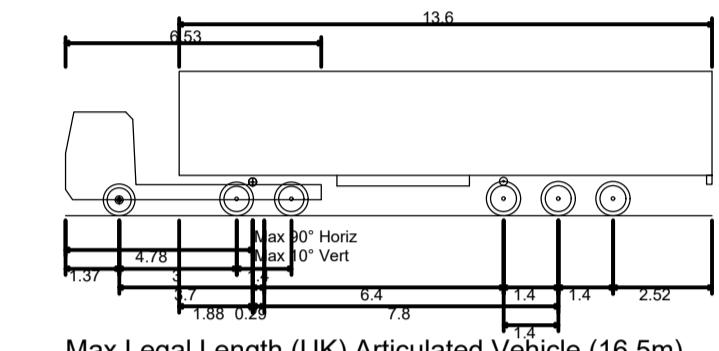


1. Do not scale this drawing.
2. Any dimensional discrepancies should be notified to the engineer immediately.
3. All dimensions are in millimetres - (mm) all levels are in metres - (m) and are above ordnance datum at Newlyn, Cornwall unless noted otherwise.
4. North shown indicative only.
5. This drawing is to be read in conjunction with all relevant specifications; drawings; details and other design information.
6. All drawings and written material contained within, constitute original and unpublished work of the engineer and may not be duplicated, used, reproduced or disclosed without written consent or express permission from the engineer.
7. All tracking has been undertaken to a design speed of at least 15km/h

Legend

Forward Vehicle Movement
(Wheel Line & Body Overhang)

Refuse Vehicle



Max Legal Length (UK) Articulated Vehicle (16.5m)
Overall length 13.6m
Overall Width 2.500m
Overall Body Height 3.681m
Min Body Ground Clearance 0.411m
Max Track Width 2.500m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 6.530m

Vehicle Tracking Note

THIS VEHICLE TRACKING HAS BEEN PROVIDED BY PELL FRISCHMANN FOR GUIDANCE ONLY AND THE HIGHWAYS AUTHORITY/ END USER IS TO SATISFY THEMSELVES WITH ALL THE VEHICLE MOVEMENTS ASSOCIATED WITH THE SCHEME. IT SHOULD BE NOTED THAT THE VEHICLE TRACKING HAS BEEN UNDERTAKEN USING INDUSTRY STANDARD AUTODESK VEHICLE TRACKING SOFTWARE AND IS ONLY AS ACCURATE AS THE DEFAULT PARAMETERS SET WITHIN THE SOFTWARE.

P01	FIRST ISSUE	SP	LH	LT	28.08.24
REV	DESCRIPTION	DRN	CHK	APP	DATE

Pell Frischmann
4th FLOOR, THE POYNT, WOLLATON STREET, NOTTINGHAM NG1 5FW
Telephone +44 (0)115 784 8960
Email: pfnottingham@pellfrischmann.com
www.pellfrischmann.com

Architect/Client/Contractor

LAGAN HOMES

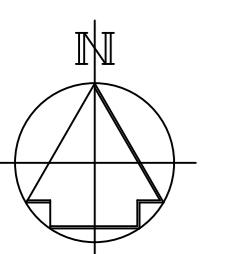
Project
RATBY PAHSSES
3 & 4 OUTLINE

Drawing Title
16.5m HGV TRACKING
THROUGH JUNCTION
IMPROVEMENT DESFORD LANE

Drawing Status
FOR INFORMATION

	Name	Date	Status Code
Drawn	S.PAOLI	27.08.24	S2
Designed	S.PAOLI	27.08.24	Scale 1:500
Eng Chk	L.HULK	27.08.24	Revision P01
Approved	L.THOMAS	27.08.24	

Drawing No.
109003-PEF-ZZ-XX-DR-TP-00011



GENERAL NOTES
G1. DO NOT SCALE THIS DRAWING.
G2. ANY DIMENSIONAL DISCREPANCIES SHOULD BE NOTIFIED TO THE ENGINEER IMMEDIATELY.
G3. ALL DIMENSIONS ARE IN MILLIMETRES (mm)
ALL LEVELS ARE IN METRES (m) AND ARE ABOVE
OCEANIC DATA LINE AT NEWLYN, CORNWALL UNLESS
NOTED OTHERWISE.
G4. NORTH SHOWN INDICATIVE ONLY.
G5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH
ALL RELEVANT SPECIFICATIONS, DRAWINGS, DETAILS
AND OTHER DESIGN INFORMATION.
G6. ALL DRAWINGS AND WRITTEN MATERIAL CONTAINED
WITHIN, CONSTITUTE ORIGINAL AND UNPUBLISHED
WORK OF THE ENGINEER AND MAY NOT BE DUPLICATED,
USED, REPRODUCED OR DISCLOSED WITHOUT WRITTEN
CONSENT OR EXPRESS PERMISSION FROM THE
ENGINEER.
G7. ALL INFORMATION CONTAINED IN THIS DOCUMENT IS
COPYRIGHT ©
G8. WHILE PELL FRISCHMANN CONSULTANTS LTD'S
A THIRD PARTY TO UNDERTAKE TEMPORARY WORKS
DESIGN, OR VARIES THE PELL FRISCHMANN DESIGN IN
ANY WAY, THEN THE CONTRACTOR WILL TAKE FULL
RESPONSIBILITY FOR ALL DESIGN
ASPECTS, INCLUDING A DESIGN RISK ASSESSMENT. THE
CONTRACTOR SHALL INFORM PELL FRISCHMANN OF ANY
PROPOSED VARIANCES TO THE DESIGN.

Existing 6.5t Vehicle Restriction TRO
to Remain with Signage to be
Re-located as Required

R100.0m

Controlled pedestrian
Crossing Facility

R12.0m

R10.0m

R20.0m

R30.0m

Legend

- 4.5m x 65m Visibility Splay
- Inter-Junction Visibility Splay
- Existing Highway Boundary
- Primary Signal Head
- Secondary Signal Head
- Existing Road Markings

P01 FIRST ISSUE SP LH LT 00.08.24
REV DESCRIPTION DRN CHK APP DATE

Pell Frischmann

4th FLOOR, THE POYNT, WOLLATON STREET, NOTTINGHAM NG1 3PW

Telephone +44 (0)115 784 6960

Email: pfectinghamb@pellfrischmann.com

www.pellfrischmann.com

Architect/Client/Contractor

LAGAN HOMES

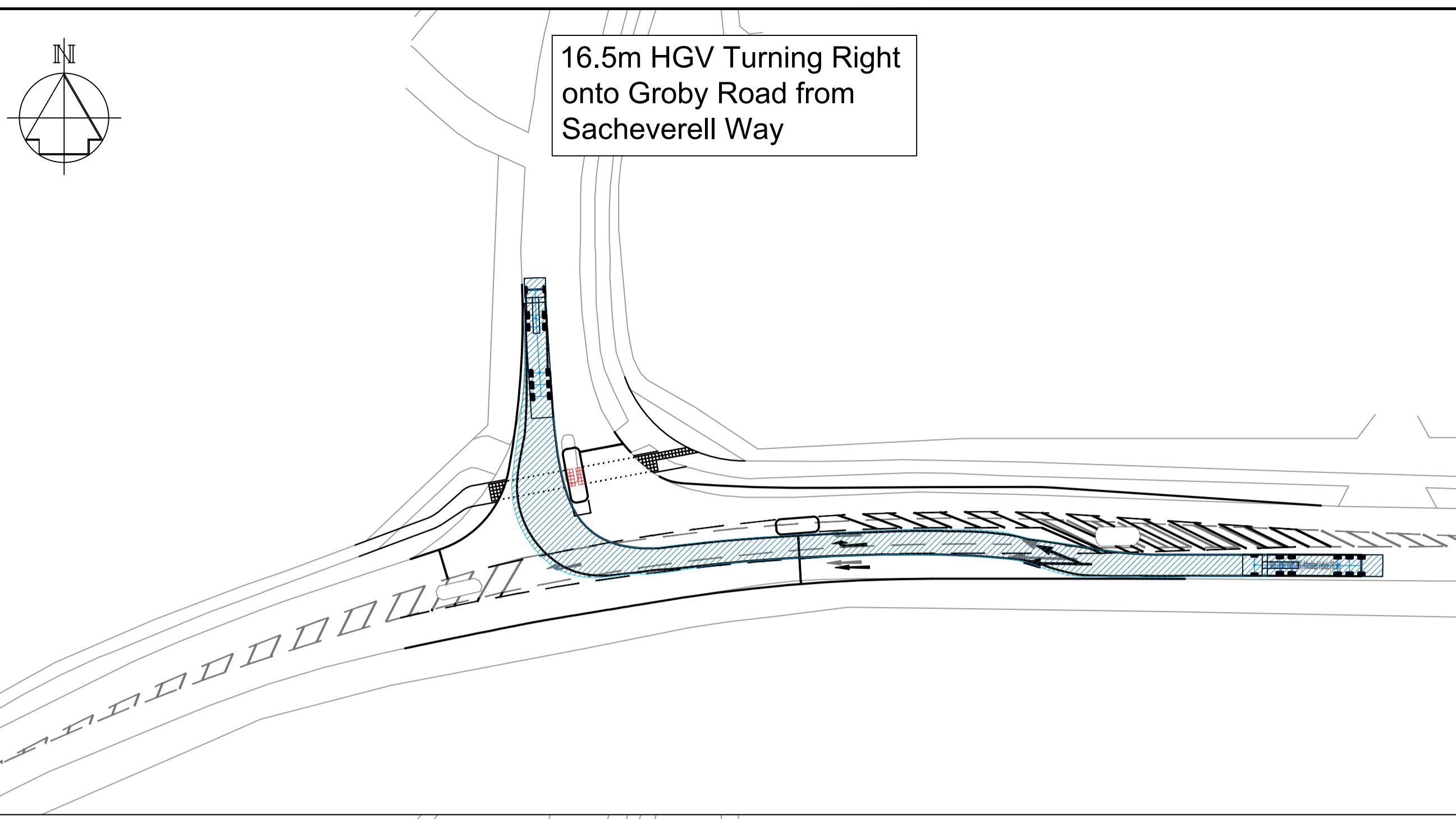
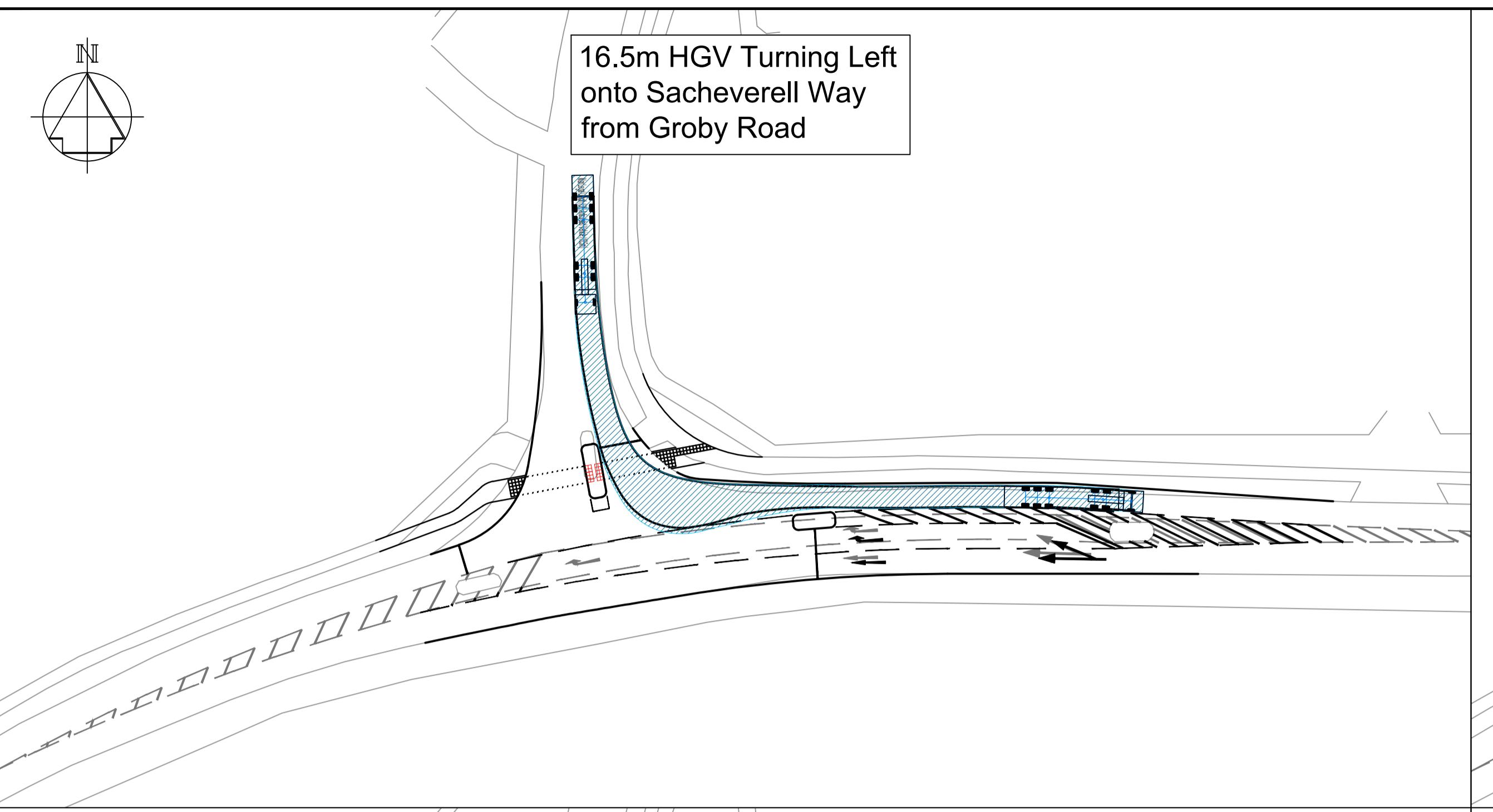
Project
RATBY PHASES
3 & 4 OUTLINE

Drawing Title
GROBY ROAD/SACHEVERELL
WAY JUNCTION IMPROVEMENTS

Drawing Status FOR INFORMATING

	Name	Date	Status Code
Drawn	S.PAOU	23.08.24	S2
Designed	S.PAOU	22.08.24	Scale
Eng Chk	L.HILKA	23.08.24	1:200
Approved	L.THOMAS	23.08.24	Revision
Drawing No.			P01

109003-PEF-ZZ-XX-DR-TP-00012



1. Do not scale this drawing.
2. Any dimensional discrepancies should be notified to the engineer immediately.
3. All dimensions are in millimetres - (mm) all levels are in metres - (m) and are above ordnance datum at Newlyn, Cornwall unless noted otherwise.
4. North shown indicative only.
5. This drawing is to be read in conjunction with all relevant specifications; drawings; details and other design information.
6. All drawings and written material contained within, constitute original and unpublished work of the engineer and may not be duplicated, used, reproduced or disclosed without written consent or express permission from the engineer.
7. All tracking has been undertaken to a design speed of at least 15km/h

