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Prepared on behalf of

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Neasham Road, Darlington

Transport Assessment

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Acknowledgements:

National Geographic's Mapmaker tool has been used to create images for illustration purposes only.
Google satellite imagery has been used to generate a figure in this report.

Personal injury accident data has been obtained from Crashmap and Darlington Borough Council.

Disclaimer

The methodology adopted and the sources of information used by Sanderson Associates (Consulting Engineers) Ltd in providing its services are outlined within this Report.

Any information provided by third parties and referred to herein has not been checked or verified by Sanderson Associates (Consulting Engineers) Ltd, unless otherwise expressly stated within this report.

This report was checked and approved on the 4th June 2021 and the Report is therefore valid on this date, circumstances, regulations and professional standards do change which could subsequently affect the validity of this Report.

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Author:	Ashley Armitage		
Checked & Approved:	David Colley	**Date:**	4th June 2021

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1 Introduction

1.1 Sanderson Associates (Consulting Engineers) Limited are highway consulting engineers and part of Fairhurst group. We have been appointed by Willmott Dixon (through Fairhurst) to advise on the traffic and transportation issues in relation to the new Multi-story Car Park (MSCP) building and station concourse on the eastern side of the existing Darlington station. This is part of the wider Darlington Station upgrade redevelopment project being promoted by Tees Valley Combined Authority. The location of Darlington railway station is indicated in **Figure 1** below.

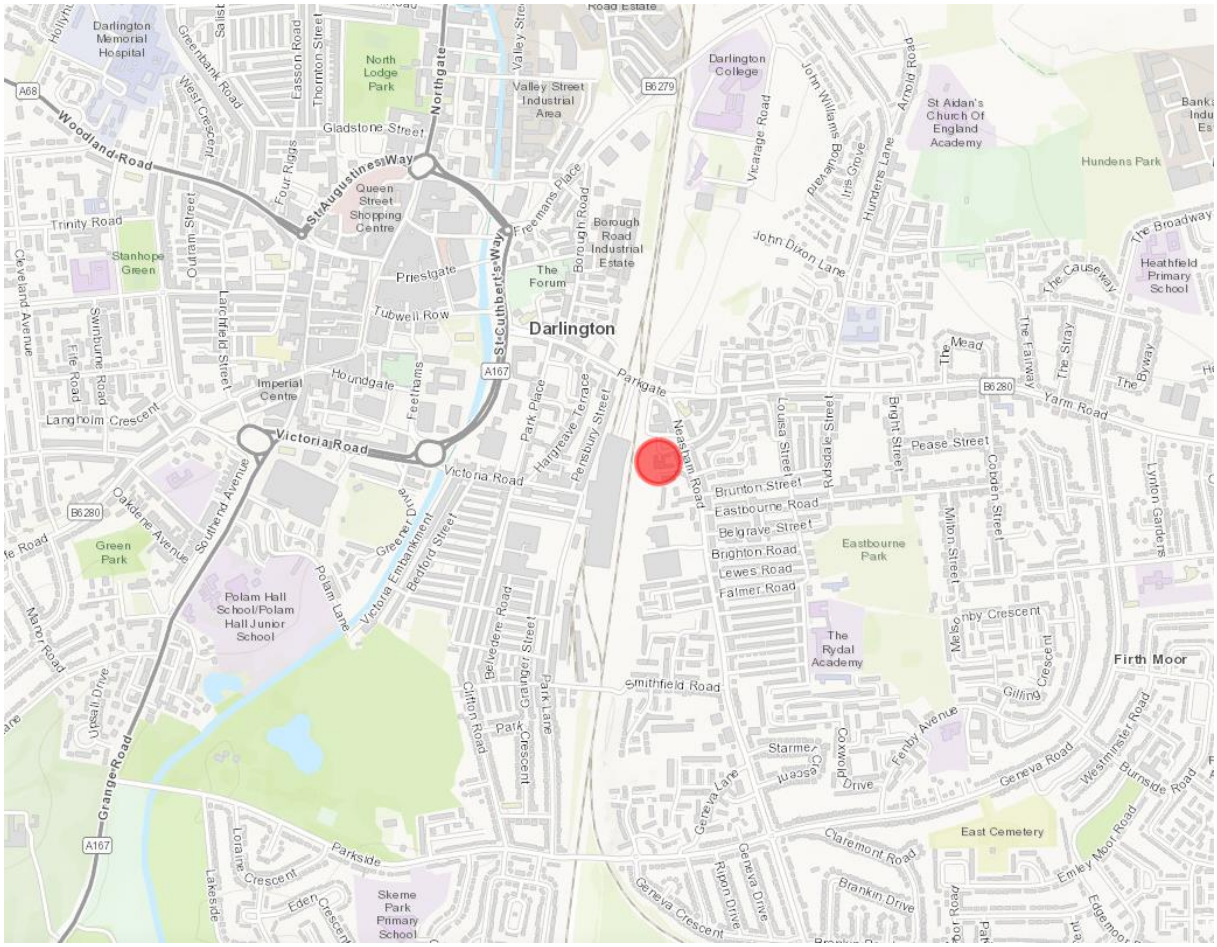


Figure 1 – Site Location Plan (National Geographic Society MapMaker)

1.2 Planning permission is sought for a new Multi-story Car Park (MSCP) building (including station concourse) and ancillary external infrastructure including an access (entry and exit) to the MSCP building via Garbutt Square from Neasham Road and a further access from Neasham Road on the northern side of the MSCP building to serve passenger pick-up and drop-off facilities as well as accommodation of bus replacement services during periods of disruption to scheduled train services. The internal 'fit-out' of the station concourse will be by another party and is not part of the planning application proposals. The application site is identified on the Architects plan SGMSCP-NAP-Z1-ZZ-DR-A-00001 Rev P2 – Location Plan in **Appendix C**.

1.3 The aspiration of the Combined Authority is to develop Darlington Station into an enhanced rail gateway that can accommodate future demands for national, regional and local passenger rail services. The proposals are being developed to accommodate future use by HS2 and the Northern Powerhouse Rail (NPR) and to create a modern rail hub for the Tees Valley Area.

1.4 The overall proposals include for two new platforms on the east side for existing and future Tees Valley local services such that local services can operate independently from the ECML. A further platform is proposed for HS2 and NPR.

1.5 Improvements to the existing station buildings with new station facilities adjacent to the MSCP are also proposed together with public transport interchange facilities and improvements to access for pedestrians and cyclists from Parkgate as well as an accessible footbridge linking new and existing platforms.

1.6 The proposals also envisage some of the existing car parking associated with Darlington Station being relocated to the MSCP such as that within the station building and passenger parking (accessed via Parkgate) as well as parking at the western station portico. This will assist in the provision of proposed improvements for pedestrian movements around the station and provision of other passenger facilities at the station.

1.7 National Planning Policy

1.7.1 In February 2019, a new revision to the National Planning Policy Framework (NPPF) was published and subsequently a further amendment in June 2019. NPPF sets out the Government's planning policies for England and how these are expected to be applied. This NPPF replaces the previous NPPF versions dated March 2012 and July 2018.

Paragraph 111 of the National Planning Policy Framework states:
'All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.'

Paragraph 108 and 109 of the National Planning Policy Framework states:
'In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
b) safe and suitable access to the site can be achieved for all users; and
c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

Paragraph 109 states:- *Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.'*

1.7.2 In accordance with this guidance and guidance contained within the Planning Practice Guidance 'Transport evidence bases in plan making and decision taking' and in line with the comments from the Local Authority, this Transport Assessment addresses the key transport issues including:

- The local highway network and its highway safety record;

- The existing use of the site;
- The proposed development and its operational facilities;
- The impact of the development on the local highway network in terms of highway safety and capacity;
- Accessibility of the site in relation to sustainable transport and local facilities;
- The predicted multi modal trip generation of the extension to the site; and
- The delivery and servicing arrangements for the development.

1.7.3 This Transport Assessment seeks to demonstrate that there would not be an unacceptable impact on highway safety associated with the development and that the residual cumulative impacts of the development are not severe. As such, there are no transport reasons why planning should not be granted.

1.8 Local Planning Policy and Pre-Application Consultation

1.8.1 A Planning Pre-application enquiry (ref 21/00010/PREAPP) has been submitted to the Local Planning Authority (Darlington Borough Council) and a written response provided.

1.8.2 Reference to the Pre-app response indicates that local policy includes the following:

- Darlington Core Strategy (2011) (policies CS1, CS2, CS14, CS16, and CS19 (Improving Transport Infrastructure and Creating a Sustainable Transport Network)).
- Borough of Darlington Local Plan (1997) (policies E2 (Development limits) and T44 (Passenger Railways).

1.8.3 The Council is preparing a new development plan for the borough applicable up to 2036. The Darlington Local Plan 2016-2036 was submitted to the Planning Inspectorate for examination on 22 December 2020. Emerging local plan policy is provided in the document Darlington Borough Local Plan – Proposed Submission Local Plan 2016-2036 August 2020. The pre-app response indicates that Policies SH1 (Settlement Hierarchy) and IN1 (Delivering a Sustainable Transport Network) are relevant to the planning application.

1.8.4 Furthermore, policy IN4 provides emerging policy on Parking Provision including Electric Vehicle Charging and cross references to local parking standards in the Tees Valley Highway Design Guide.

1.8.5 The pre-app response for Item 2.4 Key Planning Issues states with respect to highway and transportation matters the follow:-

Impact on Highway Safety/Parking Provision

The principles of the development with regards to highway requirements have already been subject to extensive discussion and designing development with the Highways Team and as such the layout of the site is broadly acceptable with most highways requirements having been addressed. There are however a few points worth noting:

The Preapp information shows two options for the retaining wall located to the West of Neasham Rd which currently retains Saint John's Place. The wall would need to be removed/lowered to the required extent to provide the standard visibility requirements of 2.4x43m appropriate to the speed limit of the adjoining Neasham Road (30mph). With regards to this, the option showing a shorter length of retaining wall is likely to be conducive to achieving the required visibility. The kerbline adjacent to the remaining retaining wall could be moved outwards to provide a widened footway where Neasham Road and Parkgate meet at the roundabout. Currently this is an area of carriageway which is hatched out and widening the footway may help achieve the required visibility splays subject to any widening not compromising swept paths for large vehicles.

The access road to the MSCP does not serve a highways purpose and will not be considered adoptable as part of a Section38/278 Agreement. The usual extents of a such a road would be to the back of the adopted highway on Neasham Rd, however in this instance it will be extended back by approximately 10m in order to provide an adopted highway/footway to the existing residential dwellings without the need to cross private land.

The proposal involves a considerable amount of 'Stopping Up' whereby adopted highway status is extinguished under the appropriate part of the Highways Act 1980. There may be considerable timescales expected with this, and the Highways Engineer would therefore advise that the process is started early to run concurrently with the planning application in order to avoid unnecessary delays.

Whilst assessment works have been undertaken to ascertain the required scale of the car park, a Transport Assessment should be submitted as part of a full application with the full scope of assessment works to be agreed with the Highways Authority. However, capacity assessment of junctions on the Yarm/Rd Parkgate and Neasham Rd will be expected.

A stage 1-2 combined road safety audit should also be submitted once detailed design of the highway is completed, with the RSA covering all changes to the adopted highway.

Sustainable Transport Matters

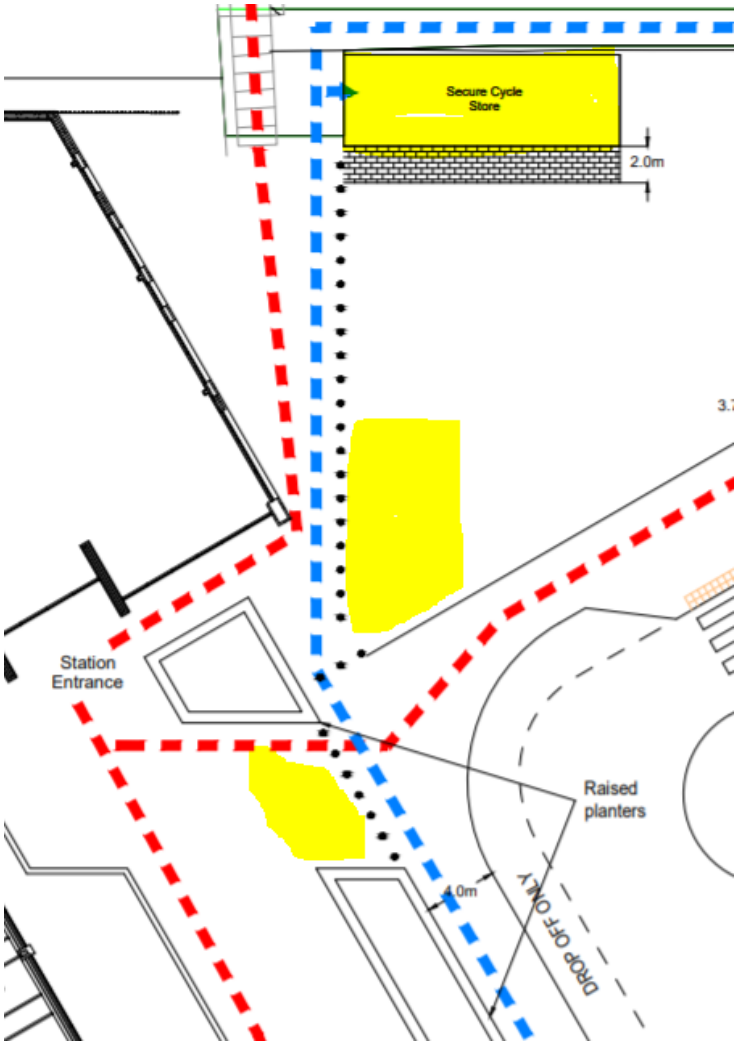
1.8.6 With respect to sustainable transport the pre-app response states:-

The site has good public transport accessibility as it is in within 400m of various bus stops. It is noted and welcomed in the design and access statement that there is going to be a proposed number of 32 electric vehicle charge points, 2 wheelchair accessible electric vehicle charge points and 4 accessible electric vehicle charge points.

Within Darlington there are plans to develop and establish a car club. Is there a possibility of an area within the multi storey car park being identified for the car club?

This development site is supported by the cycle network with there being advisory and traffic-free cycle routes within the area that also connect to the wider cycle network. Cycle parking is indicated in the information submitted but the positioning of this cycle parking is not considered to be in the most suitable place. The cycle

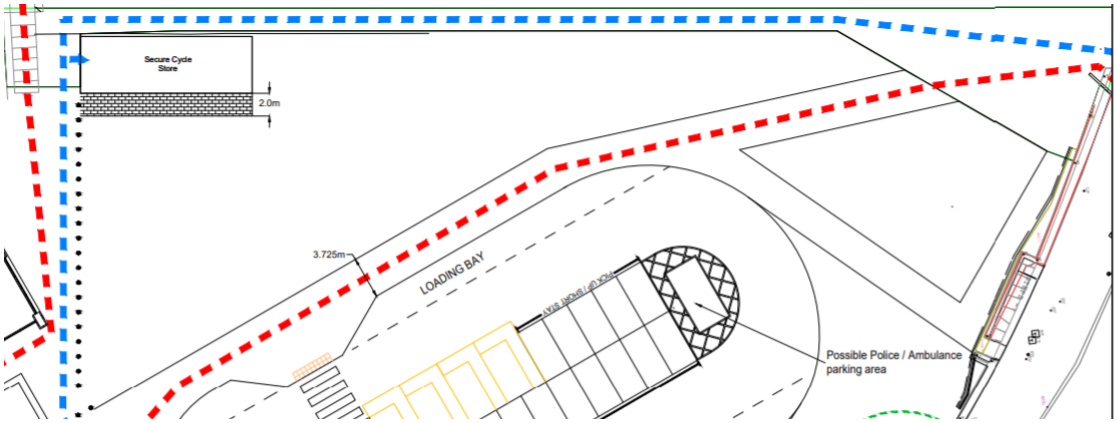
parking area should be located closer to the station entrance in the two locations shown below:



Having the secure cycle storage here would be more convenient for cyclists as it is closer to the main building, it will also have the feel of a safer environment for cyclists. The cycle storage should be safe, secure and overlooked. There should be some short stay cycle storage in the area between the raised planters for cyclists who may just want to pop quickly into the building, again making it more convenient for cyclists. Sheffield type cycle stands should be installed here.

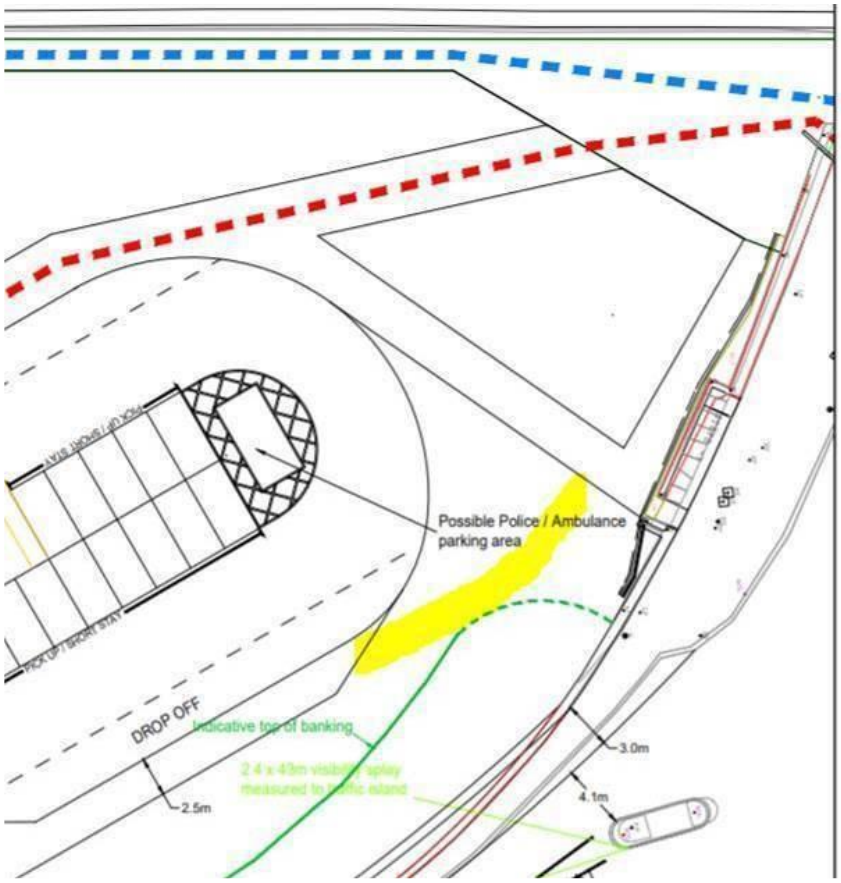
It is indicated within the Design and Access Statement that there will be 20 cycle parking spaces, which will be acceptable on the condition that the existing cycle parking at the entrance on Victoria Road and the cycle parking at the top of the ramp at the Parkgate entrance are still going to remain. Whatever the cycle storage container is, it should be ensured that it can be expanded if needed, the new design of this area of the station will potentially change the way in which people travel to and from the railway station, therefore we must ensure that the cycle parking can be increased easily if needed.

The long stay cycle parking should safe and secure. The current cycle parking within the railway station is accessed by a key card system, this type of system should be used for the new proposed cycle parking.



The blue route is only indicated as a cycle path, this should be changed to be a dual use path for cyclists and pedestrians. The red route is only indicated as a foot path, this should be changed to be a dual use path for cyclists and pedestrians

A detailed design of the cycle drop off areas and the cycling infrastructure on Neasham Road should be provided as part of the full planning application.



There appears to be a missing footpath link on the plans submitted; detailed above (highlighted in yellow) is where this link should be?

With regard to the drop off and loading areas in the in the short stay parking area, the plans submitted show that the loading area is to be on the West of the car park and there is two drop off areas on the South side and the East side of the car park. The loading bay area and the East side drop off area should be transposed. The loading bay area will generally have infrequent use, whereas the East side drop off area will have frequent use and having the East side drop off area in the new proposed position will ensure safety for pedestrians as they will not be required to cross any roads and will also be more convenient.

A Travel Plan is required to demonstrate how this site will seek to maximise sustainable travel and minimise vehicular travel. This should be developed using

Modeshift STARS. The Travel Plan should be an updated version of the current LNER Travel Plan that is in place, this is required as the site is changing. The Travel Plan should be submitted as part of the full application.

The offsite highway works will be secured through a Section 278 Agreement.

This response has been developed by the Transport Policy officers on the basis that the current footbridge remains in situ, providing pedestrian and cycle access (via a cycling channel) to the facilities in the station area including the existing cycle parking, and through the station via the underpass to Victoria Road. This existing route enables people to navigate to and through the station outside of the gated area, and hence without a ticket.

