**South Tyneside Council Local Plan Assessment**
Reference number 16L02/001/004

**18/05/2022**

# LOCAL ROAD NETWORK - TRAFFIC CAPACITY ASSESSMENT

# SOUTH TYNESIDE COUNCIL LOCAL PLAN ASSESSMENT

SYSTRA

# SOUTH TYNESIDE COUNCIL LOCAL PLAN ASSESSMENT

LOCAL ROAD NETWORK - TRAFFIC CAPACITY ASSESSMENT

| IDENTIFICATION TABLE | |
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# 1. INTRODUCTION

## 1.1 Background to the Study

1.1.1 The Council is in the process of preparing a new Local Plan for the area. This is a plan which will manage how South Tyneside will grow and develop over the next 15 – 20 years. It sets out the scale and location of different types of development over this period and contains a number of development policies which set out what is required from new development management proposals. This includes requirements for travel planning to encourage use of cycling, walking, and public transport, and to ensure that each proposal is adequately serviced by infrastructure, including transport provision.

1.1.2 The overall scale of development being planned through the Local Plan is significant, with circa 5700 net new dwellings and circa 45 ha of employment land proposed across the authority.

1.1.3 This assessment takes into account developments with consented planning permission within South Tyneside (referred to as Committed developments). This includes circa 1200 dwellings and 150ha of land identified for the delivery of the International Advanced Manufacturing Park (IAMP) located to the north of the Nissan Plant. This is anticipated to generate in the region of 7500 jobs.

1.1.4 Also included are large Local Plan developments on the periphery of the borough i.e. within Gateshead, Sunderland and North Tyneside, that will result in development traffic using South Tyneside's road network (referred to as Other developments). This totals circa 5000 dwellings and 10 hectares of employment land.

1.1.5 Due to the significant impact that the Local Plan aspirations will have on the local and Strategic Road Network, the Council requires an assessment to be carried out in order to assess the traffic impact and indicate the type, scale and nature of the highway improvements which are likely to be required to cater for this impact. This assessment has therefore been produced to inform the Council and National Highways, as well as to inform adjacent authorities, whose administrative area may be impacted by development traffic.

## 1.2 The Study

1.2.1 SYSTRA Ltd has been commissioned by South Tyneside Council (the Council) to assess how the growth planned as part of the Council's Regulation 18 pre-publication Local Plan (November 2021) will impact on the local road network across the borough.

1.2.2 This study will provide a detailed evidence base demonstrating how the impact of future development on the highway network has been considered and could be addressed.

1.2.3 The study will then identify indicative types and scale of mitigation measures which could be used to accommodate any such development. An approximate cost has been identified by the study to provide the necessary comfort that the nature and scale of the improvements could be delivered and funded by a future CIL charge, Section 106 Planning Obligations, S278 agreements and/or other funding sources, if necessary.

1.2.4 The junctions (No's 1 – 27) considered within the study are listed in Table 1 and can be seen on the drawing in **Appendix A**. These junctions were identified in partnership with the Council based upon the volume of development traffic generated and the operation of the existing junctions.

1.2.5 Junctions (No's 28 to 37) have been addressed through separate studies commissioned or undertaken by the Council and therefore have not been investigated further as part of this study. These studies have already resulted in the delivery of a number of schemes to provide immediate capacity improvements and future capacity to facilitate the Local Plan for example the Arches scheme (Junctions 28 to 30) and the town centre improvements as part of the 365 Masterplan (Junctions 32 to 33). A number of other studies have identified schemes that the Council are currently investigating in terms of their deliverability and suitable funding streams, this could be via contributions from developers or government bidding opportunities. This includes the delivery of schemes to bridge the existing level crossing to the north of Boldon (Junctions 35 – 36).

1.2.6 Junctions (No's 38 to 45) are on the Strategic Road Network and will be assessed by National Highways (working in partnership with the Council) as part of various assessments and therefore have not been investigated further as part of this study. Studies completed to date include the South Tyneside Infrastructure Study, A19 A185 to A194 Improvement Options, A194(M) / A184 White Mare Pool Junction Study and the A19 / A185 Howard Street Junction Study.

1.2.1 These studies have already resulted in the delivery of a number of schemes provided to deliver immediate capacity improvements and future capacity to facilitate the Local Plan for example the A19 A194 to A185 Lane gain/lane drop scheme (Junction 39) and the Lindisfarne improvement scheme (Junction 40). In addition major schemes have recently been completed at the A19 / A184 Testo's junction or are under construction at the A19 / A1290 Downhill Lane (Junction 43 and 44). In addition, the Tyne Tunnel has recently installed ANPR cameras at the northern portal removing the requirement for vehicles to stop when passing through the Tunnel.

1.2.2 In summary, substantial mitigation has already been implemented across the Borough to address the anticipated traffic growth arising from the Local Plan allocations. This demonstrates the Council's ability to fund and deliver major infrastructure schemes.

1.2.3 Further infrastructure measures, identified in partnership with National Highways, are currently being investigated in terms of their deliverability and suitable funding streams. This could be via contributions from developers or bidding opportunities via central government funding pots.

Table 1. Junctions Included in Assessment

| JUNCTION NO. | JUNCTION NAME | JUNCTION NO. | JUNCTION NAME |
|---|---|---|---|
| **JUNCTIONS ASSESSED IN THIS STUDY** | | | |
| 1 | A194 / Laygate | 15 | Abingdon Way / Brooklands Way |
| 2 | A194 / West Way | 16 | New Road / ASDA |
| 3 | A194 / B1302 / Port of Tyne | 17 | Hubert Street / North Road |
| 4 | Mill Lane / Monkton Lane | 18 | A184 / B1298 Abingdon Way |
| 5 | A185 / Mill Lane | 19 | A184 / Downhill Lane |
| 6 | A185 / Hall Road / B1297 | 20 | A184 / Hylton Lane |
| 7 | A185 / Campbell Park Road | 21 | A184 / Boker Lane |
| 8 | A185 / Park Road / Hill Street | 22 | A184 / Whitburn Road / Whitburn Terrace |
| 9 | A185 / B1297 Ellison Street | 23 | A1018 / Cleadon Lane |
| 10 | A185 / Monkton Terrace | 24 | A1018 / Whitburn Road |
| 11 | B1297 Ellison Street / Western Road | 25 | A1018 / Moor Lane |
| 12 | Priory Road / Church Bank | 26 | A183 / Moor Lane |
| 13 | A1300 / B1298 / Whiteleas Way | 27 | A183 / North Guards |
| 14 | A1300 / A1018 / Temple Park Road | | |
| **SCHEMES RECENTLY COMPLETED / IDENTIFIED** | | | |
| 28 | A194 / Hobson Way | 33 | A1018 / Crossgate / Beach Road |
| 29 | A194 / A185 | 34 | Benton Lane / Galsworthy Road |
| 30 | A185 / Hobson Way | 35 | New Road / Boker Lane |
| 31 | A1300 / A194 | 36 | Benton Lane / Tileshed Lane |
| 32 | A194 / Crossgate | 37 | A185 / Church Bank |
| **JUNCTIONS ASSESSED BY NATIONAL HIGHWAYS** | | | |
| 38 | A19 / A185 / Priory Road | 42 | A19S / Hedworth Lane |
| 39 | A19 / A185 / Tyne Tunnel | 43 | A19 / A184 Testo's |
| 40 | A19 / A194 Lindisfarne | 44 | A19 / A1290 Downhill Lane |
| 41 | A19N / Hedworth Lane | 45 | A194 (M) / A184 White Mare Pool |

**Proposed Assessment Methodology**

1.2.4 Following a process of consultation with the Council and National Highways, the agreed methodology for the study is summarised below. Further detail is provided in Sections 2.

- Generate 2018 base flows utilising traffic count survey data growthed using National Transport Model (NTM) and adjusted using TEMPRO (version 7.2) (Paragraph 2.1);
- Consideration of background growth (Paragraph 2.2);
- Calculate trip generation of the proposed Local Plan developments (Paragraph 2.3);
- Calculate the trip generation of the committed developments (Paragraph 2.3);
- Calculate the trip generation of the other developments (Paragraph 2.3);
- Assign the Local Plan development, committed and other trips to the network (Paragraph 2.4);
- Removal of double counting of trips (Paragraph 2.5);
- Identify trip numbers through junctions (Paragraph 2.6);
- Assess the operation of the identified junctions under agreed scenarios (Paragraph 2.7);
- Develop indicative mitigation measures for junctions where the comparative operation of the 'with' and 'without' Local Plan development traffic shows a material impact on the operation of individual junctions (Paragraph 2.8);
- Trigger point assessment to identify the level of traffic and indicative year at which mitigation is required (Paragraph 2.9);
- Identify indicative cost estimates for proposed mitigation schemes (Paragraph 3.0);
- Calculate the percentage of new development trips through the junctions (Paragraph 3.1);
- Analyse which developments are anticipated to impact upon the junctions (Paragraph 3.2).

# 2. ASSESSMENT METHODOLOGY

## 2.1 Base Traffic

2.1.1 Traffic survey data was gathered from a number of sources for use in the assessment. This includes manual turning count surveys undertaken between 2013 and 2017 and automatic traffic count data undertaken during 2016. An analysis of the traffic flow data identified the most common network peak period as 08:00 – 09:00 and 16:30 – 17:30.

2.1.2 A standard base year of 2018 was established by growthing the counts using NTM and Tempro. The rates used to achieve this are shown in Table 2.

Table 2. Growth Rates

| TIME PERIOD | AM PEAK | PM PEAK |
|---|---|---|
| 2013 – 2017 | 1.0502 | 1.0493 |
| 2014 - 2017 | 1.041 | 1.0403 |
| 2015 – 2017 | 1.032 | 1.0314 |
| 2016 - 2017 | 1.0155 | 1.0151 |
| 2017 - 2018 | 1.0161 | 1.0153 |

## 2.2 COVID-19

2.2.1 It should be noted that the base counts used in this assessment pre-date the COVID-19 pandemic. At the time of writing, traffic patterns continue to be disrupted and there is a lack of available and consistent data reporting current traffic flows to allow for a comparison against pre-COVID levels.

2.2.2 National data is available which demonstrates that levels of traffic were increasing following the ending of the last lockdown, however they still remained reduced on pre-COVID levels. In addition, there is likely to be variation at a macro and micro levels across the road network.

2.2.3 It is acknowledged that it is unknown if travel patterns will return to 'normal' in a post-COVID scenario. It is unclear if people will continue to work from home, continue to avoid use of public transport or if increased home shopping will result in increases in LGV or HGV movements. In addition, if the economic impact of the pandemic will result in different traffic flows as demonstrated in previous periods of uncertainty.

2.2.4 Based on this uncertainty, it is considered that use of the pre-COVID base traffic in this assessment results in a robust assessment.

## 2.3 Background Growth

2.3.1 It is considered that the volume of development included in the Local Plan plus the substantial volume of Committed and Other development results in a robust assessment of the operational capacity of the road network and negates background growth.

2.3.2 This methodology has been agreed with South Tyneside Council and National Highways during the scoping process.

## 2.4 Trip Generation

2.4.1 Person Trip generation has been undertaken via various methodologies to take account of developments being at different stages within the planning process. The different methodologies are outlined below.

**Local Plan Development**

2.4.2 The proposed Local Plan Development, as used in this assessment, consists of the following:

- 5731 mixed private dwellings; and
- 45.27 hectares of B1/B2/B8.

2.4.3 The full site list including the site reference, land use, size and coordinates can be seen in **Appendix A**.

2.4.4 Sites included in the assessment can be seen on the map in **Appendix A.**

2.4.5 Sites have been excluded when they consist of less than 30 dwellings in size or generate less than 30 two-way development trips and are considered to have a minimal impact upon the operation of the road network. These sites are spread across South Tyneside ensuring any impact is dispersed. This methodology has its roots in the now withdrawn Guidance on Transport Assessment (Department for Transport:2007) and is a standard methodology for undertaking large traffic assessments.

2.4.6 Person trip generation for the sites within the Local Plan has been based on generic trip rates derived from the TRICS database. The land use, person trip rates and resultant generic person trip rates (highlighted in bold) can be seen in Table 3.

Table 3. Person Trip Rates

| LAND USE | UNIT | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|---|
| | | Arrivals | Departures | Arrivals | Departures |
| Mixed Private Dwellings | Dwelling | **0.178** | **0.572** | **0.51** | **0.3** |
| B1 – Office | Hectare | 57.918 | 10.101 | 9.198 | 54.537 |
| B2 – Industry | Hectare | 18.64 | 9.58 | 9.762 | 16.174 |
| B8 – Warehouse Commercial | Hectare | 3.977 | 3.157 | 0.738 | 4.428 |
| B1/B2/B8 | Hectare | **26.845** | **7.612667** | **6.566** | **25.04633** |

**Modal Splits**

2.4.7 Person trip rates have been translated into vehicle trip rates using modal splits taken from the 2011 Journey to Work Census Data for individual middle super output areas.

2.4.8 The Middle Super Output Area and resultant modal splits can be seen on **Drawing Ref: 16L02/03** in **Appendix A**.

**Committed Developments**

2.4.9 A review of existing committed developments within South Tyneside has been undertaken. This is considered to be circa 1200 dwellings. Person and vehicle trip generation for these developments have been taken directly from the Transport Assessments (TA) prepared as part of the application. Given that the assignment of trips within the TAs is local to the site, GraHAM has been used to assign the trips to the wider network.

2.4.10 In addition IAMP has been included as a committed development. The agreed trip generation and distribution for IAMP has been taken directly from the study work relating to the approved Area Action Plan.

2.4.1 Sites included in the assessment can be seen on the map in **Appendix A.**

**Other Developments**

2.4.2 There are a number of proposed developments that are located on the periphery of South Tyneside. This includes housing and employment sites in Sunderland (SHLAA North and Washington sites), North Tyneside (sites south of the A19 Howdon Interchange) and Gateshead (east and south east).

2.4.3 The methodology used for the generation and assignment of trips is the same as that used for the South Tyneside Local Plan sites.

2.4.4 Sites included in the assessment can be seen on the map in **Appendix A.**

## 2.5 Trip Assignment

2.5.1 Trip assignment has been undertaken using National Highway's GraHAM tool. This was to ensure consistency between the assignment of traffic within this assessment and National Highways' own assessments of the Strategic Road Network.

2.5.2 The GraHAM tool uses 2011 Census Journey to Work data to determine the location of employment for people who live in a particular Middle Super Output Area (MSOA) and the location of housing for people who work in a particular MSOA. It should be noted that trip assignments are based upon the area where the development is located. Therefore if two developments sit close to each other, but within different MSOAs areas, they may have different distributions.

2.5.3 The assignment of trips is undertaken through a quickest route algorithm, with reference to the free flow speed (which depends upon the road class).

2.5.4 The assignment from GraHAM has been sense checked at a local level and re-routing undertaken where considered appropriate.

## 2.6 Removal of Double Counting

2.6.1 There is an element of double counting inherently included within GraHAM when both residential and employment developments are included.

2.6.2 Therefore the following trip generation/assignment scenarios have been prepared for the Committed + Other scenarios:

- Committed Residential Developments + Other Residential Developments; and
- Committed Employment Developments (inc. IAMP) + Other Employment Developments.

2.6.3 The following trip generation/assignment scenarios have been prepared for the Local Plan scenarios:

- Local Plan Residential Developments; and
- Local Plan Employment Developments.

2.6.4 For both scenarios, in the morning peak, the departures trips from the residential sites have been overlaid against the arrival trips to the employment sites. The highest number on each link has been used and the smaller number discounted. Similarly the arrivals trips to the residential sites have been overlaid against the departures trips from the employment sites and again the highest number on each link has been used and the smaller number discounted. The same process has been undertaken for the evening peak scenario.

2.6.5 This process takes account of the interaction of trips between the sites within each scenario, but as the scenarios do not interact, it does not take account that trips from committed developments will travel to the new residential developments included in the Local Plan. For example no trips from IAMP are assigned to new Local residential developments and vice versa. This results in a very robust assessment. In addition, within each scenario, as the highest number is used in all instances, this further adds to the robustness of the assessment.

## 2.7 Trips by Junction

2.7.1 Traffic flow diagrams of the trip assignment for the cumulative development has been prepared. This allows for specific junction turning count movements to be calculated for use in the modelling assessment. The junctions considered for detailed assessment were identified in partnership with the Council based upon the volume of development traffic generated and the operation of the existing junctions.

## 2.8 Capacity Assessment

2.8.1 The impact of the proposed Local Plan developments on the highway network has been considered through junction capacity assessments. This allows the Council to see what scale and nature of junction mitigation will be required for the proposed level of development. This will assist in prioritising junctions for mitigation measures and where funding should be directed.

2.8.2 The selected junctions will be modelled using the following scenarios:

- 2018 Base + Committed Development + Other Development;
- 2018 Base + Committed Development + Other Development + Local Plan Development.

2.8.3 Capacity assessment has been modelled individually using junction specific software rather through use of a network model. This therefore assumes that all of the development traffic impacts upon each junction within the hourly period. This is considered to result in a robust assessment.

2.8.4 The computer modelling package PICADY 9 (as part of Junctions 9) has been used to assess the impact of the developments at priority junctions. The resulting worst case Ratio of Flow to Capacity (RFC) values for the approach arms that are required to give way and the worst case queue lengths have been identified within the tables in the following sections of the study.

2.8.5 The computer modelling package ARCADY 9 (as part of Junctions 9) has been used to assess the impact of the developments at roundabouts. The resulting worst case Ratio of Flow to Capacity (RFC) values for the approach arms to the junction and the worst case queue lengths have been identified within tables in the following sections of the study.

2.8.6 The computer modelling package LINSIG3 has been used to assess the impact of the developments at signalised junctions. The resulting worst case Practical Reserve Capacity (PRC) values for the approach arms to the junction and the worst case queue lengths have been identified within tables in the following sections of the study.

2.8.7 Within the results table for each model the ratio of flow to capacity or the degree of saturation and maximum queue length has been stated for each arm. If any arm of the junction is considered to be approaching capacity, it is coloured amber and if operating in excess of capacity, it is coloured red.

2.8.8 For the purposes of this assessment, we have considered an RFC or PRC of between 85 – 99% to be approaching capacity (coloured amber) and an RFC or PRC in excess of 100% to be over capacity (coloured red).

2.8.9 All capacity assessment has been undertaken using the existing junction layouts.

## 2.9 Identification of Mitigation

2.9.1 Should the assessment show that the junction operation is materially worse when comparing with and without the Local Plan development traffic then mitigation will be investigated.

2.9.2 Indicative mitigation measures have been identified for junctions to demonstrate the nature and scale of improvements that are likely to be required to mitigate the impact of the Local Plan development flows. However, depending upon the actual scale, location and timeframe of development that comes forward, alternative mitigation may be considered to be more appropriate at the time.

2.9.3 As outlined in Paragraph 2.8.3, mitigation for each junction has been assessed on a junction specific basis assuming that all of the development traffic impacts upon each junction within the hourly period. This is considered to result in a robust identification of mitigation.

## 2.10 Trigger Point Assessment

2.10.1 The assessment will identify the point at which the delivery of mitigation is considered appropriate in terms of the percentage of Local Plan traffic added to the junction. This will then be equated to a five year period within the Local Plan, depending upon the predicted roll out of development.

2.10.2 The approach for achieving this is to incrementally add Local Plan development traffic to the base models to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

2.10.3 The assessment of this tipping point is subjective, but is based upon a comparison of the performance of the junction without and with Local Plan traffic and consideration of the reduction in available capacity and increase in queuing and delay on all arms and across the junction.

## 2.11 Scheme Costing

2.11.1 The assessment will provide an indicative cost to mitigate against the predicted traffic growth as a result of the development aspirations. The indicative costing exercise has been undertaken in a construction base year of 2017.

2.11.2 It should be noted that the costing exercise is based on OS data with limited information concerning site levels, drainage, utilities etc and therefore the cost is for indicative use only and a more detailed cost will be required during a formal design process.

# 3. JUNCTION CAPACITY ASSESSMENTS

## 3.1 Junction 1 – A194 / Laygate Roundabout

**2018 Base + Committed Development + Other Development**

3.1.1 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such no queues were identified on the side roads.

Table 4. A194 / Laygate Roundabout – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| A194 North | 0.3 | 0.5 | 0.63 | 1.8 |
| B1301 Laygate East | 0.18 | 0.2 | 0.18 | 0.2 |
| A194 South | 0.66 | 2.1 | 0.42 | 0.8 |
| New George Street | 0.1 | 0.1 | 0.06 | 0.1 |
| Laygate West | 0.1 | 0.1 | 0.17 | 0.2 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.1.2 With the addition of Local Plan traffic the junction continues to operate well within its theoretical capacity during the assessment period.

Table 5. A194 / Laygate Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| A194 North | 0.34 | 0.6 | 0.71 | 2.6 |
| B1301 Laygate East | 0.29 | 0.4 | 0.28 | 0.4 |
| A194 South | 0.74 | 3.1 | 0.5 | 1.1 |
| New George Street | 0.12 | 0.2 | 0.07 | 0.1 |
| Laygate West | 0.15 | 0.2 | 0.21 | 0.3 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.1.3 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme. The junction can be seen to be operating with significant spare capacity on all arms.

3.1.1 The capacity assessment is summarised on Drawing Ref 16L02-01-001 overleaf.

3.1.2 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

**Cost of Mitigation**

3.1.3 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.1.4 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.1.5 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not warrant a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.1.6 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.1.7 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main increases in traffic are as a result of Land South of Fellgate and Site of Former South Tyneside College, however over 50 % of the development trips are made up of cumulative developments.

Figure 1. Composition of traffic passing through junction at the end of the plan period – Morning Peak