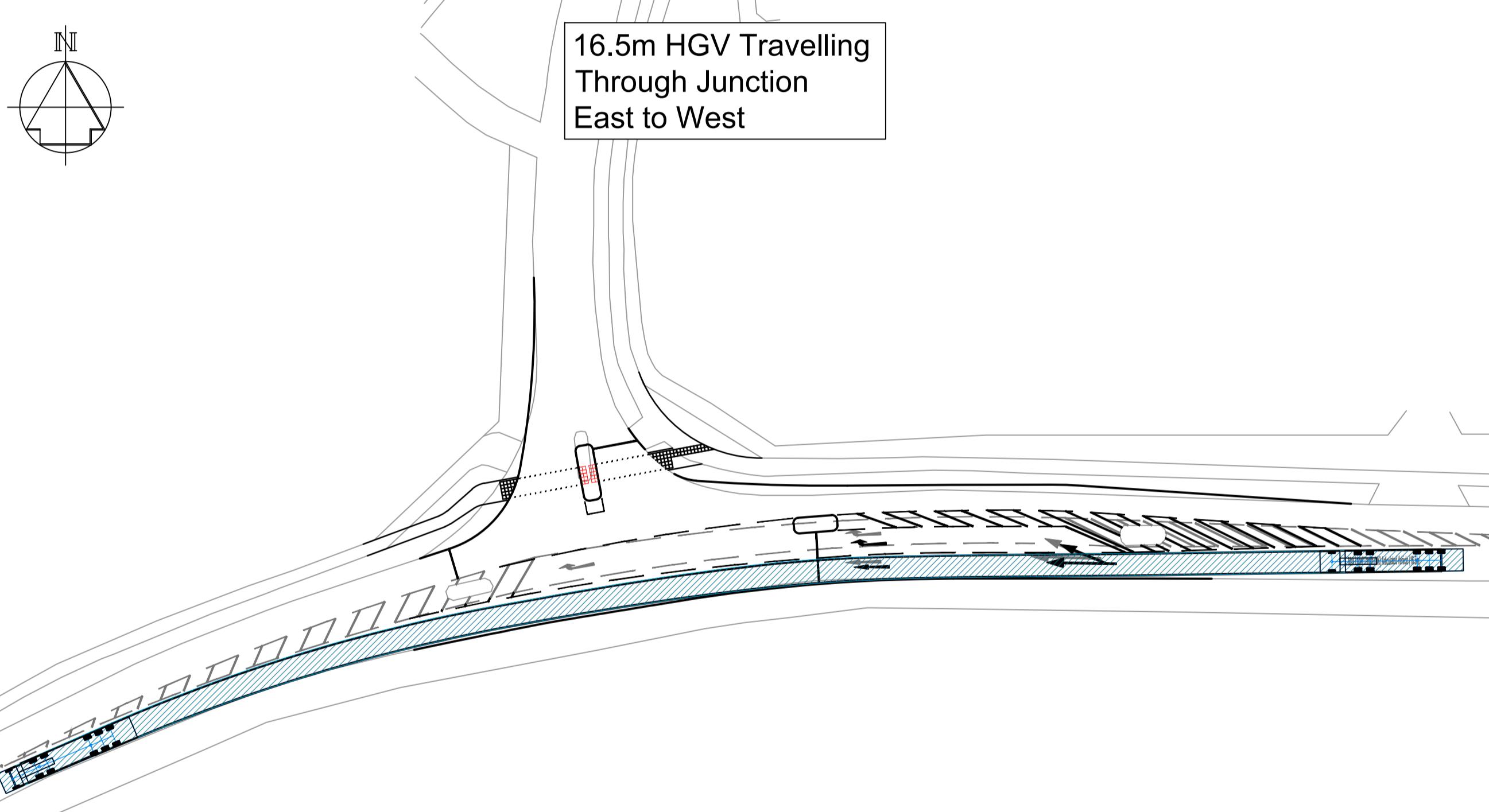
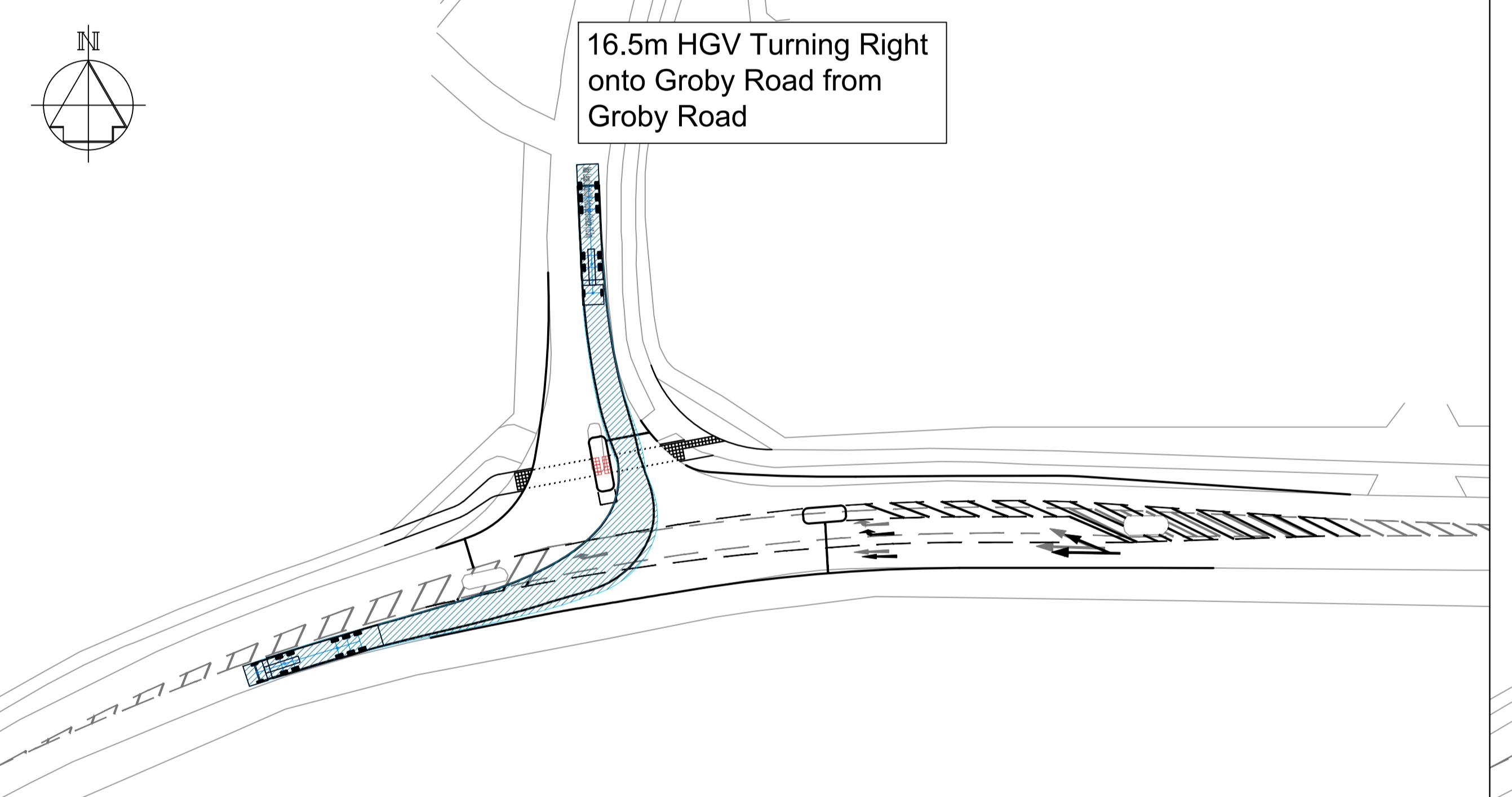
Legend

Forward Vehicle Movement (Wheel Line & Body Overhang)

Refuse Vehicle
Max Legal Length (UK) Articulated Vehicle (16.5m)
Overall Length 2.500m
Overall Width 2.550m
Overall Body Height 3.681m
Min Body Ground Clearance 0.411m
Max Track Width 2.500m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 6.530m

Vehicle Tracking Note

THIS VEHICLE TRACKING HAS BEEN PROVIDED BY PELL FRISCHMANN FOR GUIDANCE ONLY AND THE HIGHWAYS AUTHORITY/ END USER IS TO SATISFY THEMSELVES WITH ALL THE VEHICLE MOVEMENTS ASSOCIATED WITH THE SCHEME. IT SHOULD BE NOTED THAT THE VEHICLE TRACKING HAS BEEN UNDERTAKEN USING INDUSTRY STANDARD AUTODESK VEHICLE TRACKING SOFTWARE AND IS ONLY AS ACCURATE AS THE DEFAULT PARAMETERS SET WITHIN THE SOFTWARE.



P01 FIRST ISSUE SP LH LT 30.08.24
REV DESCRIPTION DRN CHK APP DATE

Pell Frischmann
4th FLOOR, THE POYNT, WOLLATON STREET, NOTTINGHAM NG1 5FW
Telephone +44 (0)115 784 8960
Email: pfnotttingham@pellfrischmann.com
www.pellfrischmann.com

Architect/Client/Contractor

LAGAN HOMES

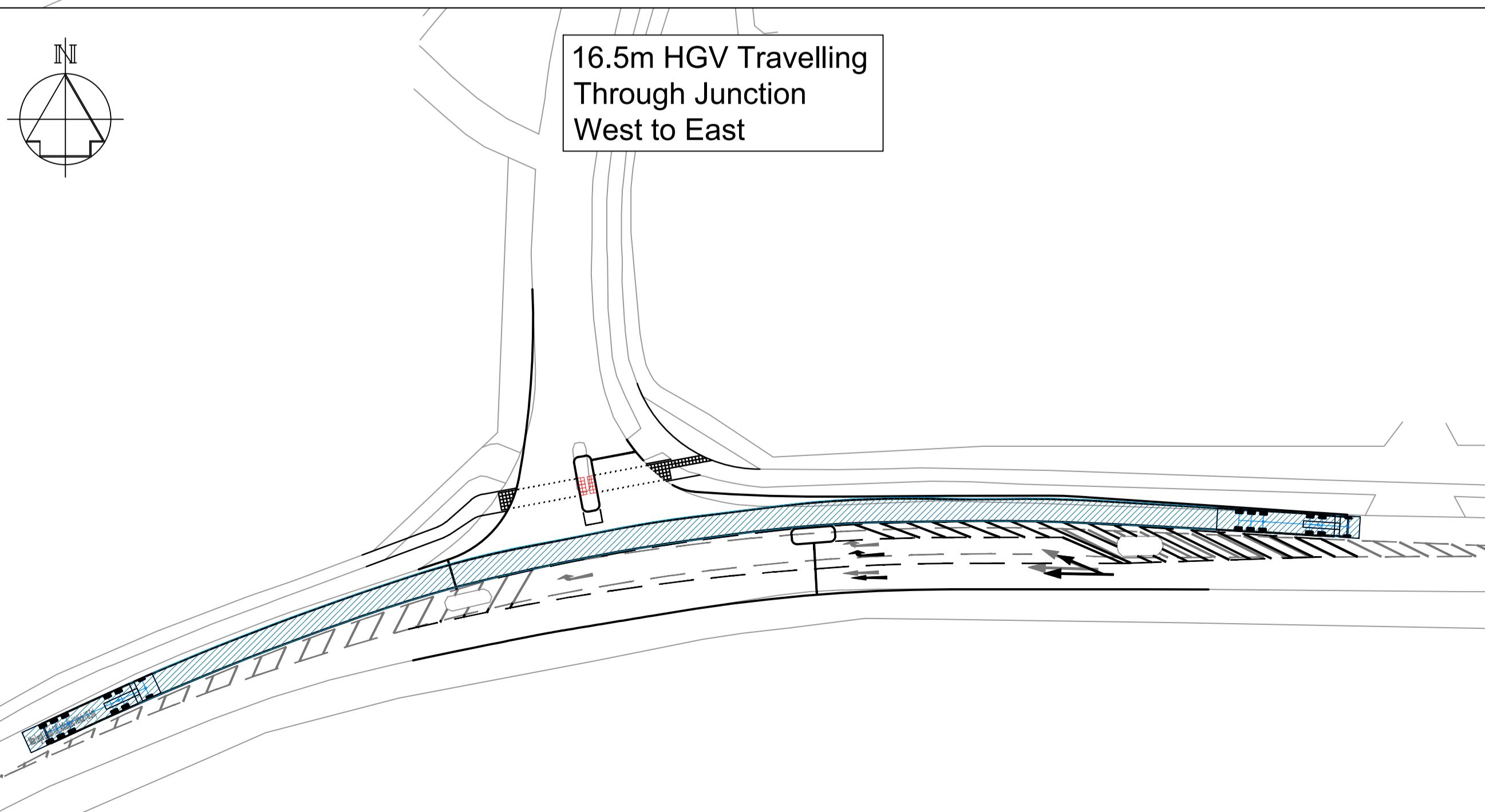
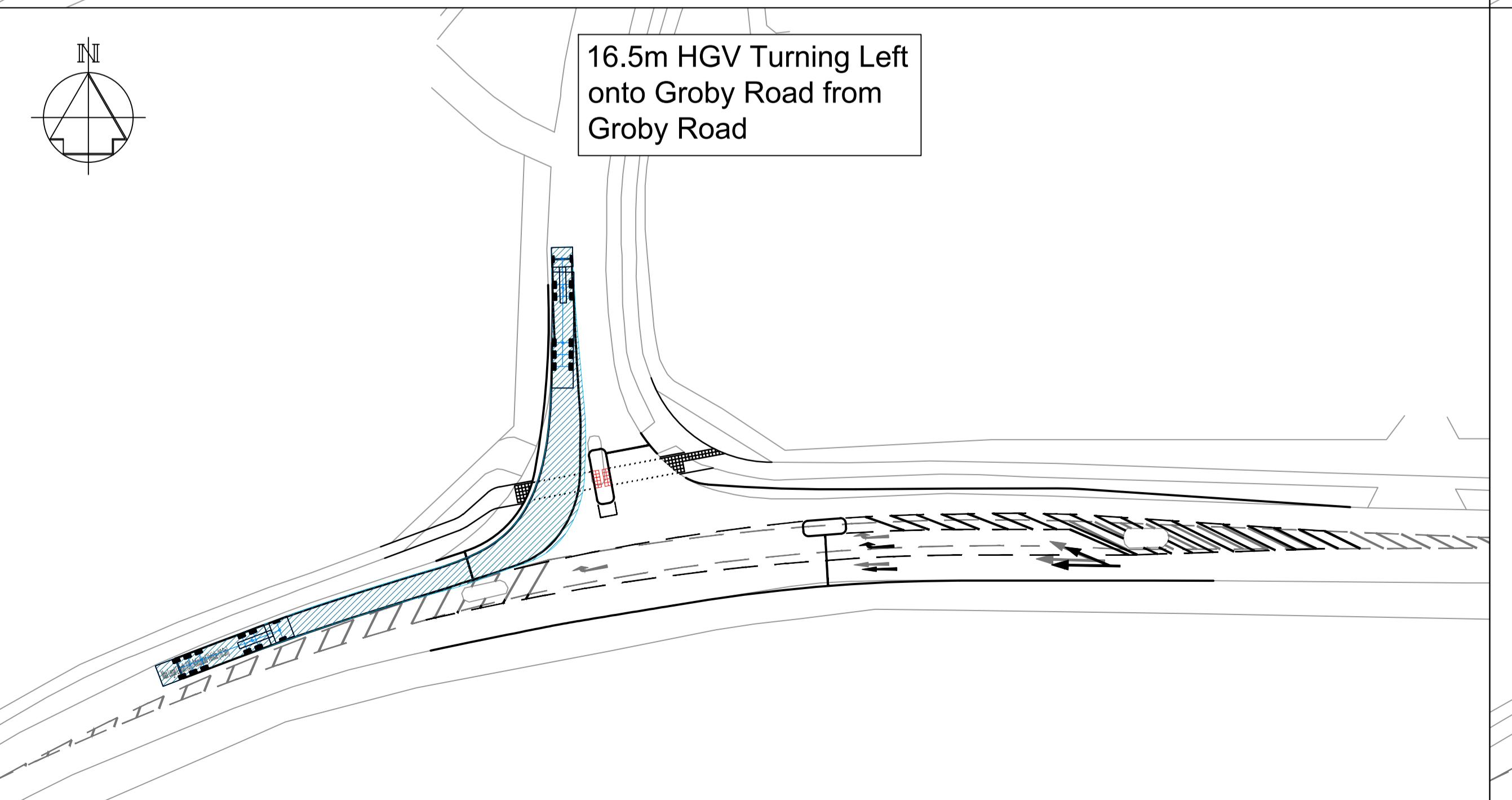
Project
RATBY PAHSSES
3 & 4 OUTLINE

Drawing Title
16.5m HGV TRACKING THROUGH JUNCTION IMPROVEMENT GROBY ROAD/SACHEVERELL WAY

Drawing Status FOR INFORMATION			
	Name	Date	Status Code
Drawn	S.PAOLI	27.08.24	S2
Designed	S.PAOLI	27.08.24	Scale 1:500
Eng Chk	L.HULKA	27.08.24	Revision P01
Approved	L.THOMAS	27.08.24	
Drawing No.			