It has been previously indicated that there are discussions about the removal of this bridge at some stage due to the cost of repair/replacement and required changes to the rail line layout. This needs to be clarified and clearly indicated on any plans. If this bridge is to be removed, the layout of the transport interchange/public realm area which forms part of this Enquiry would need to be altered from its current layout. An Equalities Impact Assessment would also need to be carried out to understand the impact of removing this through route to anyone with protected characteristics, in line with Darlington's Equalities Policy.

The legal status of the bridge as a right of way, or otherwise, and the route through the station would need to be clarified.

From an accessibility and connectivity point of view we would want this bridge to remain to enable people to navigate from one side of the station to the other without having to go via the gated area (which includes the proposed new bridge within the station building).

The proposal has resulted in a number of queries which would need further clarification as the PREAPP progresses and/or as part of any planning application:

• *Currently, how many car parking spaces are there overall associated with the railway station?*

• *Of the total number of current spaces what is the current usage?*

• *Please can it be clarified how the proposed number of 673 car park spaces for the multi storey car park has been reached?*

• *Within the current set up of the railway station the taxi rank is located at the top of the ramp from Parkgate, under the canopy. Please can it be confirmed if the taxi rank is going to remain in this position?*

• *Are the 4 disability parking spaces in the short stay car park to be used for pick up/drop off, short stay or long stay?*

• *How many spaces are currently available within the station for disability parking?*

• *Are the new disability parking spaces replacing what is in place currently? If so, are the spaces being replaced like for like with regard to the number of spaces?*

• *Are these pick up/short stay parking spaces replacing what is currently available for this type of parking? If so, are the spaces being replaced like for like with regard to the number of spaces?*

Planning Obligations

Under the provisions of the Council's adopted Supplementary Planning Document on Planning Obligations, a sustainable transport contribution will be sought for this form of development. This contribution is based on £200 per parking space in this type of location.

The plan indicates 673 spaces within the multi storey car park and 20 spaces for the short stay car park. The contribution would therefore equate payment of

£138,600.00. Further discussions would be required on this matter and any impacts on the viability of the proposal.

1.8.7 Sanderson Associates (Consulting Engineers) Limited have prepared highway supporting information for a planning application with respect to the procurement of the new Multi-story Car Park (MSCP) building (including station concourse) and ancillary external infrastructure including an access (entry and exit) to the MSCP building via Garbutt Square from Neasham Road and a further access from Neasham Road on the northern side of the MSCP building to serve passenger pick-up and drop-off facilities as well as accommodation of bus replacement services during periods of disruption to scheduled train services. The internal 'fit-out' of the station concourse will be by another party. The scope and extent of the supporting information in the form of a detailed Transport Assessment, was prepared in conjunction with advice from Darlington Borough Council Highways Officers.

1.8.8 A Transport Scoping Report document was prepared by Arup on behalf of Tees Valley Combined Authority in January 2020 and this has informed the initial scope of our assessment of the traffic and transportation matters with respect to the procurement of the new Multi-story Car Park (MSCP) building (including station concourse) together with ancillary works. There has been other correspondence with highway officers together with meetings.

2 Existing Situation

2.1 Site and Surrounding Area

2.1.1 The application site is situated between the East Coast railway line and to the west of Neasham Road. It has vehicle and pedestrian access via Neasham Road including associated side streets. The site is located on the edge of Darlington town centre adjacent to eastern side of Darlington Railway Station.

2.1.2 The existing site consists of commercial buildings, associated side streets and car parks (part of Garbutt Square & Albert Street), it is bound as follows:

- The B6280 Parkgate / Yarm Road to the North;
- Neasham Road to the east;
- A car park (Garbutt Square) and residential properties to the south
- Darlington Railway Station to the west (East Coast Main line).

2.2 Highway Network

2.2.1 Currently the eastside of the station is served from Garbutt Square and Albert Street / Victoria Street via Neasham Road. The side streets of Adelaide Street and St John's Place are also within the site boundary.

Garbutt Square

2.2.2 This is a short stretch of road which is street-lit and subject to a speed limit of 30mph and has a carriageway width of approximately 8.0m with footways provided on both side of the carriageway. Traffic regulation orders in the form of double yellow lines are also present on its northern flank along its entire length and around its southern radius. Garbutt Square currently provides access to Darlington Station car park and some commercial units, it joins Neasham road to the east of the site via a priority junction.

Neasham Road

2.2.3 This is a local route which provides access to numerous residential property and a number of residential side streets as well as retail outlets, it is street-lit and subject to a speed limit of 30mph. Within the vicinity of the site its carriageway varies in width due to parking bays and the lay of the land. Footways are present on both sides with dropped kerbs and tactile paving provided at most crossing points. A signalised pedestrian crossing is also provided just to the north of Albert Street. The road runs from its mini roundabout junction with the B6280 Parkgate / Yarm Road to the north of the site southwards where it joins the A66 via a roundabout junction. There is a low rail bridge (3.8m (12' 6")) approximately 1.2km south of Garbutt Square which limits the movements of larger vehicles accessing the A66. Warning signage is provided at Yarm Road and at the A66.

2.2.4 Waiting restrictions in the form of double yellow lines, bus laybys, resident parking bays and zig zag lines are in place from the Parkgate / Yarm Road mini roundabout to the Garbutt Square junction.

The B6280 Parkgate / Yarm Road

2.2.5 This is another local route which provides access to residential properties and access to further residential areas as well as employment / educational facilities. It is street-lit and subject to a speed limit of 30mph. Footways are present on both sides with dropped kerbs and tactile paving at most crossing points. Signalised pedestrian crossing facilities are also provided at the Yarm Road / John Williams Boulevard South junction. The B6280 runs from its mini roundabout junction with Neasham Road west to the centre of Darlington where it joins the A167 (circa 400m) and east from the mini roundabout outbound of Darlington where it joins the A66 (circa 3km).

2.2.6 Within the vicinity of Neasham Road the B6280 has waiting restrictions in the form of double yellow lines, bus laybys and bus lanes.

Albert Street / Victoria Street

2.2.7 These side streets are both street-lit and subject to a speed limit of 20mph and have a carriageway width of approximately 5.5m with footways provided on both side of the carriageway. The majority of the two roads have Traffic Regulation orders in the form of double yellow lines. Victoria Street provides two parking laybys and Albert Street provides access to Darlington Station long stay car park (43 spaces) both roads join Neasham Road to the east of the site via priority junctions. At the junction of Albert Street and Adelaide Street there is and existing footbridge across the East Coast main line connecting to the top of the station approach ramp from Parkgate. This is provided with steps at both ends only.

Adelaide Street / St John's Place

2.2.8 These side streets are both street-lit and subject to a speed limit of 20mph and have a carriageway width of approximately 5.5m with footways provided on both side of the carriageway. However, St John's Place tapers down to approximately 3.0m where it joins Neasham Road at an acute angle. The two roads have Traffic Regulation orders in the form of double yellow lines on both side of the carriageway and provide access to various commercial units and takeaways. Adelaide Street / St John's Place also provide access on foot and by cycle to a recently constructed bridge (pedestrian / cycle) across Parkgate with signage between the station and the Central Park area (Darlington Campus and Haughton cycle route) to the north. A wide foot / cycleway route is provided on the western side of Adelaide Street from the Parkgate bridge to the existing footbridge across the railway. A 'bike channel' has been provided on the steps to assist cyclists using the bridge and is signed for use by cyclists and pedestrians.

2.3 Road Traffic Collision Data

2.3.1 Road traffic collision data has been obtained from the Crashmap database for the most recent 5 year period available (2015-2019). The incident plot in the vicinity of the site is shown in **Figure 2**. In addition accident details were also obtained from Darlington Borough Council. The study area covers a section of the B6280 Parkgate (outlined in red), The B6280 / Neasham Road roundabout (outlined in green), the B6280 Yarm Road (outlined in blue) and Neasham Road (outlined in magenta).

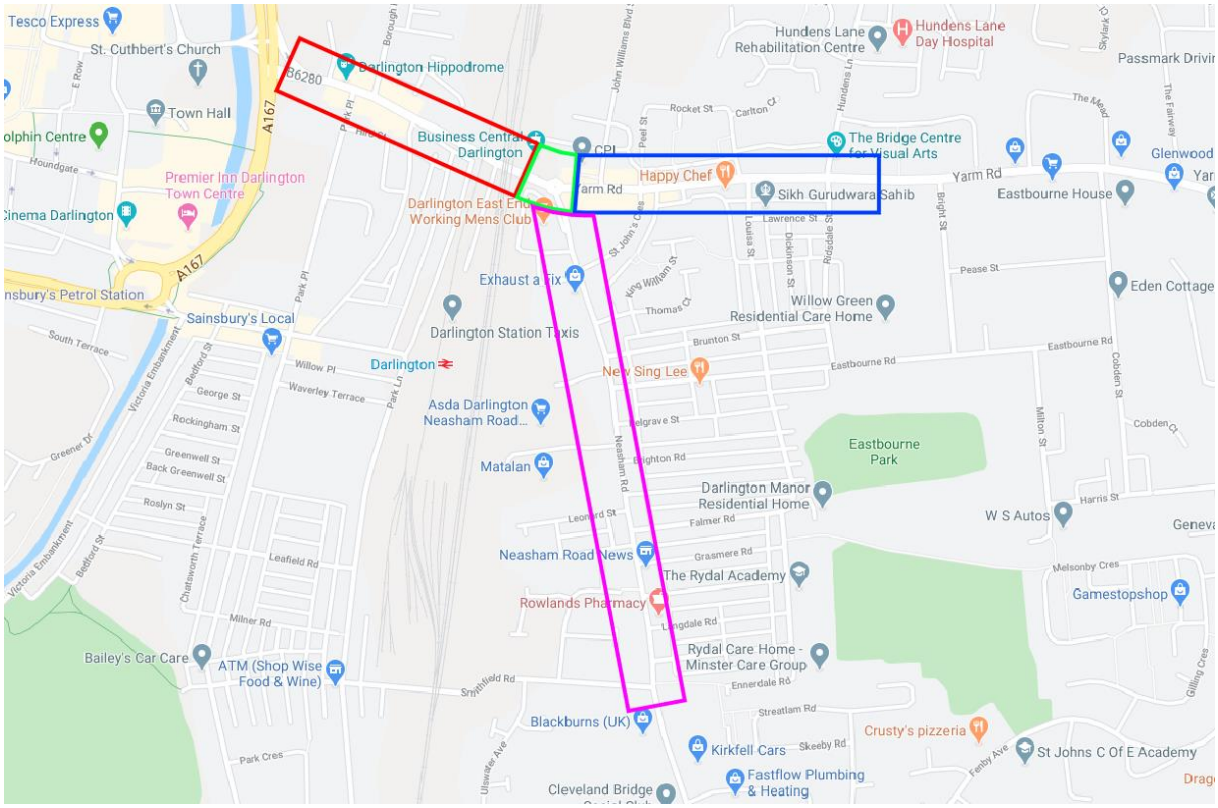


Figure 2 – Study Areas (Google Maps)

2.3.2 There have been a total of 44 collisions within the study area during the latest five year period. Of these collisions, 39 were classified as slight and 5 were classified as serious. The collisions have been broken down into the coloured outlined areas and are reviewed in more detail below with the full reports being attached at **Appendix A**:-

B6280 Parkgate (Red outline)

2.3.3 Seventeen incidents have occurred within this area of which fifteen were classified as slight and two were classified as serious. An extract from Crashmap of this area is shown in **Figure 2A**.

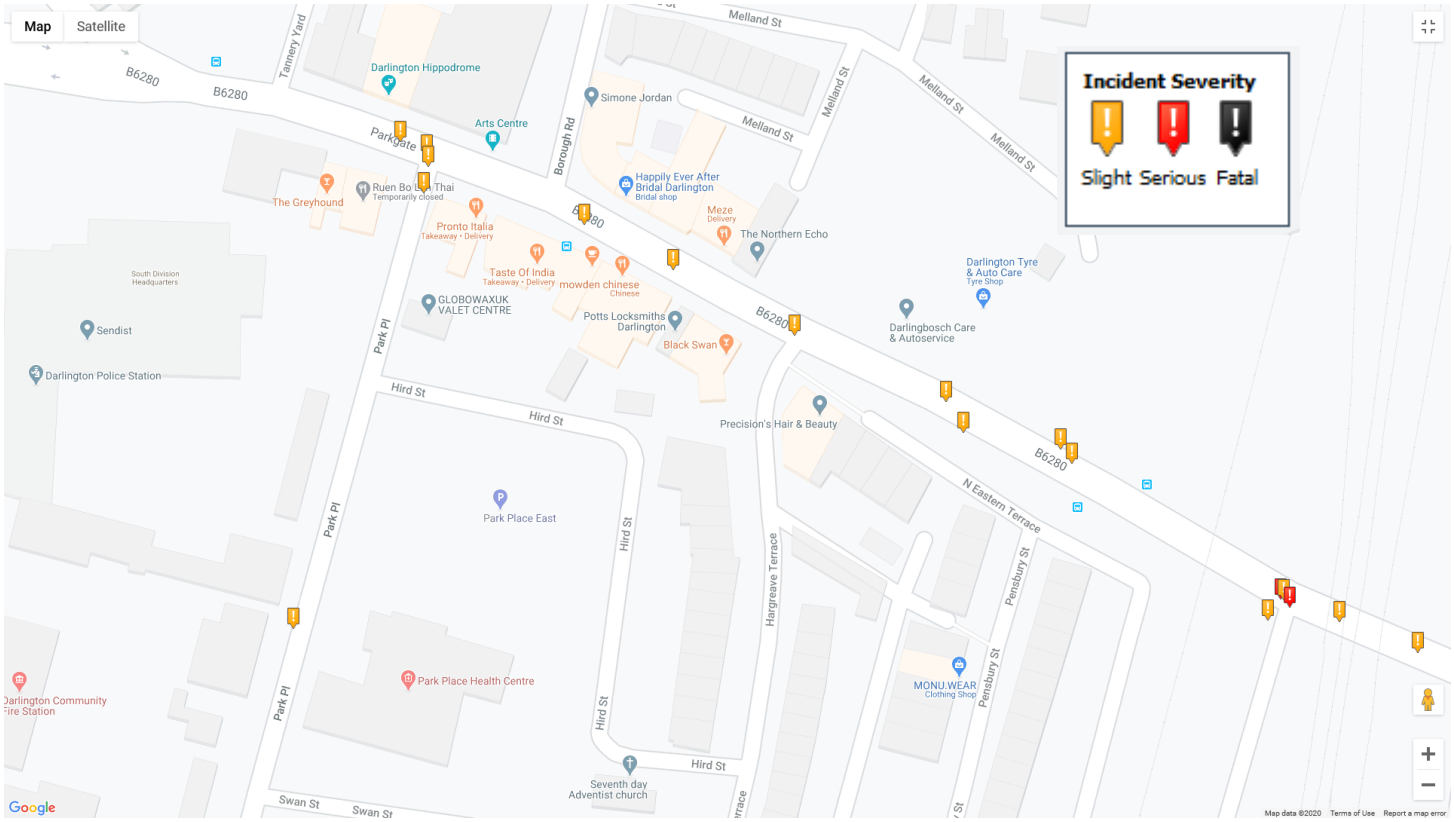


Figure 2A – Crashmap Collision Record (Crashmap)

2.3.4 Seven of the incidents occurred in 2015, three occurred in 2016, five occurred in 2017 and two occurred in 2019. Seven of the incidents involved vulnerable road users, details of these and the serious incidents are summarised in more detail below:

- Incident reference 201511SJ05995 occurred on 1st April 2015 at 2:30 PM in light conditions on a dry road surface. The incident involved a collision between a car and a cyclist aged 26-35 and both were proceeding normally along the carriageway. The incident resulted in the cyclist sustaining slight injuries.

- Incident reference 2017110154616 occurred on 19th January 2017 at 08:20 AM in dark street lit conditions on a dry road surface. The incident involved a collision between a car and a motorcycle (50cc – 125cc), the car was in the act of turning right and the motorcycle was proceeding normally along the carriageway. The incident resulted in the motor cyclist sustaining serious injuries.
- Incident reference 2017110242202 occurred on 21st October 2017 at 08:20 PM in dark street lit conditions on a wet road surface. The incident involved a collision between a car and a pedestrian aged 6-10. The car was proceeding normally along the carriageway and the pedestrian was crossing from the drivers offside. The incident resulted in the pedestrian sustaining slight injuries.
- Incident reference 2017110248654 occurred on 11th November 2017 at 08:40 PM in dark street lit conditions on a dry road surface. The incident involved a collision between a car and a pedestrian aged over 75. The car was in the act of turning right and the pedestrian movements were unknown. The incident resulted in the pedestrian sustaining slight injuries.
- Incident reference 2019110817655 occurred on 8th February 2019 at 07:25 PM in dark street lit conditions on a wet road surface. The incident involved a collision between a car and a cyclist aged 45-54, the car was waiting to turn right and the cyclist was proceeding normally along the carriageway. The incident resulted in the cyclist sustaining slight injuries.
- Incident reference 2019110850847 occurred on 24th May 2019 at 07:10 PM in light conditions on a dry road surface. The incident involved a collision between two cars, one car was passing another vehicle and the other was moving off. The incident resulted in the passing car sustaining serious injuries.

B6280 / Neasham Road roundabout (green outline)

2.3.5 Eight incidents have occurred within this area of which six were classified as slight and two were classified as serious. An extract from Crashmap of this area is shown in **Figure 2B**.

Figure 2B – Crashmap Collision Record (Crashmap)

2.3.6 Three of the incidents occurred in 2015, three occurred in 2016, one occurred in 2017 and one occurred in 2019. Two of the incidents involved a vulnerable road users, details of these and the serious incidents are summarised in more detail below:

- Incident reference 201511SJ19185 occurred on 28th September 2015 at 5:58 PM in light conditions on a dry road surface. The incident involved a collision between a car and a pedestrian over 75 years old, the car was proceeding normally along the carriageway and the pedestrian was crossing

from the drivers nearside. The incident resulted in the pedestrian sustaining serious injuries.

- Incident reference 2016110071796 occurred on 18th May 2016 at 4:30 PM in light conditions on a wet road surface. The incident involved a collision between a good vehicle of unknown weight and a motorcycle (50cc – 125cc), both vehicle were in the act of turning right. The incident resulted in the motor cyclist sustaining slight injuries.
- Incident reference 2019110816028 occurred on 5th February 2019 at 5:30 PM in dark street lit conditions on a dry road surface. The incident involved a collision between two cars, one was in the act of turning right and the other was proceeding normally along the carriageway. The incident resulted in the driver of the vehicle turning right sustaining serious injuries.

B6280 Yarm Road (Blue outline)

2.3.7 Nine incidents have occurred within this area of which eight were classified as slight and one was classified as serious. An extract from Crashmap of this area is shown in **Figure 2C**.