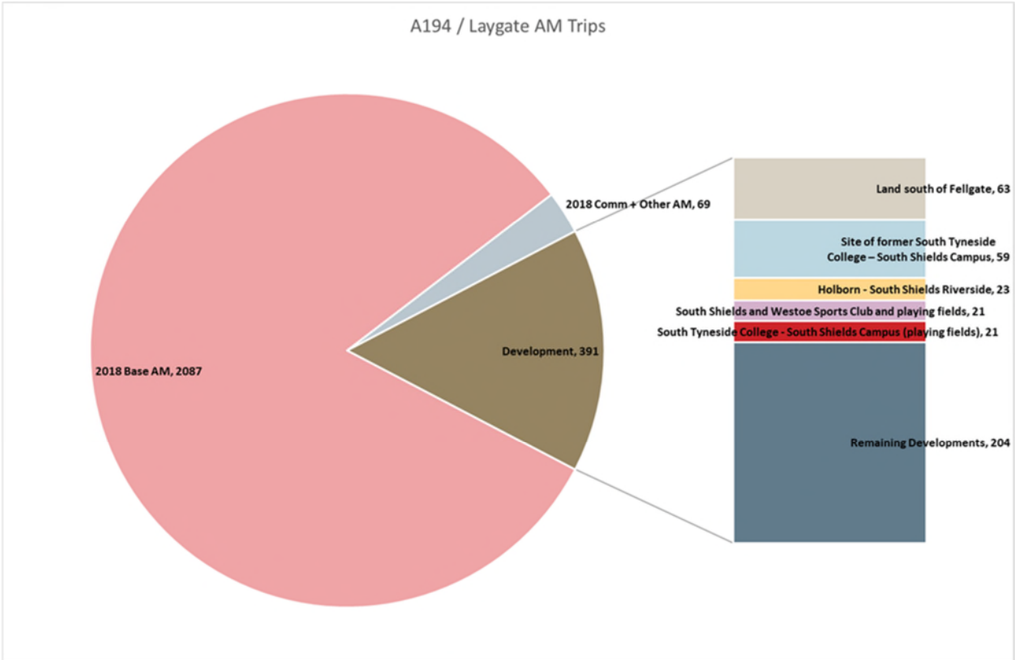
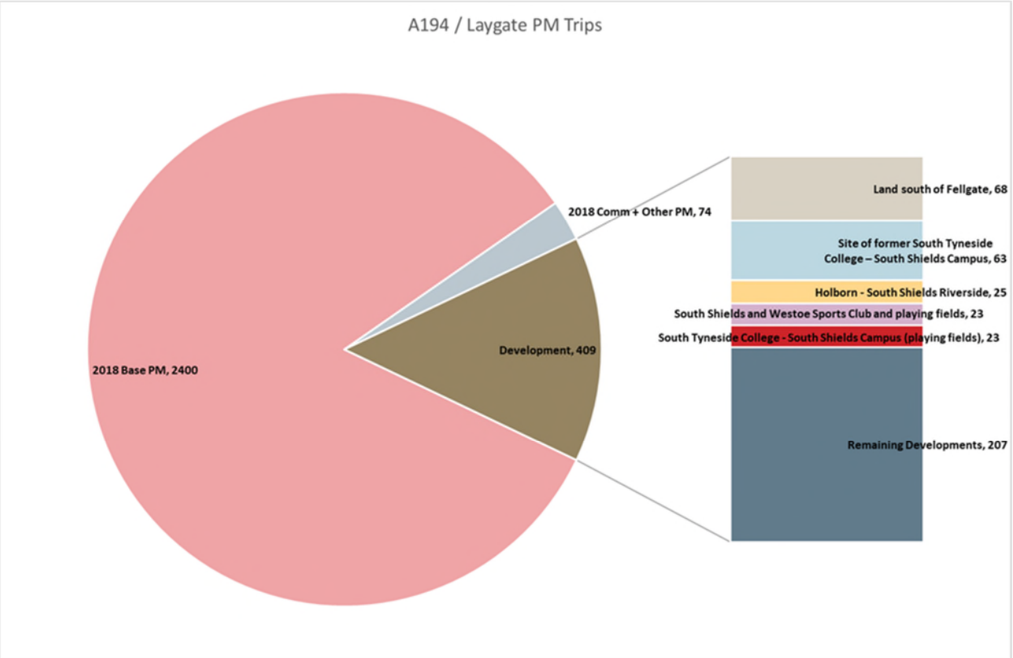
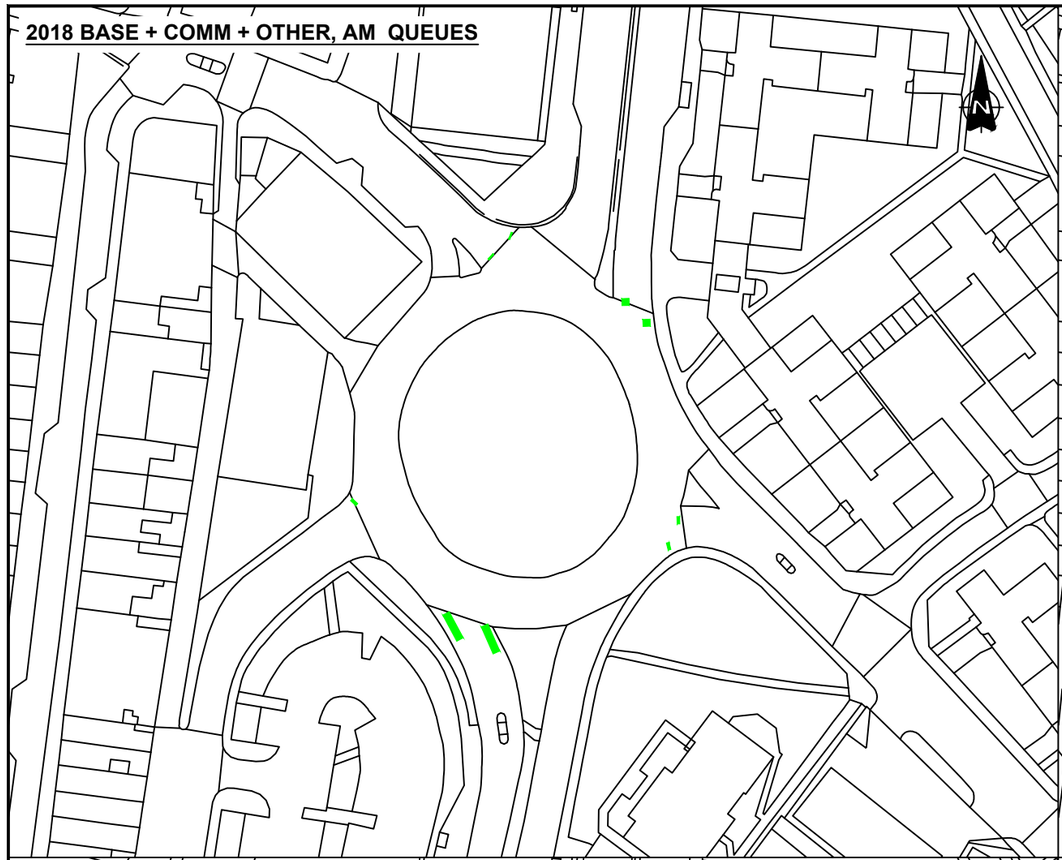
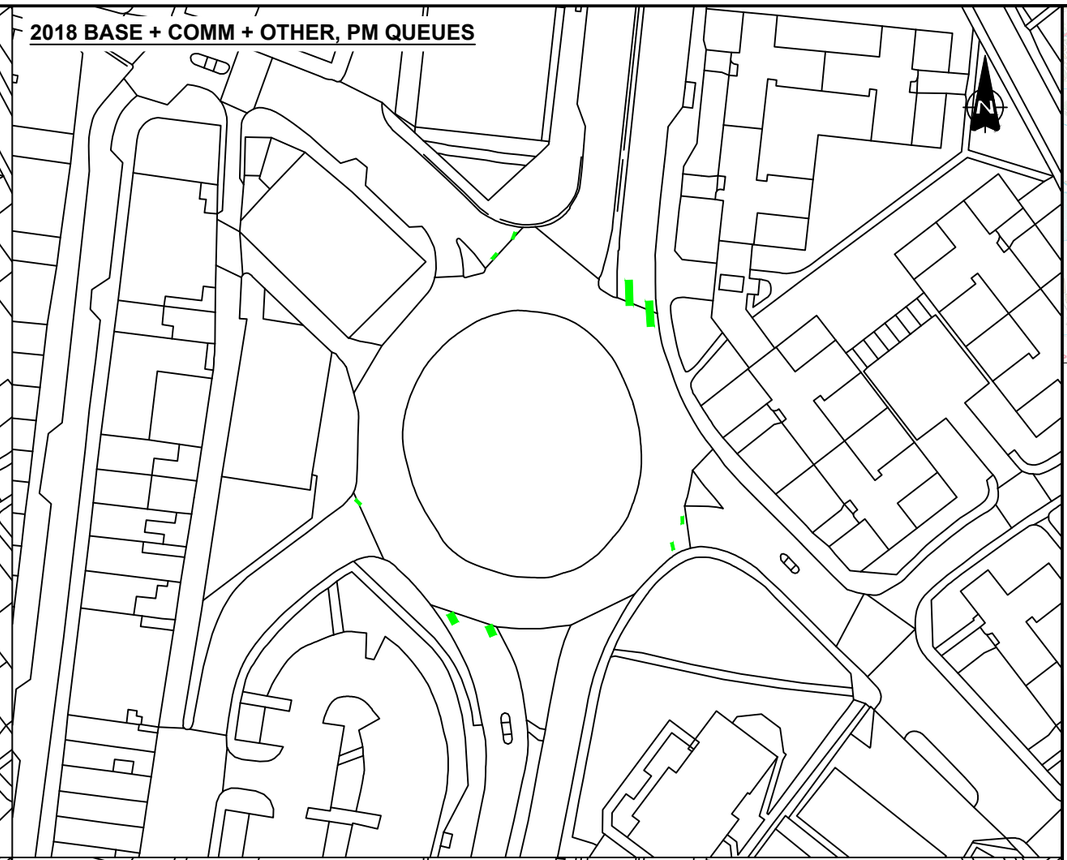
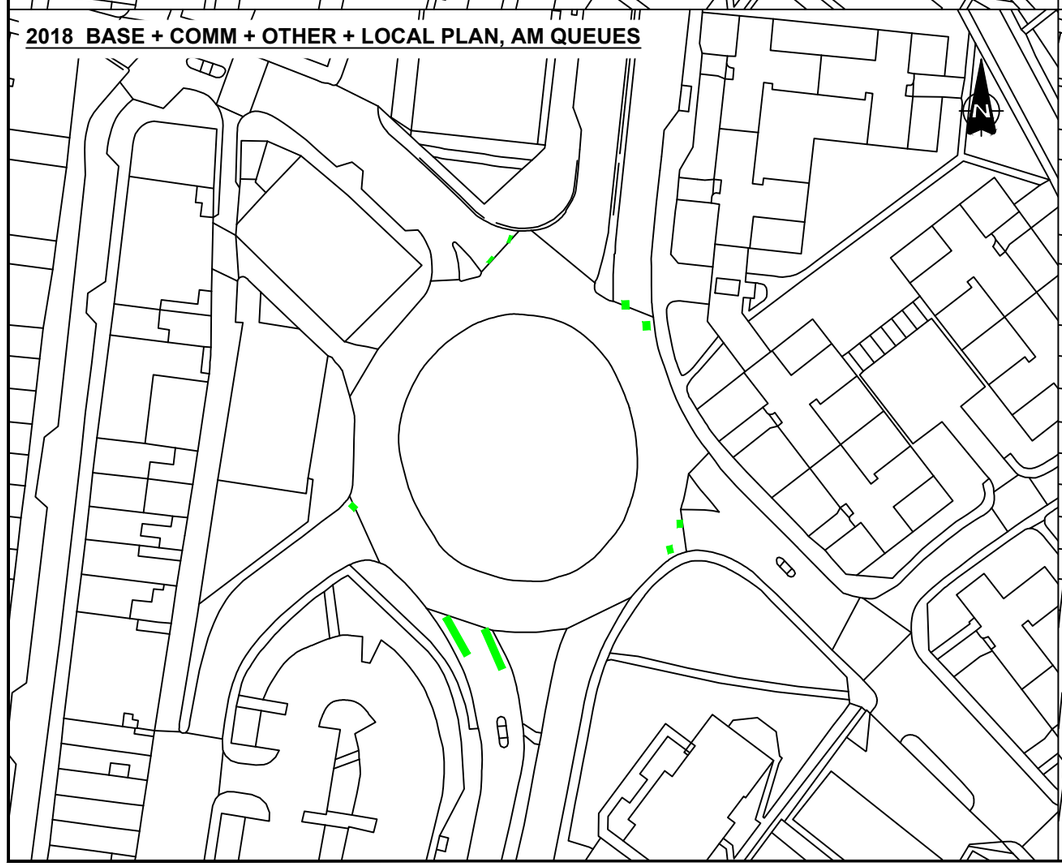


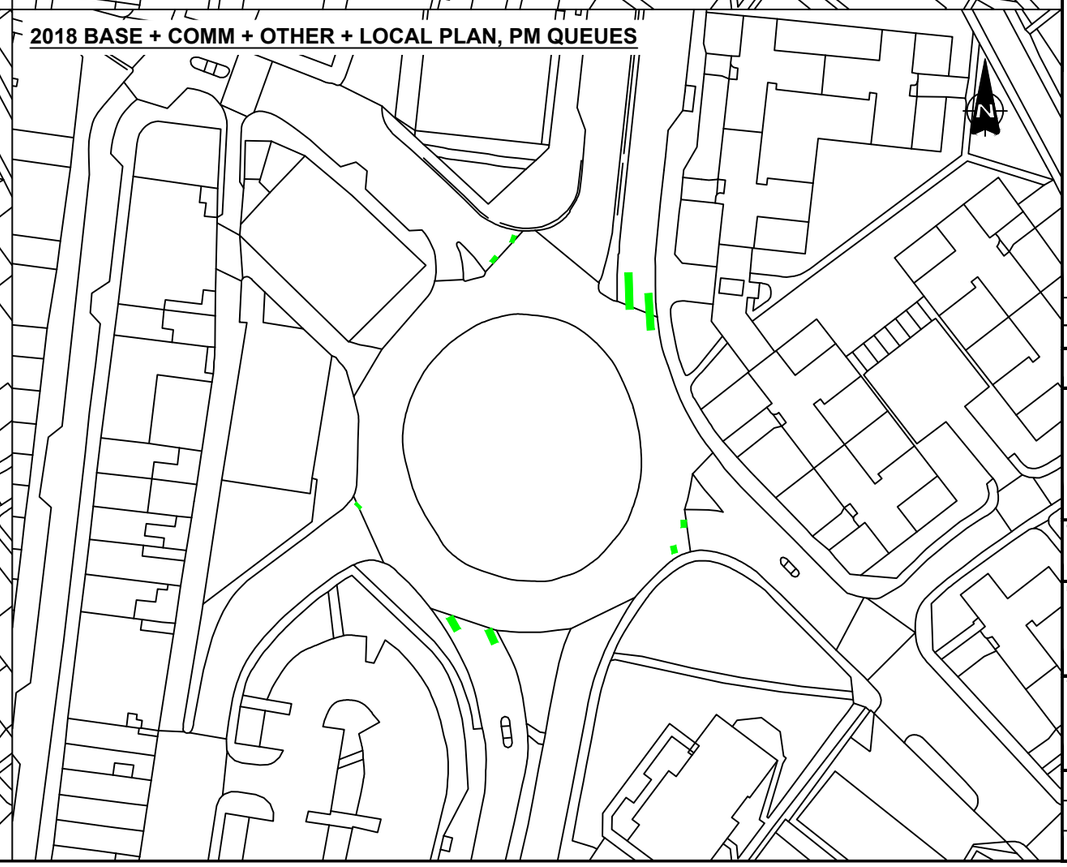
Figure 2. Composition of traffic passing through junction at the end of the plan period – Evening Peak





**KEY**

- Queue Length (Within Capacity)
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| A | 06.12.21 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (NOVEMBER 2021) | JH | CC | JQ |

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Client
South Tyneside Council

Project
LOCAL PLAN ASSESSMENT

Title
A194 / LAYGATE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1250 |
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## 3.2 Junction 2 – A194 / West Way Roundabout

**2018 Base + Committed Development + Other Development**

3.2.1 The junction can be seen to be approaching its theoretical capacity on the A194 north arm during the evening peak. The West Way arm of the junction is close to approaching capacity during the morning peak.

Table 6. A194 / West Way – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| A194 North | 0.63 | 1.8 | 0.86 | 6.4 |
| Dean Road | 0.01 | 0 | 0 | 0 |
| West Way | 0.83 | 4.9 | 0.54 | 1.3 |
| A194 West | 0.65 | 2 | 0.84 | 5.6 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.2.2 With the addition of Local Plan traffic, the A194 north and West Way arms of the junction are now closer to exceeding their theoretical capacity in the morning and evening peaks respectively.

Table 7. A194 / West Way – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| A194 North | 0.72 | 2.8 | 0.98 | 23.2 |
| Dean Road | 0.01 | 0 | 0 | 0 |
| West Way | 0.94 | 11.5 | 0.63 | 1.8 |
| A194 West | 0.72 | 2.8 | 0.93 | 12.3 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.2.3 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme.

3.2.4 The capacity assessment is summarised on Drawing Ref 16L02-02-001overleaf.

3.2.5 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

**Cost of Mitigation**

3.2.6 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.2.7 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.2.8 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not warrant a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.2.9 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.2.10 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main increases in traffic are as a result of Holborn – South Shields Riverside, Land South of Fellgate and Site of Former South Tyneside College, with circa 50 % of the development trips made up of cumulative developments.

Figure 3. Composition of traffic passing through junction at the end of the plan period – Morning Peak

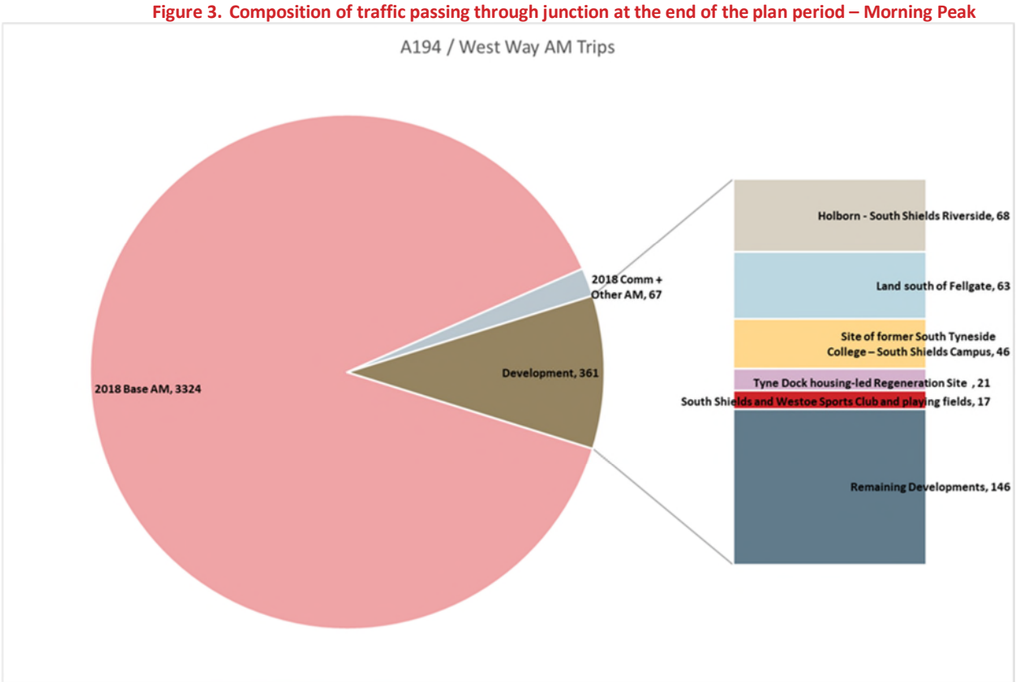
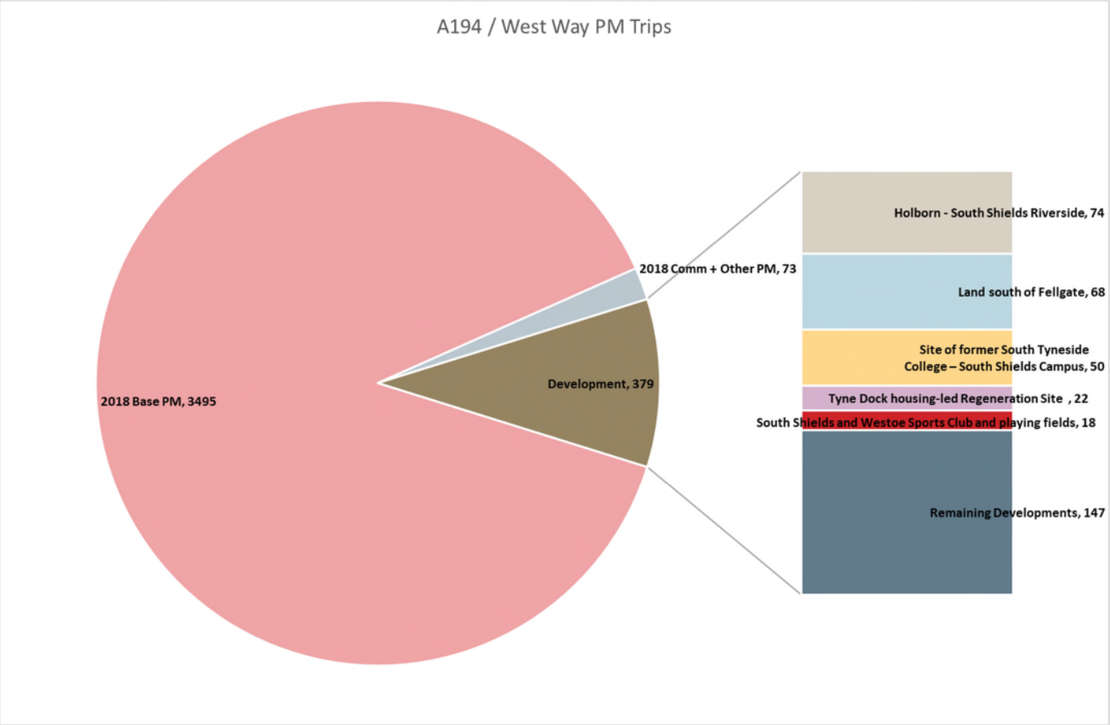
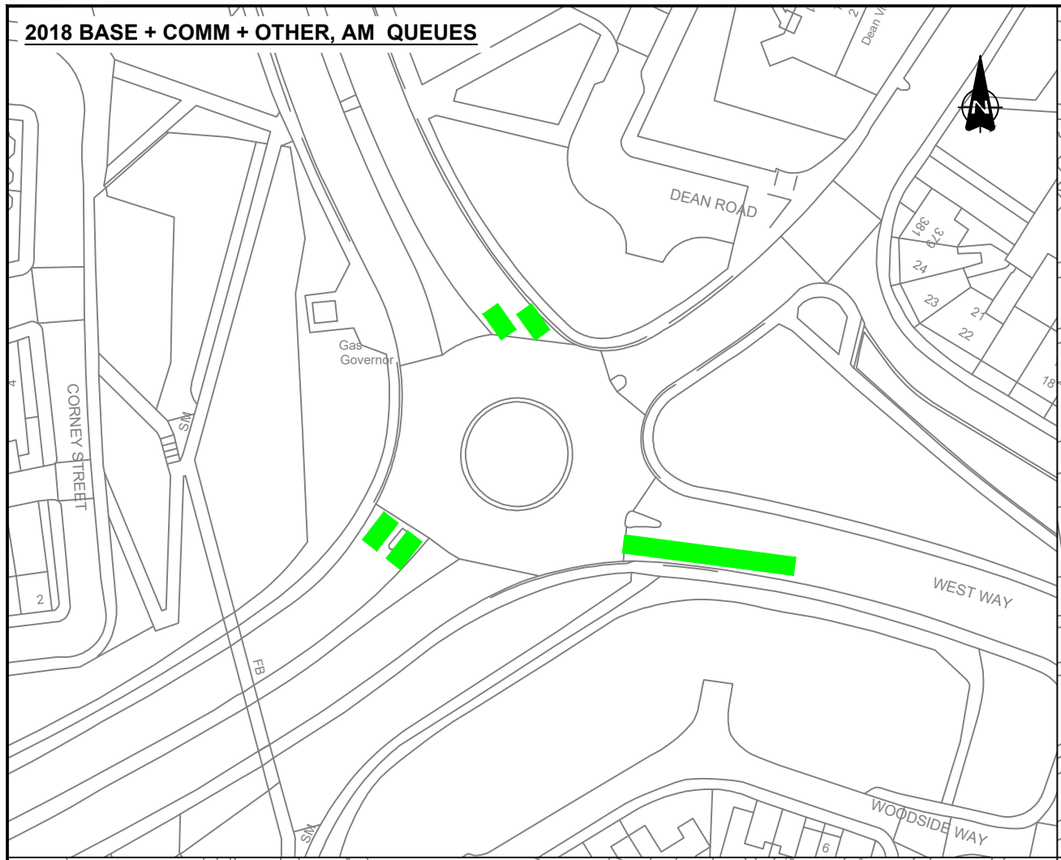


Figure 4. Composition of traffic passing through junction at the end of the plan period – Evening Peak



## 2018 BASE + COMM + OTHER, AM QUEUES

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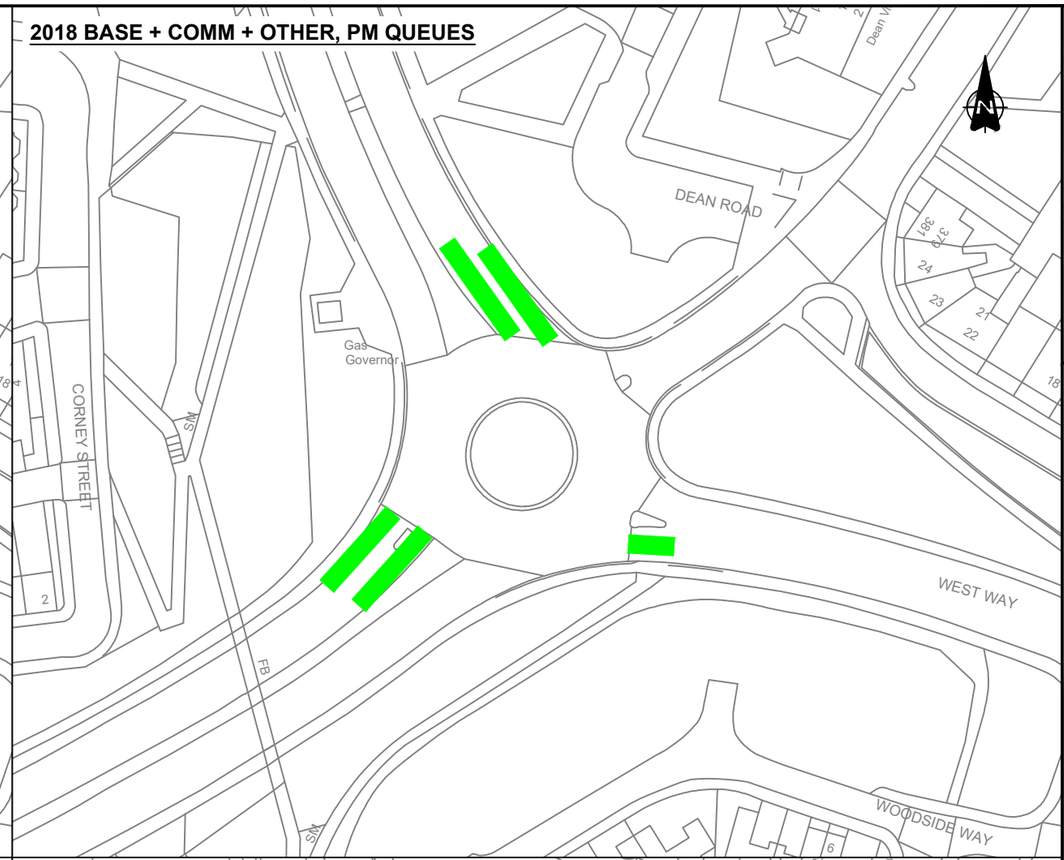
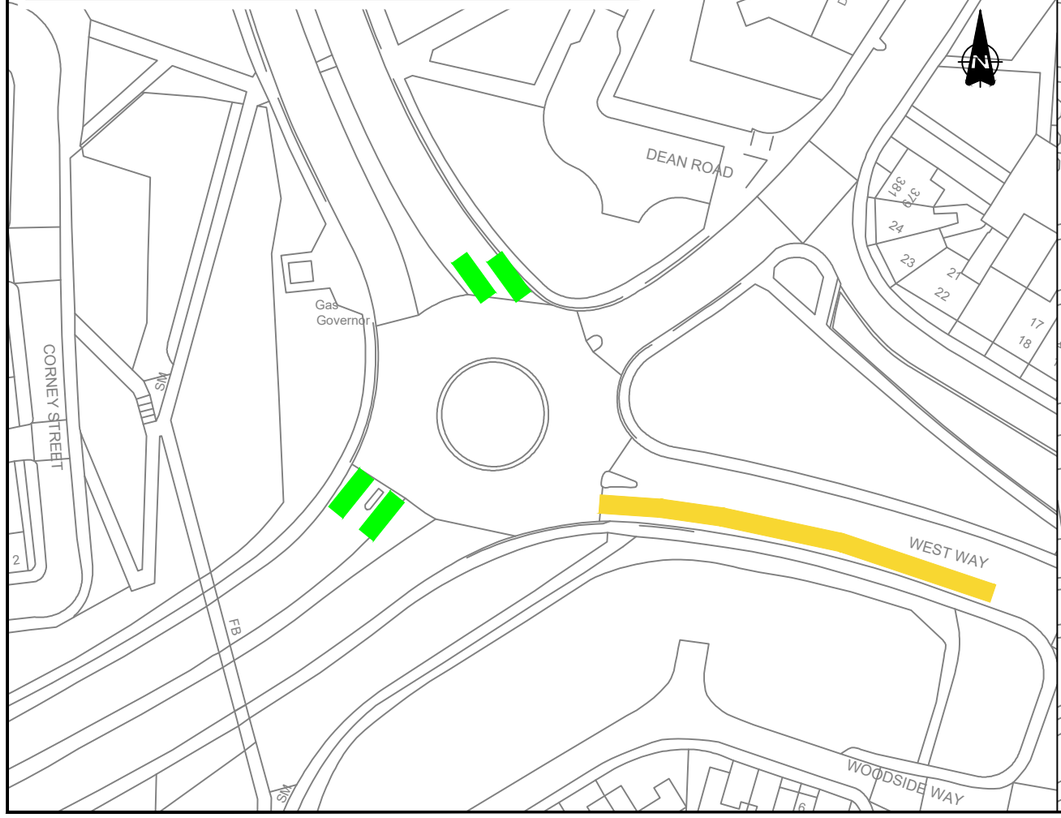



## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES

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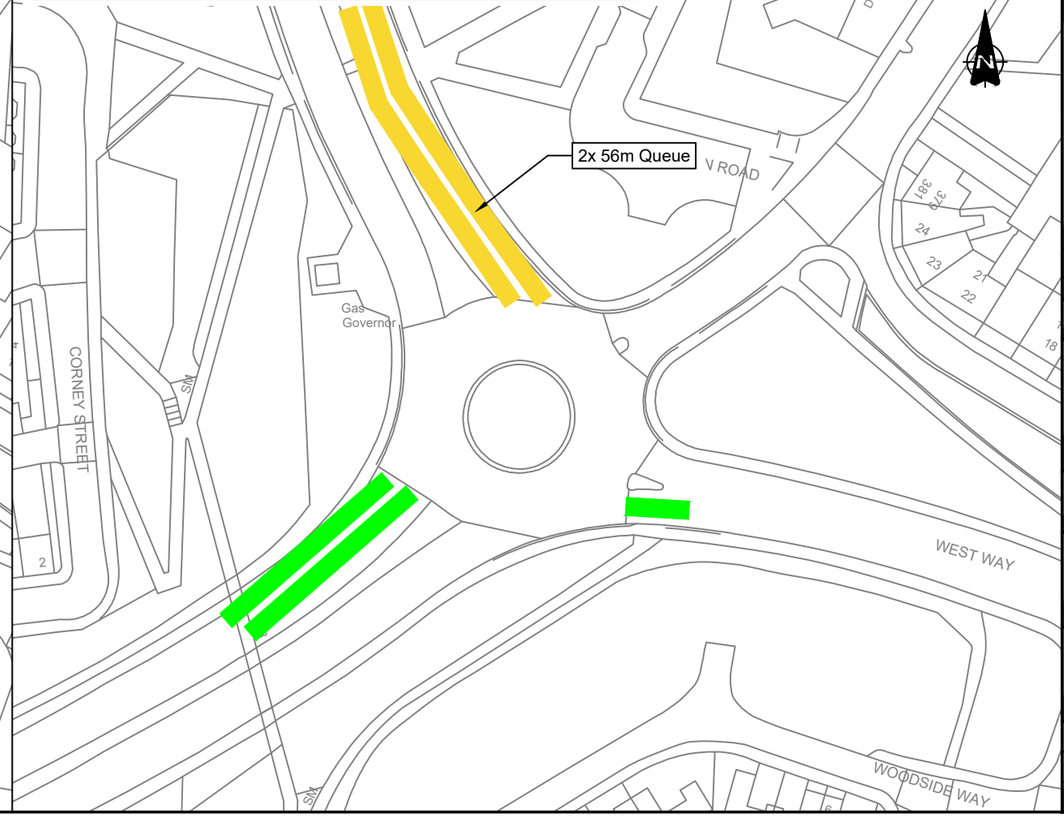

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Client: South Tyneside Council

Project: LOCAL PLAN ASSESSMENT

Title: A194 / WEST WAY
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-02-001 | Rev.: - |

## 3.3 Junction 3 – A194 / B1302 / Port of Tyne Roundabout

**2018 Base + Committed Development + Other Development**

3.3.1 The junction can be seen approaching its theoretical capacity on the A194 West arm of the junction during the evening peak.