109003-PEF-ZZ-XX-DR-TP-00013

© Pell Frischmann Consultants (A1 841x593)



Appendix A PRTM Summary Report

Pell Frischmann

Land West of Ratby

Summary of PRTM Assessment

109003

Project	Land West of Ratby
Document Title or Subject	Summary of PRTM Assessment
Document Reference	109003-PEF-ZZ-XX-RP-TN-000006
Revision Reference	S2_P1
Date	06/09/2024

1 Introduction

- 1.1.1 As part of the impact assessment of the development sites in Ratby, discussions were made with Leicestershire's NDI team to utilise the Pan Regional Transport Model (PRTM) to forecast traffic volumes on the road network. The PRTM forecasting report provided is dated June 2024. This Technical Note summarises the findings of the PRTM report.
- 1.1.2 The methodology/inputs for the PRTM were agreed with LCC as part of the PRTM process.

2 Scenarios

- 2.1.1 The following model runs were carried out:
 - 2024 Without Development
 - 2028 Without Development
 - 2028 With 50% Development
 - 2031 Without Development
 - 2031 With 100% Development + Development Spine Road + Primary School
- 2.1.2 There are two things that need to be developed to understand the impact of development these are;
 - The change in traffic flows that occur as a result of all development. That is derived from a comparison between the 2028 and 2031 with Development scenarios and the 2028 and 2031 Without Development scenarios.
 - The sites also includes a development spine road which will result in network traffic changes, primarily off of Main Street through central Ratby and so the impact of any changes here should also be taken into account.

3 Traffic Distribution

- 3.1.1 The residential 2028 traffic to and from the Proposed Development is shown in the outputs below:
 - In the AM, **Figure 1** and **Figure 2** show the arriving and departing traffic to the site. The Figures show that most of the traffic arrives and departs to the northeast of the site.
 - **Figure 3** and **Figure 4** show the arriving and departing traffic to the site in the PM peak. Similarly, to the AM peak the traffic arrivals and departs to the northeast of the site.
- 3.1.2 The residential 2031 traffic to and from the Proposed Development is shown in the outputs below:
 - In the AM, **Figure 5** and **Figure 6** show the arriving and departing traffic to the site. **Figure 5** shows the there is a fairly even split with the direction of arriving traffic from the northeast, east and northwest of the site. **Figure 6** shows the departing traffic routes to the northeast and northwest from the site.

- In the PM, **Figure 7** and **Figure 8** show the arriving and departing traffic to the site. **Figure 7** shows that the main routes arriving to the site are from the northeast and northwest, but there are multiple minor routes to the east and south which carry similar traffic levels to one another. The departing traffic in **Figure 8** follows a similar pattern to the traffic in the AM as they depart to the northeast and northwest.

3.1.3 The educational 2031 AM traffic travelling to and from the Proposed Development is shown below:

- **Figure 9** and **Figure 10** show the traffic arriving to and departing from the site. Both figures show that traffic routes to and from north of the site.

Figure 1. Vehicle Trip Distribution to the Proposed Development – 2028 AM (Residential)

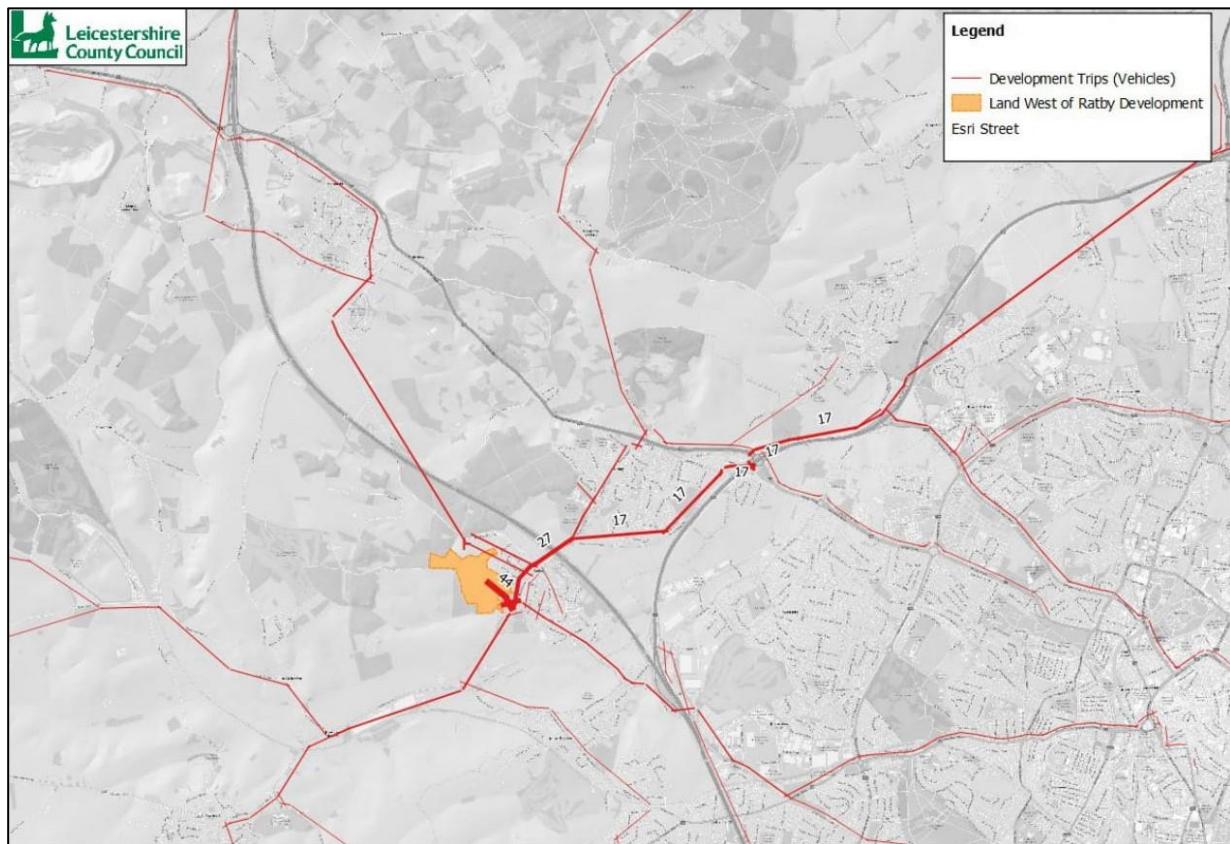


Figure 2. Vehicle Trip Distribution from the Proposed Development – 2028 AM (Residential)



Figure 3. Vehicle Trip Distribution to the Proposed Development – 2028 PM (Residential)

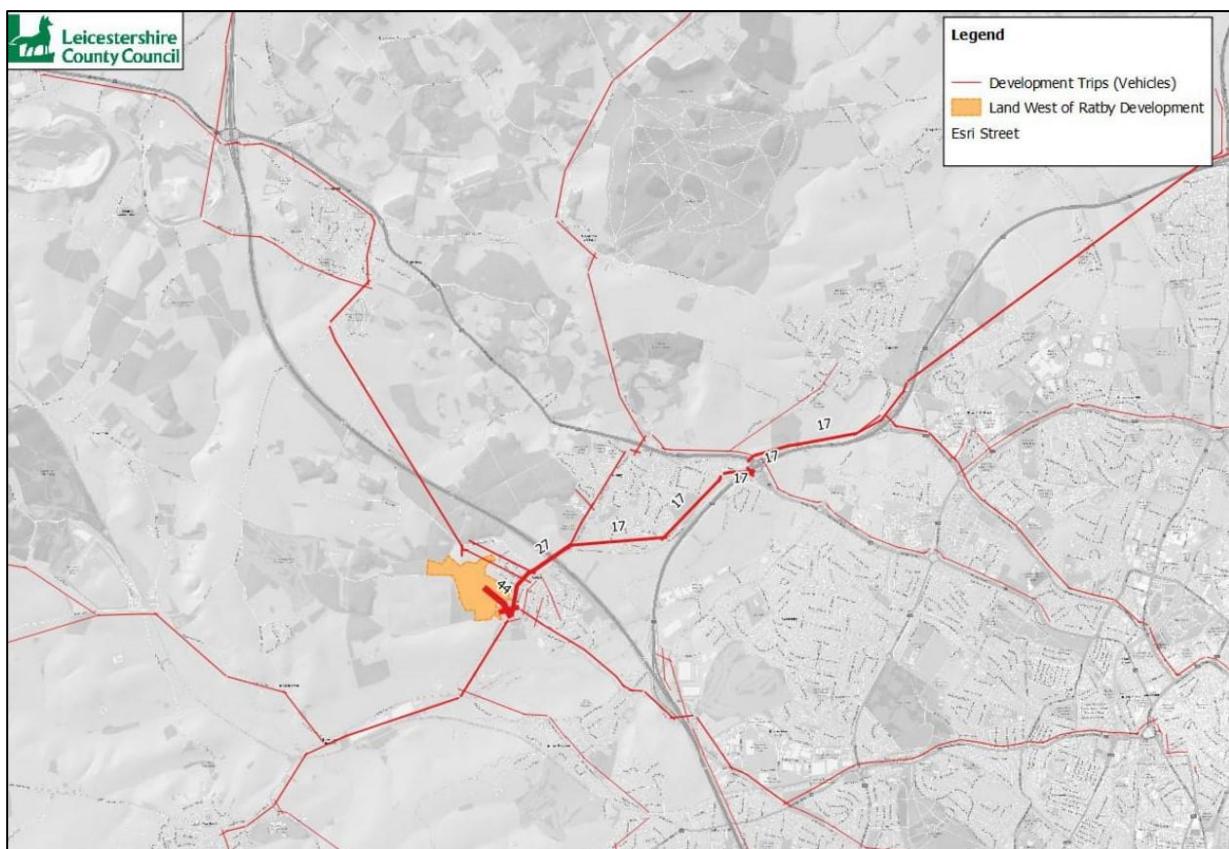


Figure 4. Vehicle Trip Distribution from the Proposed Development - 2028 PM (Residential)

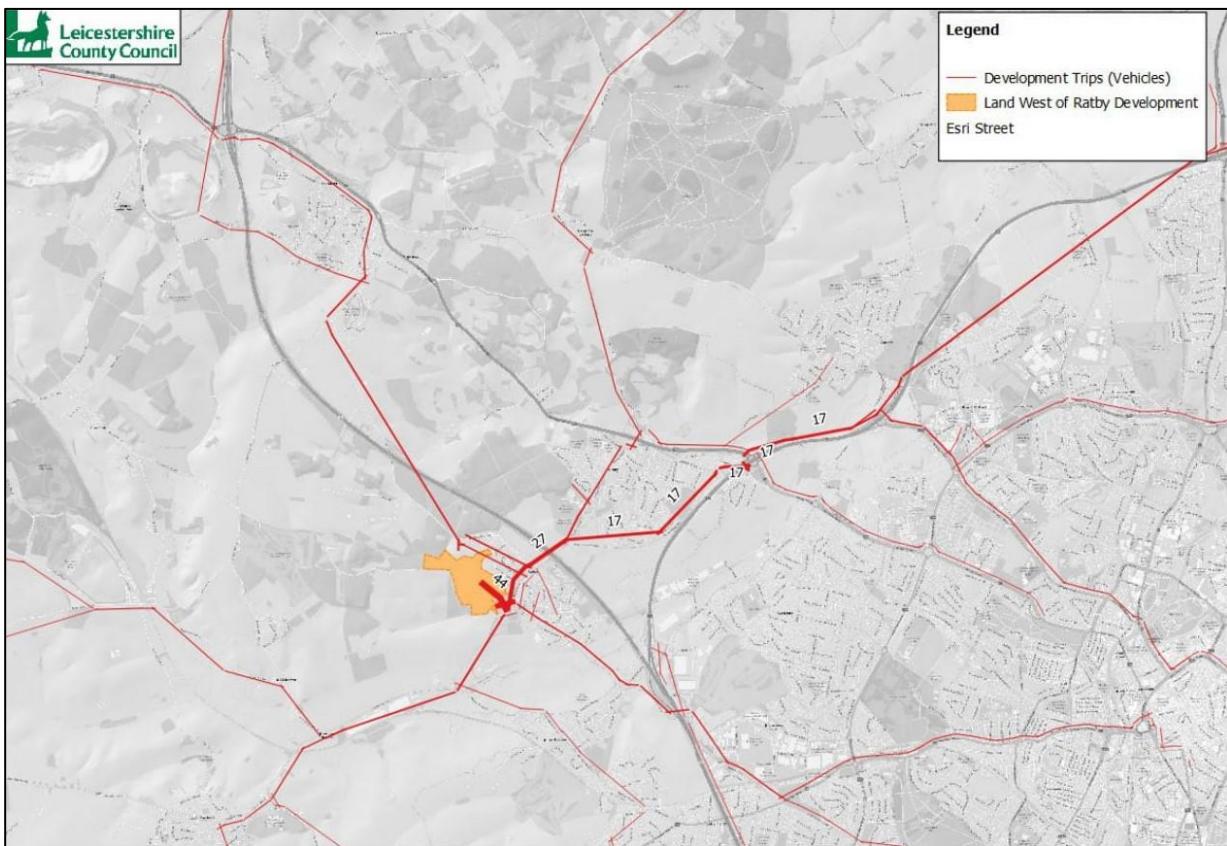


Figure 5. Vehicle Trip Distribution to the Proposed Development – 2031 AM (Residential)