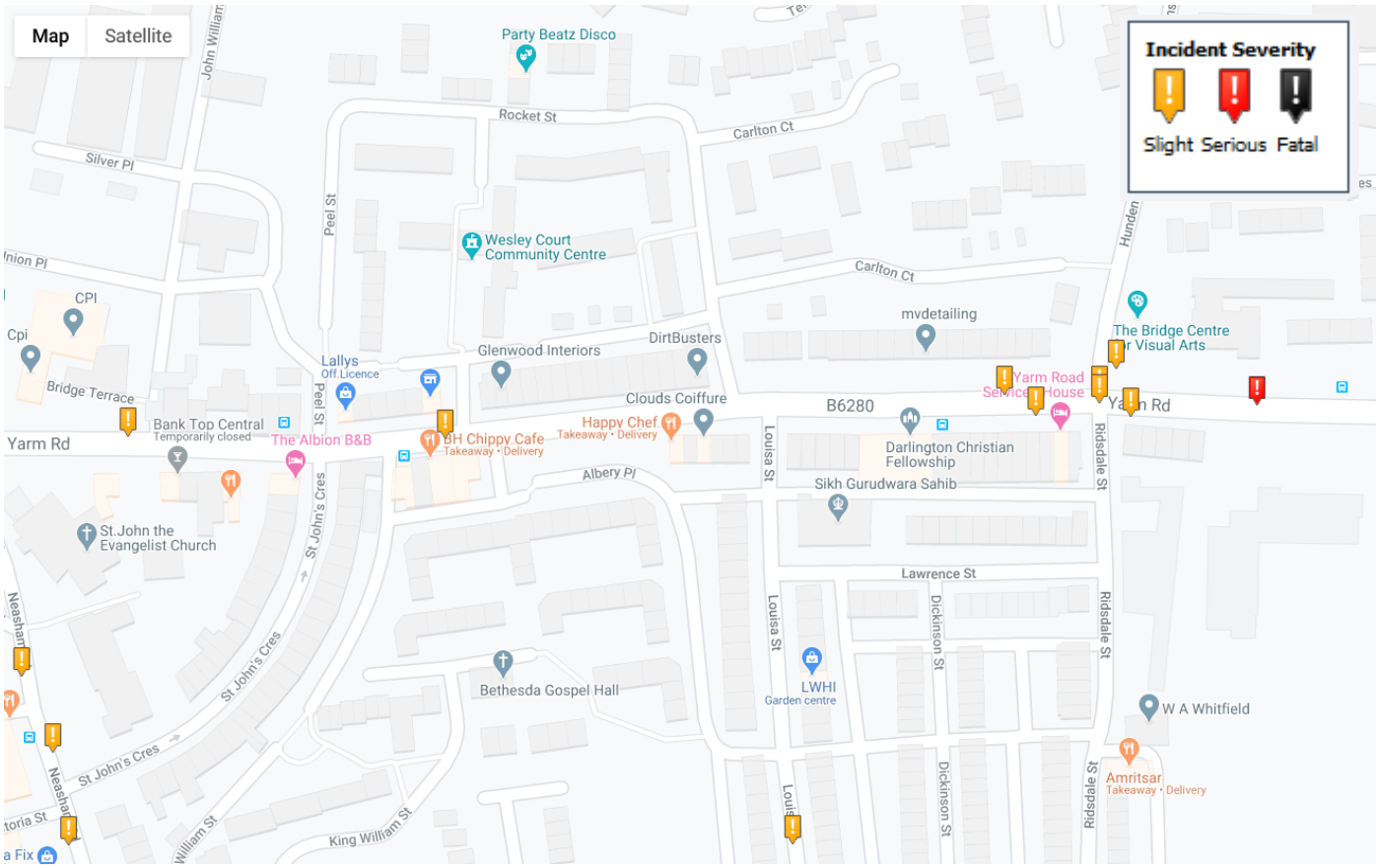


Figure 2C – Crashmap Collision Record (Crashmap)

2.3.8 Three of the incidents occurred in 2015, two occurred in 2016, one occurred in 2017 and three occurred in 2018. Four of the incidents involved a vulnerable road users, details of these and the serious incident are summarised in more detail below:

- Incident reference 201511SJ25415 occurred on 4th December 2015 at 9:30 PM in dark street lit conditions on a dry road surface. The incident involved a collision between a car and a pedestrian aged 11-15. The car was proceeding normally along the carriageway and the pedestrian was crossing

from the drivers offside. The incident resulted in the pedestrian sustaining slight injuries.

- Incident reference 2016110079056 occurred on 16th June 2016 at 5:59 PM in light conditions on a dry road surface. The incident involved a collision between a car and a pedestrian aged 11-15. The car was proceeding normally along the carriageway and the pedestrian was crossing from the drivers offside, masked by a parked or stationary vehicle. The incident resulted in the pedestrian sustaining slight injuries.
- Incident reference 2016110091593 occurred on 20th July 2016 at 6:33 PM in light conditions on a dry road surface. The incident involved a collision between a car and a cyclist aged 11-15. Both were proceeding normally along the carriageway and the incident resulted in the cyclist sustaining serious injuries.
- Incident reference 2017110261418 occurred on 20th December 2017 at 2:25 PM in light conditions on a wet road surface. The incident involved a collision between a car and a pedestrian aged 16-20. The car was proceeding normally along the carriageway and the pedestrian movements were unknown. The incident resulted in the pedestrian sustaining slight injuries.

Neasham Road (Magenta outline)

2.3.9 Ten incidents have occurred within this area of which all ten were classified as slight. An extract from Crashmap of this area is shown in **Figure 2D**.

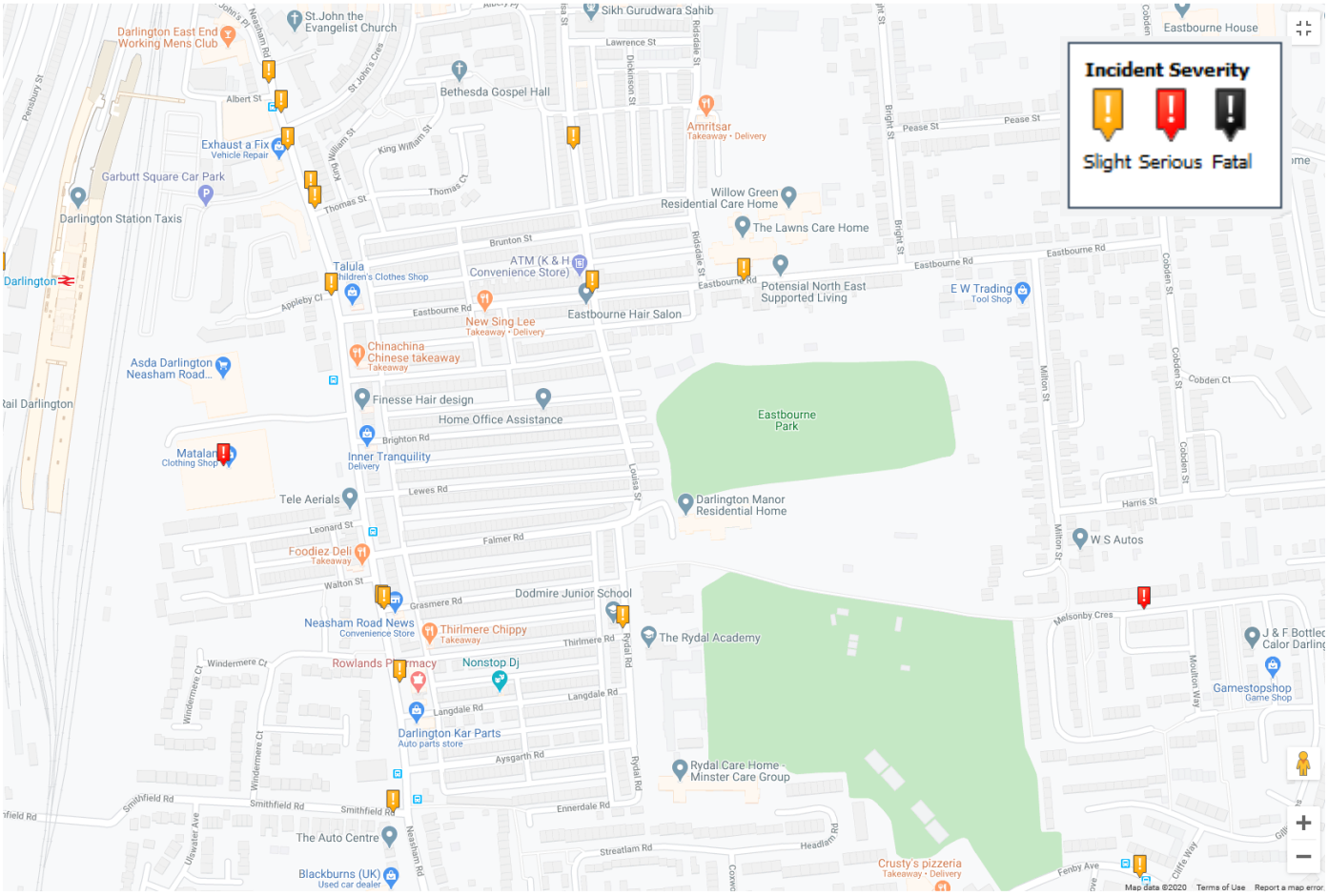


Figure 2D – Crashmap Collision Record (Crashmap)

2.3.10 Six of the incidents occurred in 2016, one occurred in 2017, two occurred in 2018 and one occurred in 2019. Two of the incidents involved a vulnerable road users, details of these are summarised in more detail below:

- Incident reference 2016110132552 occurred on 14th November 2016 at 10:30 PM in dark street lit conditions on a dry road surface. The incident involved a collision between a car and two pedestrian both aged 36-45. The car was in the act of turning right and the pedestrians were crossing from the

drivers nearside. The incident resulted in both pedestrians sustaining slight injuries.

- Incident reference 2016110145749 occurred on 22nd December 2016 at 10:00 AM in light conditions on a dry road surface. The incident involved a collision between a car and a pedestrian aged 66-75. The car was reversing and the pedestrian was crossing from the drivers nearside. The incident resulted in the pedestrian sustaining slight injuries.

Summary

2.3.11 It can be seen that incident are spread throughout the area of interest and that there are no significant clusters of collisions. It should also be noted that of the incidents only 13 (30%) were vulnerable road users, of which 8 (18%) involved pedestrians and 3 (7%) involved cyclists.

2.3.12 In summary, it is considered that there are no significant collision trends on the local highway network which are likely to be exacerbated by the proposed development.

2.4 Base Traffic Flows

2.4.1 Fully classified turning counts were undertaken at the following junctions on Wednesday 14th and Saturday 17th October 2020. These are shown indicatively on **Diagram 2.4.1** below. The survey periods were 06:30 – 09:00 in the AM, 15:00 – 18:00 in the PM and 11:00 – 15:30 on Saturday and further information is given in section 6.1 of this Transport Assessment.

- 1. Yarm Road / Neasham Road / B6280 mini roundabout
- 2. John Williams Boulevard / Yarm Road signalised junction
- 3. A167 / Parkgate / Stonebridge signalised junction
- 4. Hundens Lane / B6280 / Ridsdale Street signalised junction.
- 5. Neasham Road / Garbutt Square priority junction.

Diagram 2.4.1 location of Turning Counts and ATC's

2.4.2 In addition to the foregoing turning counts, ATC information was also obtained at the following locations:-

- A. Adelaide Street;
- B. Albert Street;
- C. Victoria Street,

2.4.3 Furthermore, a car park occupancy survey was undertaken on Wednesday 14th and Saturday 17th October 2020 for the survey periods 06:00 – 21:00 on the Wednesday and Saturday. The maximum occupancy was recorded as 31 and 11 on the Wednesday and Saturday respectively, which were not considered as representative because of the Covid 19 travel restrictions on public transport prevailing at the time of the surveys.

2.4.4 Other ATC information was also obtained from Darlington Borough Council at three count locations, one on Neasham Road (count point 38) near Lewes Road

approximately 250m south of Garbutt Square; Yarm Road (count point 41) near Teal Road approximately 1.5km east of Neasham Road; and Parkgate (count point 13) near Borough Road approximately 280m west of Neasham Road. This data was used to consider a 'Covid virus' sensitivity factor for the traffic count data and more information about this is included in section 6.2 of this Transport Assessment

3 Accessibility by Non-car Travel Modes

3.1 Overview

3.1.1 This section of the report considers the accessibility of the development by the following modes of transport in order to review the opportunities that will exist for staff and visitors to the rail station.

- Accessibility on foot;
- Accessibility by cycle;
- Accessibility by bus; and
- Accessibility by rail

3.2 Accessibility by Foot

3.2.1 Walking is the most common form of travel in Britain and has the greatest potential to replace short car trips, particularly those under 2km.

3.2.2 It is important to consider the routes that would be taken to get to these locations as well as the distance. Department for Transport guidance 'Building Sustainable Transport into New Developments' (2008) gives the following advice.

3.2.3 "Walkable neighbourhoods are typically characterised as having a range of facilities within 10 minutes walking distance (around 800m). However, the propensity to walk or cycle is not only influenced by distance but also the quality of the experience; people may be willing to walk or cycle further where their surroundings are more attractive, safe and stimulating."

3.2.4 In terms of pedestrian infrastructure (see drawing SGMSCP-FHT-Z0-SL-DR-H-00002 P03 - Non Motorised User Plans (**Appendix C**), all roads in the vicinity of the site have footways on both sides and are street-lit and have dropped kerbs within the infrastructure. Tactile paving is present on Neasham Road and signal controlled crossings are provided to aid pedestrian movements.

3.2.5 **Figure 3** below identifies 800m (blue) and 2km (green) walking radii from the site. It is noted that walking routes will not follow the simple radius of this plan and it is provided as an indication of where destinations lie and the general extent to which the local area can be accessed on foot.

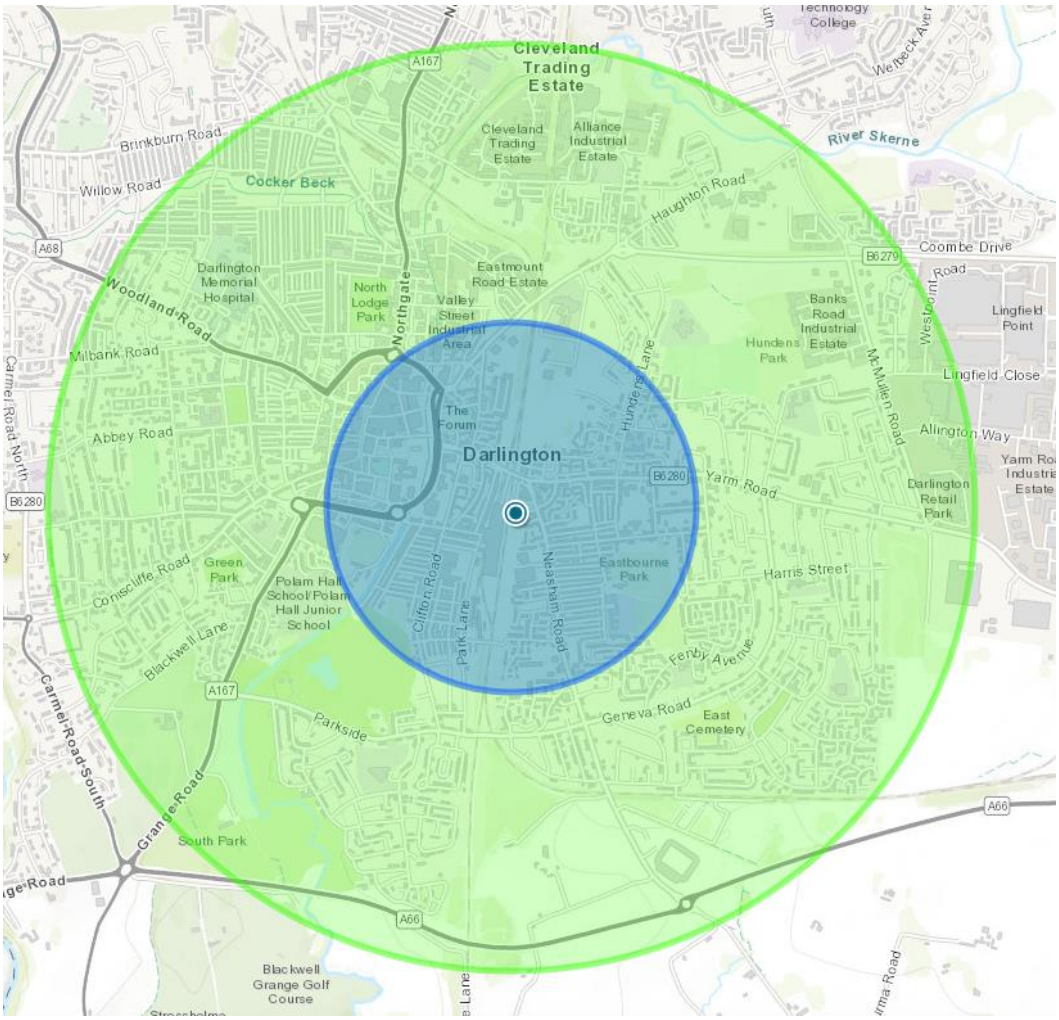


Figure 3 – Indicative Walking Distance ***(Source: NatGeo Mapmaker)***

3.2.6 The majority of Darlington centre is within an 800m walking distance (10 minute walk) of the centre of the site including various commercial and residential properties. From the site there are two predominate routes to the centre of Darlington.

3.2.7 One is to exit the site onto Neasham Road, travel north to the B6280 Parkgate and then follow this road west towards the town centre. As described in Section 2 of this report both these roads have wide street lit footways that include dropped kerbs and tactile paving at junction crossing points. Where Parkgate joins the A167, signalised crossing facilities are provided which can be used to access the town centre.

3.2.8 The other route would involve passing through Darlington railway station via the existing footbridge and exiting the station onto Victoria Road. Then travelling west on Victoria Road to the A167 Feethams roundabout. Both routes provide wayfinder signage directions to the town centre and railway station.

3.2.9 Victoria Road has wide street lit footways that included dropped kerbs and tactile paving at junction crossing points. Victoria Road joins the A167 Feethams roundabout and signalised crossing facilities are provided which can be used to access Feetham leisure complex and the south side of the town centre he town centre.

3.2.10 Teesside University Darlington campus is located approximately 700m (9 minutes) from the site and Darlington College is located approximately 1.1km (14 minutes) from the site.

3.2.11 Both these destinations can be accessed by travelling north on to the Parkgate Pedestrian / cycle bridge across Parkgate then along John Williams Boulevard or alternatively travel north on Neasham Road to Yarm Road and then continuing north on John Williams Boulevard to access the campus. Wide street lit footways are providing on these road and a signalised crossing facility is also present at the Yarm Road / John Williams Boulevard junction.

3.2.12 Bus stops are located on Neasham Road along the site frontage within 200m of the centre of the site. Further details of these stops and the services available are provided in section 3.4.

3.3 Accessibility by Cycle

3.3.1 Like walking, cycling has an important part to play in reducing congestion, improving accessibility and reducing pollution. A further benefit of cycling is linked to increased general health and fitness which has personal benefits as well as economic benefits for the nation in terms of health service costs. The bicycle is generally more affordable than the car and hence there are social equity benefits to the promotion of cycling. Cycling may also allow people without cars to reach destinations that they may otherwise be unable to reach.

3.3.2 Guidance suggests that cycling has the potential to substitute for short car trips, particularly those under 5km and to form part of a longer journey by public transport. However, 'Building Sustainable Transport into New Developments' (2008) identifies that "people may be willing to walk or cycle further where their surroundings are more attractive, safe and stimulating". Furthermore, the National Travel Survey identifies longer cycle journeys than 5km with an average distance of 5.3km and an 85th percentile distance of 7.4km.

3.3.3 **Figure 4**, overleaf, indicates destinations that lie within 5km and 7.5km radii of the application site. Again it is noted that cycling will not follow the simple radius shown on this plan and it is provided to give an indication of where destinations lie and the general extent to which the site is accessible by cycle.

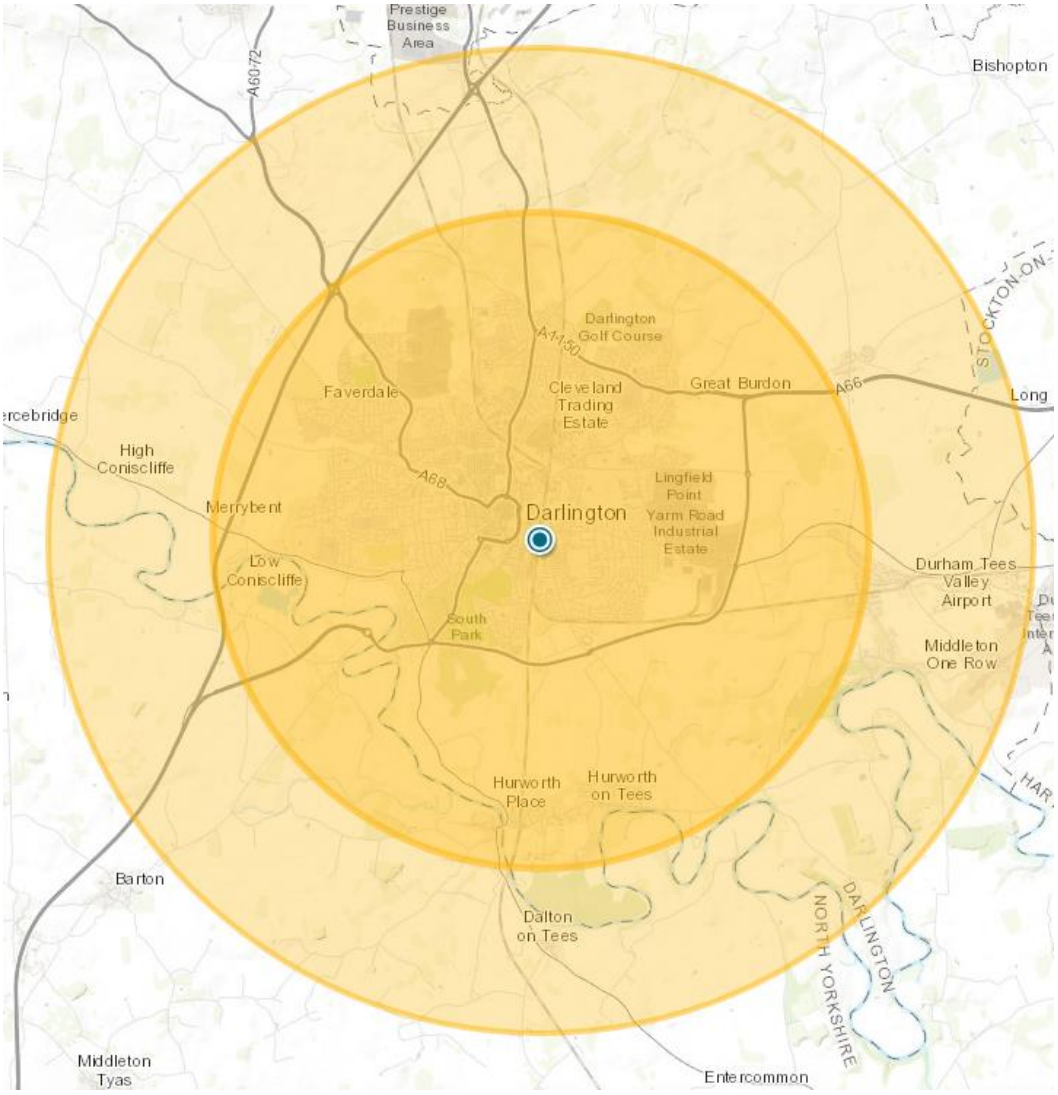


Figure 4 – Indicative cycling radii ***(National Geographic MapMaker)***

3.3.4 **Figure 4** indicates that many areas are located within cycling distance. However, as with walking, it is considered that the quality of the available cycle infrastructure is an important factor when it comes to accessibility and the following extract, **Figure 5**, from the Darlington cycle map details the available cycle routes in the vicinity of the site and drawing SGMSCP-FHT-Z0-SL-DR-H-00002 P03 - Non Motorised User Plans (**Appendix C**) shows facilities adjacent to the site.