Table 8. A194 / B1298 / Port of Tyne Roundabout – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Port of Tyne | 0.06 | 0.1 | 0.46 | 0.9 |
| A194 East | 0.65 | 2 | 0.75 | 3.2 |
| B1302 | 0.58 | 1.5 | 0.74 | 3 |
| A194 West | 0.74 | 3.1 | 0.85 | 6.2 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.3.2 With the addition of Local Plan traffic at this junction, the B1302 arm can be seen to be operating over its theoretical capacity in the evening peak. In addition the A194 West arm is now closer to operating in excess of its theoretical capacity.

Table 9. A194 / B1298 / Port of Tyne Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Port of Tyne | 0.08 | 0.1 | 0.73 | 2.7 |
| A194 East | 0.73 | 2.9 | 0.84 | 5.5 |
| B1302 | 0.87 | 6.2 | 1.17 | 30.8 |
| A194 West | 0.82 | 4.7 | 0.93 | 13.4 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.3.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.3.4 The scheme involves widening on the B1302 approach to provide an extended two lane approach to the roundabout.

3.3.5 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.3.6 The proposed mitigation scheme is considered to improve junction performance. Some minor queuing would still occur on the A194 West arm in the evening peak but this would be localised to the roundabout.

3.3.7 The capacity assessment is summarised on Drawing Ref 16L02-03-001 and 16L02-03-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-03-003 overleaf.

3.3.8 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

Table 10. A194 / B1298 / Port of Tyne Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Port of Tyne | 0.8 | 0.1 | 0.73 | 2.6 |
| A194 East | 0.73 | 2.9 | 0.84 | 5.5 |
| B1302 | 0.74 | 2.9 | 0.92 | 7.9 |
| A194 West | 0.82 | 4.8 | 0.95 | 15.9 |

**Cost of Mitigation**

3.3.9 The junction is located in a built up area with buildings located adjacent to the highway envelope. There are no substantial level changes from the edge of carriageway.

3.3.10 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.3.11 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by surface covers located to the eastern footway of the B1302 where the kerb widening works would be undertaken.

3.3.12 The introduction of the proposed mitigation is anticipated to cost in the region of £250,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.3.13 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.3.14 The Local Plan development traffic has been incrementally added to the base model to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

3.3.15 For the purposes of this assessment, the junction is considered to require a mitigation scheme when 80% of the Local Plan development has come forward. A mitigation scheme would therefore need to be delivered in advance of reaching this point. This is anticipated to be in 11-15 years of the Local Plan period.

**Composition of Trips Through Junction**

3.3.16 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local plan.

3.3.17 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increases in traffic are as a result of Land South of Fellgate, Holborn – South Shields Riverside and Site of Former South Tyneside College, with circa 50 % of the development trips made up of cumulative developments.

Figure 5. Composition of traffic passing through junction at the end of the plan period – Morning Peak

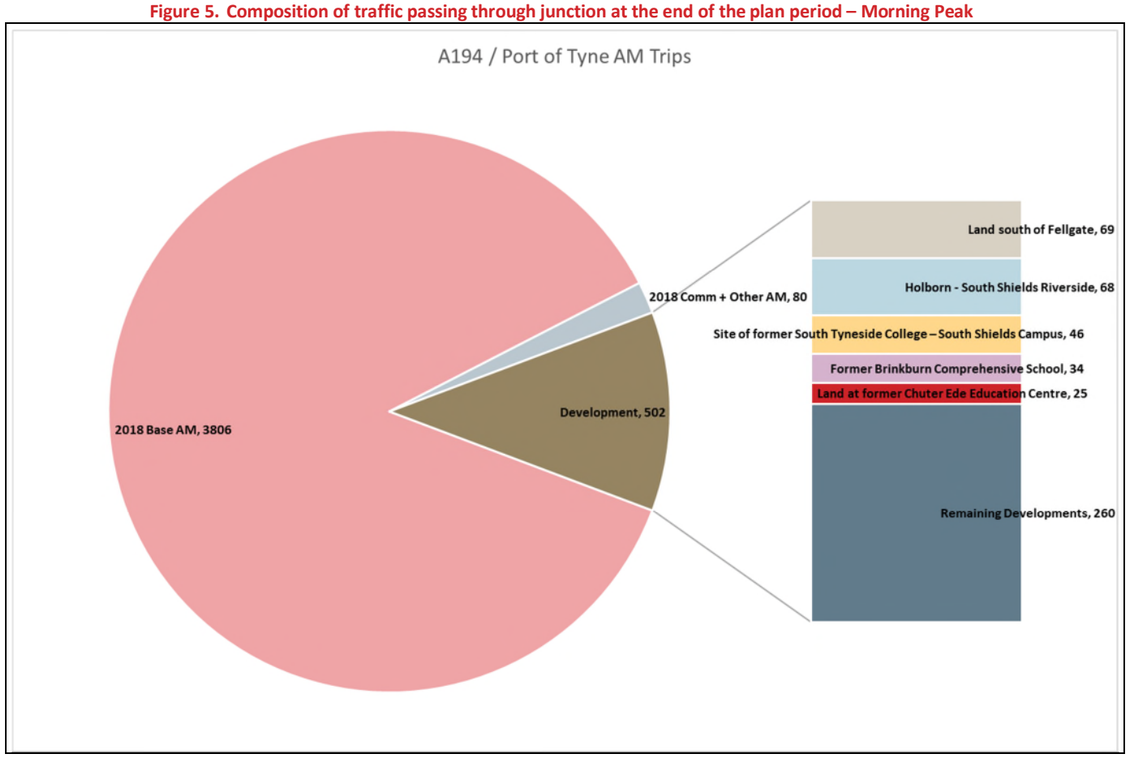
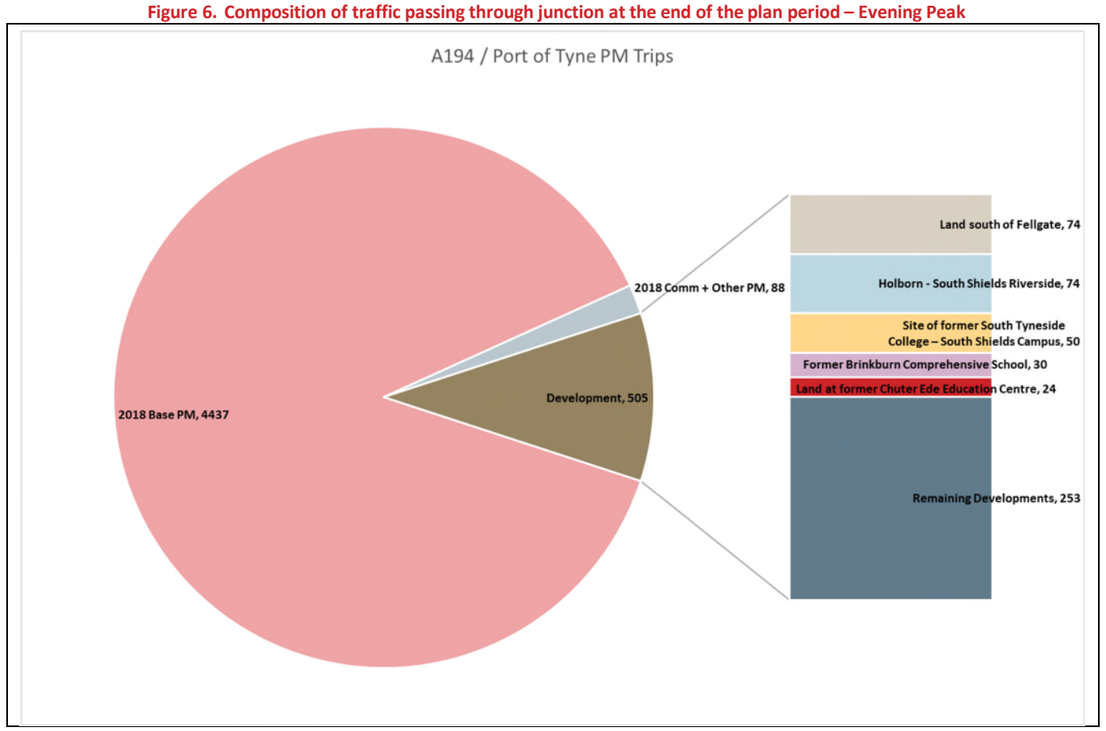
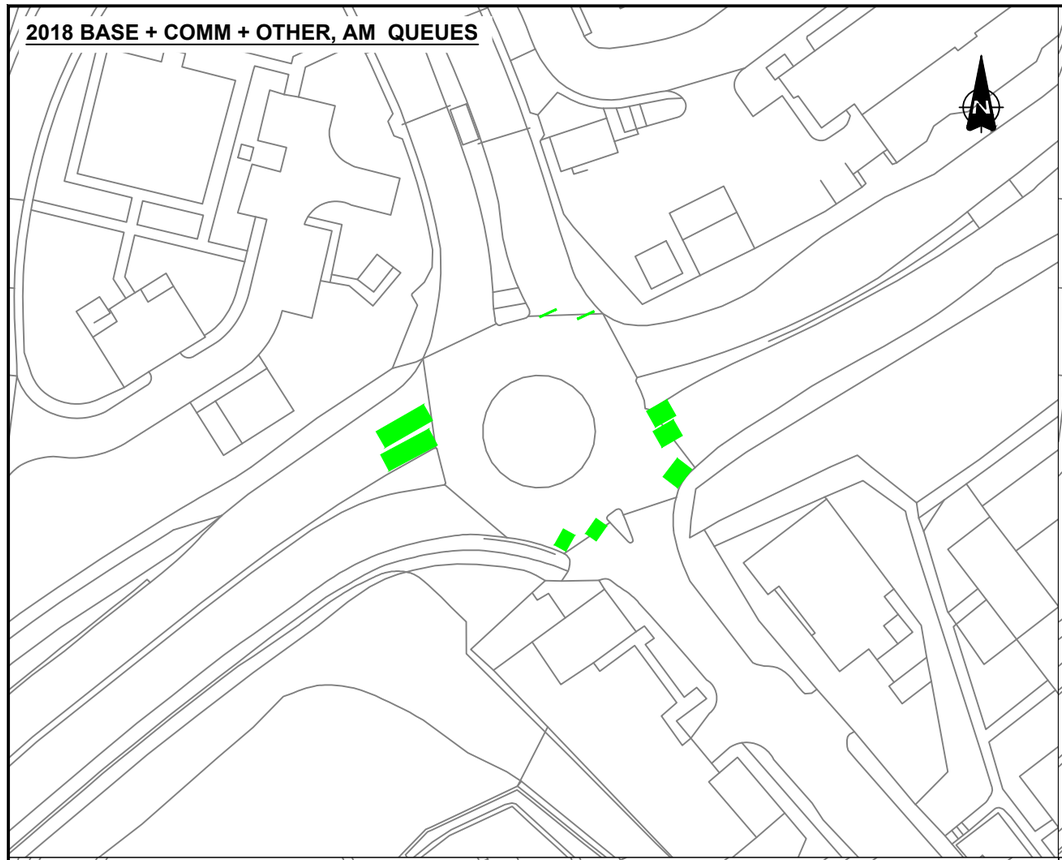
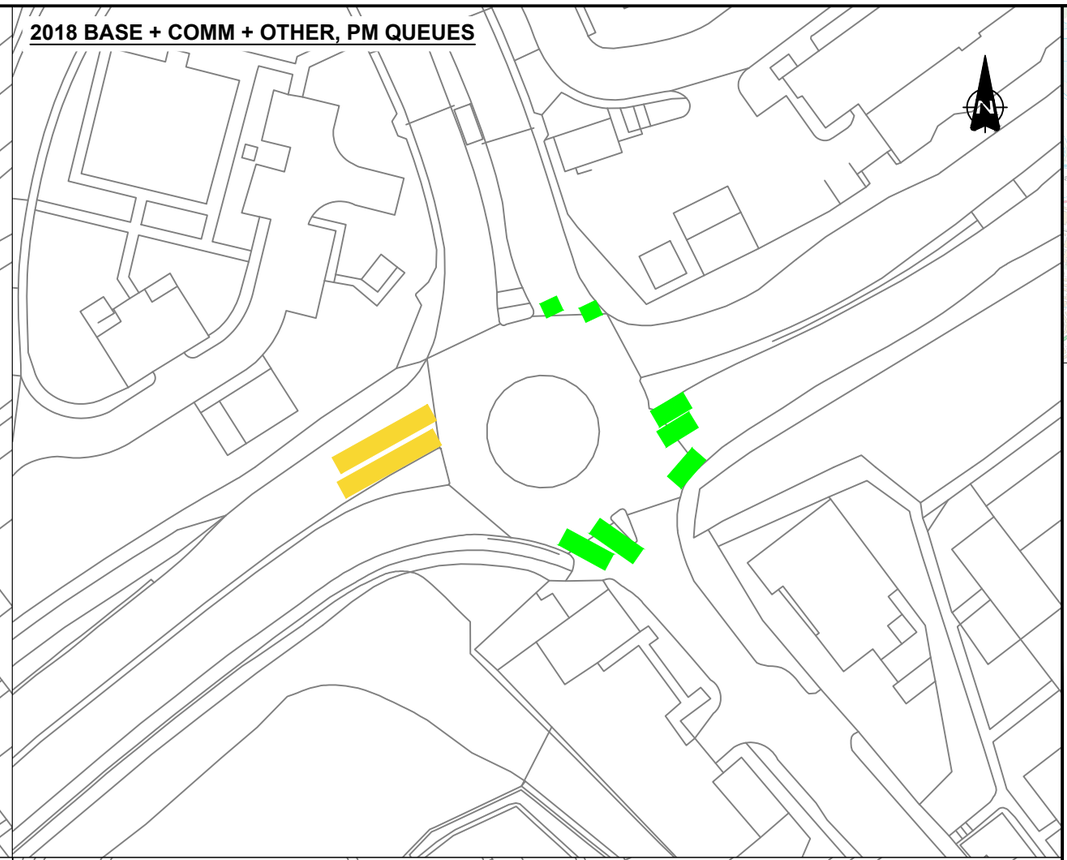
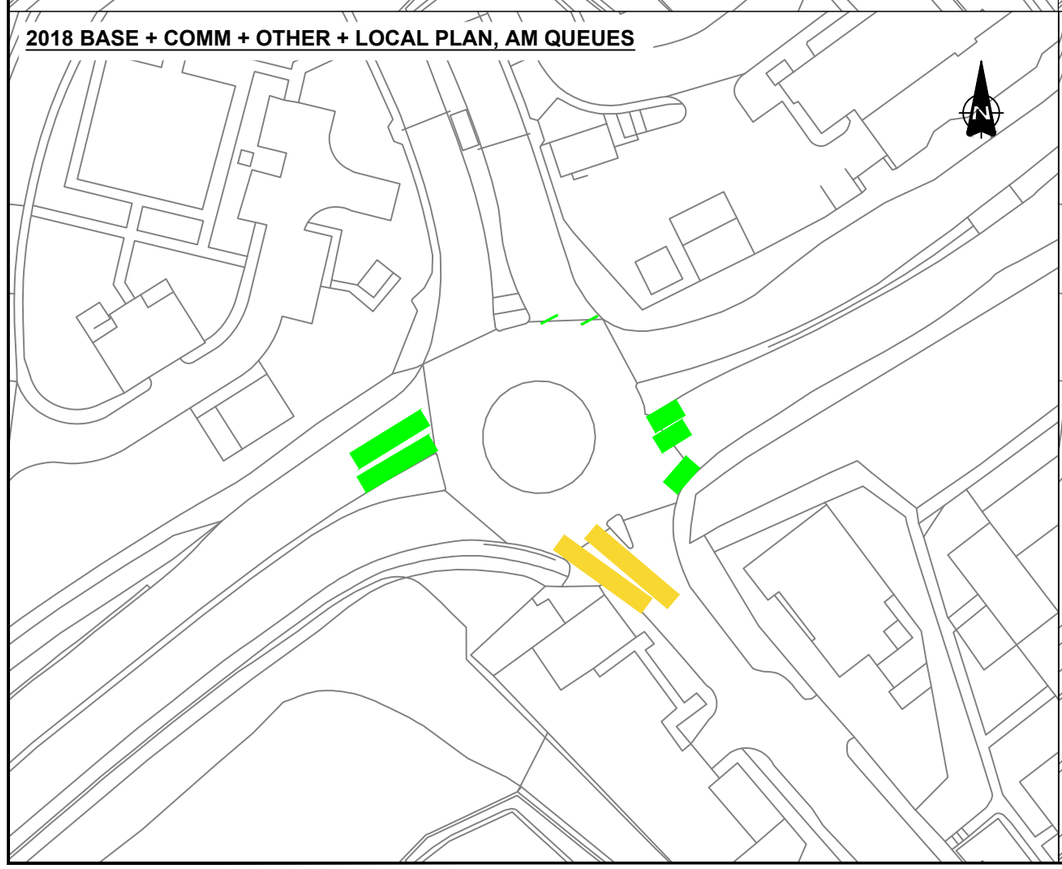


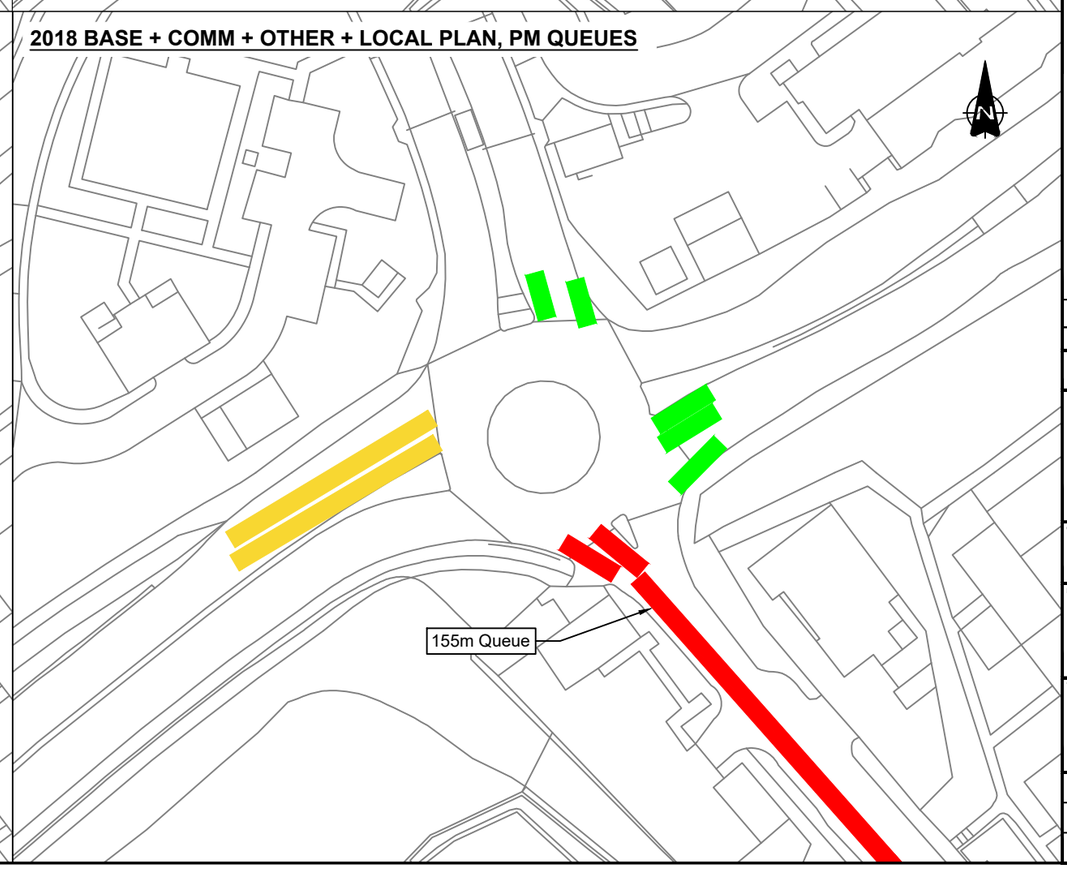

Figure 6. Composition of traffic passing through junction at the end of the plan period – Evening Peak





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Project
LOCAL PLAN ASSESSMENT