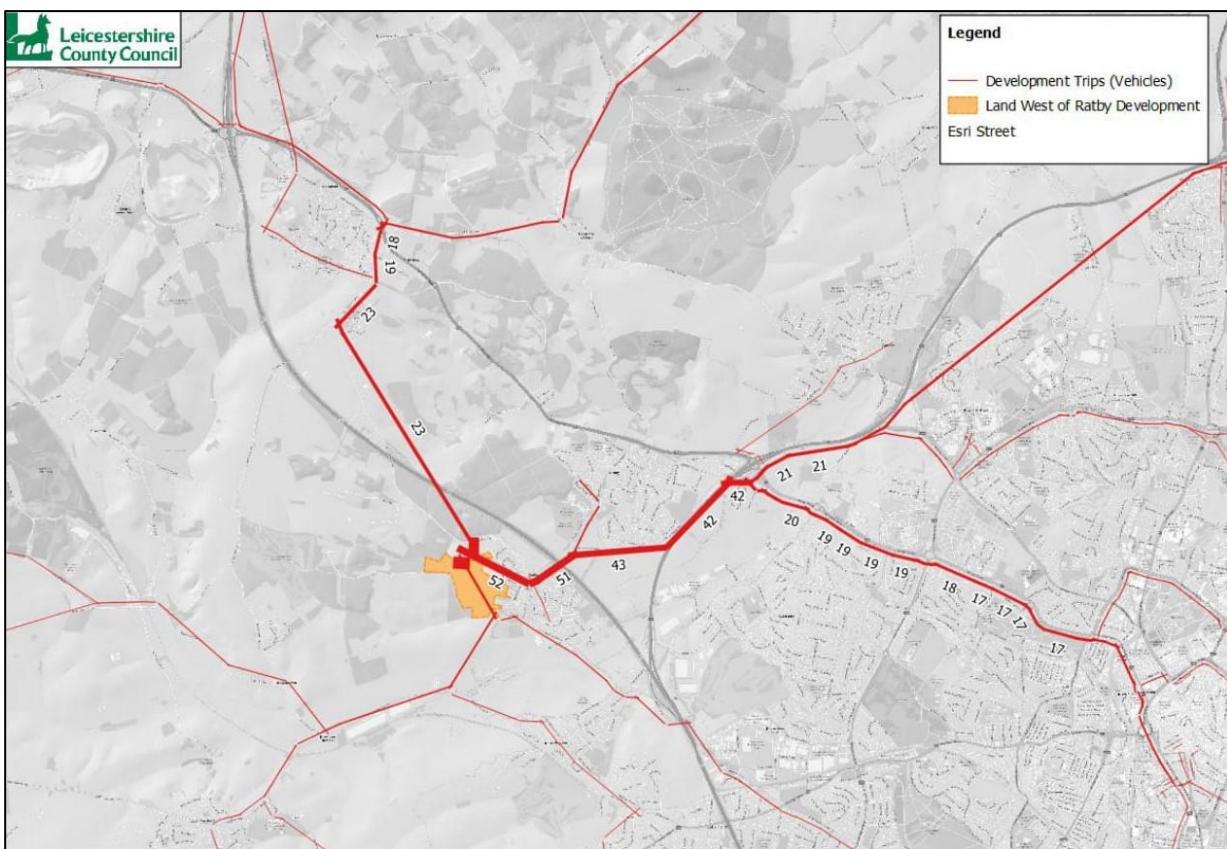


Figure 6. Vehicle Trip Distribution from the Proposed Development - 2031 AM (Residential)

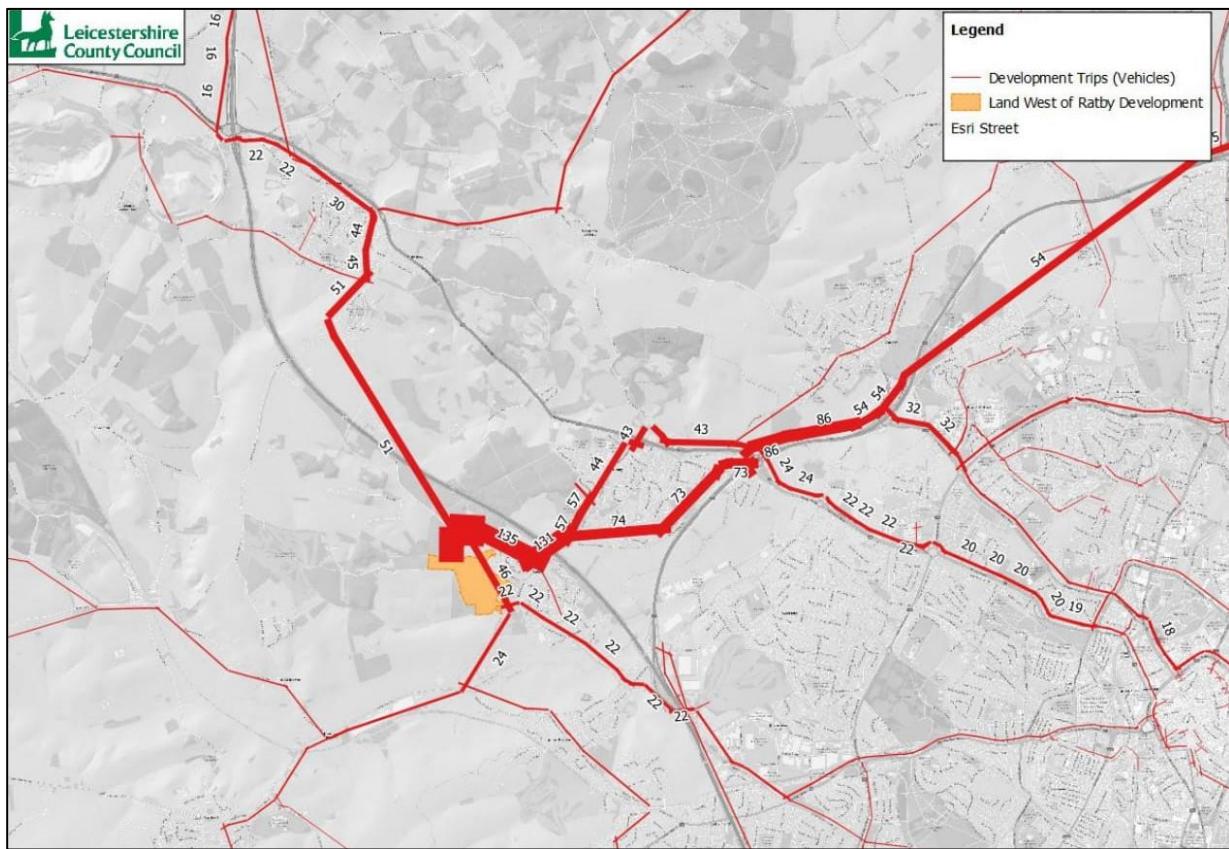


Figure 7. Vehicle Trip Distribution to the Proposed Development – 2031 PM (Residential)

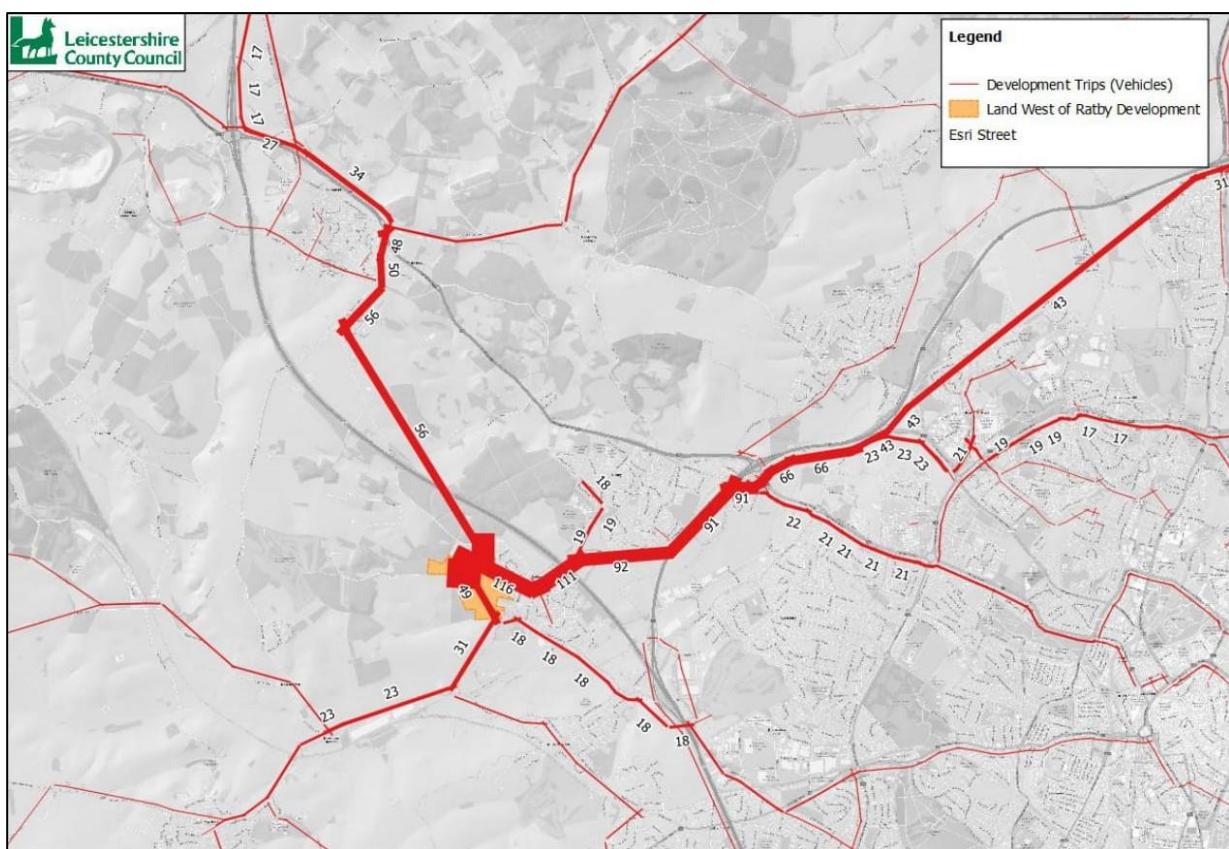


Figure 8. Vehicle Trip Distribution from the Proposed Development – 2031 PM (Residential)



Figure 9. Vehicle Trip Distribution to the Proposed Development – 2031 AM (Educational)

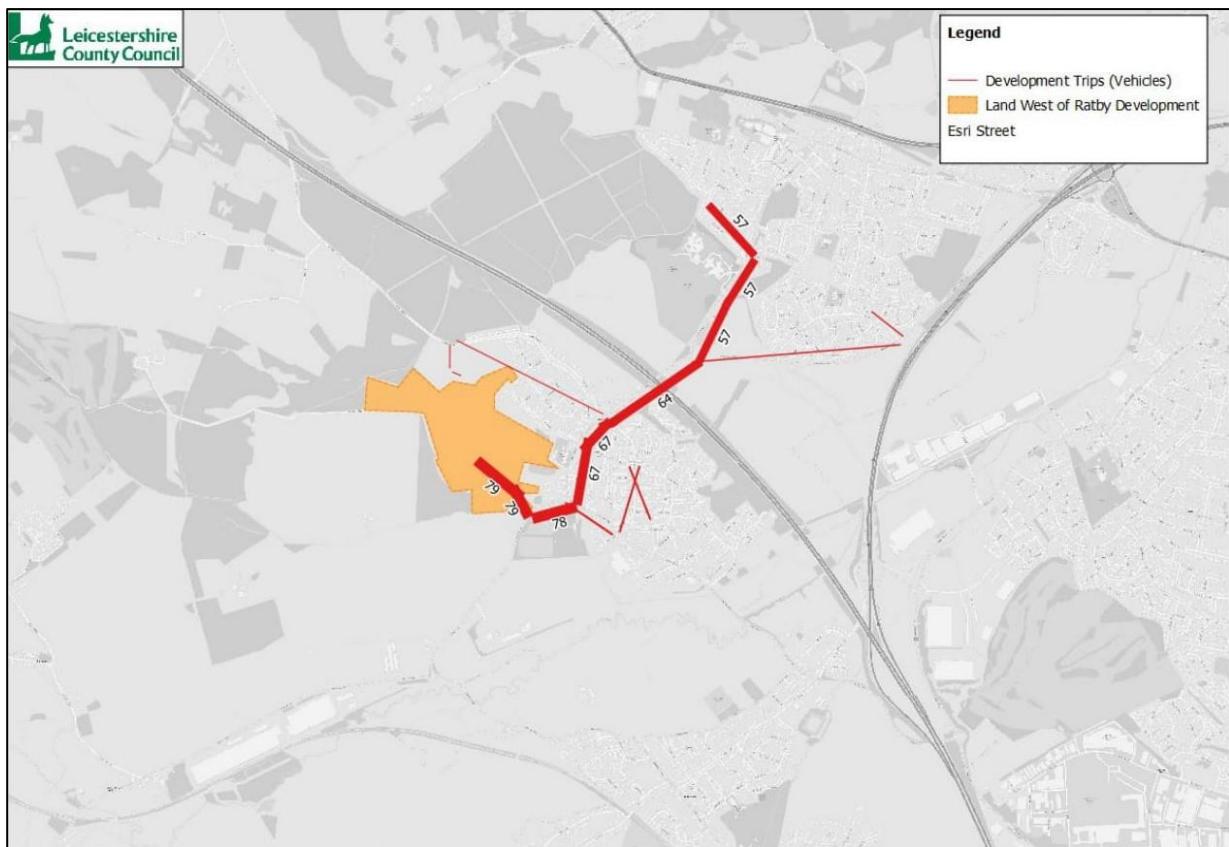
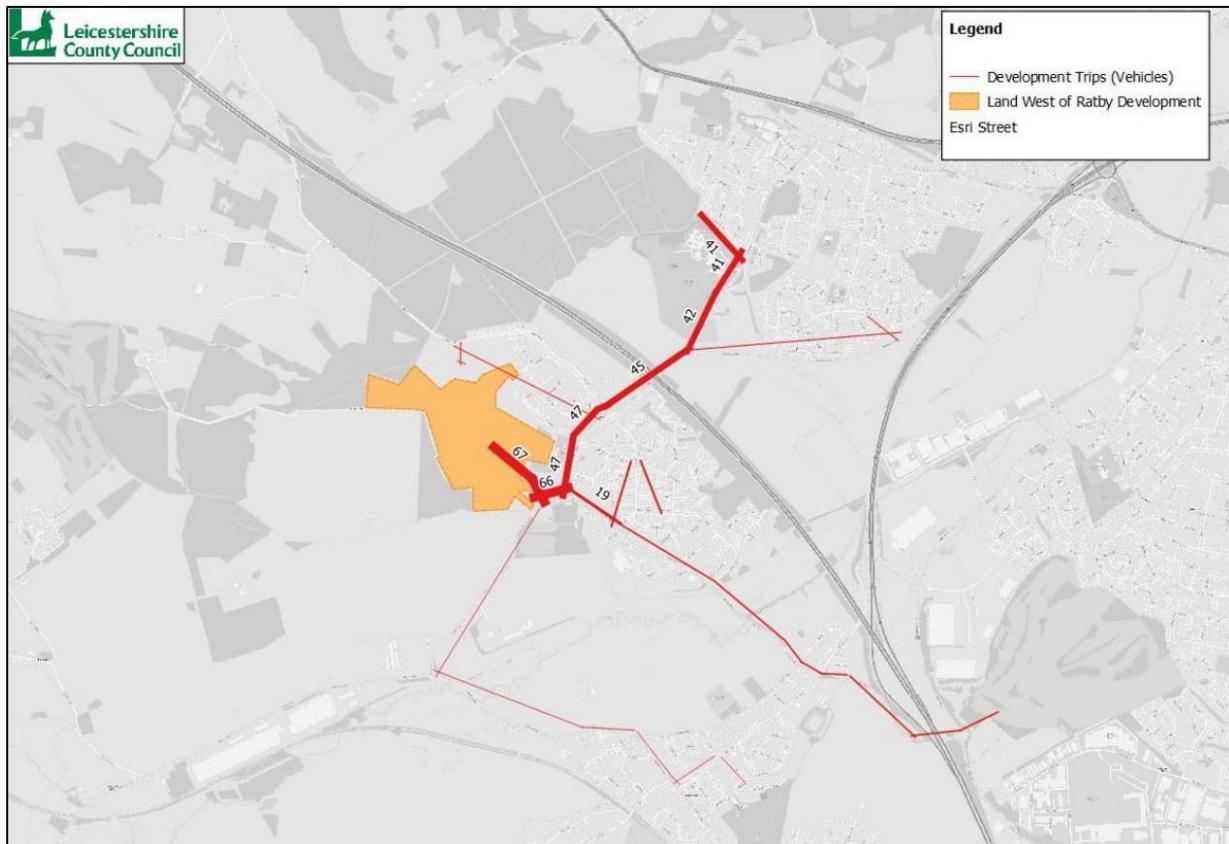


Figure 10. Vehicle Trip Distribution from the Proposed Development – 2031 AM (Educational)



4 Forecast Flow Change

4.1.1 The flow change is the difference between the base year without development traffic volumes on a section of road, and the year with development traffic volumes. The with development traffic volumes have two components. The first is the existing traffic on the roads, which can re-route as a result of increased congestion. The second, the new development traffic (which is shown in the traffic distributions shown previously). The extracts of the flow changes are shown below.