Figure 5 – Extract from Darlington Cycling Map

3.3.5 As can be seen in Figure 5 above, there are a number of signed and recommended cycle routes in the vicinity including off road routes. One of which runs along John Williams Boulevard and can be used to access the Teesside University campus and Haughton route (marked 14).

3.3.6 Cycle parking for the proposals has been provided adjacent to the pick-up / drop-off on the northern side of the MSCP / station building some 29m from the station entrance. The proposals include 12 'Sheffield' type stands for 24 cycles in a covered area together with a secure enclosed covered area for 26 cycles (two tier parking racks) adjacent to this. The internal paths around the pick-up / drop-off allow for shared pedestrian / cycle use. This cycle parking provision will be additional to existing cycle spaces at the station which is currently 152 spaces with the main area under the station canopy at the top of the Parkgate Station approach ramp and a smaller area inside the West Portico on the western side of the station, accessible from Victoria Road.

3.3.7 It is considered that the site's proximity to surrounding local centres and facilities along with the available cycle infrastructure provides adequate incentive to encourage future residents to travel by cycle.

3.4 Accessibility by Bus

3.4.1 The closest bus stops to the site are located on Neasham Road within 200m of the centre of the site. Further stops are located on Yarm Road approximately 250m from the centre of the site where further services are available. **Figure 6** shows the location of the closest stops. There are other bus stops on Parkgate adjacent to the station access, but the same bus services use these stops. As part of the proposals a new bus stop and layby with a shelter will be provided for north bound services on Neasham Road immediately adjacent to the MSCP building.

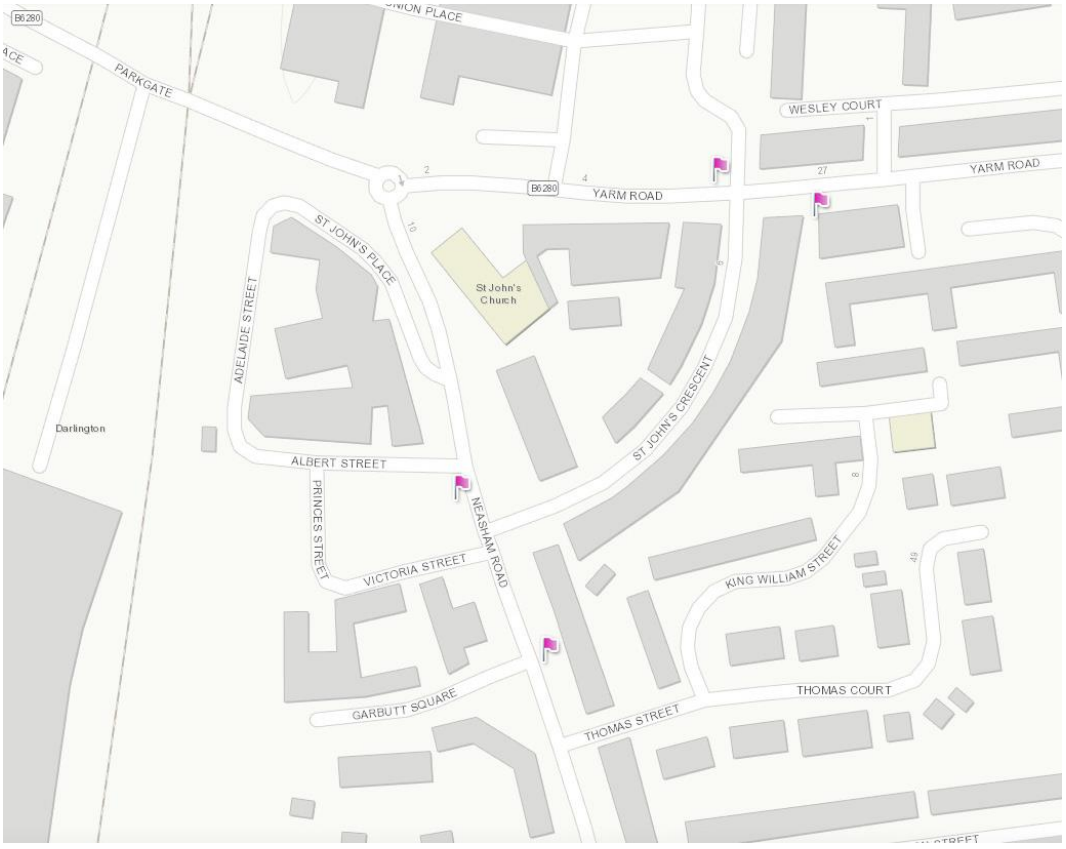


Figure 6 – Bus Stop Locations ***(National Geographic MapMaker)***

3.4.2 The facilities and services provided at the existing bus stops are as follows:

Neasham Road

Stop location:	Neasham Road opp St Johns Crescent
Stop ID:	dloagatw
Distance to stop:	Approx 50m from centre of site
Direction of travel:	Buses travelling north
Facilities:	Pole stop with timetable information and raised kerbs
Bus services:	13A, 13B

Stop location:	Neasham Road adj St Johns Crescent
Stop ID:	dloagawa
Distance to stop:	Approx 150m from centre of site
Direction of travel:	Buses travelling south
Facilities:	Pole stop with timetable information and raised kerbs
Bus services:	13A, 13B

Yarm Road

Stop location:	Yarm Road / central park
Stop ID:	dloadwmj
Distance to stop:	Approx 240m from centre of site
Direction of travel:	Buses travelling east
Facilities:	Shelter with seating, timetable information and raised kerbs
Bus services:	2, 2A, 3A, 12

Stop location:	Yarm Road / central park
Stop ID:	dloadwmj
Distance to stop:	Approx 240m from centre of site
Direction of travel:	Buses travelling east
Facilities:	Shelter with seating, timetable information and raised kerbs
Bus services:	2, 2A, 3A, 12

3.4.3 A summary of the services and approximate frequencies available at these bus stops is given in the table below:

		Approximate Peak Frequency		
Service	**Route**	**Mon - Sat Daytime**	**Mon - Sat Evening**	**Sunday**
2	Branksome - Red Hall	10-12 mins	30 mins	30 mins
2A	Branksome - Red Hall	10 mins (6-8am and 3-4pm only)	60 mins (10-11pm)	Same as Mon-Sat
3A	Skerne Park – Harrowgate Hill	60 mins	No service	No Service
12	Teesside Airport - Hurworth Place	60 mins	No service	120 mins
13A/13B	Darlington Flannels to Darlington Northgate	6 mins	No service	15 mins
X26/27	Catterick - Darlington	20 mins	60 mins	60 mins

3.4.4 As can be seen from the above table, there are a wide range of frequent bus services available seven days a week which provide routes to/from the railway station to various residential and commercial areas.

3.5 Accessibility by rail

3.5.1 The site is located adjacent to Darlington Gateway Station which is a mainline station that provides national services to London, Liverpool, Newcastle, York, Leeds, Glasgow, Edinburgh as well as various regional destinations.

3.5.2 Darlington railway station is a manned station with ticket office, self-service machines, refreshment facilities, sheltered waiting areas seating. Cycle parking is also provided at the station for 152 bicycles and the National Rail station details indicate 382 car parking spaces with 8 accessible spaces available. Parking is presently accessible from Garbutt Square, via the Parkgate station approach ramp and Victoria Road / Park Lane. The proposals are for a new station car park to replace some of the existing provision and also increase parking capacity.

3.6 Accessibility Summary

3.6.1 The site is accessible by both active travel and by public passenger transport arrangements. As such residents and visitors will have a choice of sustainable travel options which will reduce the need to travel by car.

4 Development Proposals

4.1 Development Proposals

4.1.1 As outlined in Section 1 - Introduction of this Transport Assessment, the aspiration of the Combined Authority is to develop Darlington Station into an enhanced rail gateway that can accommodate future demands for national, regional and local passenger rail services.

4.1.2 This Transport Assessment has been prepared to support a Planning application for a new 672 space Multi-story Car Park (MSCP) building including station concourse together with ancillary external infrastructure including an access (entry and exit) to the MSCP building via Garbutt Square from Neasham Road and a further access from Neasham Road on the northern side of the MSCP building to serve passenger pick-up and drop-off facilities as well as accommodation of bus replacement services during periods of disruption to scheduled train services. The car park includes 38 spaces for electric vehicle (EV) charging and cycle parking adjacent to the drop-off area. Disabled parking bays for 36 vehicles are provided on levels 00 and 01, 4 of which are for EV charging together with 4 disabled bays in the drop-off area. The internal 'fit-out' of the station concourse will be by another party and is not part of the planning application proposals. A copy of the Architects Option 2D Site Plan (drawing ref SGMSCP-NAP-Z1-00-DR-A-00010 Rev P5) is included at **Appendix C** showing the proposals. Further information about vehicular, pedestrian and cycle access arrangements is shown on Sanderson drawings ref SGMSCP-FHT-Z0-SL-DR-H-00007 P03 – Proposed Access Arrangements Option 2 and SGMSCP-FHT-Z0-SL-DR-H-00002 P03 - Non Motorised User Plans (see **Appendix C**).

4.1.3 The overall Darlington Station proposals envisage some of the existing car parking associated with Darlington Station being relocated to the MSCP such as that within the station building (5 short stay and 10 disabled spaces plus drop-off area and bay for emergency services) and passenger parking (accessed via Parkgate) as well as internal parking (21 spaces) at the western station portico (Victoria Road / Park Lane). This will assist in the provision of proposed improvements for

pedestrian movements around the station and provision of other passenger facilities at the station. In addition, as part of development proposals for the Park Lane public car park (which is part of the former cattle market site) the 108 (inclusive of 3 disability bays) existing spaces will become redundant. The application site itself includes the largest part of the existing Garbutt Square car park (overall 353 spaces) and the long stay car park (43 spaces (inclusive of 1 disabled bay)) off Albert Street. Any remaining area of Garbutt Square surface car park (eg. to the south of the proposed MSCP building) that is not included in the application site will not be used for public parking.

4.1.4 The overall car parking strategy at the station allows for some retention of parking for rail staff accessed from the Parkgate ramp together with taxi drop-off / pick-up on the station ramp with controlled access. In addition the small external public car park adjacent to the West Portico is retained for use. The layout of the new station drop-off / pick-up area integrates with the recently constructed Parkgate foot and cycle bridge that connects with the Central Park redevelopment area to the north of Parkgate / Yarm Road and east of the railway line.

4.1.5 Darlington Borough Council (DBC) have commissioned SYSTRA to carry out a demand study to examine the number of parking spaces which are likely to be required at a new multi-story car park (MSCP) (the subject of this planning application). The Strategic Outline Business Case (SOBC) for the wider scheme was completed in 2019. Within the SOBC the number of spaces required in the MSCP was estimated to be approximately 740 spaces including disabled spaces.

4.1.6 Interchange between bus and rail would be via facilities on Neasham Road. A new bus layby for north bound services is proposed along with the retention of the existing southbound bus stop. Existing bus stops on Parkgate are to be retained and new bus stop locations on Park Lane / Victoria Road adjacent to the western portico are proposed as part of proposals on that side of the station. These are incorporated within proposed highway improvements at the junction of Park Lane / Victoria Road together with a new access to the retained external parking adjacent to the western portico.

4.1.7 Access (entry / exit) to the MSCP will be from Neasham Road via the existing Garbutt Square junction and a new access point to the pick-up / drop-off area and for the use of bus replacement services during disruption to train services. At these times the pick-up / drop-off area would be closed to passengers and the bus replacement services managed for the benefit of passengers and the public. Details of the proposed access arrangements are shown on drawing ref SGMSCP-FHT-Z0-SL-DR-H-00007 P03 (**Appendix C)**. The swept path of larger vehicles accessing Garbutt Square and the new access point to the pick-up / drop-off area are shown on the following drawings:-

- SGMSCP-FHT-Z0-SL-DR-H-00008 P03 - Swept Path Analysis of Garbutt Square Proposals
- SGMSCP-FHT-Z0-SL-DR-H-00009 P03 – Swept Path Analysis of Proposal Access Arrangements
- SGMSCP-FHT-Z0-SL-DR-H-00010 P03 – Proposed Access Arrangements Swept Path Analysis of Neasham Road to Parkgate
- SGMSCP-FHT-Z0-SL-DR-H-00011 P02 - Swept Path Analysis of Garbutt Square Proposals

4.1.8 The creation of the space for the MSCP building, station facilities and station pick-up / drop-off area will require acquisition of land in addition to that already used for the station including properties served from Adelaide Street, St John's Place, Albert Street, Princes Street, Victoria Street and Garbutt Square. The proposed development will necessitate the Stopping-Up of the adopted highways detailed below and shown on Drawing SGMSCP-FHT-Z0-SL-DR-H-00005 P03 – Areas of Highway to be Stopped – up and Created, attached at **Appendix C**:-

- St John's Place;
- Adelaide Street;
- Albert Street;
- Prince's Street;
- Victoria Street, and,

- Garbutt Square (part), from a point some 24 metres from its junction with Neasham Road.

4.1.9 There will also be new areas of adopted highway created in association with the proposed access to the drop-off/pick-up area from Neasham Road and the proposed bus layby to the north of Garbutt Square. These areas will be included within the S278 Agreement (Highways Act 1980) which will be required to enable the highway improvement works to be implemented.

4.1.10 Furthermore, to accommodate the MSCP building, station facilities and station pick-up / drop-off area there will be a requirement for improvements along Neasham Road. The following improvements are proposed:-

- Provision of a new bus layby (north bound) on Neasham Road,
- Relocation of an existing signalised pedestrian crossing,
- Amendments to part of an existing retaining wall on the west side of Neasham Road to create a 3m wide footway and adjustment of the kerb line as it approaches the Yarm Road roundabout,
- Implementation of traffic management measures (waiting restrictions and parking bays),
- Closure of existing side streets (as detailed above) and old property access points on the west side of Neasham Road,
- The introduction of a new access for the pick-up / drop-off area, and
- Improvements to Garbutt Square to facilitate access to the new MSCP including its junction with Neasham Road.

4.2 SYSTRA Car Parking Demand Study

4.2.1 SYSTRA have prepared a Technical Note (ref NEA20 – 110107) dated 01 October 2020 examining the number of parking spaces which are likely to be required at a new multi-story car park at the station. A copy of the SYSTRA study report is included with the planning application.

4.2.2 We have assessed the net increase in parking spaces for the MSCP which could accommodate 672 spaces. There are a total of 396 spaces on the existing Garbutt Square and Albert Street car parks, a net increase of 276 spaces less any relocations from the Parkgate ramp and western portico which is estimated at 71 spaces, thereby resulting in a total net increase of approximately 205 spaces.

4.2.3 The Demand Study was based on the new MSCP replacing existing car parks around the station as follows:-

- Victoria Rd / Portico – 51 Spaces (of these 31 external spaces are retained)
- Parkgate Ramp – 45 Spaces
- Garbutt Square – 316 Spaces (this relates to the spaces used by LNER not the actual number of spaces in the car park)
- Station East Albert St – 43 Spaces (inclusive of 1 disabled bay)
- Park Lane – 108 Spaces (inclusive of 3 disabled bays)

4.2.4 It should be noted that all of the car parks listed above were expected to operate at 100% occupancy with the exception of Garbutt Square which would operate at 70% of capacity. These occupancy's were provided by LNER / DBC and are thought to be representative of current utilisation.

4.2.5 The Demand Study considers two growth scenarios one based on 3% growth per year and one using the standard demand forecasting approach set out in the Passenger Demand Forecasting Handbook (PDFH). The growth rates at 2025, 2035 and 2050 from the Demand Study are shown in the table below:-

	2025	2035	2050
Growth Factor	1.06	1.26	1.73

Table 4.2.5 Demand Study Table 5. Growth Rates

4.2.6 Results for the 5 parking areas using the factors from table 4.25 above are summarised in table 4.2.6 below:-

CAR PARK	DEMAND			
	2020	2025	2035	2050
Victoria Road / Portico	51	54	65	88
Parkgate Ramp	45	48	57	78
Garbutt Square	221	235	280	382

Station East Albert Street	43	46	54	74
Park Lane	108	115	137	187
Total	**468**	**498**	**592**	**808**

Table 4.2.6 Results from Demand Study Table 6. Demand

4.2.7 A summary of the results for the two scenarios and differences are summarised in table 4.2.7 below:-

CAR PARK	**DEMAND**			
	2020	**2025**	**2035**	**2050**
3 % Year on Year Calculation	468	516	671	972
SYSTRA Demand Calculation	468	498	592	808
Difference (No)	**0**	**-18**	**-79**	**-164**
Difference (%)	**0%**	**-3%**	**-12%**	**-17%**

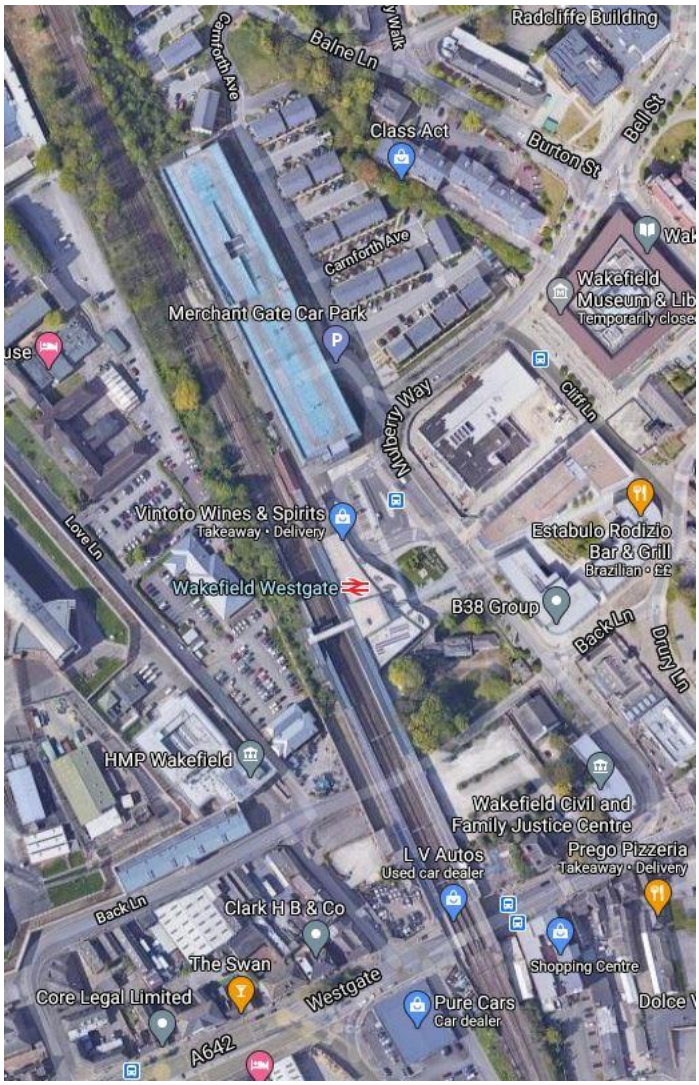
Table 4.2.7 Results from Demand Study Table 7. Difference in growth scenarios

4.2.8 The Demand Study indicates that using the methodology set out above, in 2040 the number of spaces required would be 656 this is 114 lower than the 770 calculation using 3% year on year growth factor. In addition taking into account that 31 spaces are retained external to the western portico the demand would be reduced by circa 43 in 2040 and 52 in 2050 for the Victoria Road / Portico giving 613 (2040) and 756 (2050).