Title
A194 / B1298 / PORT OF TYNE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
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| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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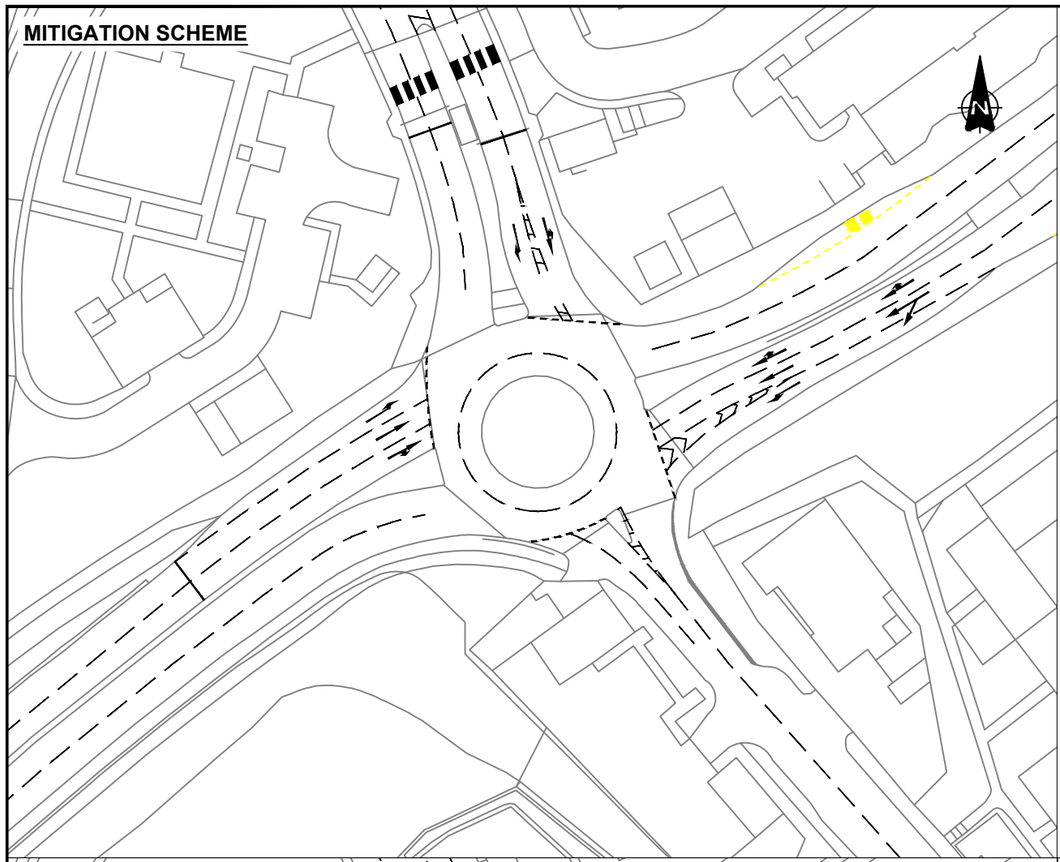
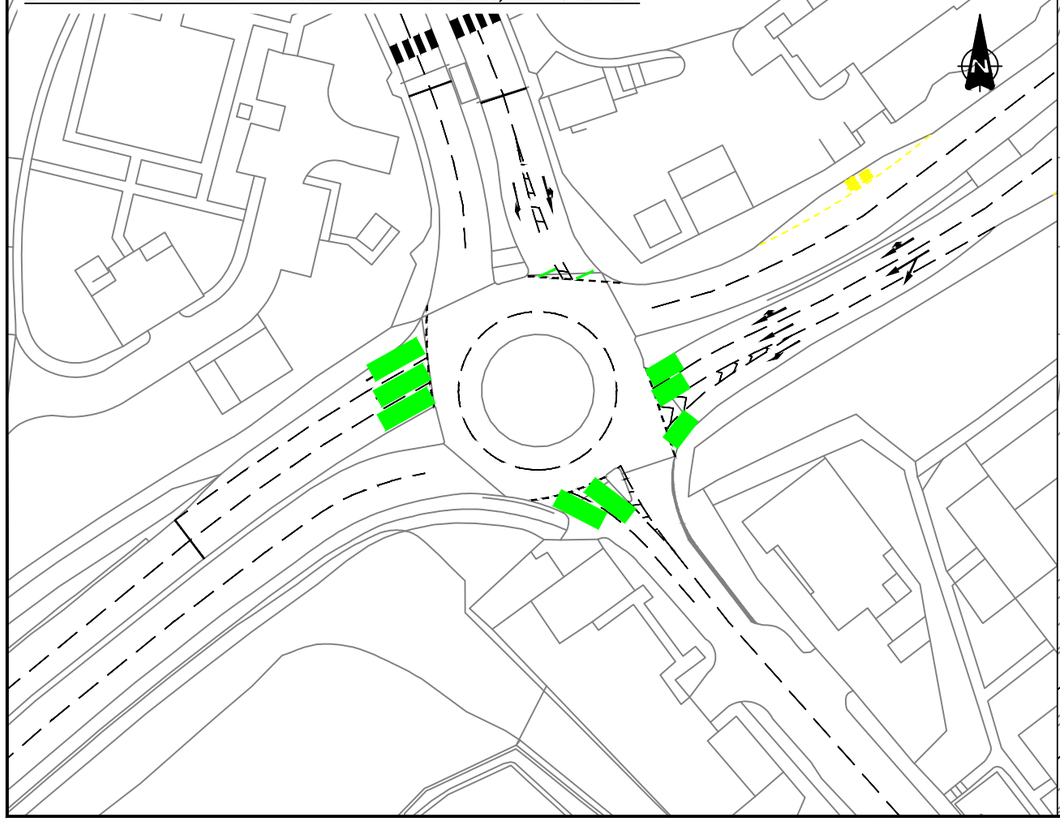
## MITIGATION SCHEME



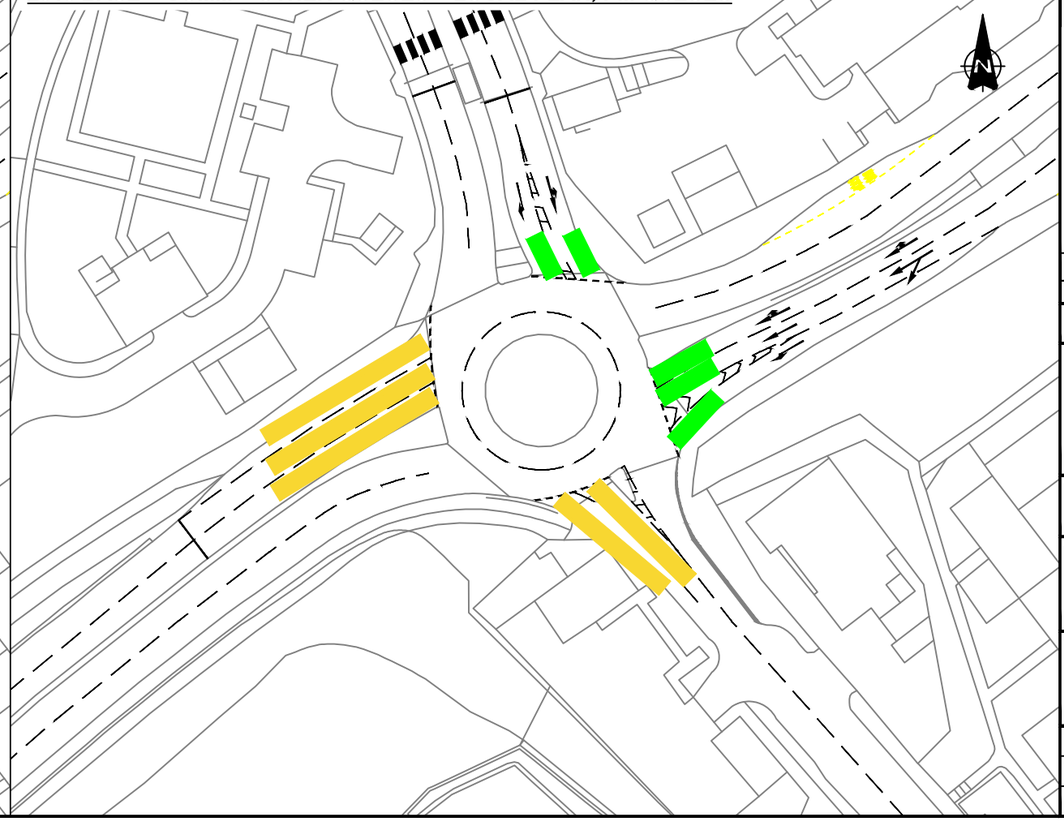
## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SFG072 | Land South of Fellgate | 69 | 74 |
| SOS014 | Holburn - South Shields Riverside | 68 | 74 |
| SOS007b | Former South Tyneside College, South Shields Campus | 46 | 50 |
| SOS009 | Former Brinkburn Comprehensive School | 34 | 30 |
| SOS040 | Land at Former Chuter Ede Education Centre | 25 | 24 |
| | Remaining Developments | 260 | 253 |

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER QUEUES + LOCAL PLAN, PM QUEUES



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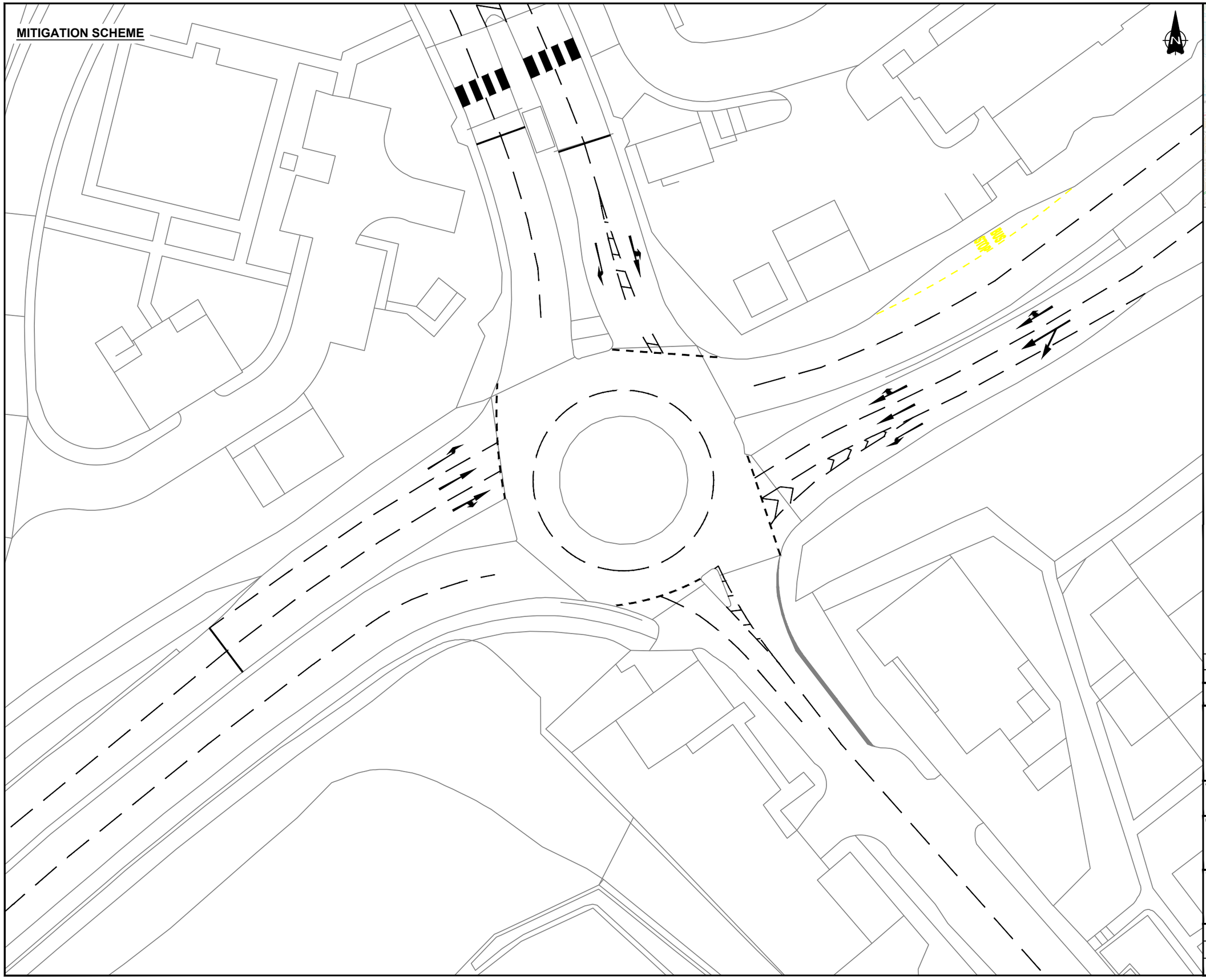
## MITIGATION SCHEME



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**KEY**

Area of Carriageway Widening

Proposed Road Markings

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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Title
A194 / B1298 / PORT OF TYNE
MITIGATION SCHEME

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| Drawing Status: PRELIMINARY | Drawing Number: 16L02-03-003 | Rev.: - |

## 3.4 Junction 4 – Mill Lane / Monkton Lane Mini-Roundabout

**2018 Base + Committed Development + Other Development**

3.4.1 The junction can be seen to be exceeding its theoretical capacity on the Mill Lane north arm in both morning and evening peak periods and is operating close to its theoretical capacity on the Mill Lane south arm in both the morning and evening peak periods.

Table 11. Mill Lane / Monkton Lane Roundabout – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Mill Lane North | 1.06 | 31.5 | 1.04 | 25.4 |
| Monkton Lane | 0.41 | 0.7 | 0.4 | 0.7 |
| Mill Lane South | 0.92 | 6.8 | 0.93 | 10.6 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.4.2 With the addition of Local Plan traffic, the junction further exceeds its theoretical capacity in both the morning and evening peak periods.

Table 12. Mill Lane / Monkton Lane Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Mill Lane North | 1.12 | 49.6 | 1.10 | 41.2 |
| Monkton Lane | 0.4 | 0.7 | 0.42 | 0.7 |
| Mill Lane South | 0.92 | 9.5 | 0.97 | 16.4 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.4.1 A mitigation scheme is considered necessary to address the capacity problems identified at the junction. It should be noted that this is not as a result of the addition of Local Plan traffic per se, the junction is over capacity in the base situation and it is considered appropriate to mitigate this before further traffic is added.

3.4.2 The scheme consists of the signalisation of the junction.

3.4.3 The modelling results below show that this returns the junction to operating within capacity.

3.4.4 The capacity assessment is summarised on Drawing Ref 16L02-04-001 and 16L02-04-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-04-003 overleaf.

3.4.5 This assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station to the north of this junction adjacent to the A185.

Table 13. Mill Lane / Monkton Lane Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Monkton Lane | 57.4 | 7.5 | 51 | 6.1 |
| Mill Lane South | 71.6 | 6.3 | 62.7 | 4 |
| Mill Lane North | 76.2 | 9.8 | 65.4 | 5 |
| Junction Deg. Sat. (%) | 76.2 | | 65.4 | |
| Junction PRC All Lanes (%) | 18.1 | | 37.7 | |

**Cost of Mitigation**

3.4.6 The junction is located in an urban environment with wide highway verges. There are no substantial level changes from the edge of carriageway.

3.4.7 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.4.8 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of street lighting and illuminated signage where the kerb widening works would be undertaken on the Monkton Lane arm of the junction.

3.4.9 The introduction of the proposed mitigation is anticipated to cost in the region of £250,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.4.10 In addition, contributions to local or wider sustainable transport improvements may be necessary. This could include for example the provision of a new Metro Station to the north of this junction.

**Trigger Point Analysis**

3.4.1 For the purposes of this assessment, the junction is considered to justify the delivery of a scheme before any of the Local Plan development has come forward.

3.4.2 This is anticipated to be in within the first 5 years of the Local Plan period.

**Composition of Trips Through Junction**

3.4.3 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan. As can be seen the increase in development traffic as a result of the Local Plan is comparable to that generated by committed development traffic.

3.4.4 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increases in traffic are as a result of Land south of Fellgate and Land at South Tyneside College, Hebburn Campus.

Figure 7. Composition of traffic passing through junction at the end of the plan period – Morning Peak

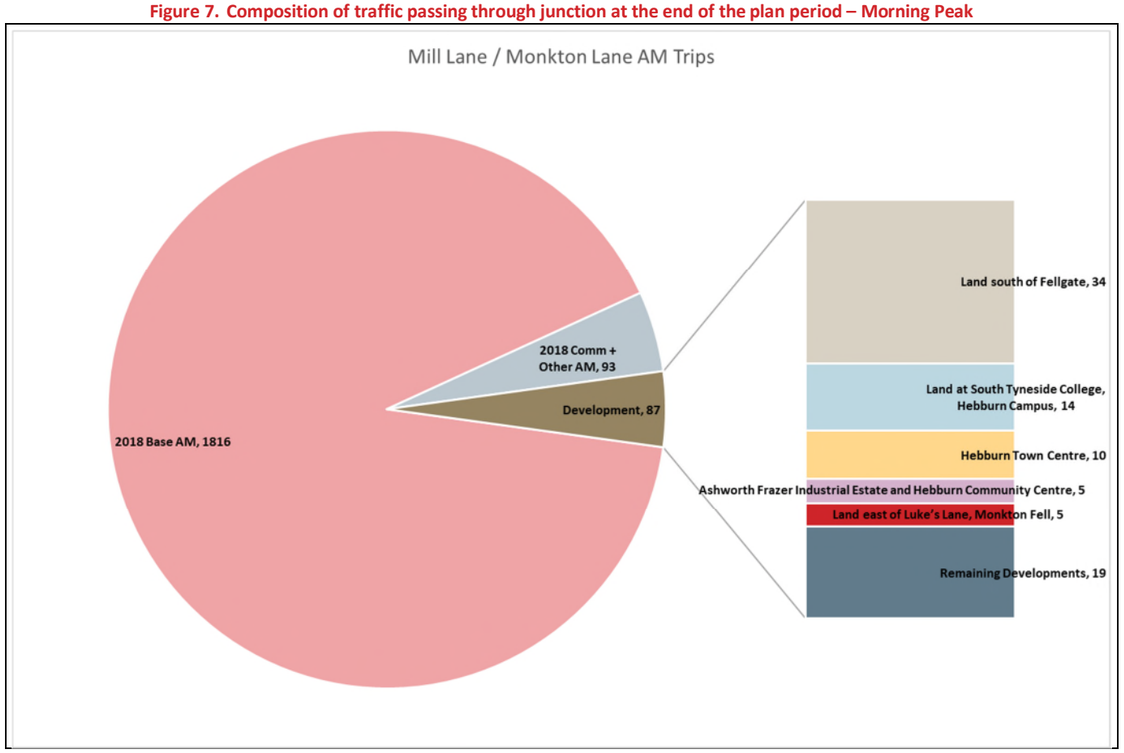
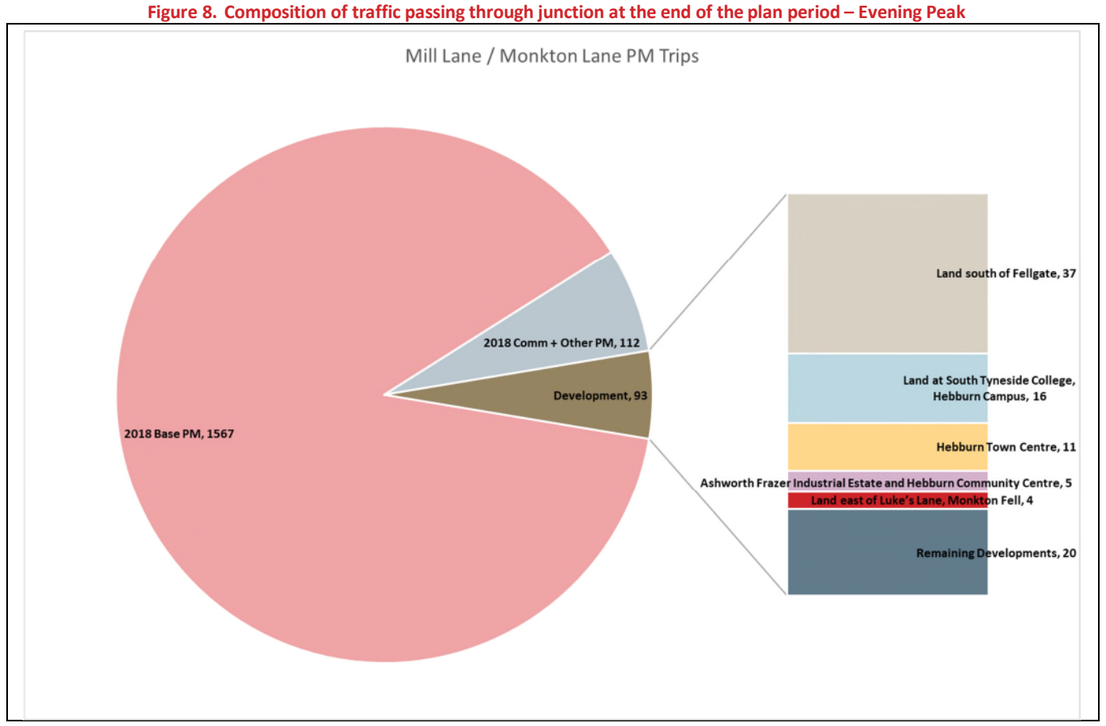
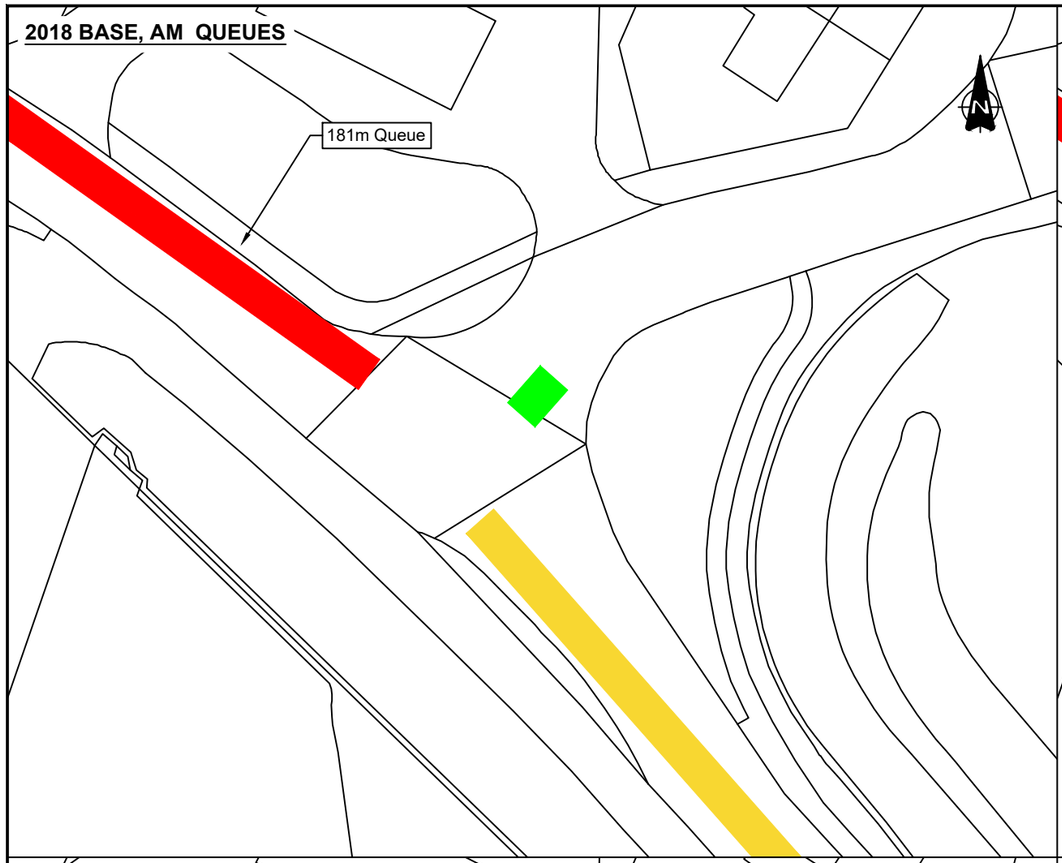
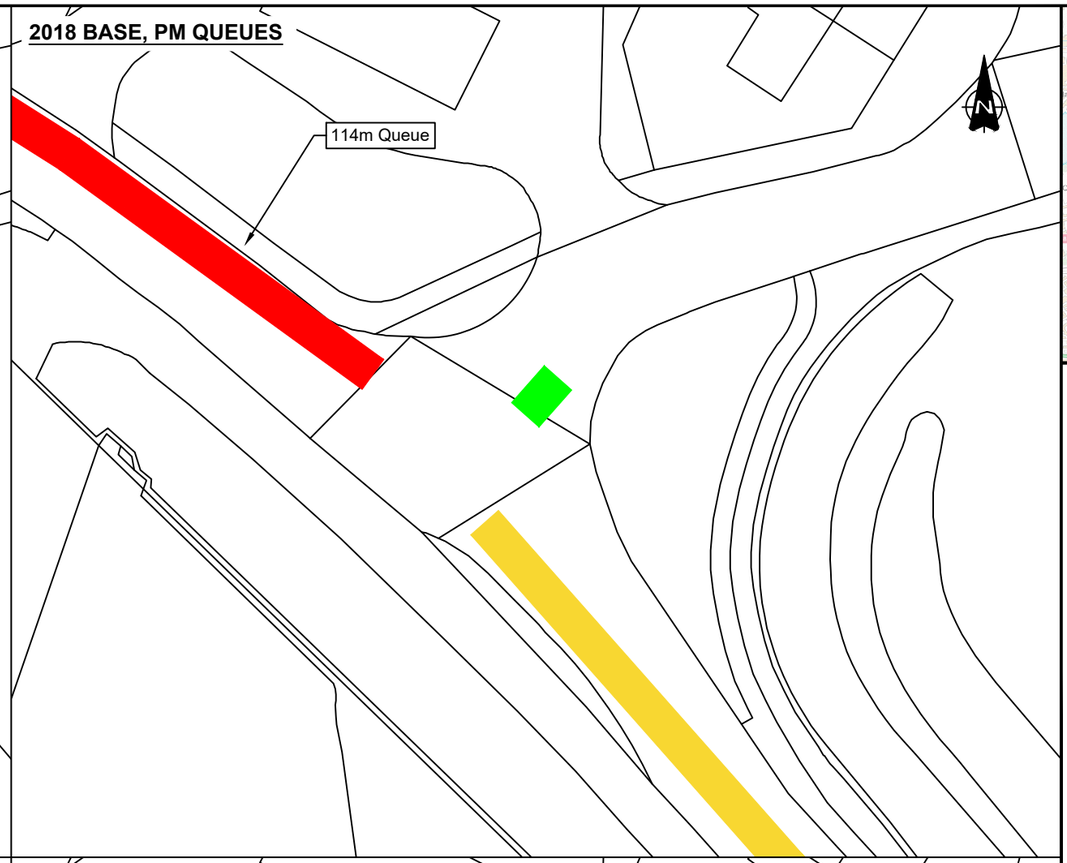



Figure 8. Composition of traffic passing through junction at the end of the plan period – Evening Peak