4.2 Without Development

4.2.1 **Figure 11 and Figure 12** show the forecast flow changes in 2028 minus the 2024 flow after accounting for without development traffic in both years, for the AM and PM peaks respectively. In the AM peak, all the roads within the vicinity of the site will have increases in traffic flows, with Desford Lane receiving the largest increase in traffic. The PM peak hour forecasts that Desford Lane towards Newtown Unthank will have the largest increase in flow on roads within the vicinity of the site, with 148 vehicles.

4.2.2 **Figure 13 and Figure 14** show the forecast flow changes in 2031 minus the 2028 flow after accounting for without development traffic in both years, for the AM and PM peaks respectively. Across both peaks, the increase in traffic flow on all roads is smaller than that between the period of 2024 – 2028. In the AM peak, Main Street will have the largest increase of roads in Ratby. In the PM peak, all roads in Ratby have a similar increase in flow. The A50 arms have a negligible increase.

Figure 11. Forecast Flow Change for 2028 AM Peak Hour 'Without Development' minus 2024 AM Peak Hour 'Without Development'

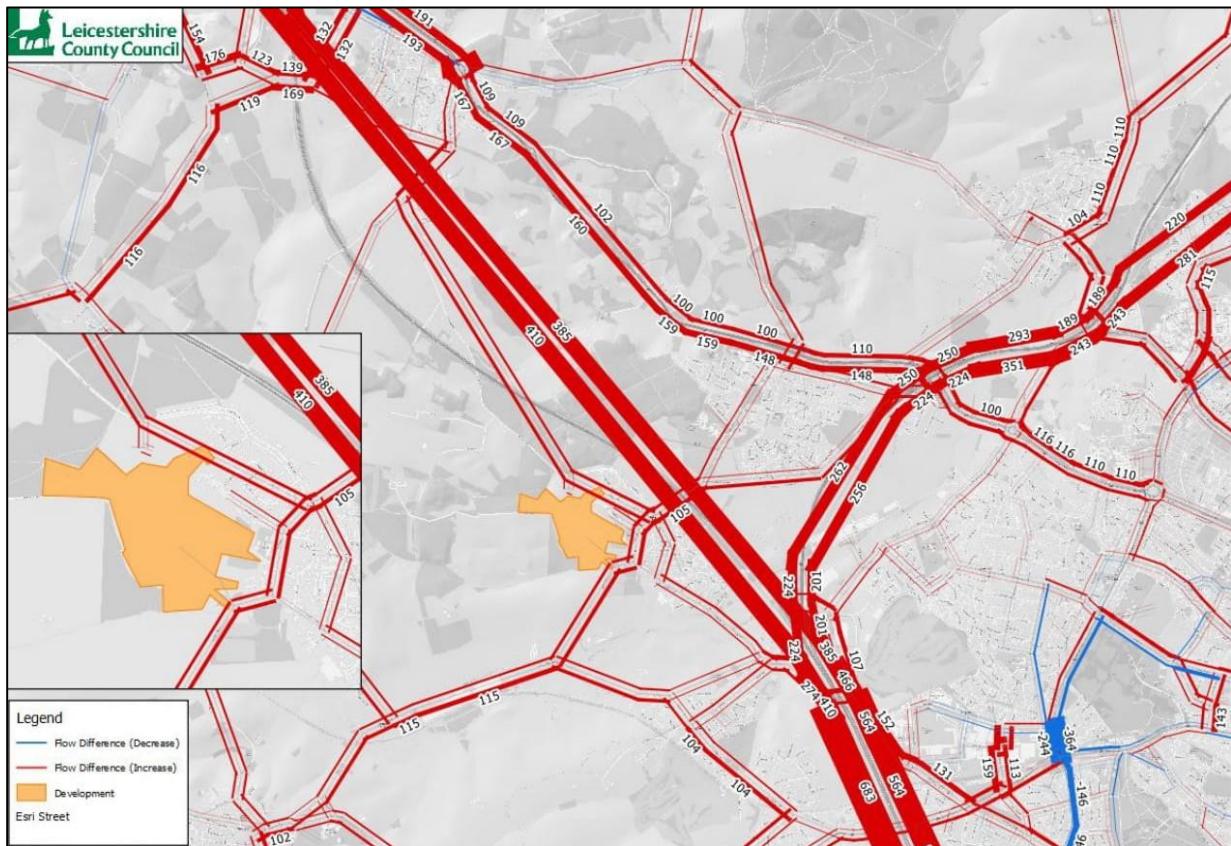


Figure 12. Forecast Flow Change for 2028 PM Peak Hour 'Without Development' minus 2024 PM Peak Hour 'Without Development'

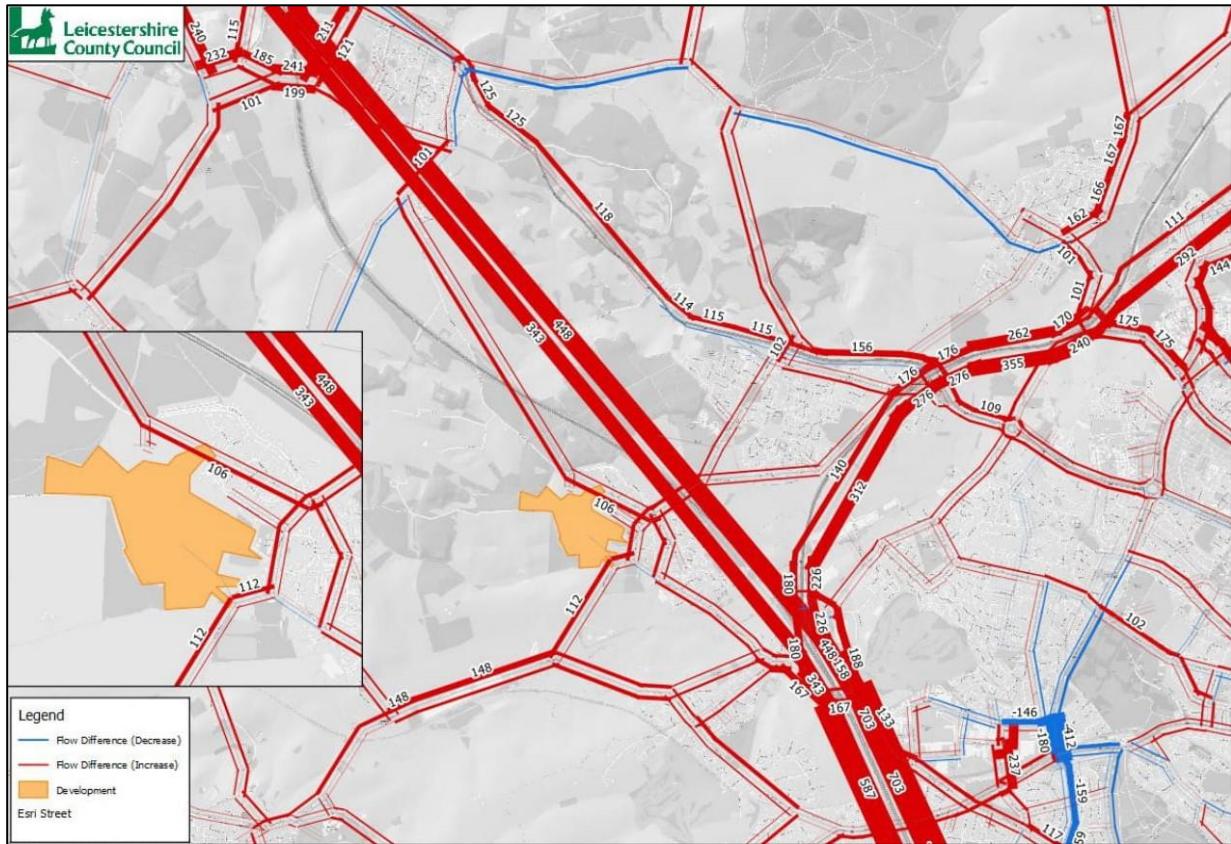


Figure 13. Forecast Flow Change for 2031 AM Peak Hour 'Without Development' minus 2028 AM Peak Hour 'Without Development'

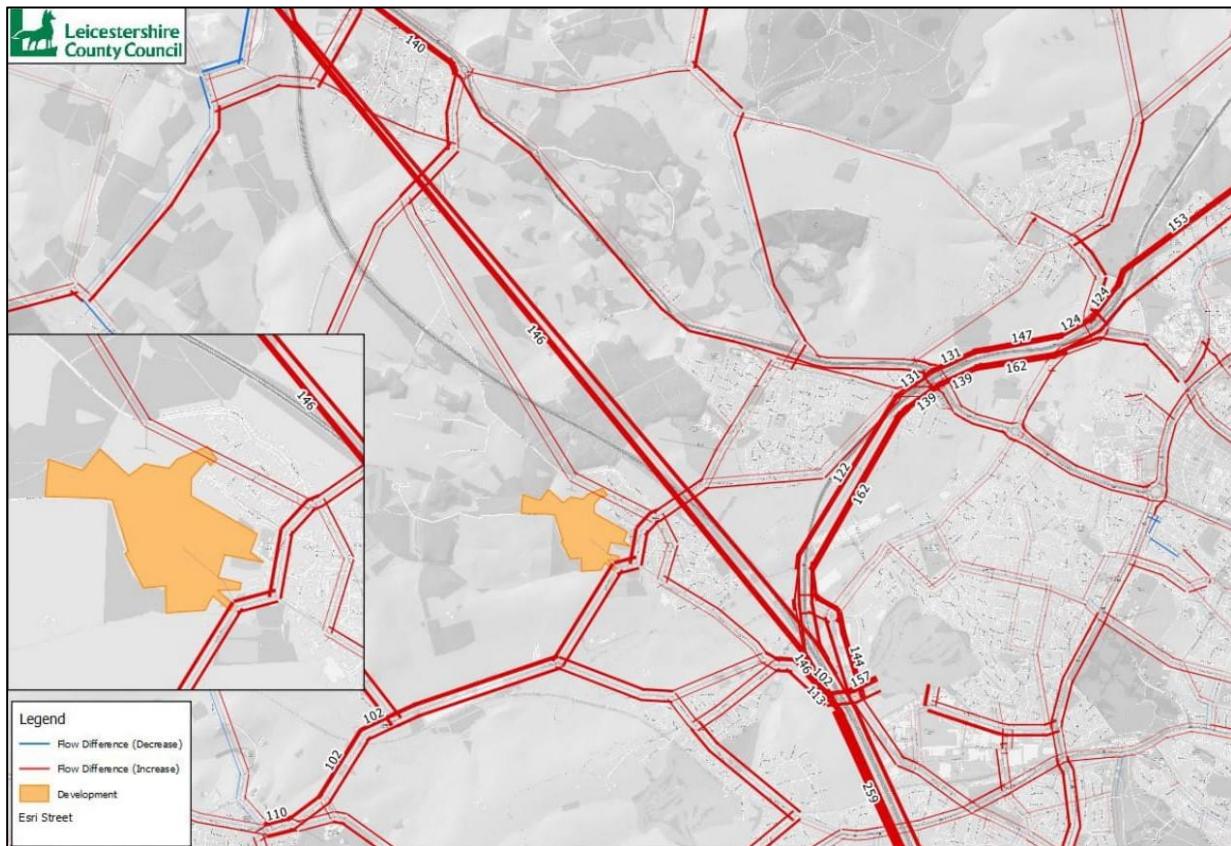


Figure 14. Forecast Flow Change for 2031 PM Peak Hour 'Without Development' minus 2028 PM Peak Hour 'Without Development'



4.3 With Development

4.3.1 Error! Not a valid bookmark self-reference. and **Figure 16** show the forecast flow changes in 2028 as a result of development in the AM and PM peaks hour periods respectively. In the AM highway peak hour, north of the development along Groby Road and as it becomes Ratby Road into the village of Groby will have a slight increase in flow, with 65 additional vehicles on Groby Road, dispersing into 26 vehicles on Ratby Road. In the PM peak hour, there is very little change to the north. Desford Lane to the south of the site will see a decrease in flow of 30 vehicles travelling away from the development. Desford Lane / Desford Road leading through Kirby Muxloe will have an increase of 34 vehicles. Subsequently, overall the Desford Lane junction will see a negligible overall change in vehicle flows through it.

4.3.2 **Figure 17** and **Figure 18** show the forecast flow changes in 2031 as a result of the development of in the AM and PM peak hours respectively. This includes build out of the development spine road. The AM forecast shows that Groby Road and Ratby Road will have increases of 113 vehicles, dispensing into 41 as vehicles travel on Ratby Road for longer. Sachereverell Way will also see increases of approximately 44 vehicles. These three roads provide links to the A50/A46 roundabout which also has an increase of vehicles through the junction. North of the site on Markfield Road towards Markfield will have an increase of 50 vehicles. East of the site on Main Street (through central Ratby) and Markfield Road will all have a decrease in traffic flow, with Markfield Road having the largest decrease in traffic with 74 less vehicles. Desford Lane and Desford Road will both have increased traffic heading through Kirby Muxloe via the new development Spine Road which can now avoid Main Street in central Ratby. The PM peak hour is very similar to the AM flows, except there is a larger decrease of vehicles using alternate routes through Ratby (therefore re-routing using the development spine road), with 119 less vehicles using Main Street as well as Desford Lane also experiencing a decrease in traffic. Ratby Road in Groby will have less vehicles in the PM compared to the AM peak.