4.2.9 The proposed MSCP includes 672 car parking spaces in the MSCP plus 20 marked spaces in the drop-off area (as well as unmarked drop-off) so would satisfy demand to somewhere between 2040 and 2050 based on the SYSTRA calculation.

5 Traffic Generations

5.1 Traffic generation for the multi storey car park (MSCP) has been assessed from data held by Sanderson's for an existing multi-storey car park at Merchant Gate Wakefield which is located next to Wakefield Westgate Train Station and within a short walk of the MSCP. This is considered as being a comparable development to the proposed MSCP as it is used by station customers. Merchant Gate has a capacity for 1,447 cars and is located adjacent to the station pick-up / drop-off facility and taxi rank with its own access and the car park is also within reasonable walking distance of the facilities available within Wakefield City centre (See image).



5.2 A freedom of information enquiry was made to Wakefield City Council requesting trip generation information for the Merchant Gate car park. The data obtained covered the week commencing Monday 22nd September 2014 and provided the number of vehicles entering and exiting the car park each hour 24 hours a day for 7 days. A summary of the data is included at **Appendix I**.

5.3 The results for the peak periods are summarised in the table below:

	Date	Time	Arrivals	Departures
AM Peak Hour	24/09/2014	0800-0900	155	8
PM Peak Hour	25/09/2014	1500-1600	15	55
PM Peak Hour (typical)	23/09/2014	1700-1800	15	151
Saturday	27/09/2014	1200-1300	17	17

Table 5.3 – Merchant Gate Car Park Data

5.4 The maximum occupancy was 813 vehicles at 12:00hrs on the 24th September, and this was calculated robustly assuming that no vehicles were parked at the start of the 7 day survey period.

5.5 The operational assessment of the highway network has been based on 690 parking spaces in comparison to the proposed 672 spaces in the MSCP and 20 in the pick-up drop-off area. The 690 spaces equates to 84.9% of the maximum occupancy (813) at Merchant Gate. Robustly assuming that the proposed car park reaches full capacity and that the profile of arrivals and departures is generally consistent with Merchant Gate MSCP, it is predicted that the proposed car park (based on 690 spaces) is likely to generate in the order of 139 trips (two-way) in the AM peak, 60 trips (two-way) in the PM peak (1500-1600) and 139 in the Saturday peak period (1230-1330). The proposed arrivals and departures for the proposed MSCP based on 690 spaces is summarised in the table below:-

	Time	Arrivals	Departures
AM Peak Hour	0815-0915	132	7
PM Peak Hour	1500-1600	13	47
PM Peak Hour (typical)	1700-1800	13	128
Saturday	1230-1330	76	63

Table 5.5 – Proposed Car Park (based on 690 spaces)

5.6 However, it should be noted that a significant proportion of vehicles visiting the proposed car park would already be visiting the existing Garbutt Square surface car park (353 spaces) and the 43 space Arthur Street surface car park, and as such are already able to use the local highway network. The net difference in the number of spaces is 208. The number of 'new' vehicle trips added to the network as a result of the proposals is likely to be considerably less than identified in the paragraph above.

5.7 Nevertheless, for the purpose of providing a robust assessment, all trips (139 trips in the AM peak, 60 two trips in the PM and 139 in the Saturday peak period have been considered as 'new' to the highway network given the results of the Garbutt Square car park occupancy survey. No deductions for other traffic accessing the application site have been made although clearly there will be some.

5.8 The proposed traffic flows have been distribution based on the existing turning proportions from the base traffic count data, the distribution percentages are shown on **Figure 2** and the resulting development flows are shown on **Figure 3** both at **Appendix B**

6 Junction Modelling

6.1 Base Traffic Flows

6.1.1 Fully classified turning count were undertaken at the following junction on Wednesday 14th and Saturday 17th October 2020. The survey periods were 06:30 – 09:00 in the AM , 15:00 – 18:00 in the PM and 11:00 – 15:30 on Saturday.

- Yarm Road / Neasham Road / B6280 mini roundabout
- John Williams Boulevard / Yarm Road signalised junction
- A167 / Parkgate / Stonebridge signalised junction
- Hundens Lane / B6280 / Ridsdale Street signalised junction.
- Neasham Road / Garbutt Square priority junction.

6.1.2 The network peak hours were identified as 08:15 – 09:15 in the AM, 15:00 – 16:00 in the PM and 12:30 – 13:30 on Saturday. The surveyed peak hour flows are illustrated on **Figure 1** at **Appendix B**.

6.2 COVID Sensitivity Factors

6.2.1 Given the national restrictions on travel because of the Covid Virus a sensitivity factor for the traffic count data has been considered using the ATC information obtained from Darlington Borough Council at three count locations, one on Neasham Road (count point 38) near Lewes Road approximately 250m south of Garbutt Square; Yarm Road (count point 41) near Teal Road approximately 1.5km east of Neasham Road; and Parkgate (count point 13) near Borough Road approximately 280m west of Neasham Road.

6.2.2 Data for October 2020 was requested covering the week when the traffic counts were undertaken together with a similar period in October 2019. Unfortunately data for October 2019 was not available at all three sites in which case an earlier year was provided. Count point 38 (Neasham Road) included north and south bound data for October 2020 and October 2018, Count point 41 (Yarm Road) included east and west bound data for October 2020 and October 2018 and Count point 13

(Parkgate) included east and west bound data for October 2020 and October 2017. Growth factors from 2017 and 2018 to 2020 were obtained from TEMPro 7.2 and table NTEM AF15. The factors obtained are summarised below:-

	AM	PM	SAT
2017 – 2020	1.0452	1.0403	1.0373
2018 – 2020	1.0297	1.0266	1.0245

6.2.3 A summary of the ATC data for the AM, PM and Saturday periods together with the sensitivity factor both unadjusted for traffic growth and adjusted applying the Tempro factors indicated above is provided in the table attached at **Appendix I**.

6.2.4 This shows an average sensitivity factor across the 3 sites of 1.06477 in the AM period, 0.99366 in the PM period and 0.99229 in the Saturday period. Given this the AM scenarios of the junction capacity assessments in section 6.4 include the sensitivity factor which has then subsequently been growthed using TEMPro.

6.3 Traffic Growth

6.3.1 It is proposed to assess the development from the date of application (2021) as well as the opening year (2023) and then 5 years from opening (2027).

6.3.2 TEMPro 7.2 and table NTEM AF15 has been used to determine the desired base year flows using the following growth rates.

	AM	PM	SAT
2020 – 2021	1.0119	1.0104	1.0095
2020 – 2023	1.0299	1.0271	1.0264
2020 – 2027	1.0641	1.0590	1.0583

6.4 Junction Modelling

6.4.1 The computer program 'Junctions 9' has been used to model the following junctions in order to assess capacity, queuing and delay levels at the opening and design year levels;

Neasham Road / Garbutt Square

Arm A = Neasham Road (North)

Arm B = Garbutt Square

Arm C = Neasham Road (South)

	AM			PM			SAT		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	Neasham Road - Garbutt Square - 2021 + Dev								
Stream B-C	0.0	6.89	0.01	0.1	7.27	0.06	0.1	7.60	0.07
Stream B-A	0.0	12.70	0.02	0.1	12.66	0.10	0.1	12.67	0.11
Stream C-AB	0.5	5.62	0.21	0.1	4.39	0.04	0.3	4.82	0.12
	Neasham Road - Garbutt Square - 2023 + Dev								
Stream B-C	0.0	6.93	0.01	0.1	7.31	0.06	0.1	7.64	0.07
Stream B-A	0.0	12.86	0.02	0.1	12.81	0.11	0.1	12.81	0.11
Stream C-AB	0.5	5.61	0.21	0.1	4.37	0.04	0.3	4.80	0.12
	Neasham Road - Garbutt Square - 2027 + Dev								
Stream B-C	0.0	6.99	0.01	0.1	7.37	0.06	0.1	7.71	0.07
Stream B-A	0.0	13.17	0.02	0.1	13.11	0.11	0.1	13.09	0.11
Stream C-AB	0.6	5.60	0.22	0.1	4.34	0.04	0.3	4.78	0.13

Table 4 – Neasham Road / Garbutt Square results

6.4.2 From the capacity modelling undertaken it shows that the proposed junction arrangements would easily operate within practical capacity, generally accepted as being represented by a RFC (Ratio of Flow to Capacity) of 0.850 with no material queuing. The output results can be found in **Appendix D**.

Yarm Road / Neasham Road / B6280 mini roundabout

Arm 1 = Parkgate

Arm 2 = Yarm Road

Arm 3 = Neasham Road

	AM			PM			SAT		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	Parkgate - Neasham Road - Yarm Road - 2021								
Arm 1	1.3	5.09	0.58	1.7	5.81	0.63	1.5	5.29	0.60
Arm 2	2.4	12.68	0.71	2.7	13.92	0.73	2.3	11.73	0.70
Arm 3	31.7	187.58	1.09	7.5	57.88	0.91	5.3	43.07	0.86
	Parkgate - Neasham Road - Yarm Road - 2021 + Dev								
Arm 1	1.5	5.44	0.60	1.8	5.90	0.64	1.7	5.59	0.62
Arm 2	2.9	14.75	0.75	2.7	14.18	0.74	2.6	12.94	0.73
Arm 3	33.4	195.42	1.09	10.4	75.41	0.95	8.2	62.12	0.92
	Parkgate - Neasham Road - Yarm Road - 2023								
Arm 1	1.4	5.21	0.59	1.8	5.99	0.64	1.6	5.44	0.61
Arm 2	2.6	13.45	0.73	2.9	14.85	0.75	2.5	12.37	0.72
Arm 3	38.7	223.40	1.12	9.1	68.39	0.93	6.2	49.82	0.88
	Parkgate - Neasham Road - Yarm Road - 2023 + Dev								
Arm 1	1.6	5.58	0.61	1.8	6.08	0.65	1.7	5.76	0.64
Arm 2	3.1	15.80	0.76	2.9	15.15	0.75	2.8	13.72	0.74
Arm 3	40.5	231.79	1.13	12.8	89.86	0.97	9.9	73.39	0.94
	Parkgate - Neasham Road - Yarm Road - 2027								
Arm 1	1.5	5.45	0.60	2.0	6.36	0.67	1.7	5.74	0.63
Arm 2	3.0	15.21	0.76	3.4	17.00	0.78	2.8	13.80	0.74
Arm 3	53.3	299.68	1.18	13.5	95.21	0.98	8.7	67.66	0.93
	Parkgate - Neasham Road - Yarm Road - 2027 + Dev								
Arm 1	1.7	5.86	0.63	2.0	6.46	0.67	1.9	6.09	0.65
Arm 2	3.7	18.26	0.79	3.4	17.39	0.78	3.2	15.48	0.77
Arm 3	55.2	308.80	1.19	19.4	125.54	1.02	14.8	102.33	0.99

Table 5 – Yarm Road / Neasham Road / B6280 results

6.4.3 From the results provided above it can be seen that in the 2021 base scenarios, it is predicted that the Arm 3 (Neasham Road) of this junction operates over its practical capacity of 0.85 RFC in each scenario. All other arms of the junction are predicted to operate within capacity.

6.4.4 The assessment of scenarios exceeding practical capacity, results in the software being unable from that point to accurately predict how the junction would cope with additional traffic flows and the introduction of such flows, very often results in an exponential increase in RFC and queuing, which is not commensurate with the actual number of vehicles being added to the approach flows.

6.4.5 In terms of the impact of the development traffic, the Neasham Road (Arm 3) arm of the junction is predicted to exceed capacity in all the scenarios. In the 2021 scenarios the addition of the development traffic increases the vehicle queues by 1.7 vehicles in the AM peak, and 2.9 vehicles in the PM peak and SAT peak.

6.4.6 From this assessment a conclusion can be drawn that the most influential factor surrounding the operation of the junction is not the introduction of development traffic, but the anticipated level of base traffic growth. No allowance has been made for traffic included in the traffic counts already accessing the application site nor the fact that traffic can already access the car parks in the existing situation.

6.4.7 The output results can be found in **Appendix E**.

Signalised Junctions

6.4.8 The computer program 'Linsig v3' has been used to model the following junctions in order to assess capacity, queuing and delay levels at the opening and design year levels. The controller specifications for each junction were obtained from Darlington Borough Council and details of the junction operation abstracted from them.

6.4.9 The capacity threshold for a traffic signal controlled junction is a degree of saturation of 90%. This threshold is consistent with established traffic signal practice. It should be noted that this represents the practical rather than the absolute limit for the junction. The practical limit of 90% retains 10% spare capacity whereas the absolute limit stands at 100%.

John Williams Boulevard / Yarm Road signalised junction

6.4.10 The results of the assessment are summarised in the following tables and the full output results can be found in **Appendix F**.

		2021 Base AM		2021 Base PM		2021 Base SAT	
Item	**Lane Description**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**
Yarm Road – John Williams Bvld S	-	**50.9**	**-**	**50.7**	**-**	**54.9%**	-
1/2 + 1/1	Yarm Road (West) Left Ahead	50.9 : 50.9%	8.4	50.7 : 50.7%	8.8	54.9 : 54.9%	10.0
2/2 + 2/1	John Williams Bvld S Left Right	4.4 : 4.4%	0.3	6.9 : 6.9%	0.4	2.1 : 2.1%	0.2
3/1 + 3/2	Yarm Road (East) Right Ahead	47.3 : 47.3%	6.8	44.4 : 44.4%	6.4	46.8 : 46.8%	6.9
		PRC Over All Lanes (%): 76.7		PRC Over All Lanes (%): 77.4		PRC Over All Lanes (%): 64.0	

Table 6a – John Williams Boulevard / Yarm Road junction 2021 Base results

		2021 Base + Development AM		2021 Base + Development PM		2021 Base + Development SAT	
Item	**Lane Description**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**
Yarm Road – John Williams Bvld S	-	**51.0%**	-	**51.1%**	-	**55.4%**	-
1/2 + 1/1	Yarm Road (West) Left Ahead	51.0 : 51.0%	8.4	51.1 : 51.1%	8.9	55.4 : 55.4%	10.1
2/2 + 2/1	John Williams Bvld S Left Right	4.4 : 4.4%	0.3	6.9 : 6.9%	0.4	2.1 : 2.1%	0.2
3/1 + 3/2	Yarm Road (East) Right Ahead	48.2 : 48.2%	7.0	44.5 : 44.5%	6.4	47.4 : 47.4%	7.0
		PRC Over All Lanes (%): 76.4		PRC Over All Lanes (%): 76.3		PRC Over All Lanes (%): 62.3	

Table 6b – John Williams Boulevard / Yarm Road junction 2021 Base+ Development results

Item	Lane Description	2023 Base AM		2023 Base PM		2023 Base SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
Yarm Road – John Williams Bvld S	-	**51.8%**	-	**51.5%**	-	**55.8%**	-
1/2 + 1/1	Yarm Road (West) Left Ahead	51.8 : 51.8%	8.6	51.5 : 51.5%	9.0	55.8 : 55.8%	10.2
2/2 + 2/1	John Williams Bvld S Left Right	4.4 : 4.4%	0.3	7.3 : 7.3%	0.5	2.1 : 2.1%	0.2
3/1 + 3/2	Yarm Road (East) Right Ahead	48.1 : 48.1%	7.0	45.1 : 45.1%	6.5	47.6 : 47.6%	7.0
		PRC Over All Lanes (%): 73.8		PRC Over All Lanes (%): 74.6		PRC Over All Lanes (%): 61.2	

Table 6c – John Williams Boulevard / Yarm Road junction 2023 Base results

Item	Lane Description	2023 Base + Development AM		2023 Base + Development PM		2023 Base + Development SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
Yarm Road – John Williams Bvld S	-	51.9%	-	51.9%	-	56.4%	-
1/2 + 1/1	Yarm Road (West) Left Ahead	51.9 : 51.9%	8.6	51.9 : 51.9%	9.2	56.4 : 56.4%	10.5
2/2 + 2/1	John Williams Bvld S Left Right	4.4 : 4.4%	0.3	7.3 : 7.3%	0.5	2.1 : 2.1%	0.2
3/1 + 3/2	Yarm Road (East) Right Ahead	49.0 : 49.0%	7.1	45.1 : 45.1%	6.5	48.2 : 48.2%	7.1
		PRC Over All Lanes (%): 73.5		PRC Over All Lanes (%): 73.6		PRC Over All Lanes (%): 59.6	

Table 6d – John Williams Boulevard / Yarm Road junction 2023 Base+ Development results

Item	Lane Description	2027 Base AM		2027 Base PM		2027 Base SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
Yarm Road – John Williams Bvld S	-	53.5%	-	53.1%	-	57.6%	-
1/2 + 1/1	Yarm Road (West) Left Ahead	53.5 : 53.5%	8.9	53.1 : 53.1%	9.4	57.6 : 57.6%	10.7
2/2 + 2/1	John Williams Bvld S Left Right	4.7 : 4.7%	0.3	7.3 : 7.3%	0.5	2.3 : 2.3%	0.2
3/1 + 3/2	Yarm Road (East) Right Ahead	49.8 : 49.8%	7.4	46.5 : 46.5%	6.9	49.1 : 49.1%	7.4
		PRC Over All Lanes (%): 68.2		PRC Over All Lanes (%): 69.4		PRC Over All Lanes (%): 56.2	

Table 6e – John Williams Boulevard / Yarm Road junction 2027 Base results

Item	Lane Description	2027 Base + Development AM		2027 Base + Development PM		2027 Base + Development SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
Yarm Road – John Williams Bvld S	-	53.6%	-	53.5%	-	58.2%	-
1/2 + 1/1	Yarm Road (West) Left Ahead	53.6 : 53.6%	9.0	53.5 : 53.5%	9.5	58.2 : 58.2%	11.0
2/2 + 2/1	John Williams Bvld S Left Right	4.7 : 4.7%	0.3	7.3 : 7.3%	0.5	2.3 : 2.3%	0.2
3/1 + 3/2	Yarm Road (East) Right Ahead	50.6 : 50.6%	7.6	46.5 : 46.5%	6.9	49.7 : 49.7%	7.5
		PRC Over All Lanes (%): 68.0		PRC Over All Lanes (%): 68.4		PRC Over All Lanes (%): 54.7	

Table 6f – John Williams Boulevard / Yarm Road junction 2027 Base+ Development results

6.4.11 The capacity modelling assessment undertaken at this junction demonstrates that the degree of saturation in all scenarios is below 90% and that the addition of the development traffic would not have an adverse impact on the operation of the junction.

Hundens Lane / B6280 / Ridsdale Street signalised junction

6.4.12 The results of the assessment are summarised in the following tables and the full output results can be found in **Appendix G**.