**KEY**

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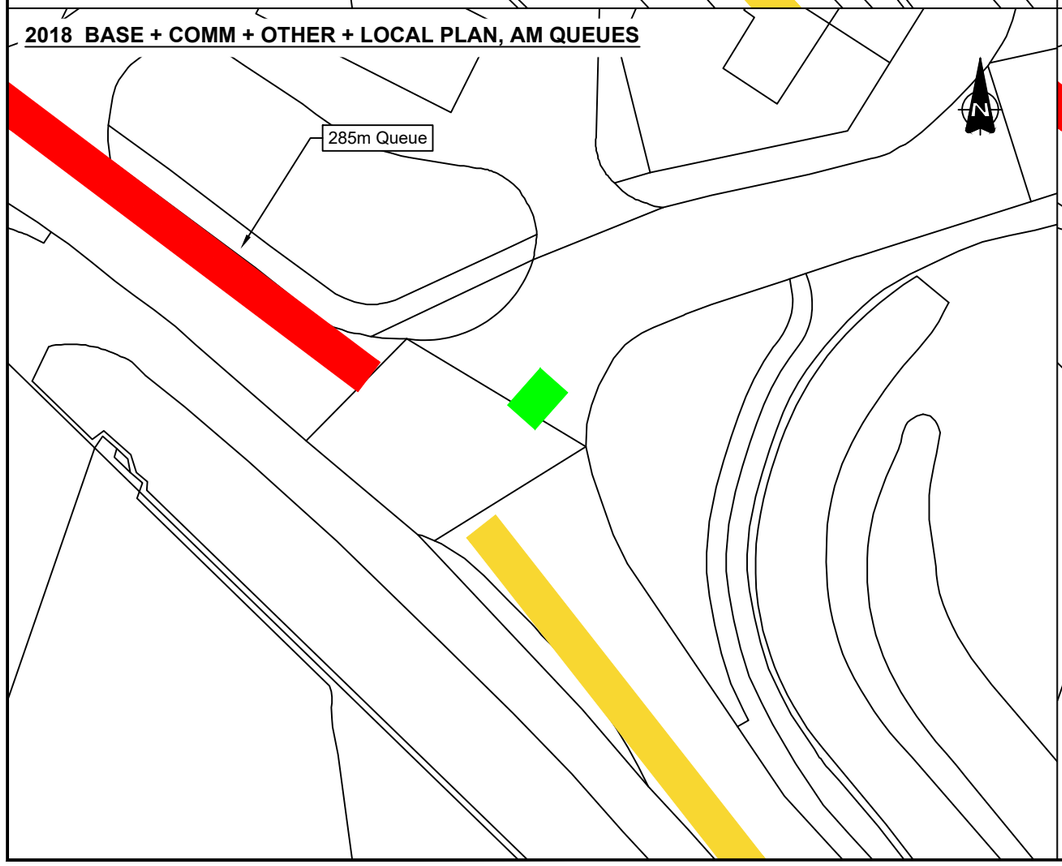


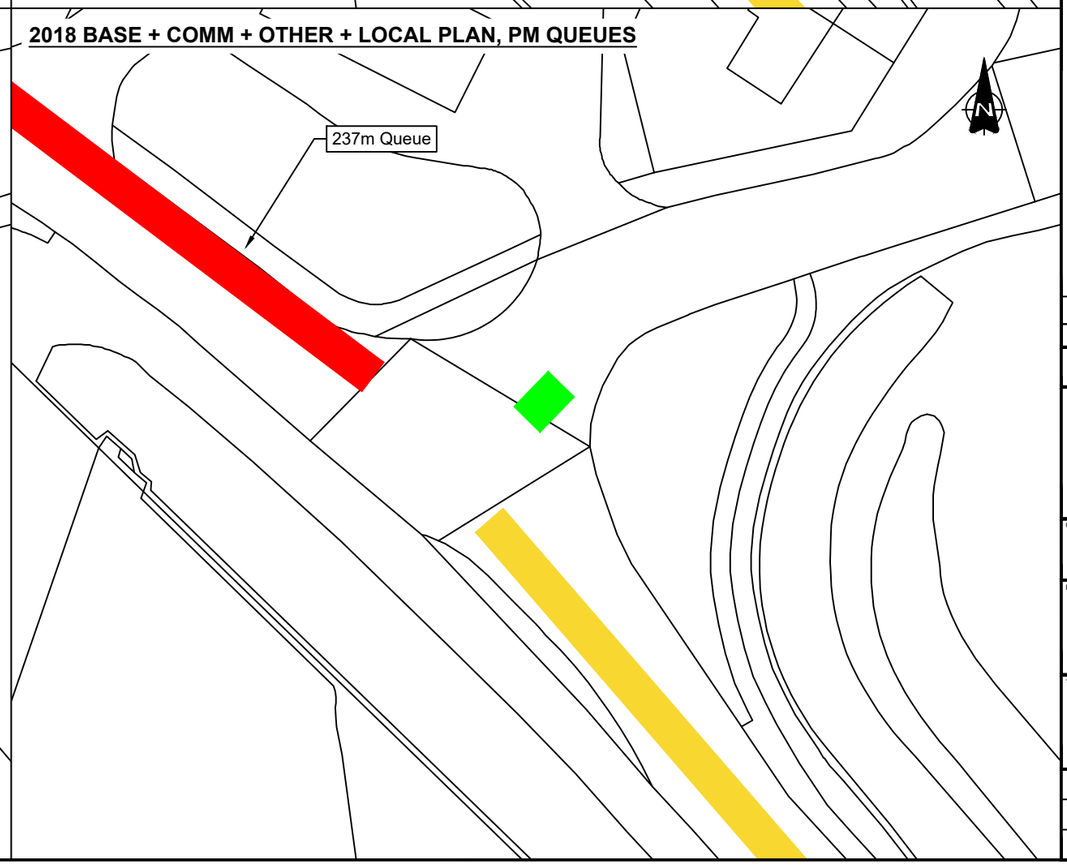


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Project
LOCAL PLAN ASSESSMENT

Title
MILL LANE / MONKTON LANE
EXISTING LAYOUT QUEUES

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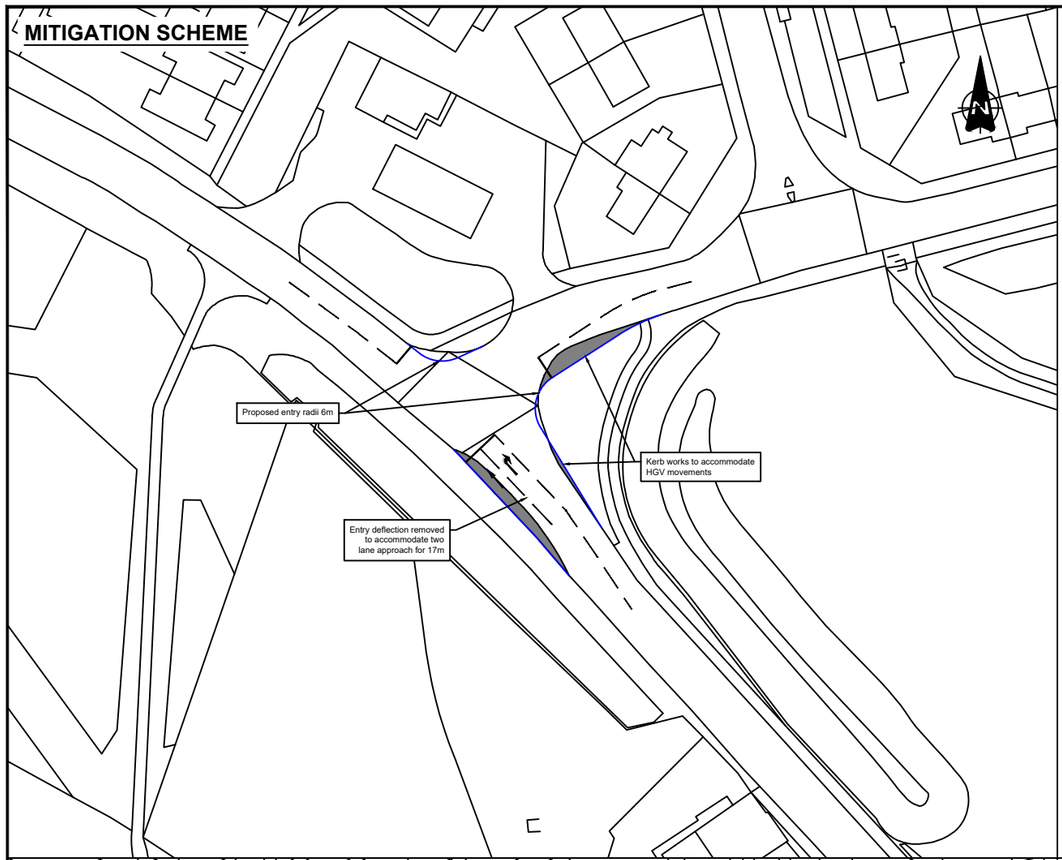
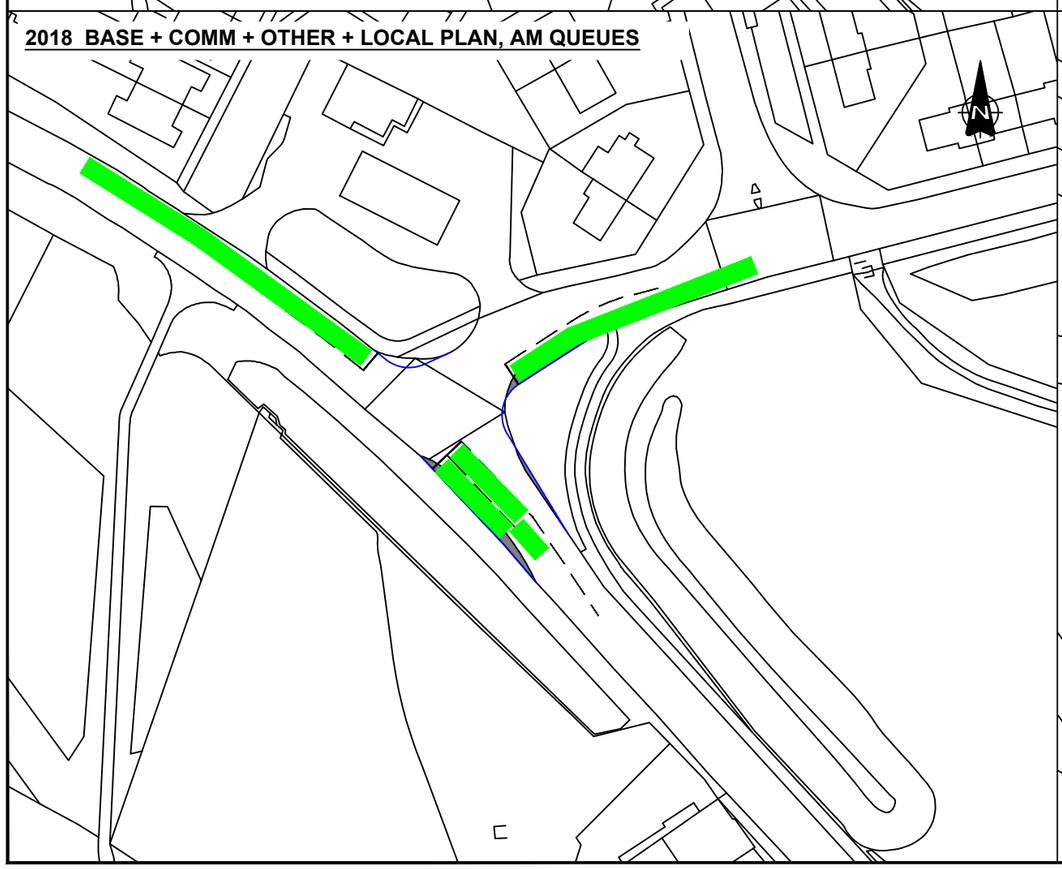
## MITIGATION SCHEME



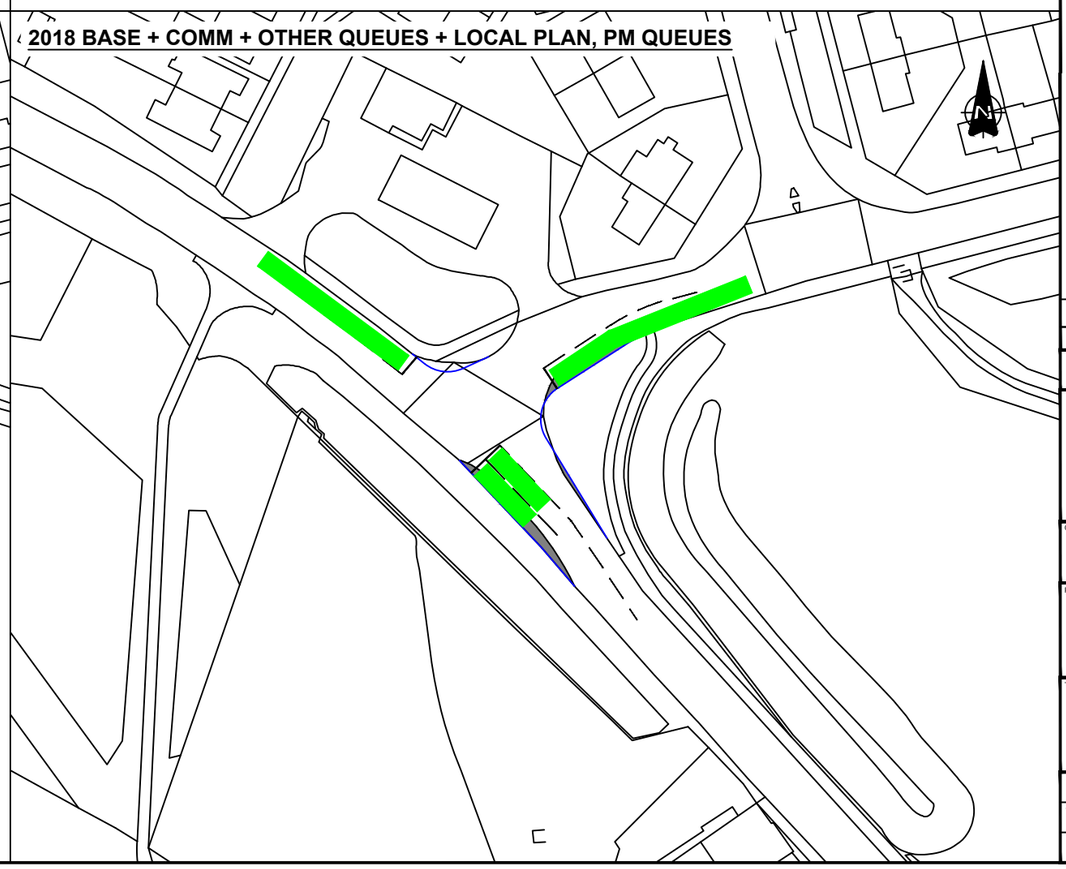

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SFG072 | Land South of Fellgate | 34 | 37 |
| SHB034 | South Tyneside College, Hebburn Campus | 14 | 16 |
| SHB004 | Hebburn Town Centre | 10 | 11 |
| SHB012 | Ashworth Frazer Ind Estate and Hebburn Comm Centre | 5 | 5 |
| ED2.13 | Land east of Luke's Lane, Monkton Fell | 5 | 4 |
| | Remaining Developments | 19 | 20 |

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER QUEUES + LOCAL PLAN, PM QUEUES



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Title: MILL LANE / MONKTON LANE PROPOSED LAYOUT QUEUES

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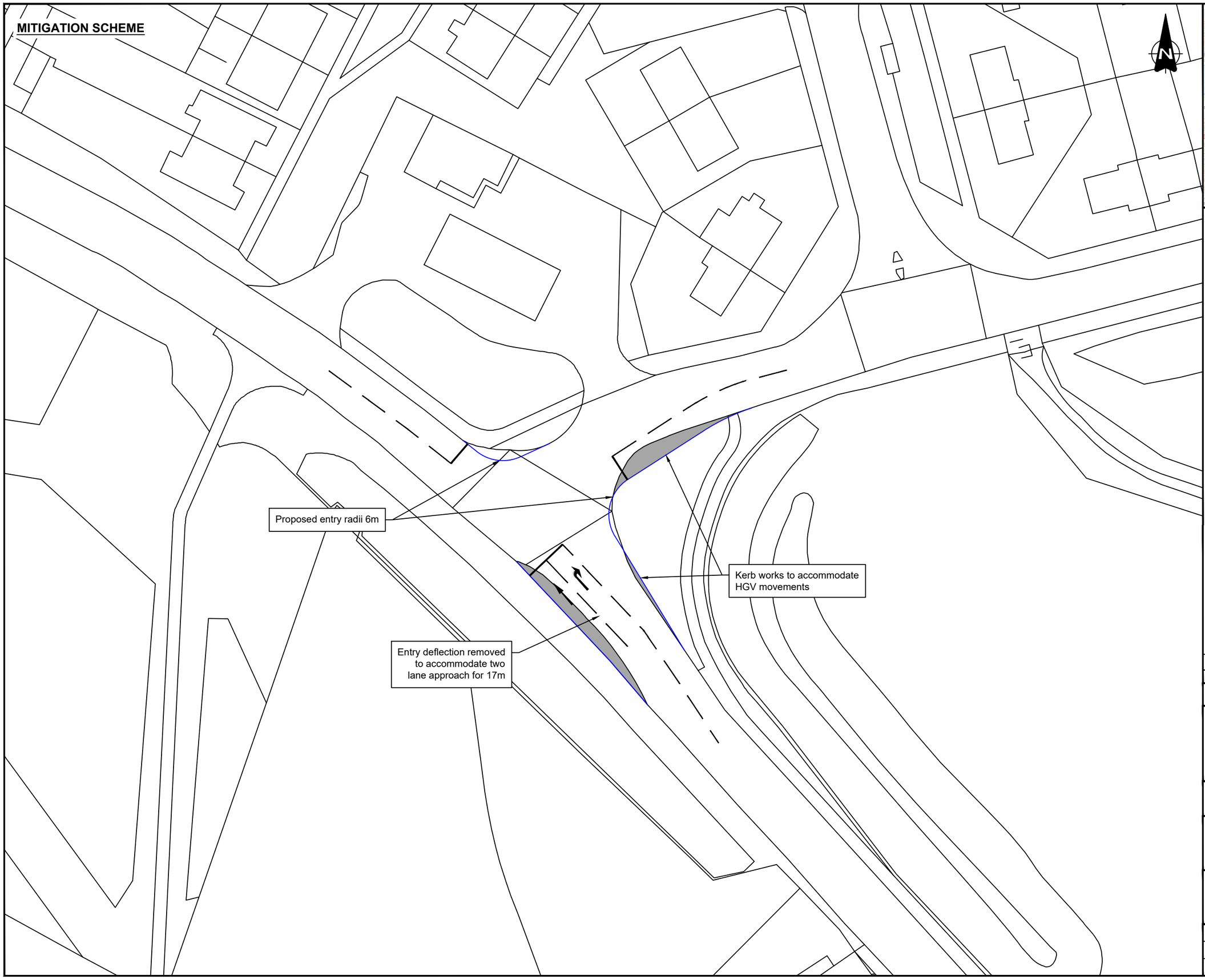
## MITIGATION SCHEME



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**KEY**

- Kerbline
- Area of Carriageway Widening
- Road Markings

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Title
MILL LANE / MONKTON LANE
MITIGATION SCHEME

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## 3.5 Junction 5 – A185 / Mill Lane Signalised Junction

**2018 Base + Committed Development + Other Development**

3.5.1 The junction can be seen to be approaching capacity in the morning peak and exceeding capacity in the evening peak with significant queuing on the A185 south in the evening peak.

Table 14. A185 / Mill Lane – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A185 North | 78 | 11.7 | 74.6 | 15 |
| Mill Lane | 92.5 | 19.1 | 130.3 | 20.2 |
| A185 South | 94.9 | 18.3 | 128.8 | 107.4 |
| Junction Deg. Sat. (%) | 94.9 | | 130.3 | |
| Junction PRC All Lanes (%) | 5.5 | | -44.7 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.5.2 With the addition of Local Plan traffic at this junction, the junction exceeds its theoretical capacity in both the morning and evening peak periods. Significant queueing can be seen on Mill Lane and A185 south in the evening peak.

Table 15. A185 / Mill Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A185 North | 74 | 11.9 | 75.7 | 14.6 |
| Mill Lane | 104 | 35.6 | 151.5 | 128.9 |
| A185 South | 104.6 | 35.3 | 142.8 | 146.2 |
| Junction Deg. Sat. (%) | 104.6 | | 151.5 | |
| Junction PRC All Lanes (%) | -16.2 | | -68.3 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.5.1 A mitigation scheme is considered necessary to address the capacity problems identified at the junction. It should be noted that this is not as a result of the addition of Local Plan traffic per se, the junction is over capacity in the base situation and it is considered appropriate to mitigate this before further traffic is added.

3.5.2 The scheme consists of a reconfiguration of the signalised junction to provide segregated crossing facilities with localised widening on Mill Lane to provide a two lane approach to the junction.

3.5.3 The modelling results demonstrate the mitigation scheme returns a considerable improvement on the existing situation but remains approaching its theoretical capacity.

3.5.4 The capacity assessment is summarised on Drawing Ref 16L02-05-001 and 16L02-05-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-05-003 overleaf.

3.5.5 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station in the vicinity of this junction.

Table 16. A185 / Mill Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A185 North | 84.1 | 16.1 | 88.9 | 20.1 |
| Mill Lane | 84.5 | 9.9 | 87.3 | 13.3 |
| A185 South | 49.6 | 7 | 83.8 | 17.1 |
| Junction Deg. Sat. (%) | 84.5 | | 88.9 | |
| Junction PRC All Lanes (%) | 6.5 | | 1.3 | |

**Cost of Mitigation**

3.5.6 The junction is located in an urban environment with Hebburn Fire Station and private residencies to the west, grassland to the north east and highway verge to the south east. There are no substantial level changes from the edge of carriageway.

3.5.7 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.5.8 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of utility covers located in the existing footways where carriageway widening is proposed and street lighting surrounding the junction.

3.5.9 The introduction of the proposed mitigation is anticipated to cost in the region of £400,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.5.10 In addition, contributions to local or wider sustainable transport improvements may be necessary for example towards a new Metro station within the vicinity of the junction.

**Trigger Point Analysis**

3.5.11 For the purposes of this assessment, the junction is considered to justify the delivery of a scheme before any of the Local Plan development has come forward.

3.5.12 This is anticipated to be in the first 5 years of the Local Plan period.

**Composition of Trips Through Junction**

3.5.13 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.5.14 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of South Tyneside College Hebburn Campus and Hebburn Town Centre with the majority of the trips being made up cumulatively of a number of developments.

Figure 9. Composition of traffic passing through junction at the end of the plan period – Morning Peak