Figure 15. Forecast Flow Change for 2028 AM 'With Development' minus 'Without Development'



Figure 16. Forecast Flow Change for 2028 PM 'With Development' minus 'Without Development'



Figure 17. Forecast Flow Change for 2031 AM 'With Development' minus 'Without Development'

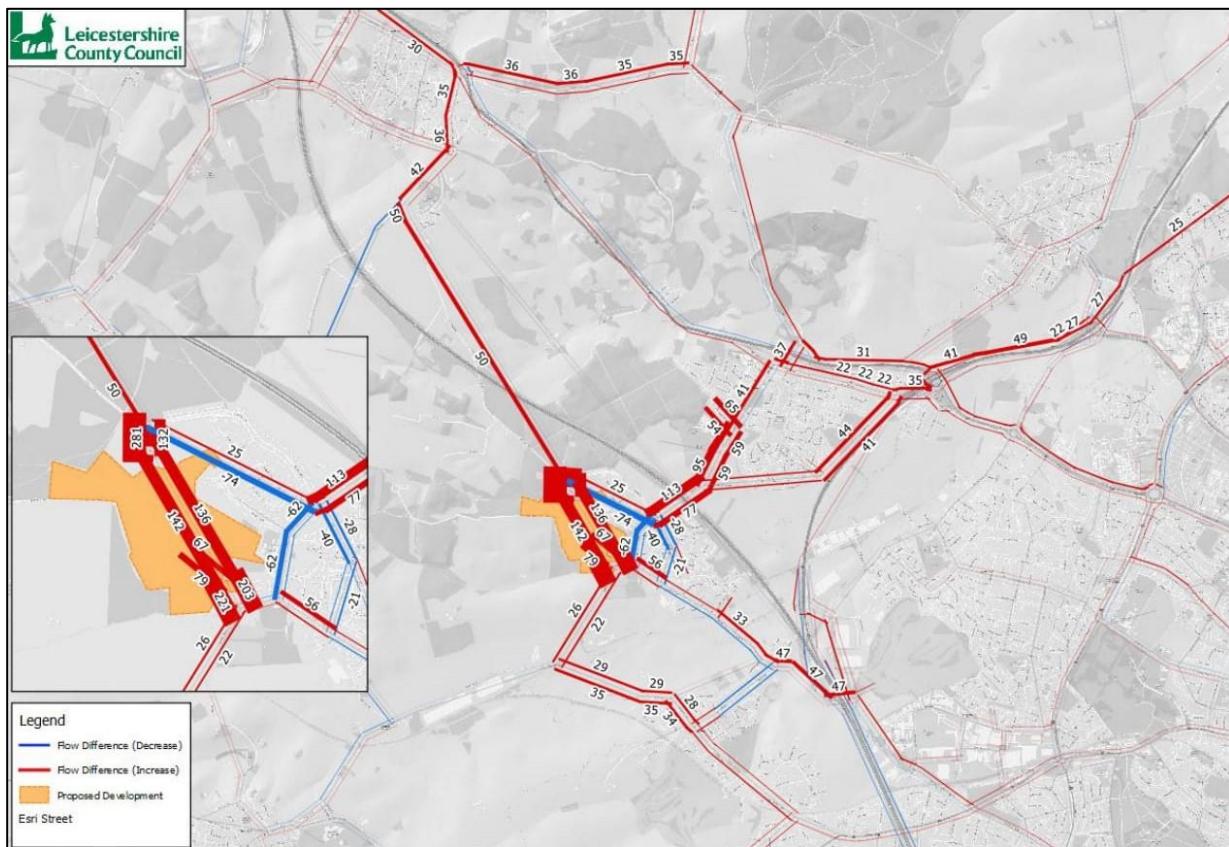


Figure 18. Forecast Flow Change for 2031 PM 'With Development' minus 'Without Development'



4.3.3 As a result of the change in flows presented within the **With Development**

4.3.4 Error! Not a valid bookmark self-reference. and **Figure 16** show the forecast flow changes in 2028 as a result of development in the AM and PM peaks hour periods respectively. In the AM highway peak hour, north of the development along Groby Road and as it becomes Ratby Road into the village of Groby will have a slight increase in flow, with 65 additional vehicles on Groby Road, dispersing into 26 vehicles on Ratby Road. In the PM peak hour, there is very little change to the north. Desford Lane to the south of the site will see a decrease in flow of 30 vehicles travelling away from the development. Desford Lane / Desford Road leading through Kirby Muxloe will have an increase of 34 vehicles. Subsequently, overall the Desford Lane junction will see a negligible overall change in vehicle flows through it.

4.3.5 **Figure 17** and **Figure 18** show the forecast flow changes in 2031 as a result of the development of in the AM and PM peak hours respectively. This includes build out of the development spine road. The AM forecast shows that Groby Road and Ratby Road will have increases of 113 vehicles, dispensing into 41 as vehicles travel on Ratby Road for longer. Sachereverell Way will also see increases of approximately 44 vehicles. These three roads provide links to the A50/A46 roundabout which also has an increase of vehicles through the junction. North of the site on Markfield Road towards Markfield will have an increase of 50 vehicles. East of the site on Main Street (through central Ratby) and Markfield Road will all have a decrease in traffic flow, with Markfield Road having the largest decrease in traffic with 74 less vehicles. Desford Lane and Desford Road will both have increased traffic heading through Kirby Muxloe via the new development Spine Road which can now avoid Main Street in central Ratby. The PM peak hour is very similar to the AM flows, except there is a larger decrease of vehicles using alternate routes through Ratby (therefore re-routing using the development spine road), with 119 less vehicles using Main Street as well as Desford Lane also experiencing a decrease in traffic. Ratby Road in Groby will have less vehicles in the PM compared to the AM peak.

4.3.6 Figure 15 and **Figure 16**, in 2028, as well as **Figure 17** and **Figure 18** in 2031, an Area of Influence (AOI) has been derived, where link flow change will be by more than 5% and 30 PCUs. The 2028 'With Development' AOI is shown in **Figure 19** and 2031 'With Development' AOI is shown in **Figure 20**.

4.3.7 The AOI (2028) in **Figure 19** consists of the following:

- Main Street
- Groby Road
- Desford Lane (south of the site and into Kirby Muxloe)

4.3.8 The AOI (2031) in **Figure 20** consists of the following:

- The entire 2028 AOI
- Ratby
- Groby
- Kirby Muxloe
- Markfield Road and Ratby Lane (into the village of Markfield)
- A50/A46 Roundabout
- Kirby Lane/Ratby Lane Roundabout

Figure 19. Area of Influence for 2028 'With Development'

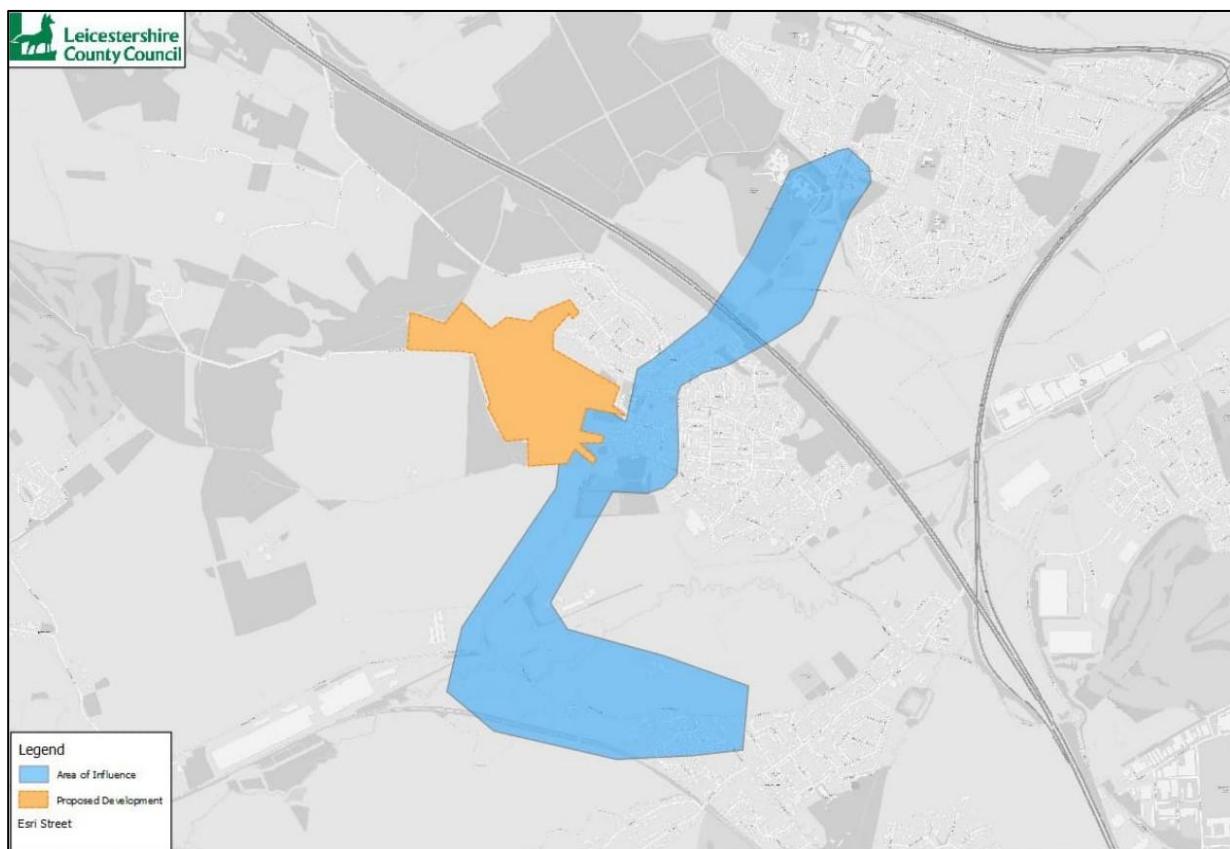
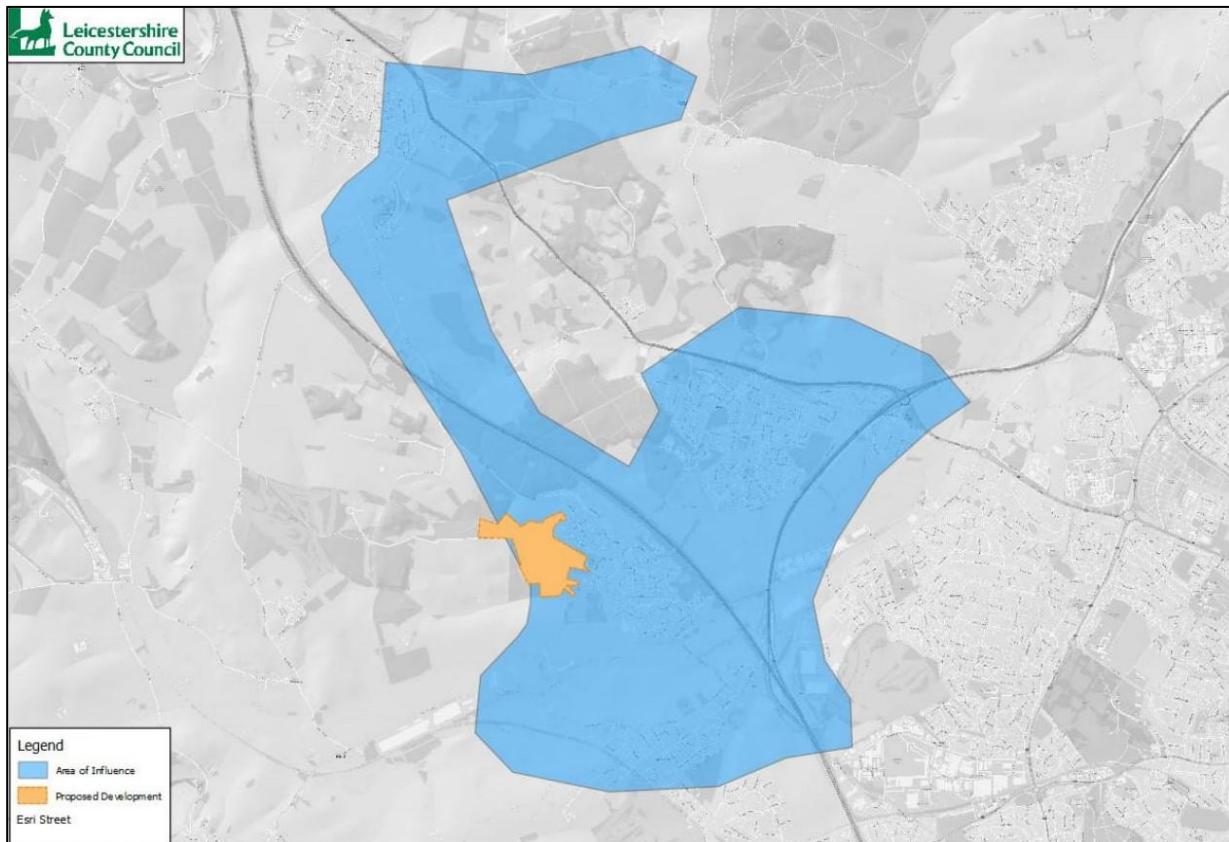


Figure 20. Area of Influence for 2031 'With Development'



5 Forecast Node Volume-Capacity Ratios

5.1.1 The forecast node volume-capacity ratios are a measure of the congestion at junctions. Ratios exceeding 85% indicate that the node is under stress. The extracts below show the forecast ratios without and with the development on the same plot (Purple circles).

5.1.2 **Figure 21 and Figure 22** shows the forecast maximum-volume capacity ratios for the 2024, 2028 and 2031 'Without Development' scenarios for the AM and PM peaks respectively. In the AM of 2031, the Markfield Road/Groby Road/Main Street roundabout is the only junction within the study areas that has a capacity between 85% and 100%. The A50/A46 roundabout is operating within 85% and 100% capacity in all three years. In the PM, there are no junctions within the study areas that are approaching or exceeding their forecast capacity with the exception of the A50/A46 roundabout, which exceeds 100% capacity in all three assessment years.

5.1.3 **Figure 23 and Figure 24** shows the forecast maximum volume-capacity ratios for 2028 'Without Development' and 'With Development' scenarios for the AM and PM peak respectively. In the AM peak, the Markfield Road/Groby Road/Main Street roundabout is operating between 85% and 100% capacity with the development (less than 85% without development), however in the PM peak it is operating at less than 85% capacity both with and without development. In addition to the above within the study areas, regarding the A50/A46 roundabout also has a capacity between 85% and 100% both with and without the development in the AM and exceeds 100% capacity in the PM peak hour.

5.1.4 **Figure 25 and Figure 26** shows the forecast maximum volume-capacity ratios for 2031 'Without Development' and 'With Development' scenarios for the AM and PM peak respectively. In both peaks show the volume-capacity ratios do not increase across the 'Without Development' and 'With Development' scenario. In 2031, the Markfield Road/Groby Road/Main Street roundabout capacity improves in the AM peak from 85%-100% without the development to less than 85% following the development, this is likely due to re-routing of traffic with the implementation of the development spine road. Again, the A50/A46 roundabout situation remains unchanged when compared to the 2028 scenario.

5.1.5 Turning flows have been provided by Road Data Surveys Ltd and were undertaken on Tuesday 2nd July 2024 this was so that they could be used as part of undertaking individual junction assessments.

Figure 21. Forecast Node Volume-Capacity Ratio for 2024, 2028 and 2031 AM Peak Hour 'Without Development' Scenarios



Figure 22. Forecast Node Volume-Capacity Ratio for 2024, 2028 and 2031 PM Peak Hour 'Without Development' Scenarios



Figure 23. Forecast Node Volume-Capacity Ratio for 2028 AM 'Without Development' and With Development' Scenarios



Figure 24. Forecast Node Volume-Capacity Ratio for 2028 PM 'Without Development' and 'With Development' Scenarios



Figure 25. Forecast Node Volume-Capacity Ratio for 2031 AM 'Without Development' and 'With Development' Scenarios



Figure 26. Forecast Node Volume-Capacity Ratio for 2031 PM 'Without Development' and 'With Development' Scenarios



6 Summary

6.1.1 Leicestershire's NDI team have suggested an area of influence where traffic flows will increase by 5% or 30 PCU. However, within that area not all junctions are congested. The level of stress is illustrated by the node volume-capacity ratios.

6.1.2 As a result of all development allocated in Ratby (the Sensitivity Test Scenario), in the AM peak hour, in the 2028 AOI, it is only the Markfield Road/Groby Road/Main Street roundabout that is under stress with the capacity going from less than 85% without the development to between 85% and 100% in the with development scenarios.

6.1.3 Notwithstanding this, all of the junctions assessed as part of the approved Phase 2 Outline Planning Application (22/00648/OUT) have been included for assessment as well as the new site access off Desford Lane and additional key junctions where significant turning movements have been identified. An appropriate financial contribution will be made towards the improvement scheme at the A50/Leicester Road/Markfield Lane/Launde Road roundabout, in line with the Phase 2 scheme.