		2021 Base AM		2021 Base PM		2021 Base SAT	
Item	**Lane Description**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**
Yarm Road – Hundens Lane – Ridsdale Street	-	60.0%	-	57.7%	-	59.2%	-
1/1 + 1/2	Yarm Road (West) Left Ahead Right	55.5 : 55.5%	10.1	57.7 : 57.7%	10.7	59.2 : 59.2%	11.2
2/1 + 2/2	Hundens Lane Left Right Ahead	58.4 : 58.4%	4.4	56.5 : 56.5%	3.6	56.4 : 56.4%	3.2
3/1 + 3/2	Yarm Road (East) Right Ahead Left	60.0 : 60.0%	9.4	55.1 : 55.1%	8.2	56.1 : 56.1%	8.8
4/1	Ridsdale Street Ahead Right Left	30.0%	2.1	29.2%	2.0	23.9%	1.3
		PRC Over All Lanes (%): 49.9		PRC Over All Lanes (%): 55.9		PRC Over All Lanes (%): 52.1	

Table 7a – Hundens Lane / B6280 / Ridsdale Street junction 2021 Base results

		2021 Base + Development AM		2021 Base + Development PM		2021 Base + Development SAT	
Item	**Lane Description**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**
Yarm Road – Hundens Lane – Ridsdale Street	-	61.0%	-	58.1%	-	59.8%	-
1/1 + 1/2	Yarm Road (West) Left Ahead Right	55.6 : 55.6%	10.1	58.1 : 58.1%	10.8	59.8 : 59.8%	11.3
2/1 + 2/2	Hundens Lane Left Right Ahead	58.6 : 58.6%	4.4	56.5 : 56.5%	3.6	56.5 : 56.5%	3.2
3/1 + 3/2	Yarm Road (East) Right Ahead Left	61.0 : 61.0%	9.6	55.2 : 55.2%	8.2	56.8 : 56.8%	9.0
4/1	Ridsdale Street Ahead Right Left	30.0%	2.1	29.2%	2.0	23.9%	1.3
		PRC Over All Lanes (%): 47.6		PRC Over All Lanes (%): 54.9		PRC Over All Lanes (%): 50.6	

Table 7b – Hundens Lane / B6280 / Ridsdale Street junction 2021 Base + Development results

Item	Lane Description	2023 Base AM		2023 Base PM		2023 Base SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
Yarm Road – Hundens Lane – Ridsdale Street	-	61.3%	-	58.7%	-	60.2%	-
1/1 + 1/2	Yarm Road (West) Left Ahead Right	56.5 : 56.5%	10.2	58.7 : 58.7%	10.9	60.2 : 60.2%	11.4
2/1 + 2/2	Hundens Lane Left Right Ahead	59.8 : 59.8%	4.6	57.6 : 57.6%	3.8	57.4 : 57.4%	3.2
3/1 + 3/2	Yarm Road (East) Right Ahead Left	61.3 : 61.3%	9.6	56.1 : 56.1%	8.3	57.2 : 57.2%	9.0
4/1	Ridsdale Street Ahead Right Left	30.7%	2.1	30.0%	2.0	24.5%	1.3
		PRC Over All Lanes (%): 46.9		PRC Over All Lanes (%): 53.3		PRC Over All Lanes (%): 49.5	

Table 7c – Hundens Lane / B6280 / Ridsdale Street junction 2023 Base results

Item	Lane Description	2023 Base + Development AM		2023 Base + Development PM		2023 Base + Development SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
Yarm Road – Hundens Lane – Ridsdale Street	-	62.2%	-	59.1%	-	60.8%	-
1/1 + 1/2	Yarm Road (West) Left Ahead Right	56.6 : 56.6%	10.3	59.1 : 59.1%	11.0	60.8 : 60.8%	11.8
2/1 + 2/2	Hundens Lane Left Right Ahead	60.1 : 60.1%	4.6	57.6 : 57.6%	3.8	57.5 : 57.5%	3.2
3/1 + 3/2	Yarm Road (East) Right Ahead Left	62.2 : 62.2%	10.0	56.2 : 56.2%	8.3	57.9 : 57.9%	9.3
4/1	Ridsdale Street Ahead Right Left	30.7%	2.1	30.0%	2.0	24.5%	1.3
		PRC Over All Lanes (%): 44.7		PRC Over All Lanes (%): 52.3		PRC Over All Lanes (%): 48.0	

Table7d – Hundens Lane / B6280 / Ridsdale Street junction 2023 Base + Development results

Item	Lane Description	2027 Base AM		2027 Base PM		2027 Base SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
Yarm Road – Hundens Lane – Ridsdale Street	-	63.3%	-	60.5%	-	62.1%	-
1/1 + 1/2	Yarm Road (West) Left Ahead Right	58.4 : 58.4%	10.8	60.5 : 60.5%	11.4	62.1 : 62.1%	12.0
2/1 + 2/2	Hundens Lane Left Right Ahead	61.7 : 61.7%	4.9	59.3 : 59.3%	4.0	59.4 : 59.4%	3.4
3/1 + 3/2	Yarm Road (East) Right Ahead Left	63.3 : 63.3%	10.5	57.9 : 57.9%	8.8	58.9 : 58.9%	9.5
4/1	Ridsdale Street Ahead Right Left	31.6%	2.2	31.0%	2.1	25.4%	1.3
		PRC Over All Lanes (%): 42.2		PRC Over All Lanes (%): 48.6		PRC Over All Lanes (%): 44.9	

Table 7e – Hundens Lane / B6280 / Ridsdale Street junction 2027 Base results

Item	Lane Description	2027 Base + Development AM		2027 Base + Development PM		2027 Base + Development SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
Yarm Road – Hundens Lane – Ridsdale Street	-	64.2%	-	60.9%	-	62.7%	-
1/1 + 1/2	Yarm Road (West) Left Ahead Right	58.5 : 58.5%	10.8	60.9 : 60.9%	11.5	62.7 : 62.7%	12.4
2/1 + 2/2	Hundens Lane Left Right Ahead	62.0 : 62.0%	4.9	59.3 : 59.3%	4.0	59.5 : 59.5%	3.4
3/1 + 3/2	Yarm Road (East) Right Ahead Left	64.2 : 64.2%	10.7	58.0 : 58.0%	8.8	59.6 : 59.6%	9.9
4/1	Ridsdale Street Ahead Right Left	31.6%	2.2	31.0%	2.1	25.4%	1.3
		PRC Over All Lanes (%): 40.1		PRC Over All Lanes (%): 47.7		PRC Over All Lanes (%): 43.5	

Table 7f – Hundens Lane / B6280 / Ridsdale Street junction 2027 Base + Development results

6.4.13 The capacity modelling assessment undertaken at this junction demonstrates that the degree of saturation in all scenarios is below 90% and that the addition of the development traffic would not have an adverse impact on the operation of the junction.

A167 / Parkgate / Stonebridge signalised junction

6.4.14 The results of the assessment are summarised in the following tables and the full output results can be found in **Appendix H**.

Item	Lane Description	2021 Base AM		2021 Base PM		2021 Base SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
A167 – Stonebridge - Parkgate	-	73.7%	-	72.4%	-	69.3%	-
1/2 + 1/1	A167 South Ahead	36.0 : 36.0%	4.5	29.1 : 29.1%	3.5	30.4 : 30.4%	3.7
1/3	A167 South Right	73.7%	7.6	68.6%	6.5	68.6%	6.2
2/2 + 2/1	Left Ahead	44.6 : 44.6%	9.8	39.7 : 39.7%	9.1	39.0 : 39.0%	8.1
2/3	Ahead	45.8%	10.9	40.7%	10.1	39.0%	8.9
3/1	Stonebridge Left	21.4%	0.7	24.8%	0.9	29.2%	1.1
3/2	Stonebridge Right	27.6%	1.2	30.8%	1.4	28.3%	1.2
4/2	A167 North Ahead	67.6%	7.8	56.7%	6.6	65.2%	8.0
4/3	A167 North Ahead	68.1%	7.9	57.1%	6.8	65.6%	8.0
5/1	Left	14.6%	1.1	16.8%	1.3	16.0%	1.2
5/2	Ahead	63.5%	1.0	53.7%	0.7	61.3%	0.9
5/3	Ahead	63.1%	1.0	53.2%	0.7	61.1%	0.9
6/1	Left	69.5%	13.8	72.4%	15.0	69.3%	14.0
7/2 + 7/1	Parkgate Right Left	72.8 : 72.8%	10.3	71.9 : 71.9%	9.3	69.0 : 69.0%	8.5
7/3	Parkgate Right	57.4%	9.2	55.0%	8.5	48.9%	7.4
		PRC Over All Lanes (%): 22.1		PRC Over All Lanes (%): 24.3		PRC Over All Lanes (%): 29.9	

Table 8a – A167 / Parkgate / Stonebridge junction 2021 Base results

		2021 Base + Development AM		2021 Base + Development PM		2021 Base + Development SAT	
Item	**Lane Description**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**
A167 – Stonebridge - Parkgate	-	74.6%	-	72.8%	-	70.7%	-
1/2 + 1/1	A167 South Ahead	35.6 : 35.6%	4.4	29.4 : 29.4%	3.6	30.4 : 30.4%	3.7
1/3	A167 South Right	73.2%	7.8	69.2%	6.5	70.7%	6.5
2/2 + 2/1	Left Ahead	44.6 : 44.6%	9.9	40.0 : 40.0%	9.1	39.5 : 39.5%	8.3
2/3	Ahead	45.9%	11.2	41.2%	10.2	39.6%	9.2
3/1	Stonebridge Left	21.4%	0.7	22.9%	0.9	29.3%	1.1
3/2	Stonebridge Right	28.9%	1.3	30.8%	1.4	42.1%	1.9
4/2	A167 North Ahead	67.6%	7.8	59.4%	6.9	65.2%	8.0
4/3	A167 North Ahead	68.1%	7.9	59.9%	6.9	65.6%	8.0
5/1	Left	15.3%	1.1	16.8%	1.3	24.0%	1.8
5/2	Ahead	63.5%	1.0	56.1%	0.7	61.5%	0.9
5/3	Ahead	63.1%	1.0	55.6%	0.7	60.9%	0.8
6/1	Left	74.6%	15.3	72.8%	15.1	69.4%	14.0
7/2 + 7/1	Parkgate Right Left	74.3 : 74.3%	10.6	71.5 : 71.5%	9.0	70.3 : 70.3%	9.0
7/3	Parkgate Right	59.3%	9.5	54.4%	8.5	50.2%	7.6
		PRC Over All Lanes (%): 20.7		PRC Over All Lanes (%): 23.6		PRC Over All Lanes (%): 27.2	

Table 8b – A167 / Parkgate / Stonebridge junction 2021 + Development Base results

		2023 Base AM		2023 Base PM		2023 Base SAT	
Item	**Lane Description**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**
A167 – Stonebridge - Parkgate	-	74.5%	-	73.7%	-	70.5%	-
1/2 + 1/1	A167 South Ahead	36.4 : 36.4%	4.6	29.6 : 29.6%	3.6	30.9 : 30.9%	3.8
1/3	A167 South Right	74.5%	7.7	69.8%	6.7	69.8%	6.4
2/2 + 2/1	Left Ahead	45.0 : 45.0%	9.8	40.3 : 40.3%	9.2	39.7 : 39.7%	8.2
2/3	Ahead	46.4%	11.1	41.5%	10.3	39.7%	9.1
3/1	Stonebridge Left	21.6%	0.8	25.2%	0.9	29.8%	1.1
3/2	Stonebridge Right	27.6%	1.2	31.4%	1.4	28.9%	1.3
4/2	A167 North Ahead	68.3%	7.9	57.6%	6.8	66.2%	8.2
4/3	A167 North Ahead	68.7%	8.0	58.2%	6.9	66.8%	8.3
5/1	Left	14.6%	1.1	17.1%	1.3	16.4%	1.2
5/2	Ahead	64.1%	1.0	54.5%	0.7	62.2%	0.9
5/3	Ahead	63.7%	1.0	54.2%	0.7	62.2%	0.9
6/1	Left	70.2%	14.0	73.7%	15.3	70.5%	14.5
7/2 + 7/1	Parkgate Right Left	73.3 : 73.3%	10.6	72.8 : 72.8%	9.5	70.0 : 70.0%	8.9
7/3	Parkgate Right	58.1%	9.3	56.0%	8.7	49.9%	7.6
		PRC Over All Lanes (%): 20.8		PRC Over All Lanes (%): 22.2		PRC Over All Lanes (%): 27.7	

Table 8c – A167 / Parkgate / Stonebridge junction 2023 Base results

		2023 Base + Development AM		2023 Base + Development PM		2023 Base + Development SAT	
Item	**Lane Description**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**
A167 – Stonebridge - Parkgate	-	75.2%	-	74.1%	-	72.0%	-
1/2 + 1/1	A167 South Ahead	36.0 : 36.0%	4.5	29.6 : 29.6%	3.6	30.9 : 30.9%	3.8
1/3	A167 South Right	74.0%	8.0	70.4%	6.8	72.0%	6.6
2/2 + 2/1	Left Ahead	45.0 : 45.0%	10.1	40.5 : 40.5%	9.3	40.0 : 40.0%	8.5
2/3	Ahead	46.5%	11.4	42.1%	10.7	40.4%	9.5
3/1	Stonebridge Left	21.6%	0.8	25.3%	0.9	29.9%	1.1
3/2	Stonebridge Right	28.9%	1.3	31.4%	1.4	42.7%	2.0
4/2	A167 North Ahead	68.3%	7.9	57.6%	6.8	66.2%	8.2
4/3	A167 North Ahead	68.7%	8.0	58.2%	6.9	66.8%	8.3
5/1	Left	15.3%	1.1	17.1%	1.3	24.4%	1.8
5/2	Ahead	64.1%	1.0	54.5%	0.7	62.2%	0.9
5/3	Ahead	63.7%	1.0	54.2%	0.7	62.2%	0.9
6/1	Left	75.2%	15.5	74.1%	15.7	70.6%	14.5
7/2 + 7/1	Parkgate Right Left	74.8 : 74.8%	10.7	73.6 : 73.6%	9.8	71.2 : 71.2%	9.2
7/3	Parkgate Right	60.1%	9.7	57.2%	9.0	51.4%	7.9
		PRC Over All Lanes (%): 19.7		PRC Over All Lanes (%): 21.5		PRC Over All Lanes (%): 25.0	

Table 8d – A167 / Parkgate / Stonebridge junction 2023 + Development Base results

Item	Lane Description	2027 Base AM		2027 Base PM		2027 Base SAT	
		Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue	Deg Sat (%)	Mean Max Queue
A167 – Stonebridge - Parkgate	-	76.7%	-	76.0%	-	72.6%	-
1/2 + 1/1	A167 South Ahead	37.3 : 37.3%	4.7	30.6 : 30.6%	3.7	31.9 : 31.9%	3.9
1/3	A167 South Right	73.0%	7.7	72.2%	7.0	72.0%	6.6
2/2 + 2/1	Left Ahead	46.2 : 46.2%	10.1	41.4 : 41.4%	9.5	40.7 : 40.7%	8.6
2/3	Ahead	48.1%	12.0	43.0%	10.9	41.1%	9.6
3/1	Stonebridge Left	20.6%	0.8	26.4%	1.0	31.1%	1.2
3/2	Stonebridge Right	28.3%	1.2	32.7%	1.5	30.2%	1.3
4/2	A167 North Ahead	70.6%	8.4	59.4%	7.1	68.3%	8.5
4/3	A167 North Ahead	71.0%	8.4	59.8%	7.1	68.9%	8.6
5/1	Left	14.9%	1.1	17.8%	1.3	17.1%	1.3
5/2	Ahead	66.2%	1.1	56.3%	0.8	64.2%	1.0
5/3	Ahead	65.8%	1.1	55.7%	0.7	64.1%	1.0
6/1	Left	74.2%	15.2	76.0%	16.4	72.6%	15.2
7/2 + 7/1	Parkgate Right Left	76.7 : 76.7%	11.4	74.6 : 74.6%	10.3	71.7 : 71.7%	9.5
7/3	Parkgate Right	62.3%	10.2	58.3%	9.2	51.9%	8.0
		PRC Over All Lanes (%): 17.4		PRC Over All Lanes (%): 18.5		PRC Over All Lanes (%): 23.9	

Table 8e – A167 / Parkgate / Stonebridge junction 2027 Base results

		2027 Base + Development AM		2027 Base + Development PM		2027 Base + Development SAT	
Item	**Lane Description**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**	**Deg Sat (%)**	**Mean Max Queue**
A167 – Stonebridge - Parkgate	-	77.6%	-	76.4%	-	74.2%	-
1/2 + 1/1	A167 South Ahead	37.3 : 37.3%	4.7	30.6 : 30.6%	3.7	32.0 : 32.0%	3.9
1/3	A167 South Right	76.4%	8.4	72.7%	7.1	74.2%	7.0
2/2 + 2/1	Left Ahead	46.3 : 46.3%	10.3	41.7 : 41.7%	9.6	41.1 : 41.1%	8.7
2/3	Ahead	48.2%	12.0	43.5%	11.2	41.7%	9.9
3/1	Stonebridge Left	20.7%	0.8	26.5%	1.0	31.2%	1.2
3/2	Stonebridge Right	29.5%	1.3	32.7%	1.5	44.0%	2.0
4/2	A167 North Ahead	70.6%	8.4	59.4%	7.1	68.3%	8.5
4/3	A167 North Ahead	71.0%	8.4	59.8%	7.1	68.9%	8.6
5/1	Left	15.7%	1.2	17.8%	1.3	25.1%	1.9
5/2	Ahead	66.2%	1.1	56.3%	0.8	64.2%	1.0
5/3	Ahead	65.8%	1.1	55.7%	0.7	64.1%	1.0
6/1	Left	77.6%	16.5	76.4%	16.5	72.7%	15.2
7/2 + 7/1	Parkgate Right Left	76.9 : 76.9%	11.5	75.5 : 75.5%	10.4	72.9 : 72.9%	9.8
7/3	Parkgate Right	62.5%	10.2	59.3%	9.5	53.3%	8.3
		PRC Over All Lanes (%): 16.0		PRC Over All Lanes (%): 17.9		PRC Over All Lanes (%): 21.3	

Table 8f – A167 / Parkgate / Stonebridge junction 2027 + Development Base results

6.4.15 The capacity modelling assessment undertaken at this junction demonstrates that the degree of saturation in all scenarios is below 90% and that the addition of the development traffic would not have an adverse impact on the operation of the junction.

7 Conclusion

7.1 Sanderson Associates (Consulting Engineers) Ltd has been appointed by Willmott Dixon to advise on traffic and transportation issues in relation to the new Multi-story Car Park (MSCP) building and station concourse on the eastern side of the existing Darlington Station, Bank Top, Darlington, County Durham, DL1 4AA. This is part of the wider Darlington Gateway Station upgrade redevelopment project being promoted by Tees Valley Combined Authority.

7.2 The application site is situated between the East Coast railway line and to the west of Neasham Road. It has vehicle and pedestrian access via Neasham Road including associated side streets. The site is located on the edge of Darlington town centre adjacent to eastern side of Darlington Railway Station.

7.3 The site is generally to the south of the Parkgate conservation area and encompasses several existing commercial buildings, associated side streets and car parks (part of Garbutt Square & Albert Street), it is bound as follows:

- The B6280 Parkgate / Yarm Road to the North;
- Neasham Road to the east;
- A car park (Garbutt Square) and residential properties to the south
- Darlington Railway Station to the west (East Coast Main line).

7.4 Planning permission is sought for a new Multi-story Car Park (MSCP) building (including station concourse) and ancillary external infrastructure including an access (entry and exit) to the MSCP building via Garbutt Square from Neasham Road and a further access from Neasham Road on the northern side of the MSCP building to serve passenger pick-up and drop-off facilities as well as accommodation of bus replacement services during periods of disruption to scheduled train services. The internal 'fit-out' of the station concourse will be by another party and is not part of the planning application proposals.

7.5 A Planning Pre-application enquiry (ref 21/00010/PREAPP) has been submitted to the Local Planning Authority (Darlington Borough Council) and a written response provided and the highway and transportation comments have been considered as part of this Transport Assessment.

7.6 The aspiration of the Combined Authority is to develop Darlington Station into an enhanced rail gateway that can accommodate future demands for national, regional and local passenger rail services. The proposals are being developed to accommodate future use by HS2 and the Northern Powerhouse Rail (NPR) and to create a modern rail hub for the Tees Valley Area.

7.7 The overall proposals include for two new platforms on the east side for existing and future Tees Valley local services such that local services can operate independently from the ECML. A further platform is proposed for HS2 and NPR.

7.8 Improvements to the existing station buildings with new station facilities adjacent to the MSCP are also proposed together with public transport interchange facilities and improvements to access for pedestrians and cyclists from Parkgate as well as an accessible footbridge linking new and existing platforms.

7.9 The proposals also envisage some of the existing car parking associated with Darlington Station being relocated to the MSCP such as that within the station building and passenger parking (accessed via Parkgate) as well as parking at the western station portico. This will assist in the provision of proposed improvements for pedestrian movements around the station and provision of other passenger facilities at the station.

7.10 SYSTRA have prepared a Technical Note (ref NEA20 – 110107) dated 01 October 2020 examining the number of parking spaces which are likely to be required at a new multi-story car park at the station. A copy of the SYSTRA study report is included with the planning application. The Assessment in this Transport Assessment indicates that the proposed 672 space MSCP plus 20 marked spaces

in the drop-off area (as well as unmarked drop-off) would satisfy demand to somewhere between 2040 and 2050 based on the SYSTRA calculation.

7.11 Traffic generation for the multi storey car park (MSCP) has been assessed from data held by Sanderson's for an existing multi-storey car park at Merchant Gate Wakefield which is located next to Wakefield Westgate Train Station and within as short walk of the MSCP. This is considered as being a comparable development to the proposed MSCP as it is used by station customers.

7.12 The predicted vehicular trip generation is set out in section 5 of this report and from this data it is predicted that the proposed car park (based on 690 spaces used in this assessment) is likely to generate in the order of 139 trips (two-way) in the AM peak, 60 trips (two-way) in the PM peak (1500-1600) and 139 in the Saturday peak period (1230-1330).

7.13 Fully classified turning counts were undertaken at five junctions near to the application site on Wednesday 14th and Saturday 17th October 2021. The survey periods were 06:30 – 09:00 in the AM, 15:00 – 18:00 in the PM and 11:00 – 15:30 on Saturday and further information is given in section 6.1 of this Transport Assessment. Other ATC information was also obtained from Darlington Borough Council at three count locations. This data was used to consider a 'Covid virus' sensitivity factor for the traffic count data and more information about this is included in section 6.2 of this Transport Assessment.