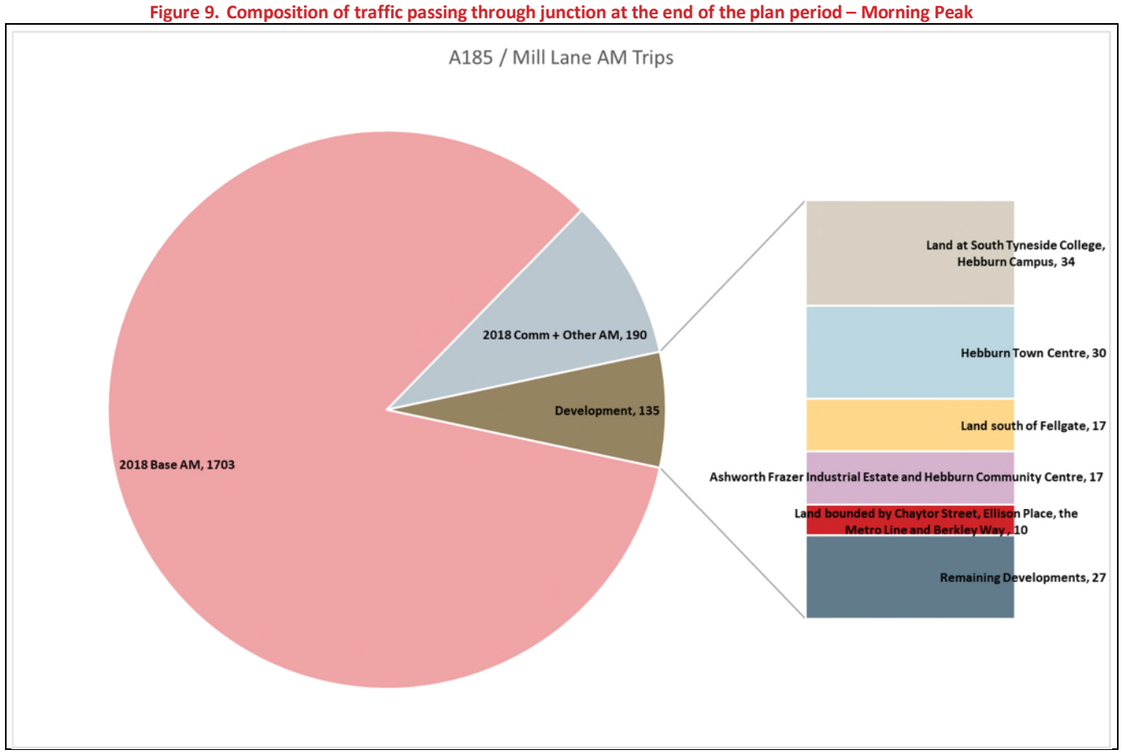
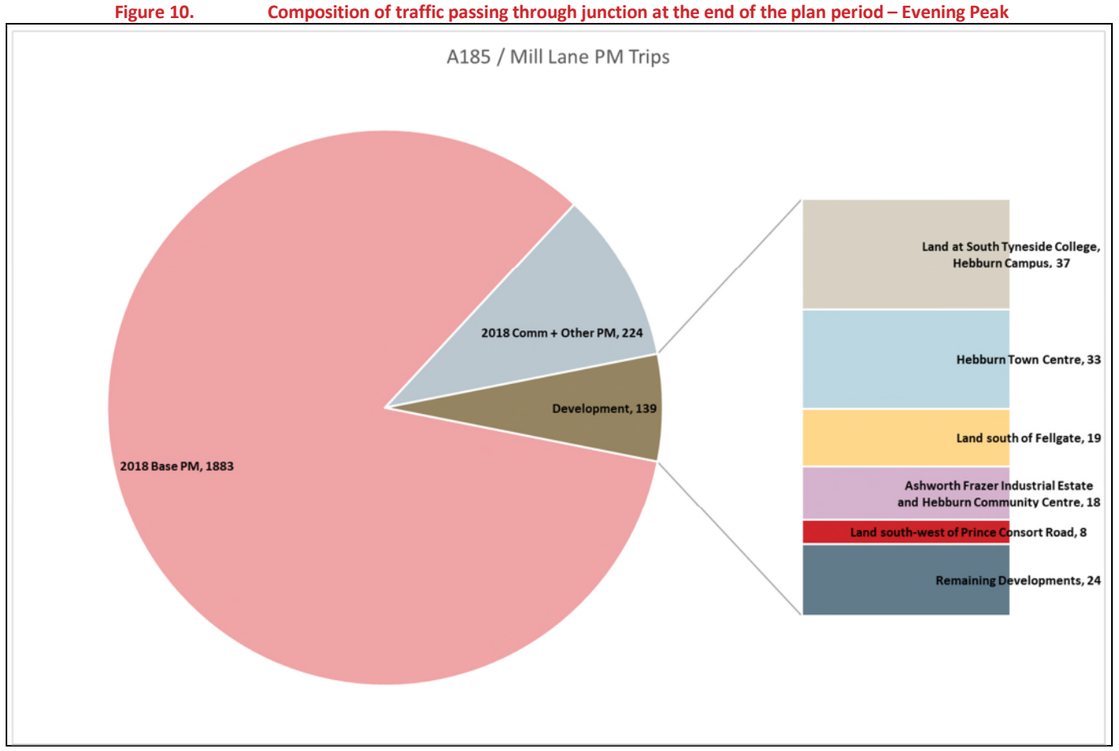
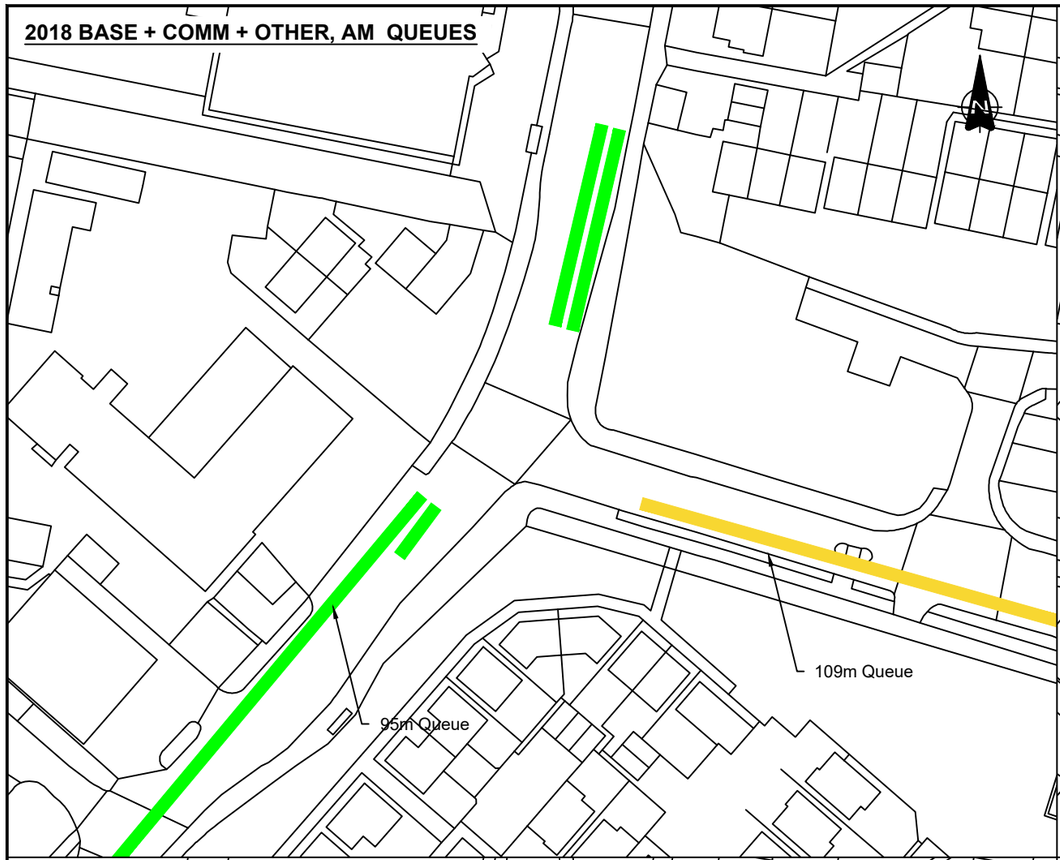
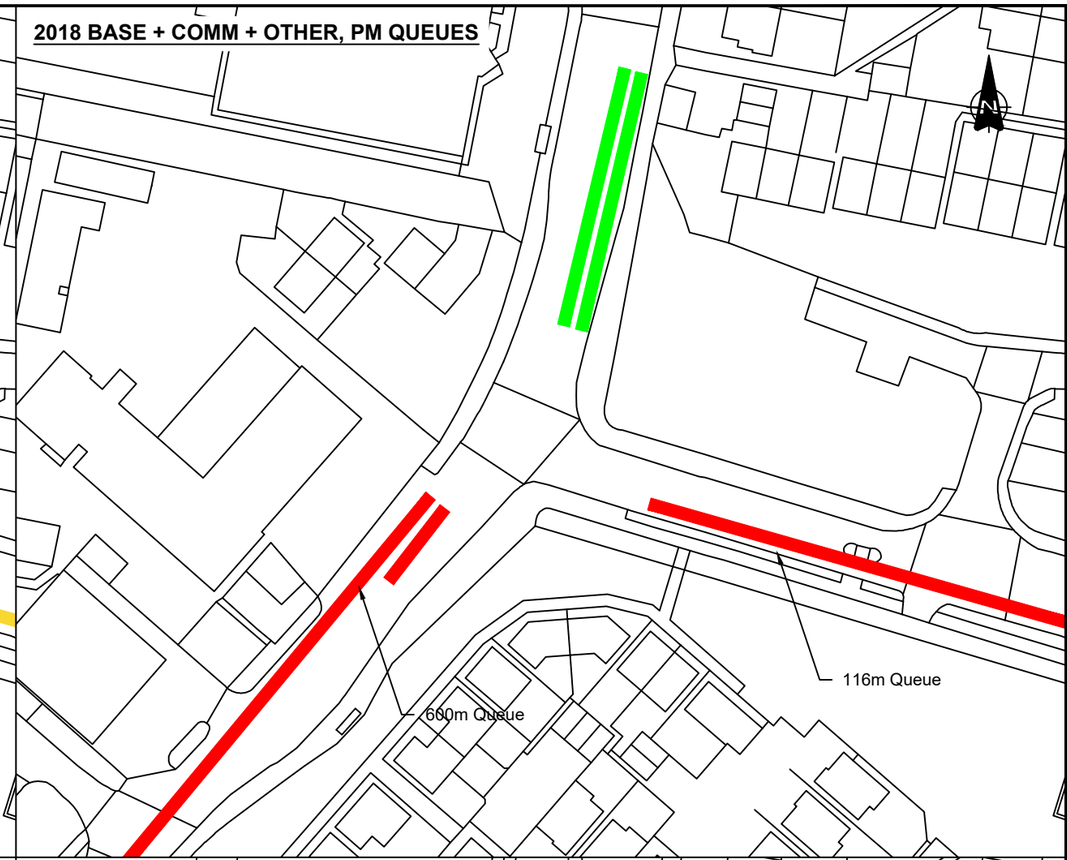
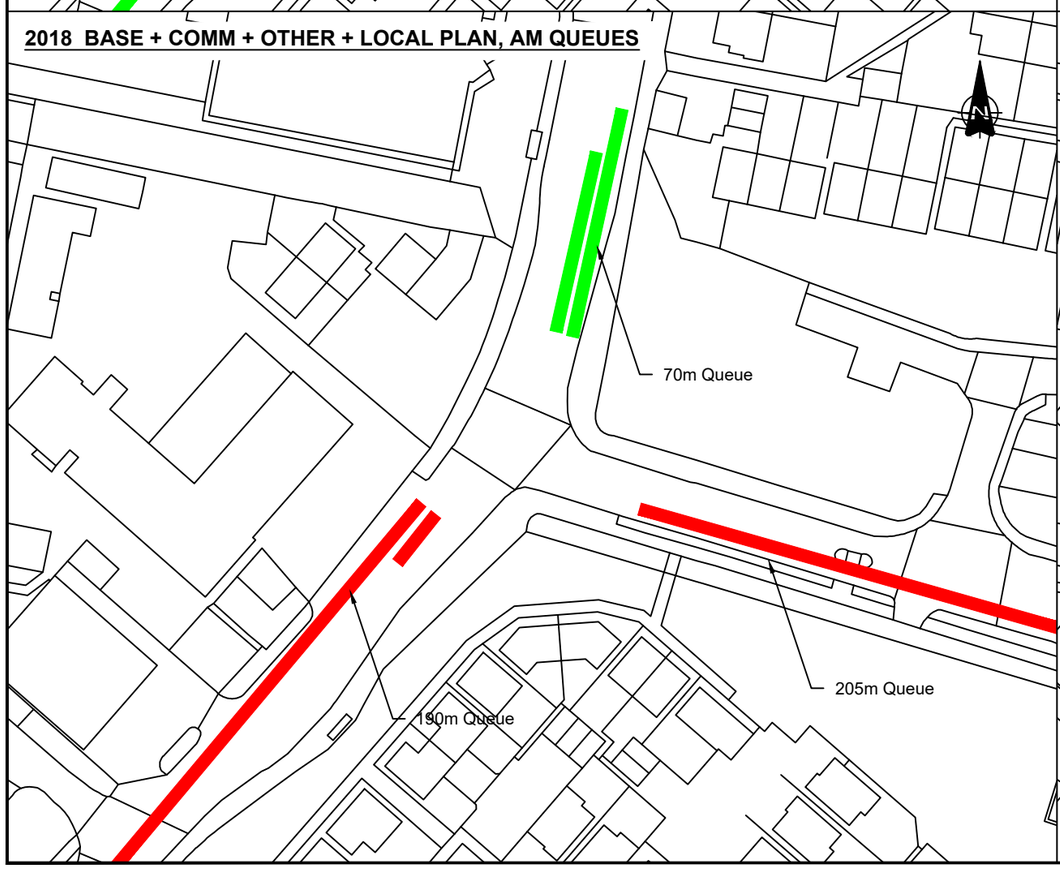


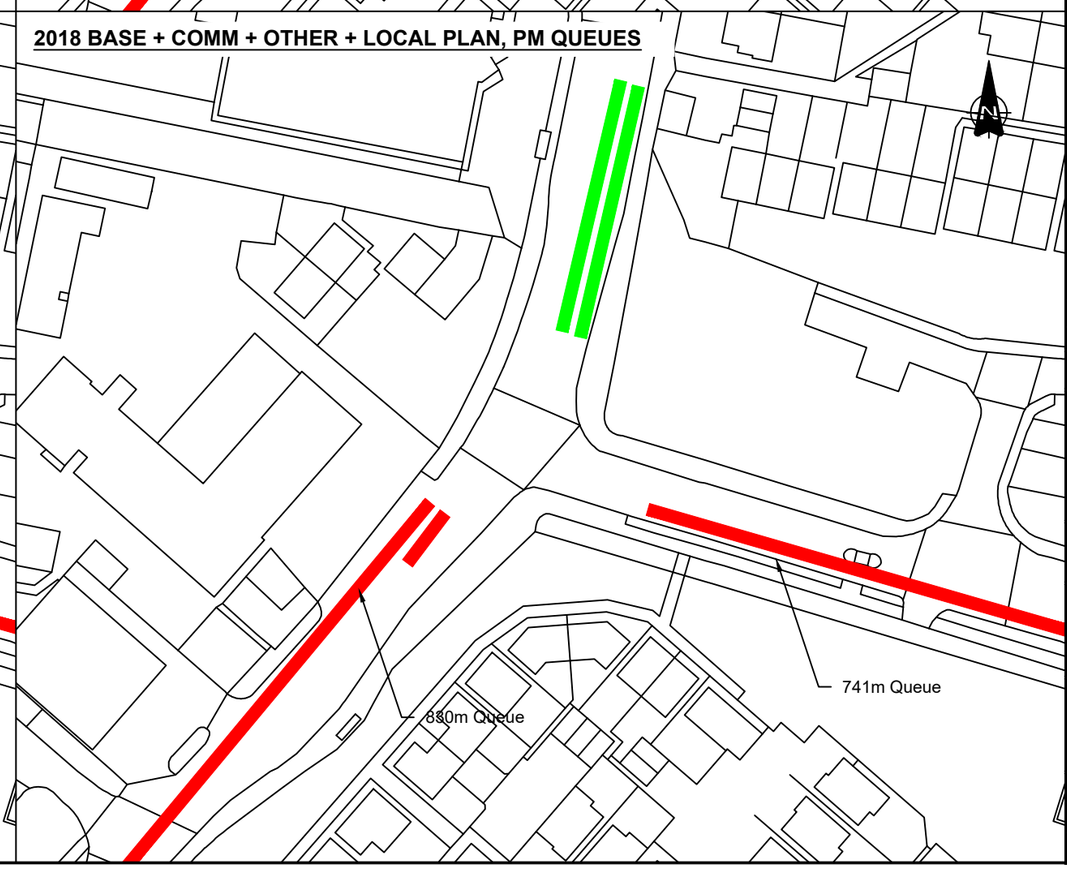

Figure 10. Composition of traffic passing through junction at the end of the plan period – Evening Peak

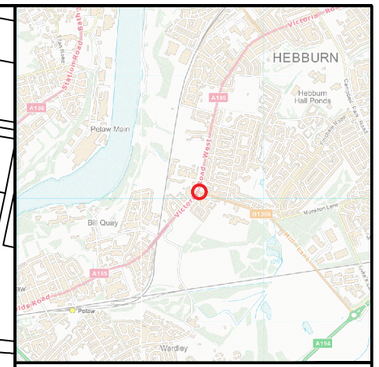





**KEY**

- Queue Length (Within Capacity)
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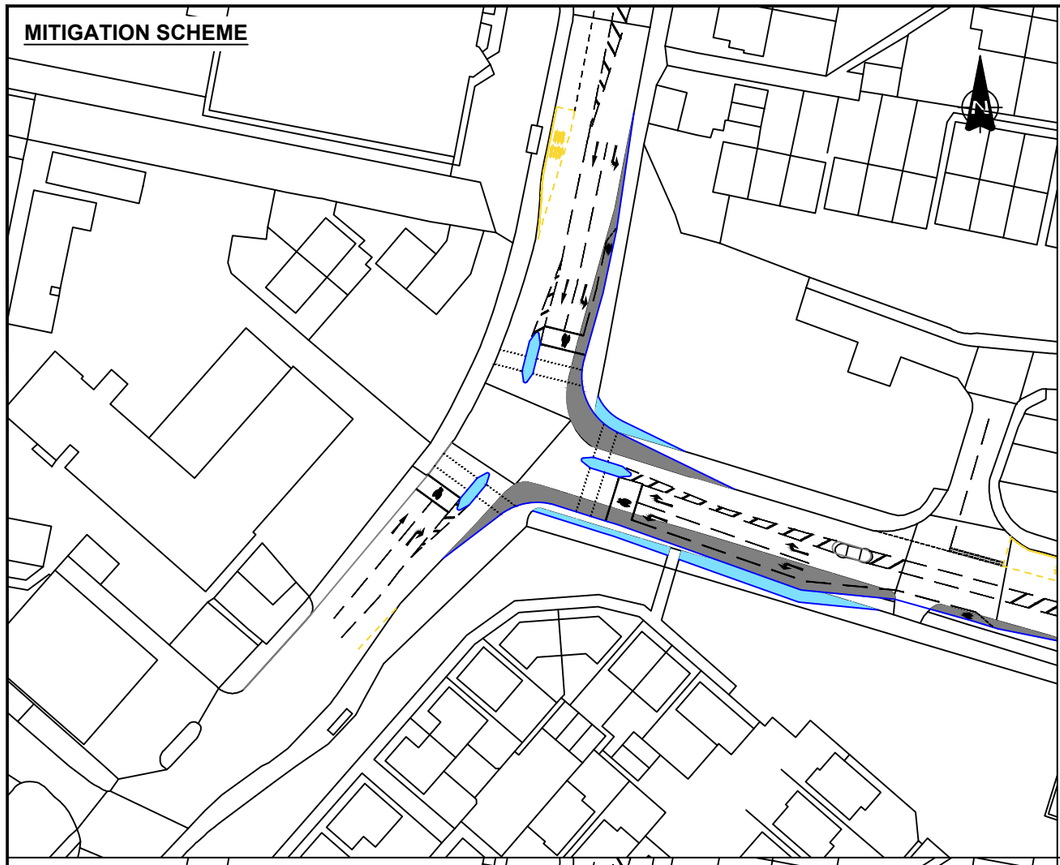
Client
South Tyneside Council

Project
LOCAL PLAN ASSESSMENT

Title
A185 / MILL LANE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-05-001 | Rev.: - |

## MITIGATION SCHEME



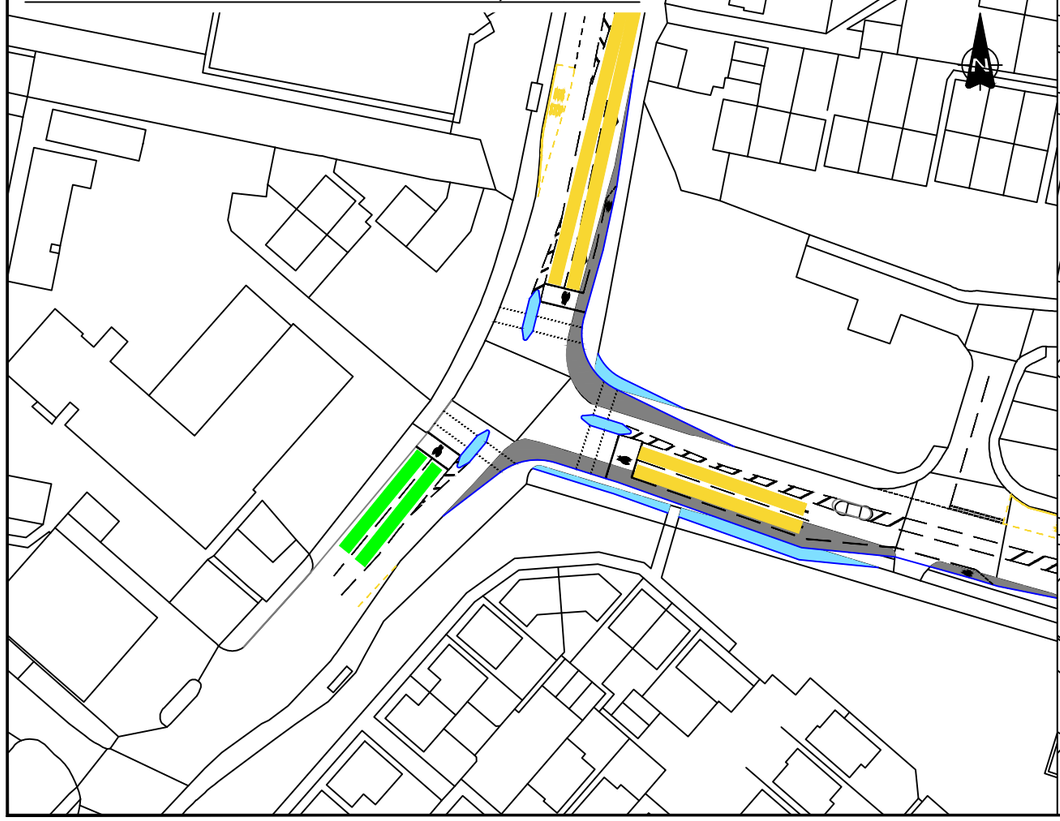
## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SHB034 | Land at South Tyneside College, Hebburn Campus | 34 | 37 |
| SHB004 | Hebburn Town Centre | 30 | 33 |
| SFG072 | Land South of Fellgate | 17 | 19 |
| SHB012 | Ashworth Frazer Ind Estate + Hebburn Comm Centre | 17 | 18 |
| ED2.7 | Land bounded by Chaytor St., Ellision Pl., the Metro and Berkley Way | 10 | 7 |
| | Remaining Developments | 27 | 24 |

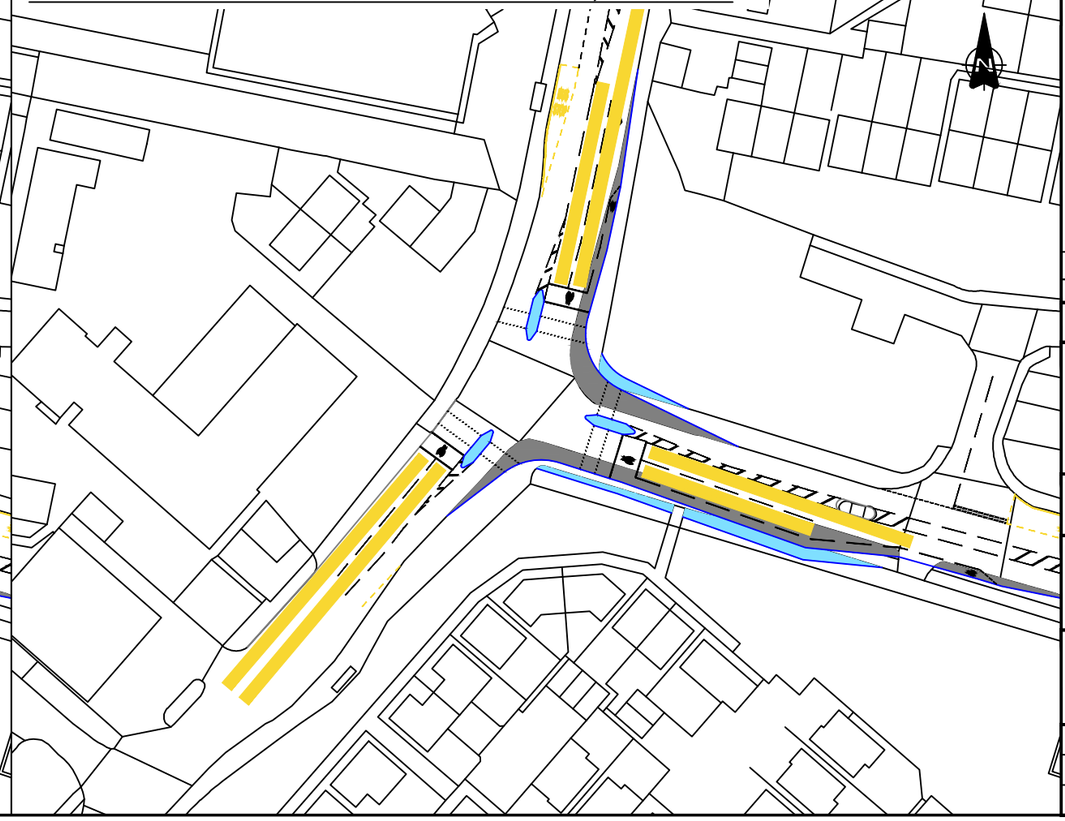
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER QUEUES + LOCAL PLAN, PM QUEUES



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Project
LOCAL PLAN ASSESSMENT

Title
A185 / MILL LANE
PROPOSED LAYOUT QUEUES

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| JP | JQ | SP |

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| A3 | 12.11.20 | 1:1000 |

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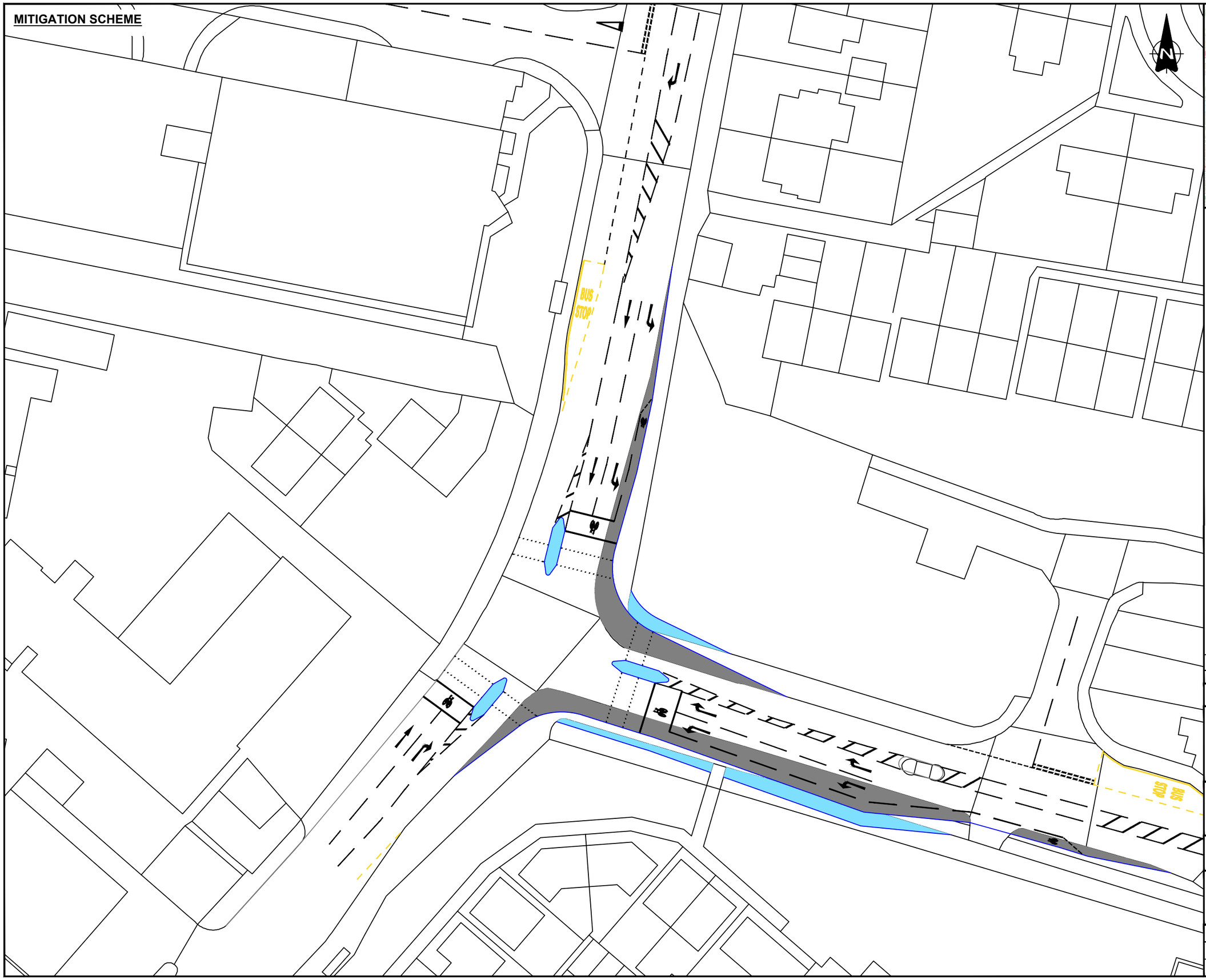
|---|---|---|
| PRELIMINARY | 16L02-05-002 | - |

## MITIGATION SCHEME



NOTES

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2. This drawing is based on OS Mastermap Topographical layer.
3. All dimensions in metres unless otherwise stated.
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KEY

- Kerbline
- Area of Proposed Footway
- Area of Carriageway Widening
- Road Markings

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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Project
LOCAL PLAN ASSESSMENT

Title
A185 / MILL LANE
MITIGATION SCHEME

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| JP | JQ | SP | A3 |
| Date: 12.11.20 | Scale: 1:500 | Drawing Status: PRELIMINARY | |
| Drawing Number: 16L02-05-003 | | | Rev. - |

## 3.6 Junction 6 – A185 / Hall Road / B1297 Signalised Junction

**2018 Base + Committed Development + Other Development**

3.6.1 The junction can be seen to be operating within capacity in the morning peak and exceeding capacity in the evening peak.