6.1.4 The following forms the study area junctions for assessment:

- Junction 1 – Desford Lane – Priority Junction
- Junction 2 - Station Road/ Desford Lane – Priority Junction
- Junction 3 – Main Street/ Markfield Road – Mini-roundabout
- Junction 4 – Groby Road/ Sacheverell Way – Priority Junction
- Junction 5 – Leicester Road/ Sacheverell Way – Roundabout

- Junction 6 – A46/ Groby Road/ Markfield Road – Signalised Roundabout
- Junction 7 – Thornton Road/ Ratby Lane – Priority Junction
- Junction 8 – Desford Lane/ Site Access – Priority Junction
- Junction 9 – Markfield Road/ Site Access – Priority Junction

6.1.5 It is concluded that these junctions, in conjunction with the site accesses for the development, should be the study area for further detailed capacity analysis. Model derived turning flows have been provided to allow the assessments.

This report is to be regarded as confidential to our Client and is intended for their use only and may not be assigned except in accordance with the contract. Consequently, and in accordance with current practice, any liability to any third party in respect of the whole or any part of its contents is hereby expressly excluded, except to the extent that the report has been assigned in accordance with the contract. Before the report or any part of it is reproduced or referred to in any document, circular or statement and before its contents or the contents of any part of it are disclosed orally to any third party, our written approval as to the form and context of such a publication or disclosure must be obtained.

Report Ref.		109003-Pef-Zz-Xx-Rp-Tp-000006_S2_P1 - Prtm Summary				
File Path		P:\Data\109003 - Ratby Phases 3 & 4 Outline\01 - WIP\Documents\Transport Planning\109003-PEF-ZZ-XX-RP-TP-000006_S2_P1 - PRTM Summary.docx				
Rev	Suit	Description	Date	Originator	Checker	Approver
P1	S2	Initial Draft	06.09.24	J Hope	L Thomas	C Holloway

Ref. reference. Rev revision. Suit suitability.

Appendix B Survey Data

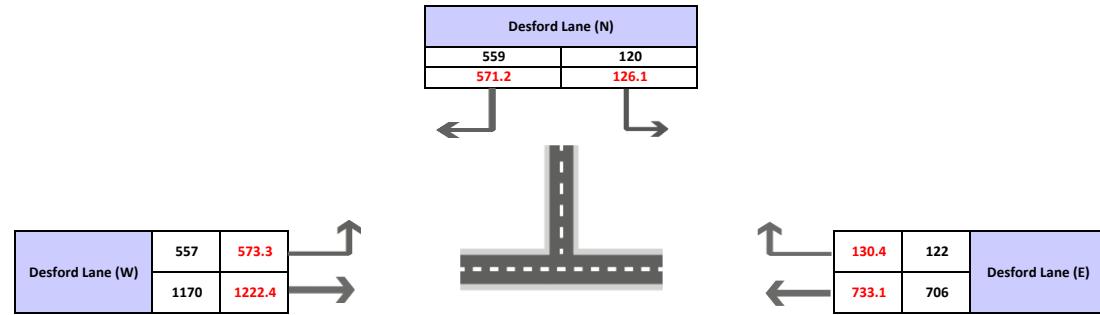
From: 1) 07:00 Show Peak Hour:

To: 1) 10:00 Show PCUs:

Class: All Vehicles Show Session 2

Tuesday 2nd July 2024

PCUs



Note: If the diagram doesn't work on your computer there are two options for unblocking the macros:

Ratby
Tuesday 2nd July 2024
Junction: 1
Approach: Desford Lane North

TIME	Left to Desford Lane (E)							Right to Desford Lane (W)										
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	0	0	1	0	0	1	1.5	0	0	32	13	1	0	0	46	46.5
07:15 - 07:30	0	0	4	0	0	0	0	4	4.0	0	1	44	13	1	0	0	59	58.9
07:30 - 07:45	0	0	12	2	1	0	0	15	15.5	0	0	47	11	2	1	0	61	63.3
07:45 - 08:00	0	0	10	5	2	1	0	18	20.3	0	3	51	9	0	1	1	65	65.5
Hourly Total	0	0	26	7	4	1	0	38	41.3	0	4	174	46	4	2	1	231	234.2
08:00 - 08:15	0	0	9	3	2	0	0	14	15.0	0	0	47	7	1	0	1	56	57.5
08:15 - 08:30	0	0	14	2	0	0	0	16	16.0	0	1	56	9	1	0	0	67	66.9
08:30 - 08:45	0	0	13	3	1	0	0	17	17.5	0	0	32	7	0	0	1	40	41.0
08:45 - 09:00	0	0	10	2	0	0	0	12	12.0	0	0	41	10	2	1	0	54	56.3
Hourly Total	0	0	46	10	3	0	0	59	60.5	0	1	176	33	4	1	2	217	221.7
09:00 - 09:15	0	0	4	0	0	1	0	5	6.3	0	0	21	10	0	1	0	32	33.3
09:15 - 09:30	0	0	3	2	0	0	0	5	5.0	0	0	16	4	1	0	0	21	21.5
09:30 - 09:45	0	0	6	0	0	0	0	6	6.0	0	0	17	6	3	0	1	27	29.5
09:45 - 10:00	0	0	5	2	0	0	0	7	7.0	0	0	26	5	0	0	0	31	31.0
Hourly Total	0	0	18	4	0	1	0	23	24.3	0	0	80	25	4	1	1	111	115.3
TOTAL	0	0	90	21	7	2	0	120	126.1	0	5	430	104	12	4	4	559	571.2

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

16:00 - 16:15	0	0	7	1	0	0	0	8	8.0	0	1	39	7	1	0	0	48	47.9
16:15 - 16:30	0	0	9	3	0	1	0	13	14.3	0	0	36	7	3	0	0	46	47.5
16:30 - 16:45	0	1	17	0	1	0	0	19	18.9	0	1	39	5	1	0	1	47	47.9
16:45 - 17:00	0	0	13	1	0	0	0	14	14.0	0	0	48	9	0	0	1	58	59.0
Hourly Total	0	1	46	5	1	1	0	54	55.2	0	2	162	28	5	0	2	199	202.3
17:00 - 17:15	2	4	11	2	0	0	0	19	15.0	0	1	45	5	0	0	0	51	50.4
17:15 - 17:30	0	0	9	4	0	0	0	13	13.0	0	0	41	6	1	0	0	48	48.5
17:30 - 17:45	0	0	15	1	0	0	0	16	16.0	0	0	54	9	0	0	0	63	63.0
17:45 - 18:00	0	0	4	2	0	0	0	6	6.0	0	1	49	1	0	0	1	52	52.4
Hourly Total	2	4	39	9	0	0	0	54	50.0	0	2	189	21	1	0	1	214	214.3
18:00 - 18:15	0	0	7	0	0	0	0	7	7.0	0	0	28	4	0	0	0	32	32.0
18:15 - 18:30	1	1	8	1	0	0	0	11	9.6	0	2	30	5	1	0	0	38	37.3
18:30 - 18:45	0	0	10	3	0	0	0	13	13.0	0	0	23	4	1	0	0	28	28.5
18:45 - 19:00	0	0	5	0	0	0	0	5	5.0	1	1	24	5	0	0	1	32	31.6
Hourly Total	1	1	30	4	0	0	0	36	34.6	1	3	105	18	2	0	1	130	129.4
TOTAL	3	6	115	18	1	1	0	144	139.8	1	7	456	67	8	0	4	543	546.0

Ratby
Tuesday 2nd July 2024
Junction: 1
Approach: Desford Lane East

TIME	Ahead to Desford Lane (W)							Right to Desford Lane (N)										
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	1	0	27	10	2	1	1	42	44.5	0	0	4	0	0	0	0	4	4.0
07:15 - 07:30	0	0	30	9	2	2	0	43	46.6	0	0	8	1	0	3	0	12	15.9
07:30 - 07:45	2	0	56	14	1	1	0	74	74.2	0	0	4	3	1	0	0	8	8.5
07:45 - 08:00	1	0	74	14	2	0	1	92	93.2	0	0	6	0	1	0	0	7	7.5
Hourly Total	4	0	187	47	7	4	2	251	258.5	0	0	22	4	2	3	0	31	35.9
08:00 - 08:15	0	0	49	12	0	0	3	64	67.0	0	0	11	2	1	0	0	14	14.5
08:15 - 08:30	0	0	51	11	3	1	1	67	70.8	0	1	15	0	0	1	0	17	17.7
08:30 - 08:45	0	0	62	15	4	2	0	83	87.6	0	0	20	3	0	0	0	23	23.0
08:45 - 09:00	0	1	68	10	3	1	0	83	85.2	0	0	7	2	0	1	0	10	11.3
Hourly Total	0	1	230	48	10	4	4	297	310.6	0	1	53	7	1	2	0	64	66.5
09:00 - 09:15	0	0	31	7	4	0	0	42	44.0	0	0	6	0	1	0	0	7	7.5
09:15 - 09:30	0	0	37	7	2	0	1	47	49.0	0	0	9	1	1	0	0	11	11.5
09:30 - 09:45	0	0	32	7	1	1	0	41	42.8	0	0	1	1	0	0	0	2	2.0
09:45 - 10:00	1	0	22	3	2	0	0	28	28.2	0	0	4	3	0	0	0	7	7.0
Hourly Total	1	0	122	24	9	1	1	158	164.0	0	0	20	5	2	0	0	27	28.0

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

TOTAL	5	1	539	119	26	9	7	706	733.1	0	1	95	16	5	5	0	122	130.4
--------------	----------	----------	------------	------------	-----------	----------	----------	------------	--------------	----------	----------	-----------	-----------	----------	----------	----------	------------	--------------

16:00 - 16:15	0	0	65	9	1	0	1	76	77.5	0	0	6	1	0	0	0	7	7.0
16:15 - 16:30	0	0	70	7	1	0	1	79	80.5	0	0	9	2	1	0	0	12	12.5
16:30 - 16:45	0	1	77	8	2	0	0	88	88.4	0	0	9	0	2	0	0	11	12.0
16:45 - 17:00	1	0	87	18	2	1	2	111	114.5	0	0	13	0	0	0	0	13	13.0
Hourly Total	1	1	299	42	6	1	4	354	360.9	0	0	37	3	3	0	0	43	44.5
17:00 - 17:15	0	2	84	11	0	1	0	98	98.1	0	0	14	1	1	0	0	16	16.5
17:15 - 17:30	0	2	103	5	1	0	0	111	110.3	0	1	5	3	0	0	0	9	8.4
17:30 - 17:45	0	0	79	5	1	0	0	85	85.5	0	0	13	1	0	0	0	14	14.0
17:45 - 18:00	0	0	72	11	0	0	1	84	85.0	0	0	12	0	0	0	0	12	12.0
Hourly Total	0	4	338	32	2	1	1	378	378.9	0	1	44	5	1	0	0	51	50.9
18:00 - 18:15	0	0	82	6	0	0	0	88	88.0	0	0	8	0	0	0	0	8	8.0
18:15 - 18:30	0	3	51	2	1	1	0	58	58.0	0	0	7	2	0	0	0	9	9.0
18:30 - 18:45	0	1	38	7	1	1	1	49	51.2	0	0	5	0	0	0	0	5	5.0
18:45 - 19:00	0	0	39	5	0	0	0	44	44.0	0	0	6	1	0	0	0	7	7.0
Hourly Total	0	4	210	20	2	2	1	239	241.2	0	0	26	3	0	0	0	29	29.0

TOTAL	1	9	847	94	10	4	6	971	981.0	0	1	107	11	4	0	0	123	124.4
--------------	----------	----------	------------	-----------	-----------	----------	----------	------------	--------------	----------	----------	------------	-----------	----------	----------	----------	------------	--------------

Ratby
Tuesday 2nd July 2024
Junction: 1
Approach: Desford Lane West

TIME	Left to Desford Lane (N)							Ahead to Desford Lane (E)										
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	40	6	0	0	0	46	46.0	0	0	54	12	1	3	1	71	76.4
07:15 - 07:30	0	1	15	8	4	0	1	29	31.4	0	2	79	13	3	2	1	100	103.9
07:30 - 07:45	0	0	35	7	1	0	1	44	45.5	0	1	103	18	4	3	0	129	134.3
07:45 - 08:00	0	0	47	8	3	0	0	58	59.5	0	0	111	14	9	2	0	136	143.1
Hourly Total	0	1	137	29	8	0	2	177	182.4	0	3	347	57	17	10	2	436	457.7
08:00 - 08:15	0	0	52	5	0	0	0	57	57.0	0	0	132	15	1	2	2	152	157.1
08:15 - 08:30	0	0	50	5	3	1	1	60	63.8	0	0	104	7	2	1	2	116	120.3
08:30 - 08:45	0	1	41	5	0	0	0	47	46.4	0	0	115	11	0	1	4	131	136.3
08:45 - 09:00	0	0	36	7	3	0	0	46	47.5	0	0	90	20	4	1	2	117	122.3
Hourly Total	0	1	179	22	6	1	1	210	214.7	0	0	441	53	7	5	10	516	536.0
09:00 - 09:15	0	0	45	15	0	0	0	60	60.0	0	0	62	5	2	1	1	71	74.3
09:15 - 09:30	0	0	35	11	4	1	0	51	54.3	0	0	45	7	1	1	0	54	55.8
09:30 - 09:45	0	1	27	2	4	0	1	35	37.4	0	0	42	7	1	0	0	50	50.5
09:45 - 10:00	0	0	18	5	1	0	0	24	24.5	0	0	32	5	3	2	1	43	48.1
Hourly Total	0	1	125	33	9	1	1	170	176.2	0	0	181	24	7	4	2	218	228.7
TOTAL	0	3	441	84	23	2	4	557	573.3	0	3	969	134	31	19	14	1170	1222.4

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

TIME	Left to Desford Lane (N)							Ahead to Desford Lane (E)										
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
16:00 - 16:15	0	0	55	12	0	0	0	67	67.0	0	0	53	9	2	0	0	64	65.0
16:15 - 16:30	1	2	59	7	3	0	0	72	71.5	2	2	57	8	1	0	0	70	67.7
16:30 - 16:45	1	1	67	6	1	0	1	77	77.1	0	1	93	10	0	1	0	105	105.7
16:45 - 17:00	0	2	37	4	1	0	0	44	43.3	0	0	60	13	0	2	0	75	77.6
Hourly Total	2	5	218	29	5	0	1	260	258.9	2	3	263	40	3	3	0	314	316.0
17:00 - 17:15	0	1	65	8	0	0	0	74	73.4	0	0	80	18	2	0	0	100	101.0
17:15 - 17:30	0	1	60	7	1	0	0	69	68.9	0	1	64	8	1	0	0	74	73.9
17:30 - 17:45	0	1	52	7	0	0	0	60	59.4	1	2	50	15	0	1	1	70	70.3
17:45 - 18:00	1	0	42	6	0	0	1	50	50.2	1	1	56	6	1	0	0	65	64.1
Hourly Total	1	3	219	28	1	0	1	253	251.9	2	4	250	47	4	1	1	309	309.3
18:00 - 18:15	0	0	34	4	0	0	0	38	38.0	1	1	43	4	2	0	0	51	50.6
18:15 - 18:30	0	0	28	1	0	0	0	29	29.0	0	0	52	6	0	0	0	58	58.0
18:30 - 18:45	0	2	24	5	0	0	0	31	29.8	0	0	48	3	2	0	1	54	56.0
18:45 - 19:00	0	0	25	11	0	0	0	36	36.0	0	0	36	8	0	0	0	44	44.0
Hourly Total	0	2	111	21	0	0	0	134	132.8	1	1	179	21	4	0	1	207	208.6
TOTAL	3	10	548	78	6	0	2	647	643.6	5	8	692	108	11	4	2	830	833.9