7.14 It is considered that the proposal will have no material impact on highway safety and the personal injury accident assessment has concluded that there are no specific areas of concern which would necessitate intervention or improvement as a result of the current application proposals being implemented.

7.15 The computer programs 'Junctions 9' and 'Linsig v3' have been used to test the operational capacity of the following junctions in order to assess capacity, queuing and delay levels at the opening and design year levels;

- Yarm Road / Neasham Road / B6280 mini roundabout
- John Williams Boulevard / Yarm Road signalised junction
- A167 / Parkgate / Stonebridge signalised junction
- Hundens Lane / B6280 / Ridsdale Street signalised junction.
- Neasham Road / Garbutt Square priority junction.

7.16 This assessment has only identified operational difficulties at the mini roundabout junction of Yarm Road / Neasham Road / B6280 Parkgate. From the results provided in section 6.4 it can be seen that in the 2021 base scenarios, it is predicted that the Neasham Road arm (Arm 3) of this junction operates over its practical capacity of 0.85 RFC in each scenario. All other arms of the junction are predicted to operate within capacity. The assessment of scenarios exceeding capacity, results in an exponential increase in RFC and queuing, which is not necessarily commensurate with the actual number of vehicles being added to the approach flows. Reference to Figure 3 indicates that 4 additional vehicles (gross) in the AM peak, 21 vehicle in the afternoon peak and 31 in the Saturday peak. However, no net allowance has been made for the traffic that could access the existing car parks at the moment which would broadly reduce the values given by 69.9%.

7.17 With reference to the National Planning Policy Framework paragraph 109, the cumulative residual impact of the development is not severe and therefore should not be prevented on transport grounds and is unlikely to have any discernible impact on the operational safety of the local highway network.

7.18 The site is accessible by both active travel and by public passenger transport arrangements. As such staff and passengers will have a choice of sustainable travel options which will reduce the need to travel by car and Information on how to travel to Darlington Station is provided on the website. The Station has an existing Travel Plan which was prepared to promote travel to the station by alternative modes.

7.19 It is therefore considered that the application is acceptable in transport terms.

APPENDIX A

Crashmap Reports

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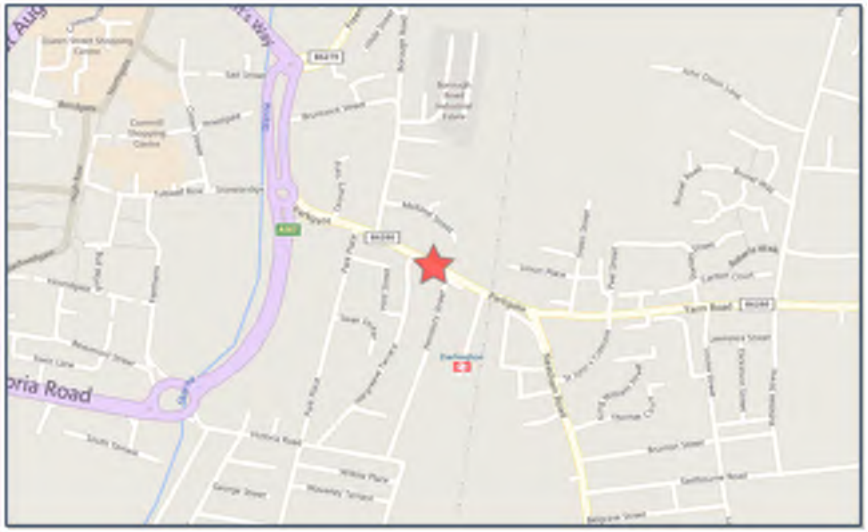
Crash Date:	Wednesday, April 01, 2015	**Time of Crash:**	2:30:00 PM	**Crash Reference:**	**201511SJ05995**

Highest Injury Severity:	Slight	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	2
Local Authority:	Darlington			**OS Grid Reference:**	429433 514383
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	Pedestrian phase at traffic signal junction				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Pedal cycle	-1	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Other	None	None
1	Car (excluding private hire)	-1	Unknown	Unknown	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

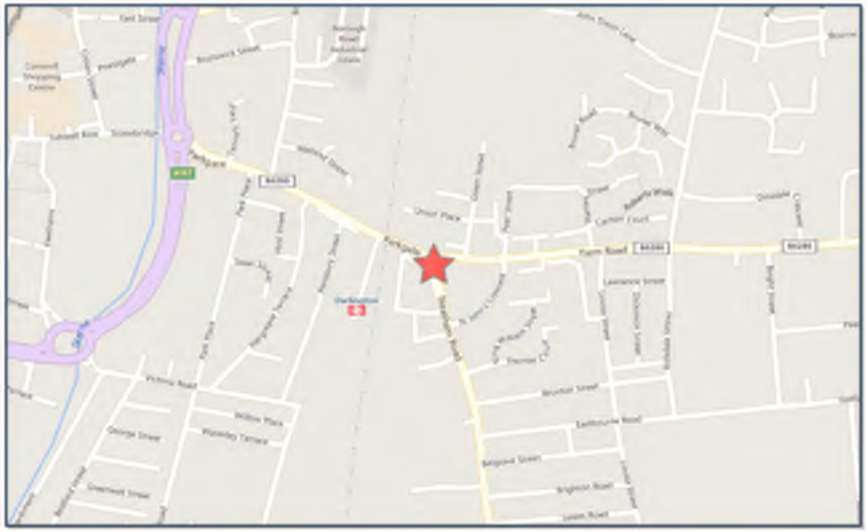
Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

crashmap.co.uk

Crash Date:	Monday, September 28, 2015	**Time of Crash:**	5:58:00 PM	**Crash Reference:**	**201511SJ19185**

Highest Injury Severity:	Serious	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	1
Local Authority:	Darlington			**OS Grid Reference:**	429600 514296
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Roundabout				
Junction Pedestrian Crossing:	Central refuge - no other controls				
Road Type:	Roundabout				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	8	Female	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Front	Commuting to/from work	None	None

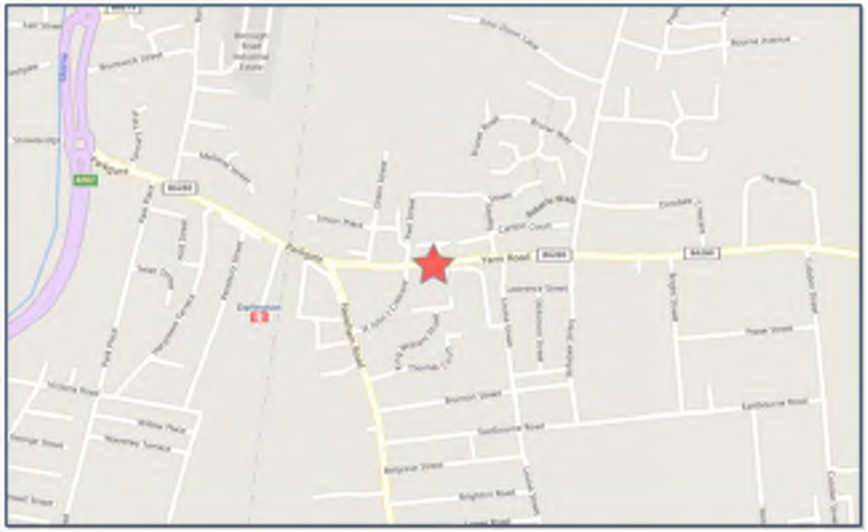
Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Pedestrian	Female	Over 75	In carriageway, crossing elsewhere	Crossing from driver's nearside

crashmap.co.uk

Crash Date:	Friday, December 04, 2015	**Time of Crash:**	9:30:00 PM	**Crash Reference:**	**201511SJ25415**

Highest Injury Severity:	Slight	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	1
Local Authority:	Darlington			**OS Grid Reference:**	429754 514308
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	Pedestrian phase at traffic signal junction				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	Unknown	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

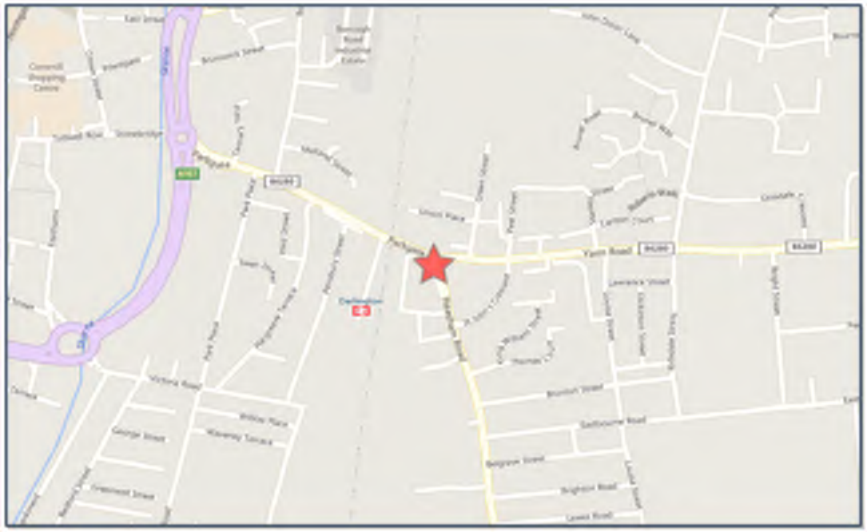
Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Female	11 - 15	In carriageway, crossing on pedestrian crossing facility	Crossing from driver's offside

crashmap.co.uk

Crash Date:	Wednesday, May 18, 2016	**Time of Crash:**	4:30:00 PM	**Crash Reference:**	**2016110071796**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	2
Local Authority:	Darlington Borough			**OS Grid Reference:**	429593 514299
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Roundabout				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Roundabout				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Motorcycle over 50cc and up to 125cc	1	Female	26 - 35	Vehicle is in the act of turning right	Did not impact	Other	None	None
1	Good vehicles of unknown weight	-1	Unknown	Unknown	Vehicle is in the act of turning right	Did not impact	Other	None	None

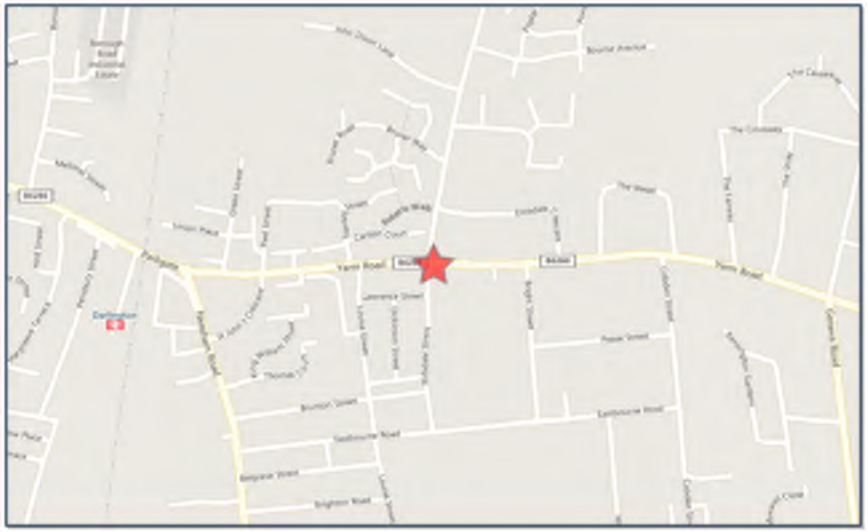
Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Female	26 - 35	Unknown or other	Unknown or other

crashmap.co.uk

Crash Date:	Thursday, June 16, 2016	**Time of Crash:**	5:59:00 PM	**Crash Reference:**	**2016110079056**

Highest Injury Severity:	Slight	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	1
Local Authority:	Darlington Borough			**OS Grid Reference:**	429982 514317
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Crossroads				
Junction Pedestrian Crossing:	Pelican, puffin, toucan or similar non-junction pedestrian light crossing				
Road Type:	Single carriageway				
Junction Control:	Auto traffic signal				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	6	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Male	11 - 15	In carriageway, crossing elsewhere within 50 metres of pedestrian crossing	Crossing from driver's offside - masked by parked or stationary vehicle

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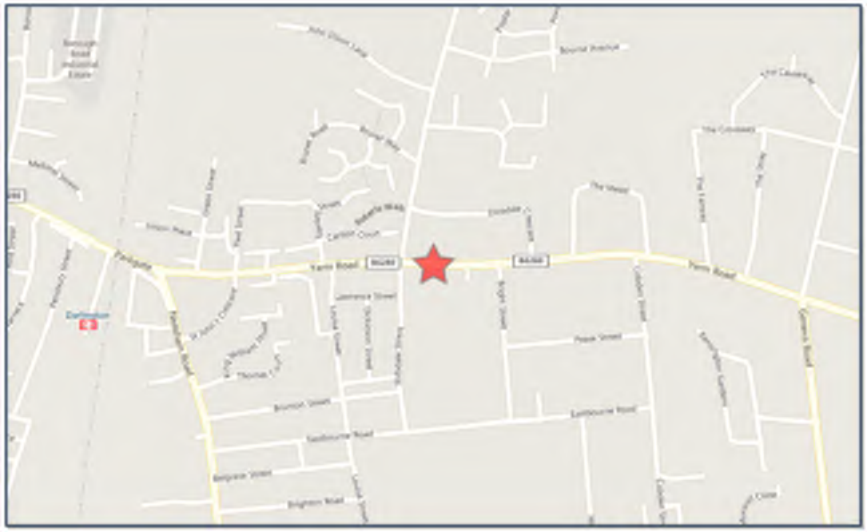
Crash Date:	Wednesday, July 20, 2016	**Time of Crash:**	6:33:00 PM	**Crash Reference:**	**2016110091593**

Highest Injury Severity:	Serious	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	2
Local Authority:	Darlington Borough			**OS Grid Reference:**	430024 514321
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	Central refuge - no other controls				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Car (excluding private hire)	2	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Other	None	None
1	Pedal cycle	-1	Female	11 - 15	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Driver or rider	Female	11 - 15	Unknown or other	Unknown or other

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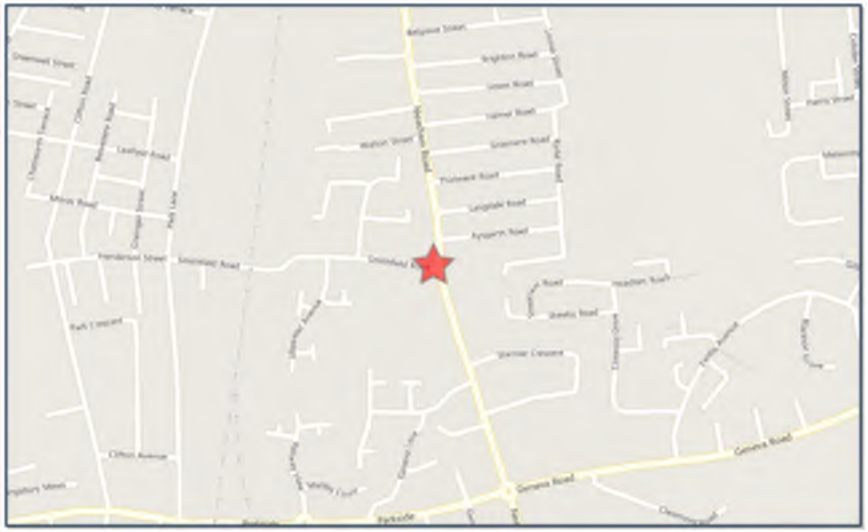
Crash Date:	Monday, November 14, 2016	**Time of Crash:**	10:30:00 PM	**Crash Reference:**	**2016110132552**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	2
Highway Authority:	Darlington			**Number of Vehicles:**	1
Local Authority:	Darlington Borough			**OS Grid Reference:**	429722 513615
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Taxi/Private hire car	3	Male	46 - 55	Vehicle is in the act of turning right	Offside	Journey as part of work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Male	36 - 45	In carriageway, crossing elsewhere within 50 metres of pedestrian crossing	Crossing from driver's nearside
1	2	Slight	Pedestrian	Female	36 - 45	In carriageway, crossing elsewhere within 50 metres of pedestrian crossing	Crossing from driver's nearside

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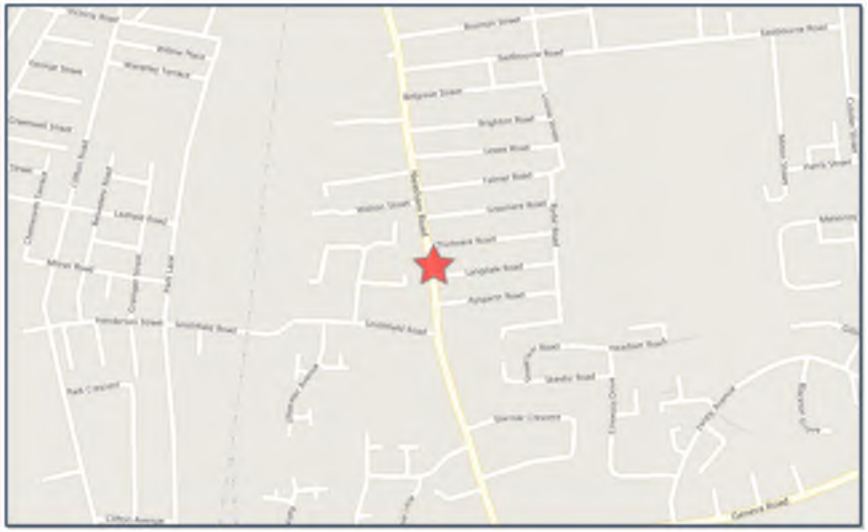
Crash Date:	Thursday, December 22, 2016	**Time of Crash:**	10:00:00 AM	**Crash Reference:**	**2016110145749**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	1
Local Authority:	Darlington Borough			**OS Grid Reference:**	429727 513724
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	6	Female	46 - 55	Vehicle is reversing	Back	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Female	66 - 75	In carriageway, crossing elsewhere	Crossing from driver's nearside

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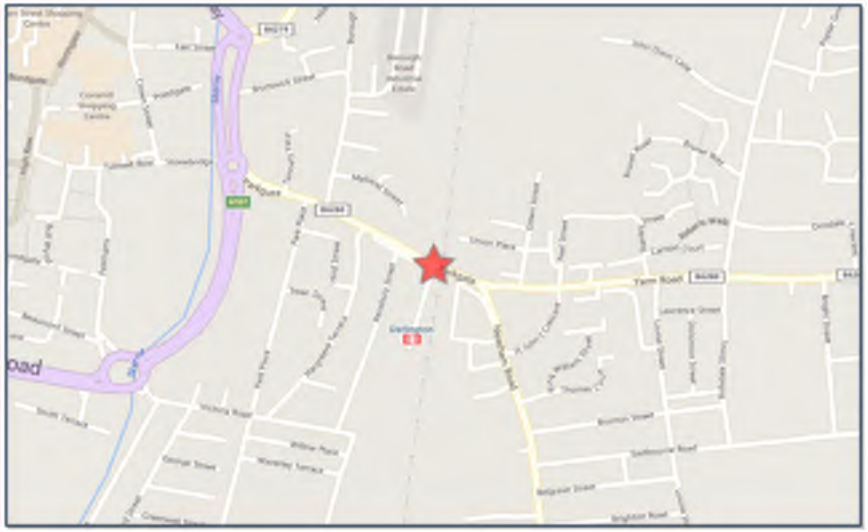
Crash Date:	Thursday, January 19, 2017	**Time of Crash:**	8:20:00 PM	**Crash Reference:**	**2017110154616**

Highest Injury Severity:	Serious	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	2
Local Authority:	Darlington Borough			**OS Grid Reference:**	429513 514335
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Motorcycle over 50cc and up to 125cc	13	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Other	None	None
1	Car (excluding private hire)	3	Male	56 - 65	Vehicle is in the act of turning right	Front	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

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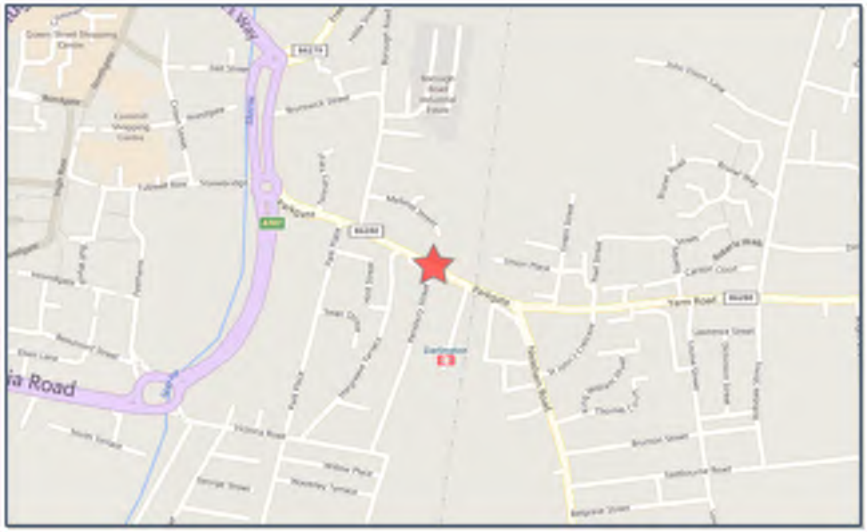
Crash Date:	Saturday, October 21, 2017	**Time of Crash:**	8:20:00 PM	**Crash Reference:**	**2017110242202**