Table 17. A185 / Hall Road / B1297 – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1297 | 83.5 | 7.8 | 103.8 | 23.8 |
| A185 Victoria Road East | 61.1 | 9.1 | 96.5 | 16.6 |
| Hall Road | 14.4 | 1.5 | 18 | 1.5 |
| A185 Victoria Road West | 81.7 | 15.3 | 85.3 | 19.1 |
| Junction Deg. Sat. (%) | 83.5 | | 103.8 | |
| Junction PRC All Lanes (%) | 7.8 | | -15.4 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.6.2 With the addition of Local Plan traffic at this junction, the junction is approaching capacity in the morning peak and exceeding capacity in the evening peak. Significant queueing occurs on the B1297 and A185 Victoria Road East in the evening peak.

Table 18. A185 / Hall Road / B1297 – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1297 | 93.6 | 14.9 | 127.4 | 67 |
| A185 Victoria Road East | 97.4 | 11.7 | 126.4 | 79.6 |
| Hall Road | 15 | 1.5 | 20.3 | 1.6 |
| A185 Victoria Road West | 86.8 | 17.8 | 87.3 | 20.9 |
| Junction Deg. Sat. (%) | 97.4 | | 127.4 | |
| Junction PRC All Lanes (%) | -8.2 | | -41.6 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.6.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction. It should be noted that this is not as a result of the addition of Local Plan traffic per se, the junction is over capacity in the base situation and it is considered appropriate to mitigate this before further traffic is added.

3.6.4 The scheme consists of closing the Hall Road arm of the junction and reconfiguring signal timings.

3.6.1 The modelling results demonstrate the mitigation scheme returns a considerable improvement on the existing situation but remains approaching its theoretical capacity.

3.6.2 The capacity assessment is summarised on Drawing Ref 16L02-06-001 and 16L02-06-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-06-003 overleaf.

3.6.3 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station to the west of this junction.

Table 19. A185 / Hall Road / B1297 – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1297 | 75.7 | 10 | 81.9 | 10 |
| A185 Victoria Road East | 62.4 | 9.7 | 34 | 2.9 |
| A185 Victoria Road West | 74.3 | 12.5 | 84.4 | 17.8 |
| Junction Deg. Sat. (%) | 75.7 | | 84.8 | |
| Junction PRC All Lanes (%) | 18.9 | | 6.7 | |

**Cost of Mitigation**

3.6.4 The junction is located in a built up area with buildings located adjacent to the highway envelope. There are no substantial level changes from the edge of carriageway.

3.6.5 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.6.6 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. The likelihood of amendments to utilities is expected to be low given the nature of the proposed mitigation, although there are utility covers present in the mouth of the Hall Road arm.

3.6.7 The introduction of the proposed mitigation is anticipated to cost in the region of £50,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.6.8 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.6.9 For the purposes of this assessment, the junction is considered to justify the delivery of a scheme before any of the Local Plan development has come forward.

3.6.10 This is anticipated to be in the first 5 years of the Local Plan period.

**Composition of Trips Through Junction**

3.6.11 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan. As can be seen the increase in development traffic as a result of the Local Plan is comparable to that generated by committed development traffic.

3.6.12 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic are as a result of Ashworth Frazer Industrial Estate, Hebburn Town Centre and Former Hawthorne Leslie Shipyard.

Figure 11. Composition of traffic passing through junction at the end of the plan period – Morning Peak

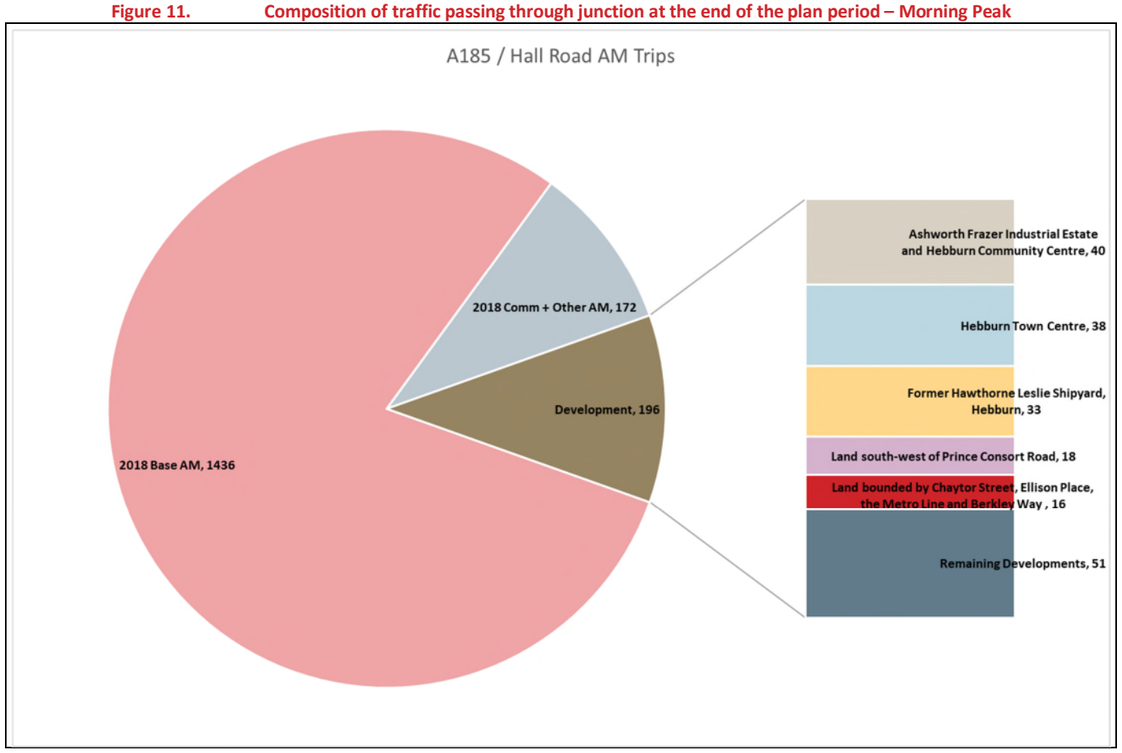
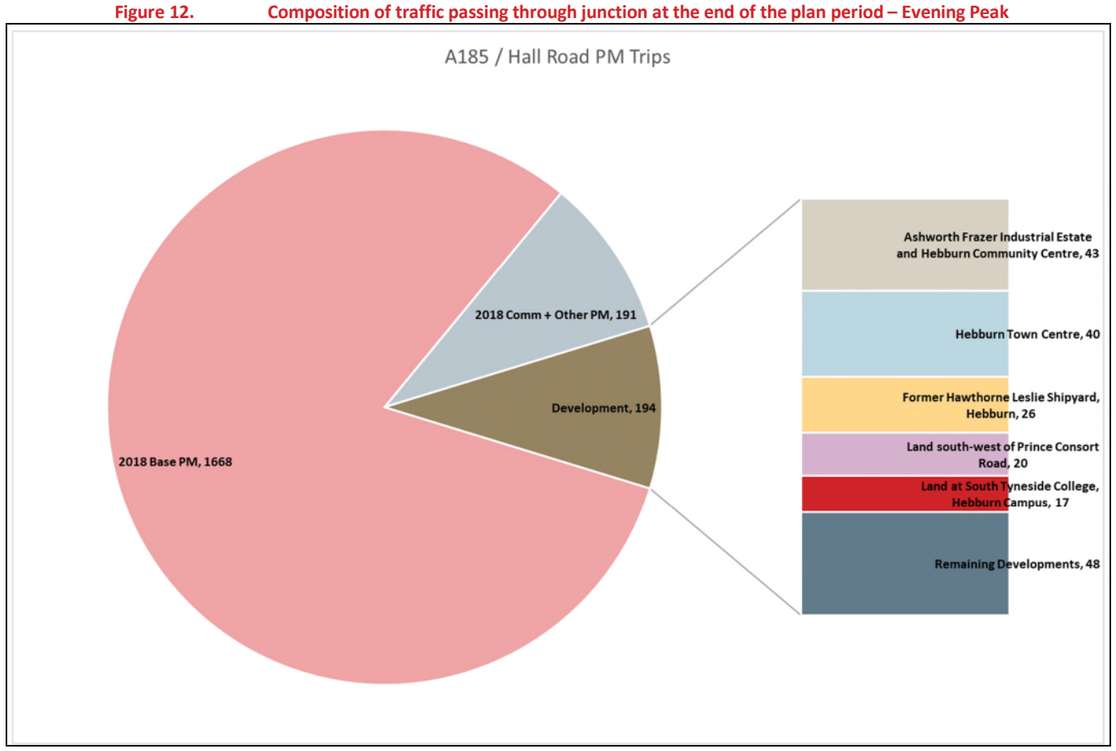
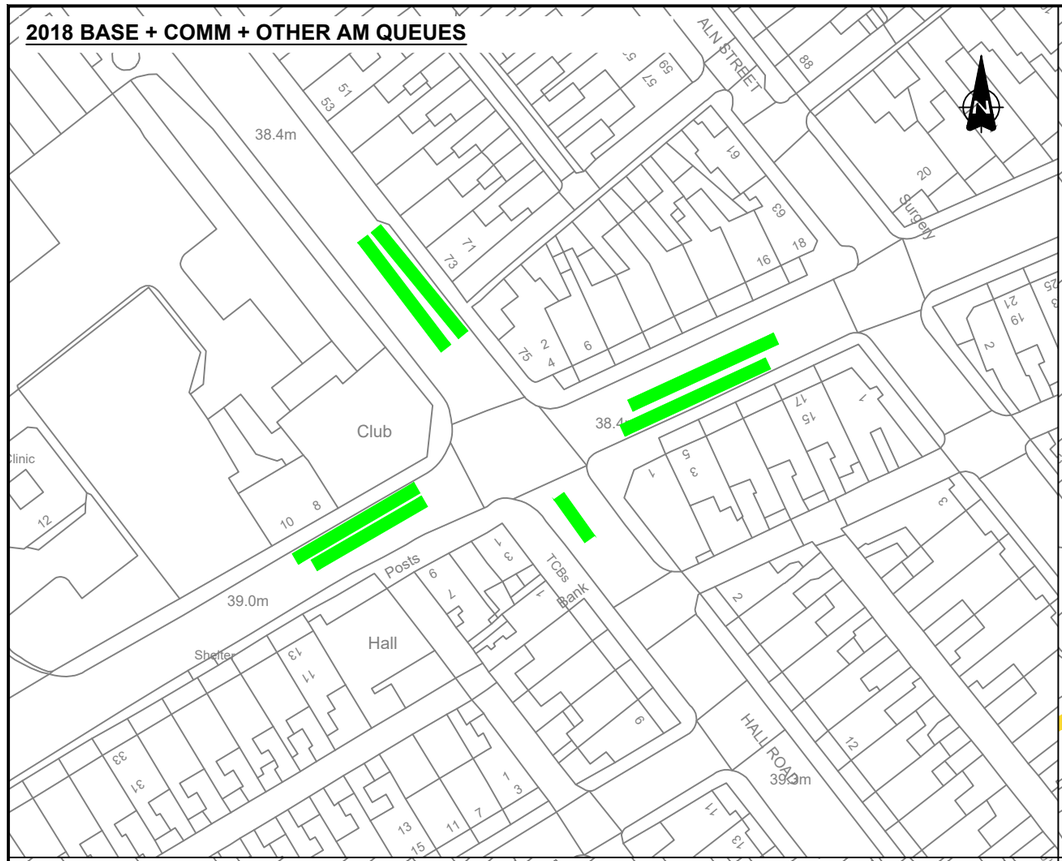


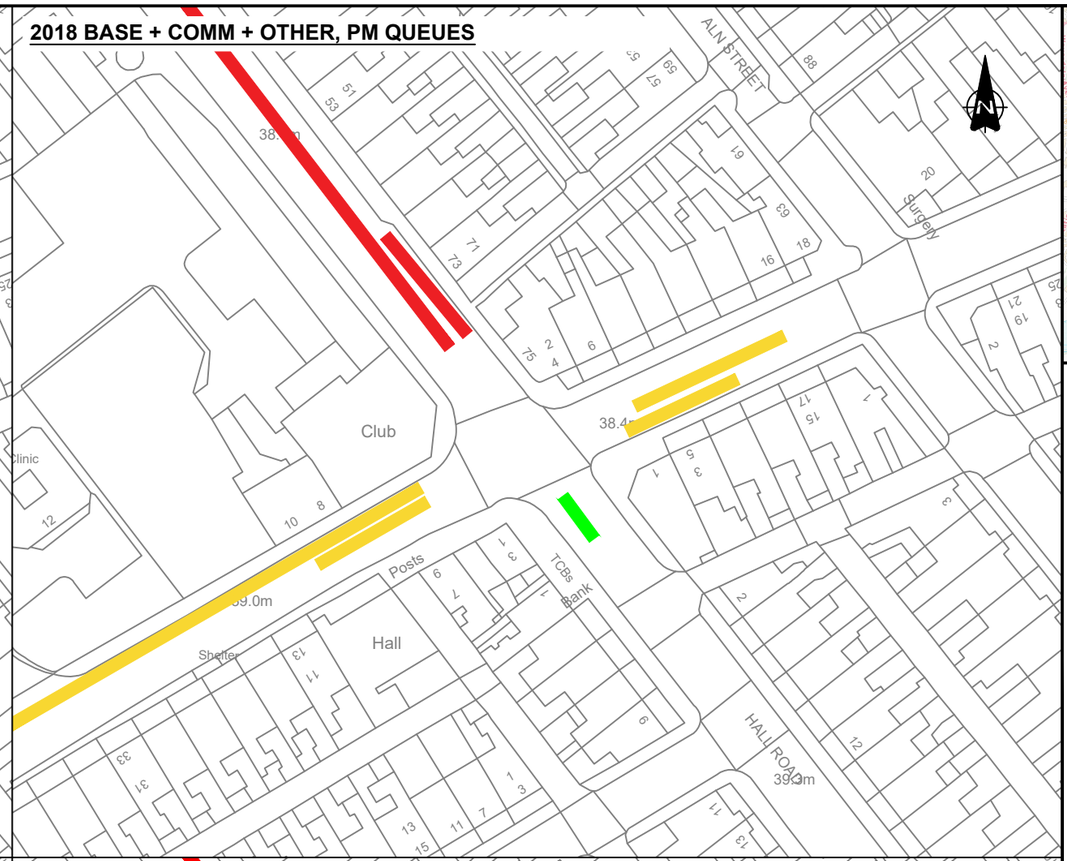

Figure 12. Composition of traffic passing through junction at the end of the plan period – Evening Peak



## 2018 BASE + COMM + OTHER AM QUEUES

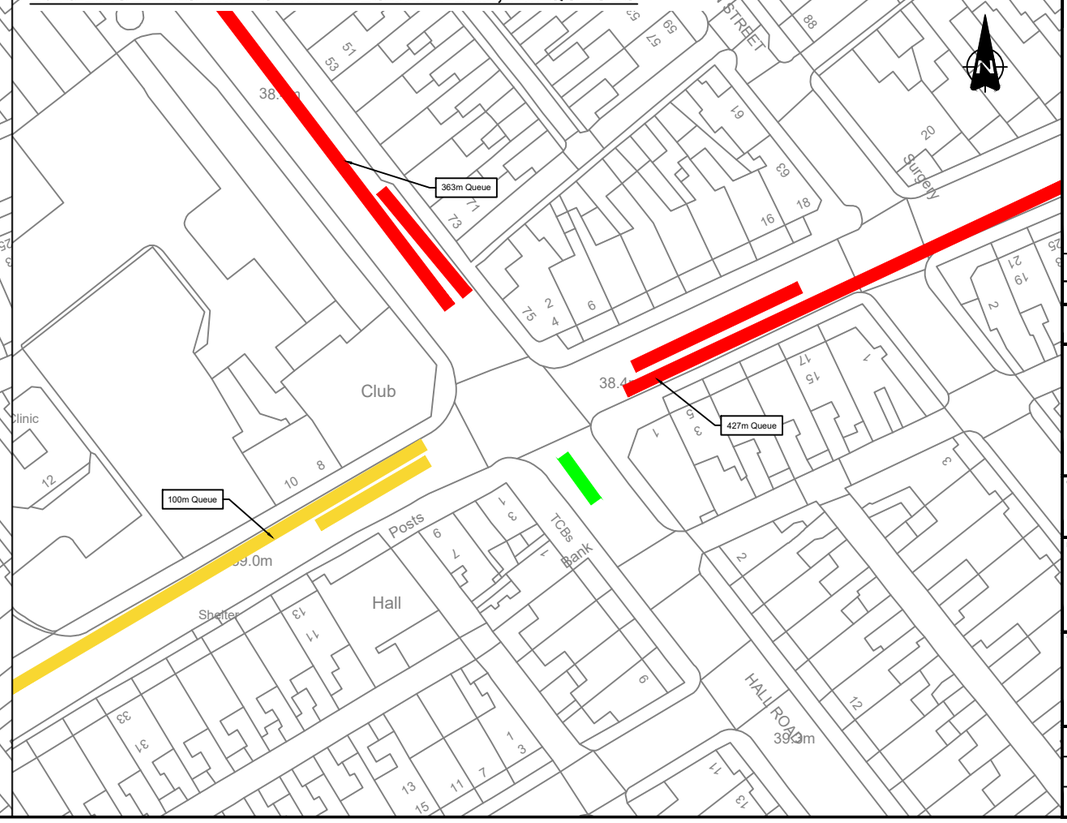



## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES

## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

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Project
LOCAL PLAN ASSESSMENT

Title
A185 / HALL ROAD
EXISTING LAYOUT QUEUES

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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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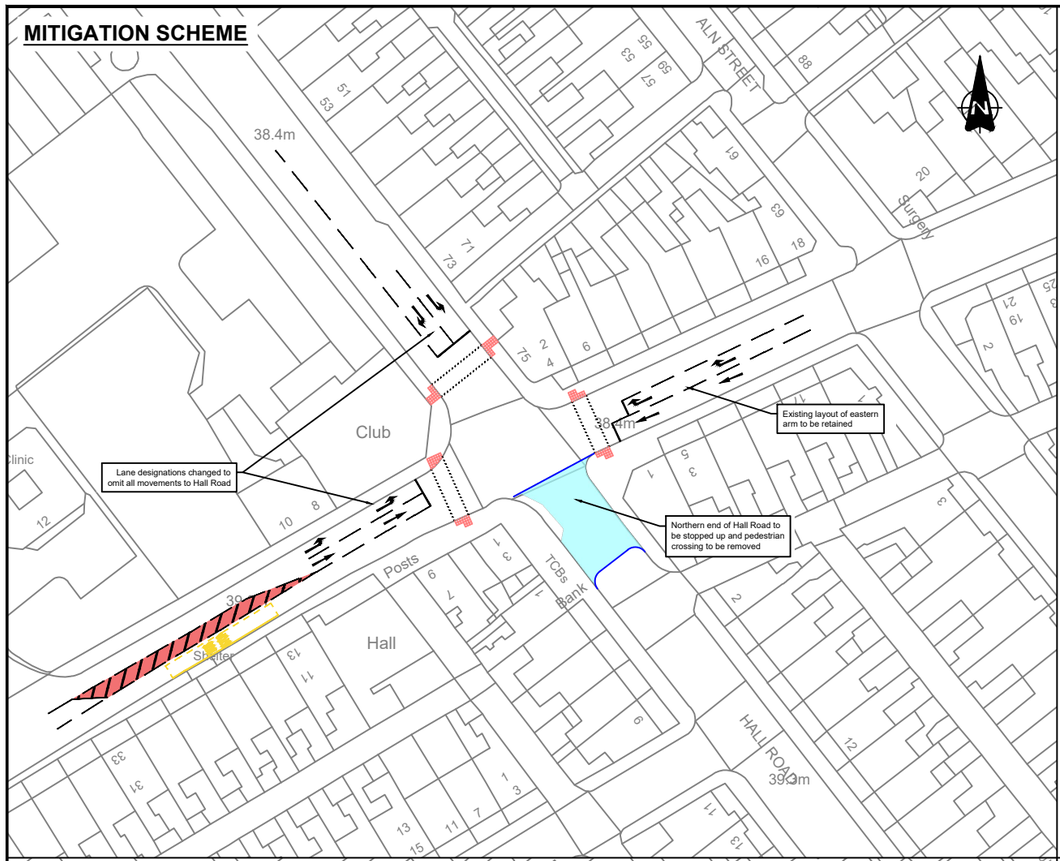
## MITIGATION SCHEME



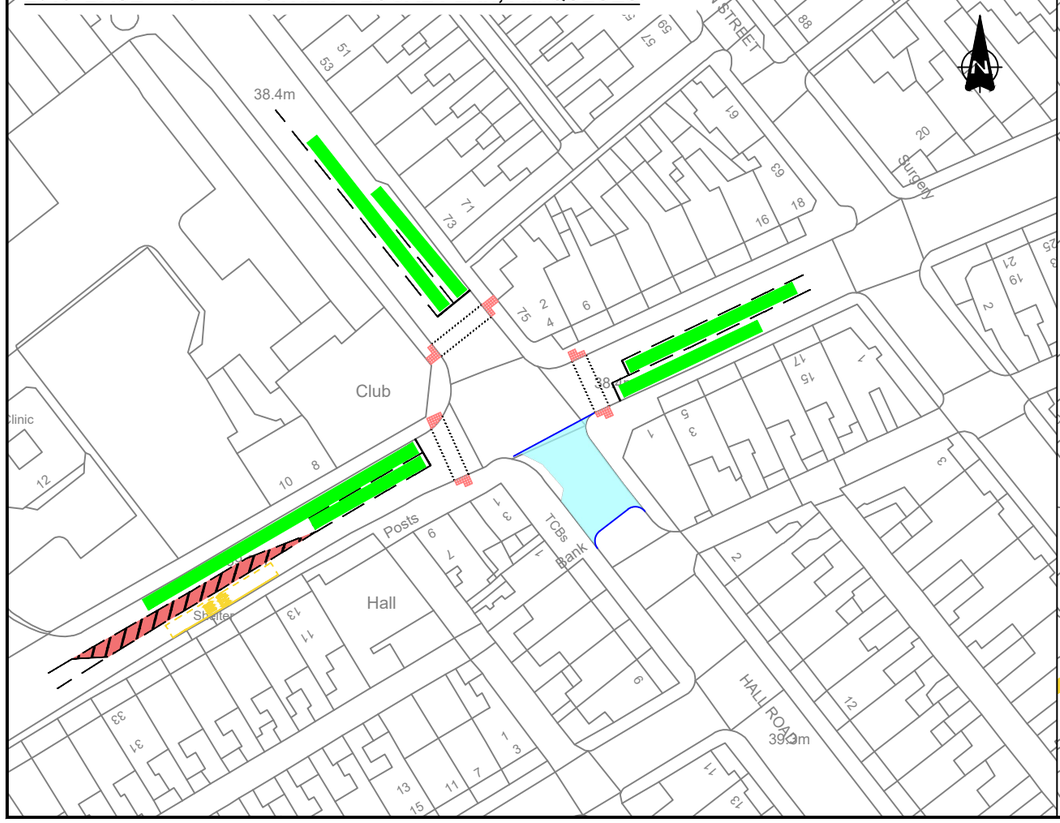

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SHB012 | Ashworth Frazer Ind Estate | 40 | 43 |
| SHB004 | Hebburn Town Centre | 38 | 40 |
| ED2.11 | Former Hawthorn Leslie Shipyard | 33 | 26 |
| SHB045 | Land south-west of Prince Consort Road | 18 | 20 |
| ED2.7 | Land bounded by Chaytor Street, Ellison Place etc. | 16 | 11 |
| | Remaining Developments | 51 | 48 |