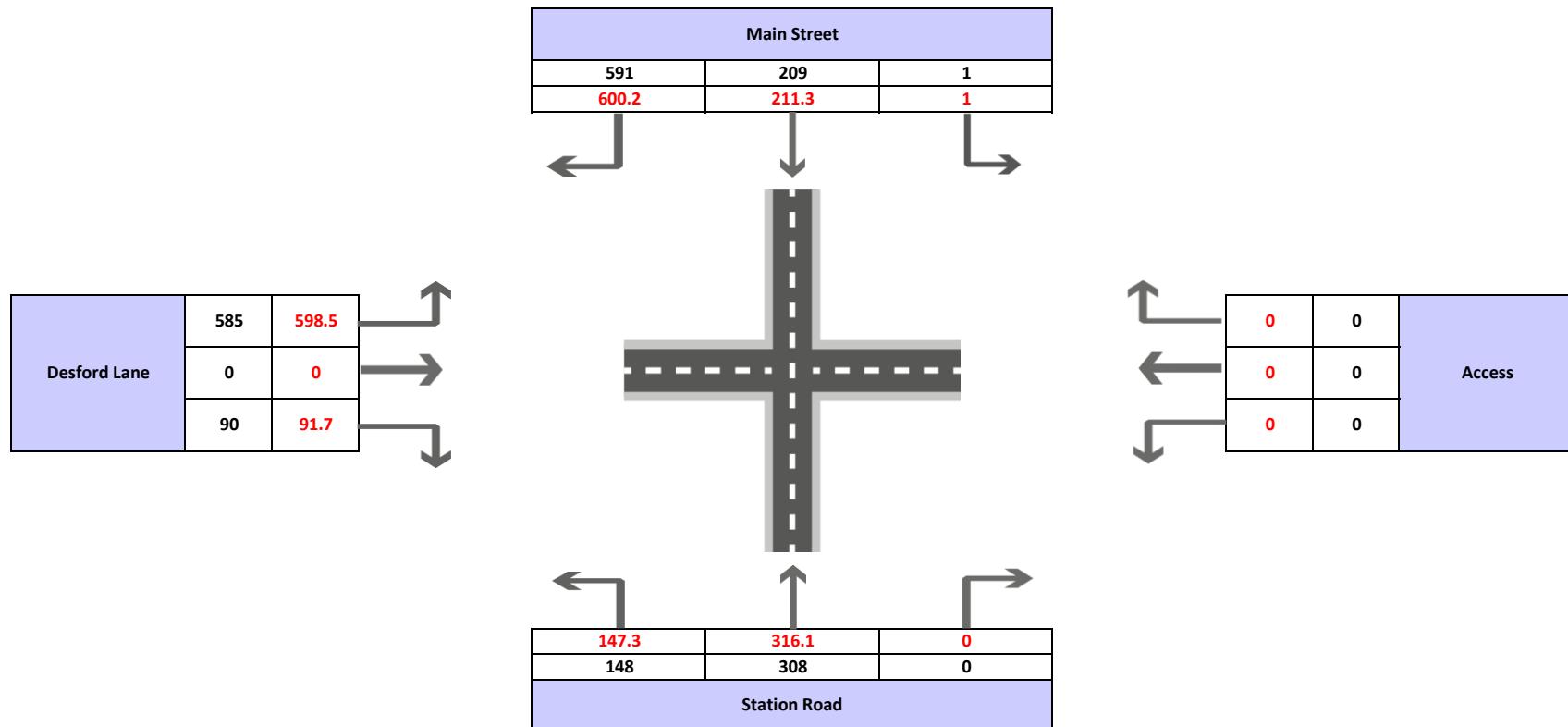
From: 1) 07:00 Show Peak Hour:

To: 1) 10:00 Show PCUs:

Class: All Vehicles Show Session 2

Tuesday 2nd July 2024

PCUs



Ratby

Tuesday 2nd July 2024

Junction: 2

Approach: Main Street

TIME	Left to Access						Ahead to Station Road						Right to Desford Lane														
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	0	0	0	0	0	0	0.0	0	2	13	5	1	0	0	21	20.3	0	0	27	12	0	0	0	39	39.0
07:15 - 07:30	0	0	0	0	0	0	0	0	0.0	0	0	11	4	0	0	0	15	15.0	0	1	42	13	2	0	0	58	58.4
07:30 - 07:45	0	0	0	0	0	0	0	0	0.0	0	0	14	2	0	0	0	16	16.0	0	0	48	9	2	0	0	59	60.0
07:45 - 08:00	0	0	0	0	0	0	0	0	0.0	0	0	18	4	1	0	0	23	23.5	0	1	54	15	0	0	1	71	71.4
Hourly Total	0	0	0	0	0	0	0	0	0.0	0	2	56	15	2	0	0	75	74.8	0	2	171	49	4	0	1	227	228.8
08:00 - 08:15	0	0	0	0	0	0	0	0	0.0	0	0	16	6	0	1	0	23	24.3	0	1	52	9	3	0	1	66	67.9
08:15 - 08:30	0	0	0	0	0	0	0	0	0.0	0	0	8	1	0	0	0	9	9.0	0	0	66	9	0	1	0	76	77.3
08:30 - 08:45	0	0	0	0	0	0	0	0	0.0	0	0	7	4	1	0	0	12	12.5	0	1	41	8	1	0	1	52	52.9
08:45 - 09:00	0	0	0	1	0	0	0	1	1.0	0	0	19	4	0	0	0	23	23.0	0	0	49	10	1	0	0	60	60.5
Hourly Total	0	0	0	1	0	0	0	1	1.0	0	0	50	15	1	1	0	67	68.8	0	2	208	36	5	1	2	254	258.6
09:00 - 09:15	0	0	0	0	0	0	0	0	0.0	1	0	14	2	1	0	0	18	17.7	0	0	23	10	0	1	0	34	35.3
09:15 - 09:30	0	0	0	0	0	0	0	0	0.0	0	0	12	4	0	0	0	16	16.0	0	0	16	5	0	0	0	21	21.0
09:30 - 09:45	0	0	0	0	0	0	0	0	0.0	0	0	16	2	0	0	0	18	18.0	0	0	20	7	1	0	1	29	30.5
09:45 - 10:00	0	0	0	0	0	0	0	0	0.0	0	0	11	3	0	0	1	15	16.0	0	0	22	4	0	0	0	26	26.0
Hourly Total	0	0	0	0	0	0	0	0	0.0	1	0	53	11	1	0	1	67	67.7	0	0	81	26	1	1	1	110	112.8
TOTAL	0	0	0	1	0	0	1	1.0	1	2	159	41	4	1	1	209	211.3	0	4	460	111	10	2	4	591	600.2	
16:00 - 16:15	0	0	0	0	0	0	0	0	0.0	0	1	21	2	0	0	0	24	23.4	0	0	46	9	1	0	0	56	56.5
16:15 - 16:30	0	0	0	0	0	0	0	0	0.0	0	0	15	4	0	0	0	19	19.0	0	0	34	3	1	1	0	39	40.8
16:30 - 16:45	0	0	0	0	0	0	0	0	0.0	0	0	6	0	0	0	0	6	6.0	0	1	48	7	0	0	1	57	57.4
16:45 - 17:00	0	0	0	0	0	0	0	0	0.0	0	0	22	5	0	0	0	27	27.0	1	0	56	8	0	0	1	66	66.2
Hourly Total	0	0	0	0	0	0	0	0.0	0	1	64	11	0	0	0	76	75.4	1	1	184	27	2	1	2	218	220.9	
17:00 - 17:15	0	0	0	0	0	0	0	0	0.0	0	0	18	1	0	0	0	19	19.0	0	2	40	7	2	0	0	51	50.8
17:15 - 17:30	0	0	0	0	0	0	0	0	0.0	0	1	15	6	0	0	0	22	21.4	0	0	46	12	0	0	0	58	58.0
17:30 - 17:45	0	0	0	0	0	0	0	0	0.0	0	1	12	2	0	0	0	15	14.4	0	0	55	10	0	0	0	65	65.0
17:45 - 18:00	0	0	0	0	0	0	0	0	0.0	0	0	19	3	0	0	0	22	22.0	0	0	45	5	0	0	1	51	52.0
Hourly Total	0	0	0	0	0	0	0	0.0	0	2	64	12	0	0	0	78	76.8	0	2	186	34	2	0	1	225	225.8	
18:00 - 18:15	0	0	1	0	0	0	1	1.0	1.0	2	1	19	3	0	0	0	25	22.8	0	2	25	5	0	0	0	32	30.8
18:15 - 18:30	0	0	0	0	0	0	0	0	0.0	0	1	22	2	0	0	0	25	24.4	1	0	35	3	1	0	0	40	39.7
18:30 - 18:45	0	0	0	0	0	0	0	0	0.0	0	1	13	1	0	0	0	15	14.4	0	0	27	5	0	0	0	32	32.0
18:45 - 19:00	0	0	0	0	0	0	0	0	0.0	0	0	16	3	0	0	0	19	19.0	1	0	20	3	1	0	1	26	26.7
Hourly Total	0	0	1	0	0	0	1	1.0	2	3	70	9	0	0	0	84	80.6	2	2	107	16	2	0	1	130	129.2	
TOTAL	0	0	1	0	0	0	1	1.0	2	6	198	32	0	0	0	238	232.8	3	5	477	77	6	1	4	573	575.9	

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0

Ratby

Tuesday 2nd July 2024

Junction: 2

Approach: Access

TIME	Left to Station Road						Ahead to Desford Lane						Right to Main Street														
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs
07:00 - 07:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
07:15 - 07:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
07:30 - 07:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
07:45 - 08:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0.0							
08:00 - 08:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
08:15 - 08:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
08:30 - 08:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
08:45 - 09:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0.0							
09:00 - 09:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
09:15 - 09:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
09:30 - 09:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
09:45 - 10:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0.0							
TOTAL	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0.0							
16:00 - 16:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
16:15 - 16:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
16:30 - 16:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
16:45 - 17:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0.0							
17:00 - 17:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
17:15 - 17:30	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
17:30 - 17:45	0	0	0	1	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
17:45 - 18:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0.0							
18:00 - 18:15	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
18:15 - 18:30	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
18:30 - 18:45	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
18:45 - 19:00	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0
Hourly Total	0	0	1	0	0	0	0	1	1.0	0	0	0	0	0	0	0	0	0.0	0	0.0							
TOTAL	0	0	1	1	0	0	2	2.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0							

PCU Factors:
CYCLE 0.2
M/CYCLE 0.4
CAR 1.0
LGV 1.0
OGV1 1.5
OGV2 2.3
BUS 2.0

Ratby

Tuesday 2nd July 2024

Junction: 2

Approach: Station Road

TIME	Left to Desford Lane						Ahead to Main Street						Right to Access													
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	PCUs	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	6	3	0	0	0	9	9.0	0	0	9	8	0	0	0	17	17.0	0	0	0	0	0	0	0	0.0
07:15 - 07:30	0	0	6	4	0	0	0	10	10.0	0	0	14	7	0	0	1	22	23.0	0	0	0	0	0	0	0	0.0
07:30 - 07:45	0	0	6	1	0	0	0	7	7.0	0	0	15	4	1	0	0	20	20.5	0	0	0	0	0	0	0	0.0
07:45 - 08:00	0	2	8	1	0	0	0	11	9.8	0	0	16	3	0	0	0	19	19.0	0	0	0	0	0	0	0	0.0
Hourly Total	0	2	26	9	0	0	0	37	35.8	0	0	54	22	1	0	1	78	79.5	0	0.0						
08:00 - 08:15	0	0	9	3	1	0	0	13	13.5	0	0	20	6	1	0	0	27	27.5	0	0	0	0	0	0	0	0.0
08:15 - 08:30	0	0	13	5	0	0	0	18	18.0	0	0	32	6	1	1	0	40	41.8	0	0	0	0	0	0	0	0.0
08:30 - 08:45	0	0	10	3	0	0	0	13	13.0	0	0	38	6	0	0	0	44	44.0	0	0	0	0	0	0	0	0.0
08:45 - 09:00	0	0	17	2	0	0	0	19	19.0	0	0	21	5	0	1	0	27	28.3	0	0	0	0	0	0	0	0.0
Hourly Total	0	0	49	13	1	0	0	63	63.5	0	0	111	23	2	2	0	138	141.6	0	0.0						
09:00 - 09:15	0	0	17	2	0	0	0	19	19.0	0	0	25	4	0	0	1	30	31.0	0	0	0	0	0	0	0	0.0
09:15 - 09:30	0	0	6	1	0	0	0	7	7.0	0	0	16	5	0	0	0	21	21.0	0	0	0	0	0	0	0	0.0
09:30 - 09:45	0	0	8	2	0	0	0	10	10.0	0	0	17	4	0	0	0	21	21.0	0	0	0	0	0	0	0	0.0
09:45 - 10:00	0	0	10	2	0	0	0	12	12.0	0	0	16	1	2	0	1	20	22.0	0	0	0	0	0	0	0	0.0
Hourly Total	0	0	41	7	0	0	0	48	48.0	0	0	74	14	2	0	2	92	95.0	0	0.0						
TOTAL	0	2	116	29	1	0	0	148	147.3	0	0	239	59	5	2	3	308	316.1	0	0.0						
16:00 - 16:15	0	0	6	5	0	0	0	11	11.0	0	0	26	9	0	0	1	36	37.0	0	0	0	0	0	0	0	0.0
16:15 - 16:30	0	0	6	4	2	0	0	12	13.0	1	1	23	4	0	0	0	29	27.6	0	0	0	0	0	0	0	0.0
16:30 - 16:45	0	1	18	2	0	0	0	21	20.4	1	1	31	1	0	0	0	34	32.6	0	0	0	0	0	0	0	0.0
16:45 - 17:00	0	0	8	5	0	0	0	13	13.0	0	1	39	4	0	0	0	44	43.4	0	0	0	0	0	0	0	0.0
Hourly Total	0	1	38	16	2	0	0	57	57.4	2	3	119	18	0	0	1	143	140.6	0	0.0						
17:00 - 17:15	0	0	12	1	0	0	0	13	13.0	2	0	37	5	0	0	0	44	42.4	0	0	0	0	0	0	0	0.0
17:15 - 17:30	0	0	10	2	0	0	0	12	12.0	0	1	36	4	0	0	1	42	42.4	0	0	0	0	0	0	0	0.0
17:30 - 17:45	0	0	12	2	0	0	0	14	14.0	2	1	34	5	1	0	0	43	41.3	0	0	0	1	0	0	0	1.0
17:45 - 18:00	0	1	6	0	0	0	0	7	6.4	1	0	20	4	0	0	0	25	24.2	0	0	0	0	0	0	0	0.0
Hourly Total	0	1	40	5	0	0	0	46	45.4	5	2	127	18	1	0	1	154	150.3	0	0	1	0	0	0	1	1.0
18:00 - 18:15	0	0	11	1	1	0	0	13	13.5	0	0	27	7	0	0	0	34	34.0	0	0	0	1	0	0	0	1.0
18:15 - 18:30	0	0	8	3	0	0	0	11	11.0	0	0	33	4	0	0	1	38	39.0	0	0	1	0	0	0	1	1.0
18:30 - 18:45	0	0	8	0	0	0	0	8	8.0	1	0	19	2	0	0	0	22	21.2	0	0	0	0	0	0	0	0.0
18:45 - 19:00	0	1	7	3	0	0	0	11	10.4	0	0	23	3	0	0	0	26	26.0	0	0	0	0	0	0	0	0.0
Hourly Total	0	1	34	7	1	0	0	43	42.9	1	0	102	16	0	0	1	120	120.2	0	0	1	1	0	0	0	2.0
TOTAL	0	3	112	28	3	0	0	146	145.7	8	5	348	52	1	0	3	417	411.1	0	0	2	1	0	0	3	3.0

PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1.0
LGV	1.0
OGV1	1.5
OGV2	2.3
BUS	2.0