Highest Injury Severity:	Slight	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	1
Local Authority:	Darlington Borough			**OS Grid Reference:**	429460 514371
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	Central refuge - no other controls				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	17	Male	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Male	6 - 10	In carriageway, crossing on pedestrian crossing facility	Crossing from driver's offside

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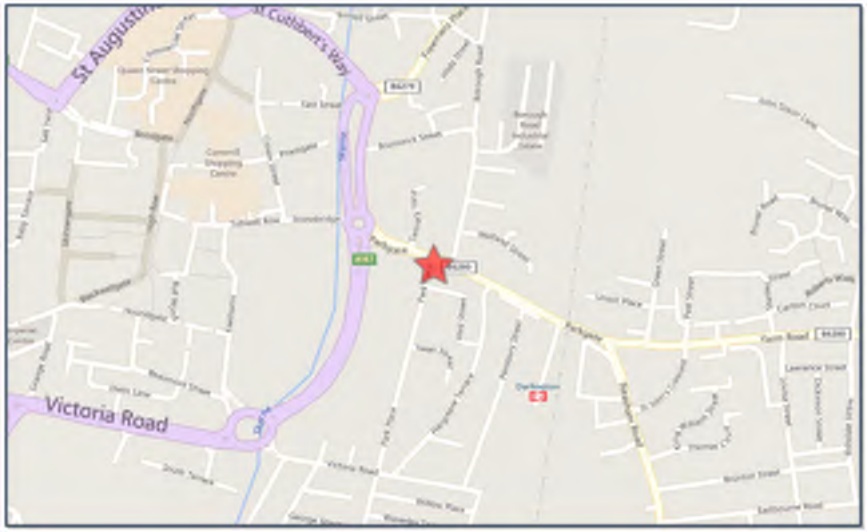
Crash Date:	Saturday, November 11, 2017	**Time of Crash:**	8:40:00 PM	**Crash Reference:**	**2017110248654**

Highest Injury Severity:	Slight	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	1
Local Authority:	Darlington Borough			**OS Grid Reference:**	429313 514429
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Unknown	Unknown	Vehicle is in the act of turning right	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Male	Over 75	In carriageway, crossing elsewhere	Unknown or other

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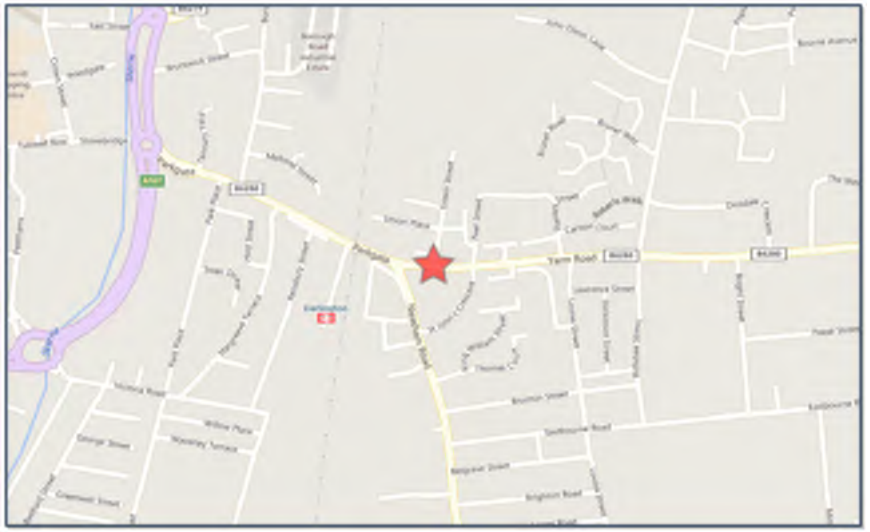
Crash Date:	Wednesday, December 20, 2017	**Time of Crash:**	2:25:00 PM	**Crash Reference:**	**2017110261418**
Highest Injury Severity:	Slight	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	1
Local Authority:	Darlington Borough			**OS Grid Reference:**	429649 514307
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	Pedestrian phase at traffic signal junction				
Road Type:	Single carriageway				
Junction Control:	Auto traffic signal				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	3	Male	36 - 45	Vehicle is in the act of turning left	Nearside	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Male	16 - 20	Unknown or other	Unknown or other

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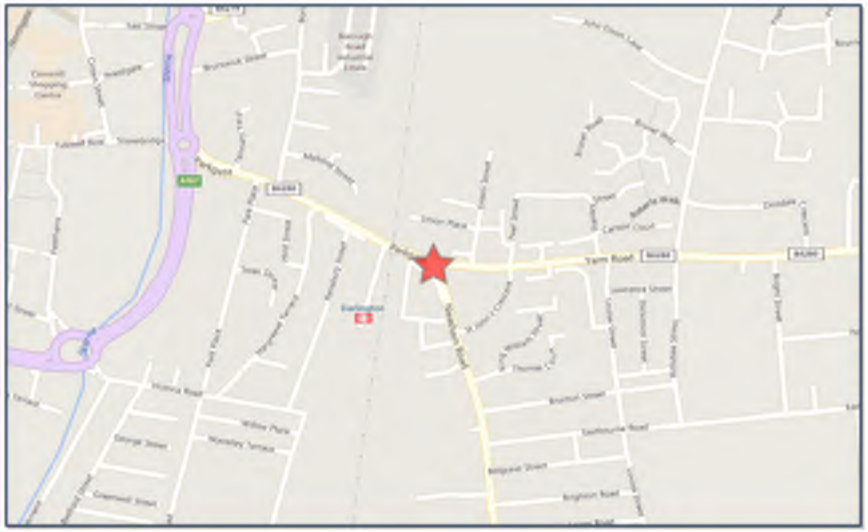
2019 data is provisional and is subject to change

Crash Date:	Tuesday, February 05, 2019	**Time of Crash:**	5:30:00 PM	**Crash Reference:**	**2019110816028**

Highest Injury Severity:	Serious	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	2
Local Authority:	Darlington Borough			**OS Grid Reference:**	429591 514307
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	Mini roundabout				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Roundabout				
Junction Control:	Give way or uncontrolled				



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2019 data is provisional and is subject to change

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Car (excluding private hire)	-1	Male	65-74	Vehicle is in the act of turning right	Unknown	Commuting to/from work	None	None
1	Car (excluding private hire)	-1	Male	35-44	Vehicle proceeding normally along the carriageway, not on a bend	Unknown	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	65-74	Unknown or other	Unknown or other

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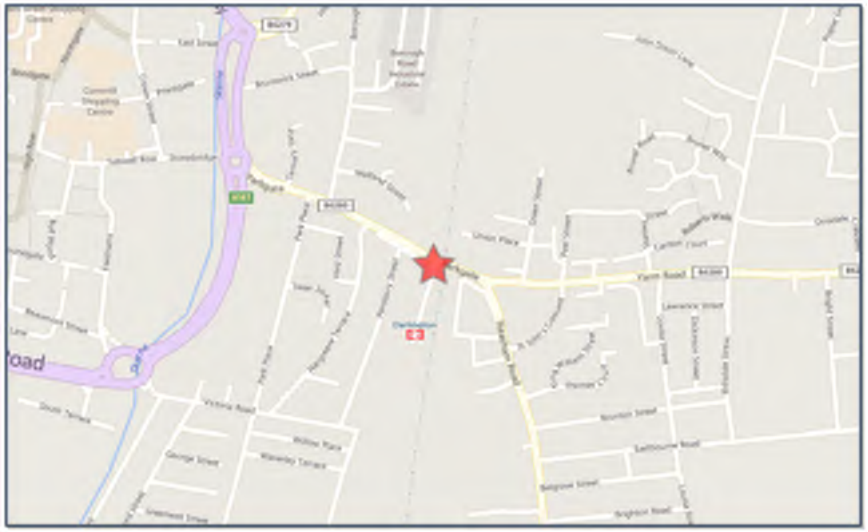
2019 data is provisional and is subject to change

Crash Date:	Friday, February 08, 2019	**Time of Crash:**	7:25:00 PM	**Crash Reference:**	**2019110817655**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	2
Local Authority:	Darlington Borough			**OS Grid Reference:**	429508 514332
Weather Description:	Raining without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	Central refuge - no other controls				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Pedal cycle	-1	Male	45-54	Vehicle proceeding normally along the carriageway, not on a bend	Unknown	Other	None	None
1	Car (excluding private hire)	-1	Female	25-34	Vehicle is waiting to turn right	Unknown	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	45-54	Unknown or other	Unknown or other

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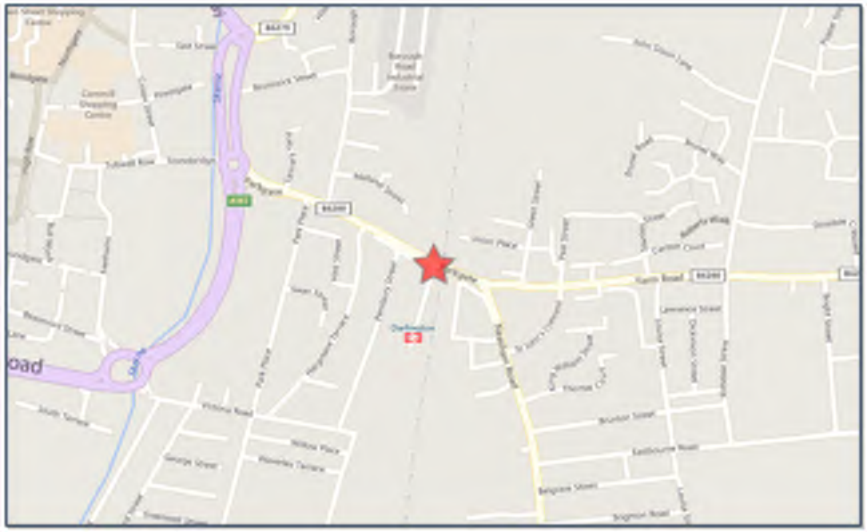
2019 data is provisional and is subject to change

Crash Date:	Friday, May 24, 2019	**Time of Crash:**	7:10:00 PM	**Crash Reference:**	**2019110850847**

Highest Injury Severity:	Serious	**Road Number:**	B6280	**Number of Casualties:**	1
Highway Authority:	Darlington			**Number of Vehicles:**	2
Local Authority:	Darlington Borough			**OS Grid Reference:**	429511 514337
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Other junction				
Junction Pedestrian Crossing:	Central refuge - no other controls				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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2019 data is provisional and is subject to change

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Car (excluding private hire)	-1	Male	25-34	Vehicle is passing another vehicle (moving or stationary) on its nearside	Unknown	Journey as part of work	None	None
1	Car (excluding private hire)	-1	Female	25-34	Vehicle is moving off	Unknown	Other	None	None

Casualties

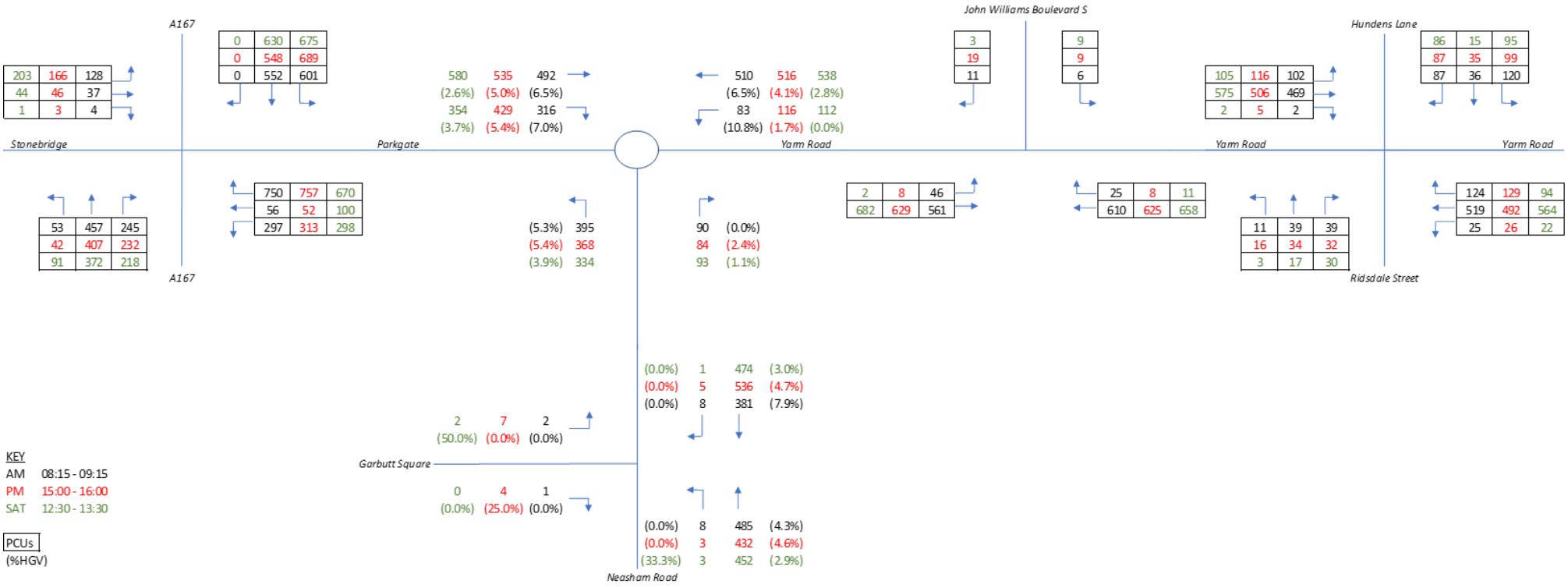
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	25-34	Unknown or other	Unknown or other

APPENDIX B

Figure 1 – 2020 Base Traffic Flows

Figure 2 – Existing Turning Proportions

Figure 3 – Proposed Development Flows



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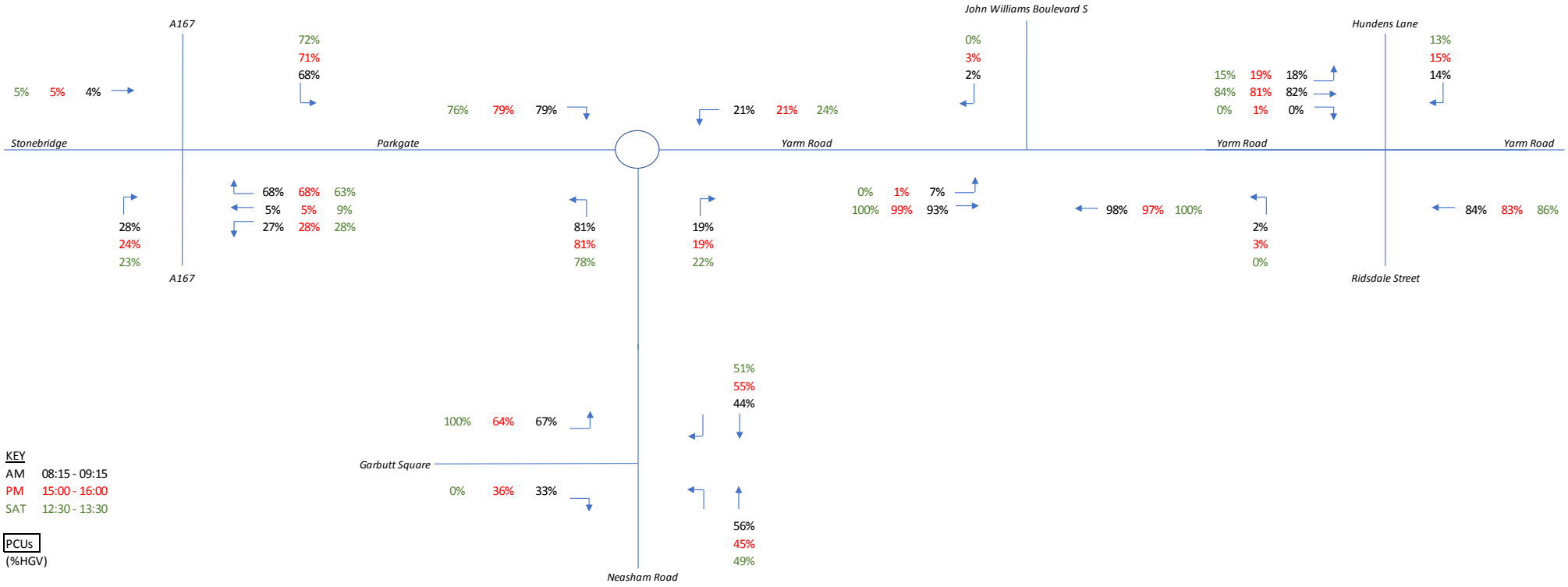
Proposed MSCP
Darlington Railway Station

2020 Base Traffic Flows

Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: AA
Drawing Size:	Checked by: DJC
Date: December 2020	Approved by: DJC
Drawing Number: FIGURE 1	Rev.



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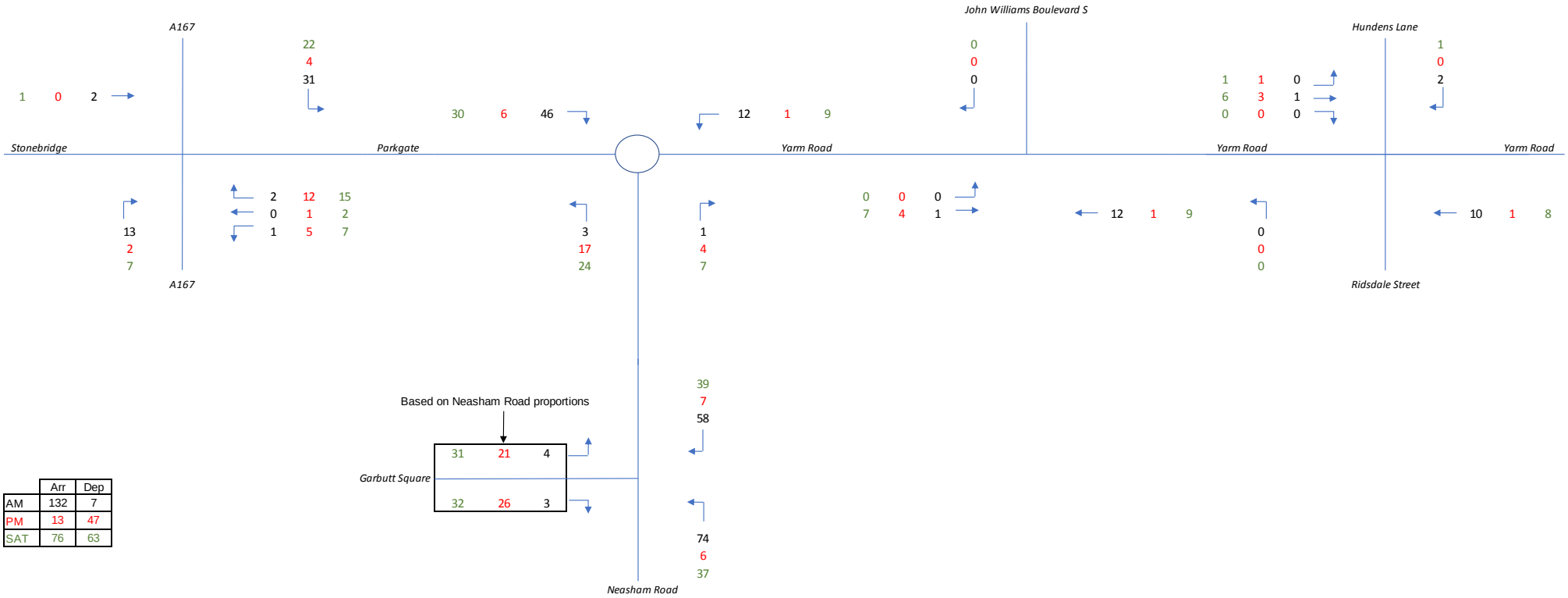
Existing Turning Proportions

Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: AA
Drawing Size:	Checked by: DJC
Date: December 2020	Approved by: DJC
Drawing Number: FIGURE 2	Rev.



	Arr	Dep
AM	132	7
PM	13	47
SAT	76	63

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Proposed MSCP
Darlington Railway Station

Proposed Development Flows

Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: AA
Drawing Size:	Checked by: DJC
Date: December 2020	Approved by: DJC
Drawing Number: FIGURE 3	Rev.