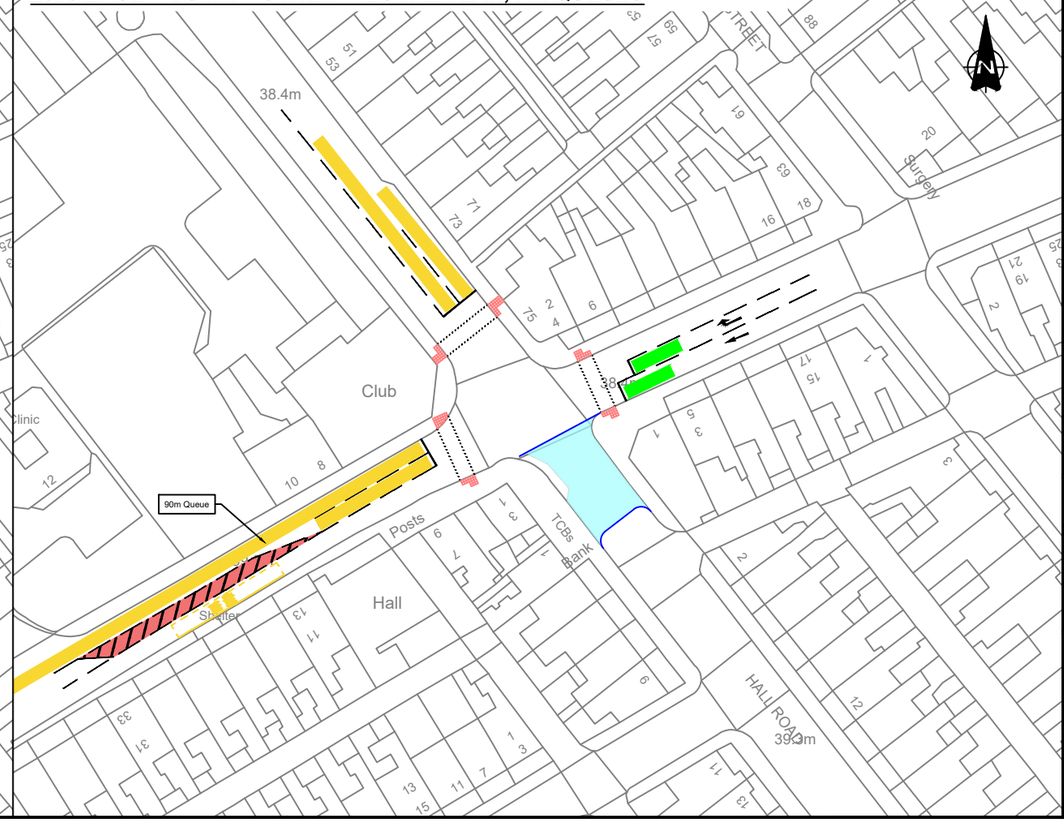
## KEY

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES

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Title
A185 / HALL ROAD
PROPOSED LAYOUT QUEUES

| Drawn | Checked | Approved |
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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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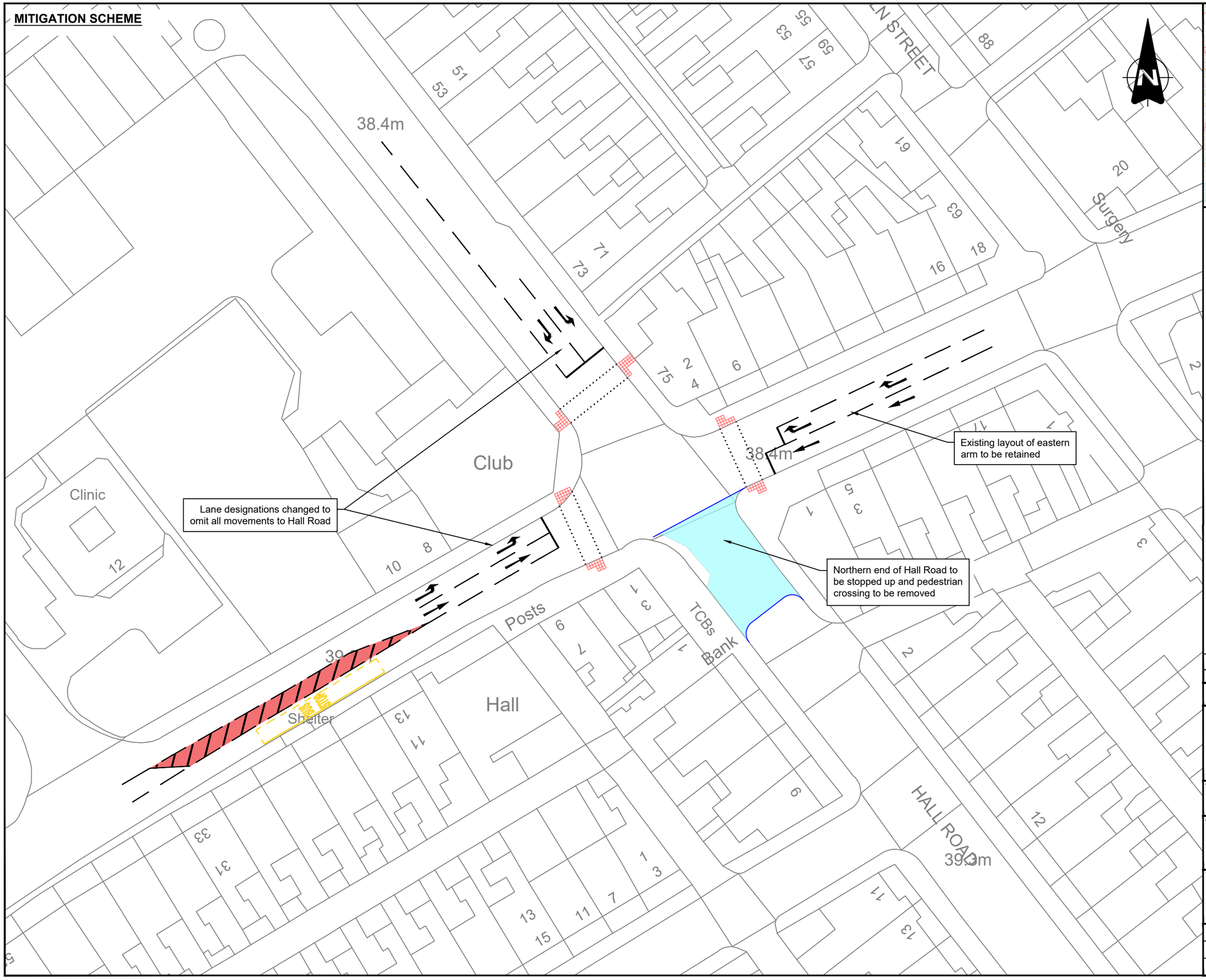
**MITIGATION SCHEME**



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**KEY**

- Proposed Kerbline
- Proposed Footway
- Proposed Road Markings

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Title: A185 / HALL ROAD MITIGATION SCHEME

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## 3.7 Junction 7 – A185 / Campbell Park Road Roundabout

**2018 Base + Committed Development + Other Development**

3.7.1 The junction can be seen to be approaching theoretical capacity on the A185 east during the morning peak and the A185 west during the morning and evening peak.

Table 20. A185 / Campbell Park Road Roundabout – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Campbell Park Road North | 0.44 | 0.8 | 0.41 | 0.7 |
| A185 East | 0.61 | 1.6 | 0.91 | 8.3 |
| Campbell Park Road South | 0.64 | 1.8 | 0.55 | 1.2 |
| A185 West | 0.86 | 5.5 | 0.85 | 5.3 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.7.2 With the addition of Local Plan traffic at this junction, operation of the junction is worsened with exacerbated queues on both A185 arms of the junction.

Table 21. A185 / Campbell Park Road Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Campbell Park Road North | 0.47 | 0.9 | 0.43 | 0.7 |
| A185 East | 0.66 | 2 | 0.99 | 19.1 |
| Campbell Park Road South | 0.66 | 2 | 0.58 | 1.4 |
| A185 West | 0.95 | 11.6 | 0.92 | 9.5 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.7.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.7.1 This involves widening on the A185 East arm to provide an additional entry lane. Widening to the A185 West arm is not possible whilst maintaining the required entry deflection.

3.7.2 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.7.3 The proposed mitigation scheme is considered to improve junction performance. Some minor queuing would still occur on the A185 West arm in the evening peak.

3.7.4 The capacity assessment is summarised on Drawing Ref 16L02-07-001 and 16L02-07-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-07-003 overleaf.

3.7.5 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station to the west of this junction.

Table 22. A185 / Campbell Park Road Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Campbell Park Road North | 0.46 | 0.9 | 0.42 | 0.7 |
| A185 East | 0.41 | 0.7 | 0.61 | 1.6 |
| Campbell Park Road South | 0.66 | 2 | 0.58 | 1.4 |
| A185 West | 0.95 | 11.6 | 0.93 | 9.6 |

**Cost of Mitigation**

3.7.6 The junction is located in a built up area with buildings located adjacent to the highway envelope. There are no substantial level changes from the edge of carriageway.

3.7.7 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.7.8 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of utility covers located in the existing footways where carriageway widening is proposed and street lighting surrounding the junction.

3.7.9 The introduction of the proposed mitigation is anticipated to cost in the region of £100,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.7.10 In addition, contributions to local or wider sustainable transport improvements may be necessary

**Trigger Point Analysis**

3.7.11 The Local Plan development traffic has been incrementally added to the base model to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

3.7.12 For the purposes of this assessment, the junction is considered to require a mitigation scheme in advance of 60% of the Local Plan development coming forward. This is anticipated to be in 11-15 years of the Local Plan period.

**Composition of Trips Through Junction**

3.7.13 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.7.14 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Hebburn Town Centre and Former Hawthorn Leslie Shipyard with the majority of the trips being made up cumulatively of a number of developments.

Figure 13. Composition of traffic passing through junction at the end of the plan period – Morning Peak

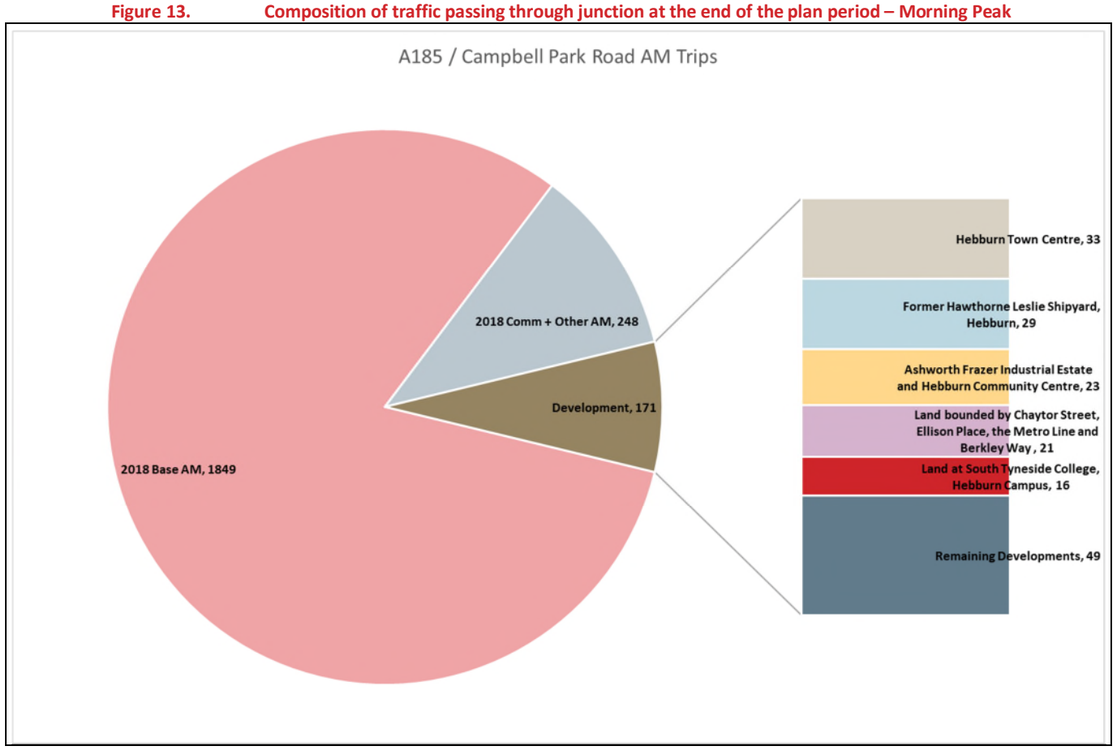
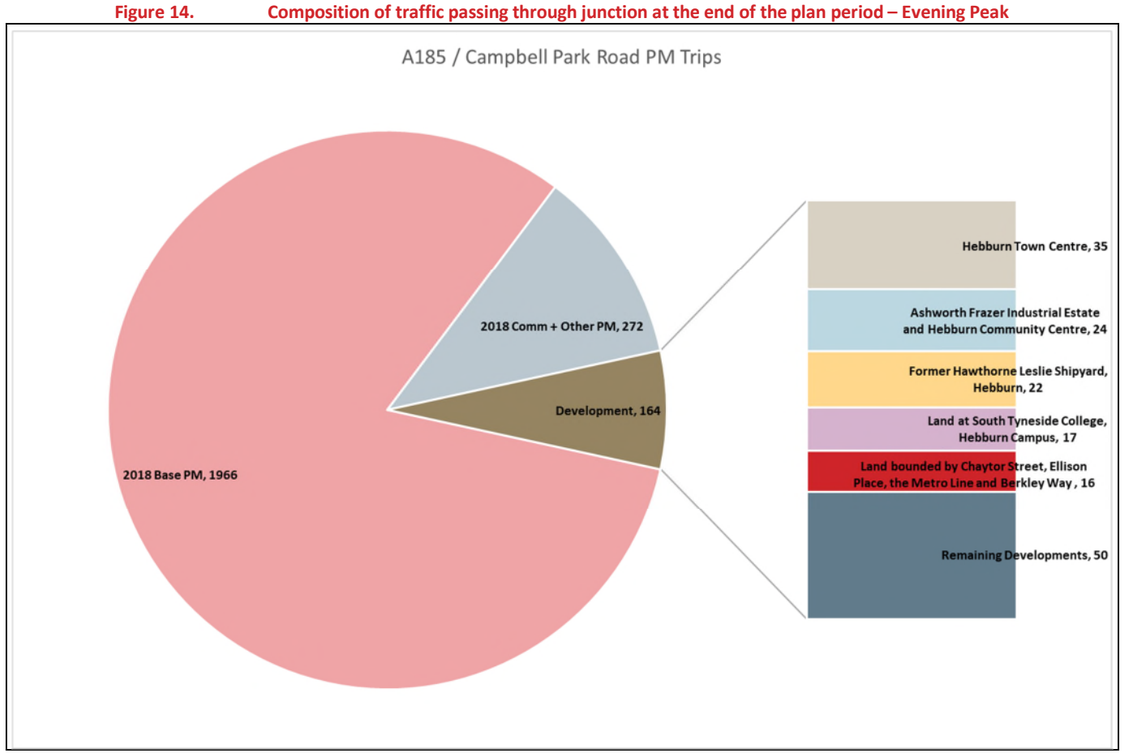
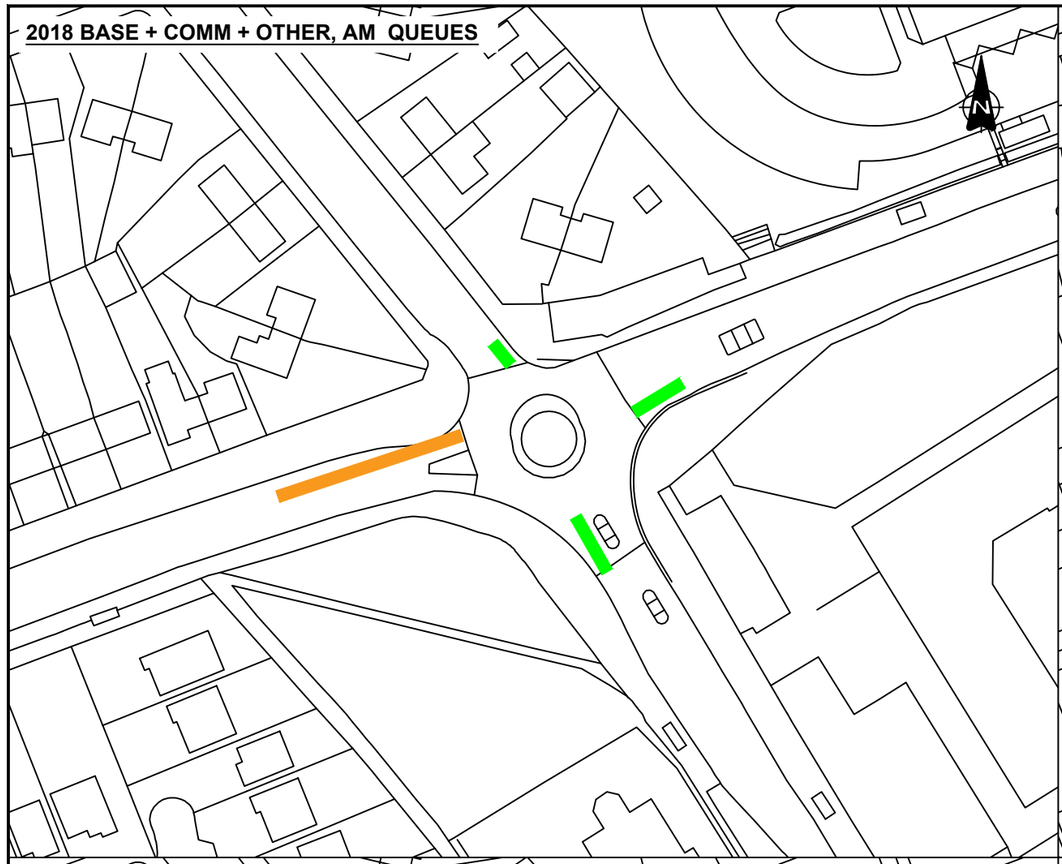
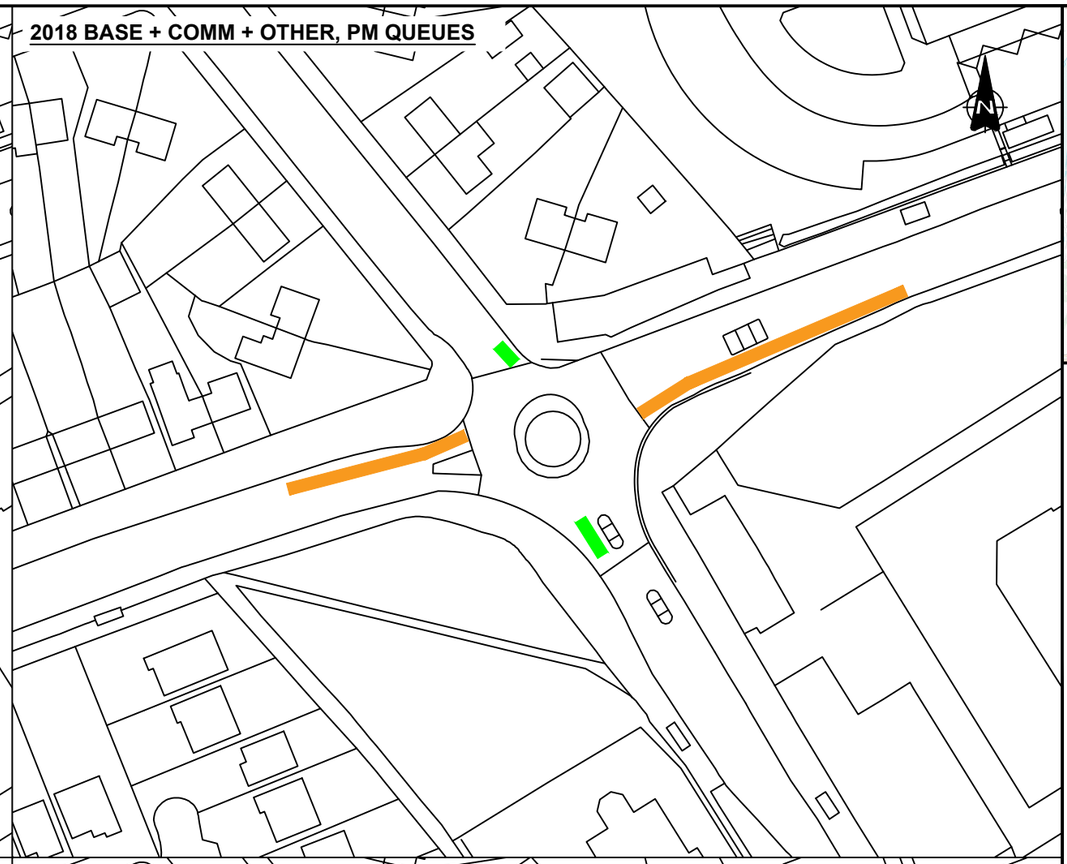



Figure 14. Composition of traffic passing through junction at the end of the plan period – Evening Peak

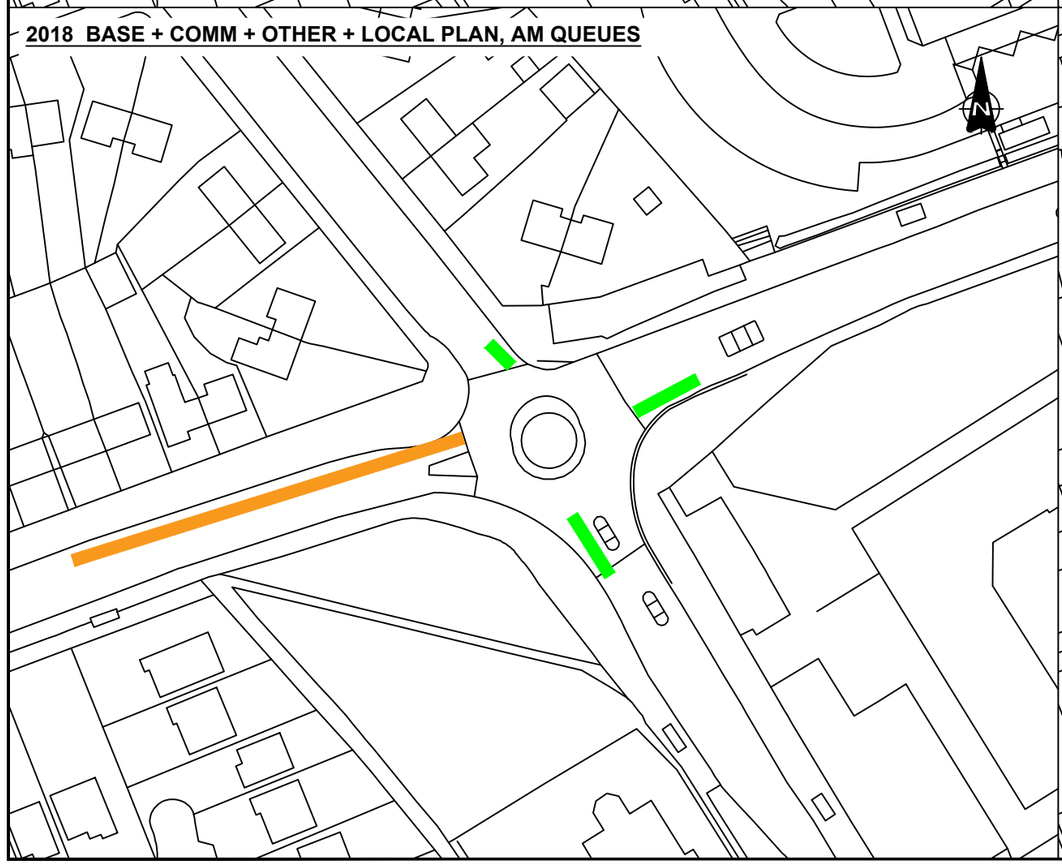


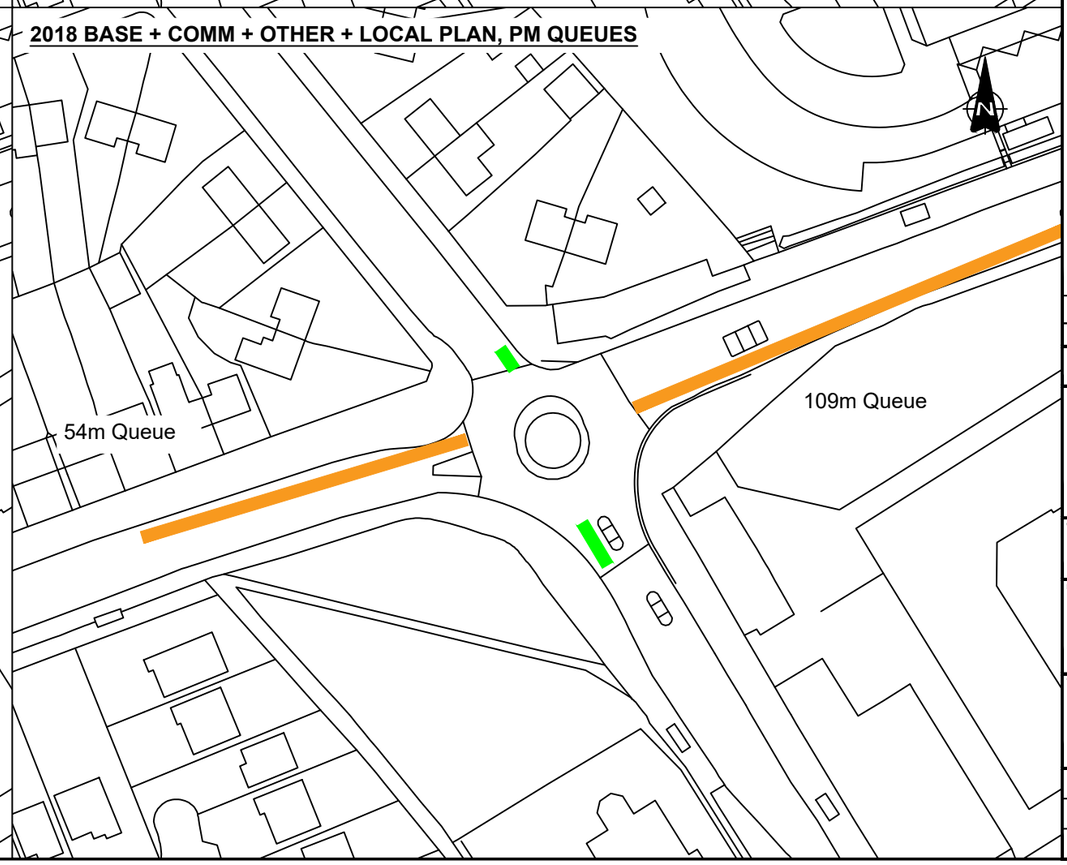


**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

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South Tyneside Council

Project
LOCAL PLAN ASSESSMENT

Title
A185 / CAMPBELL PARK ROAD
EXISTING LAYOUT QUEUES

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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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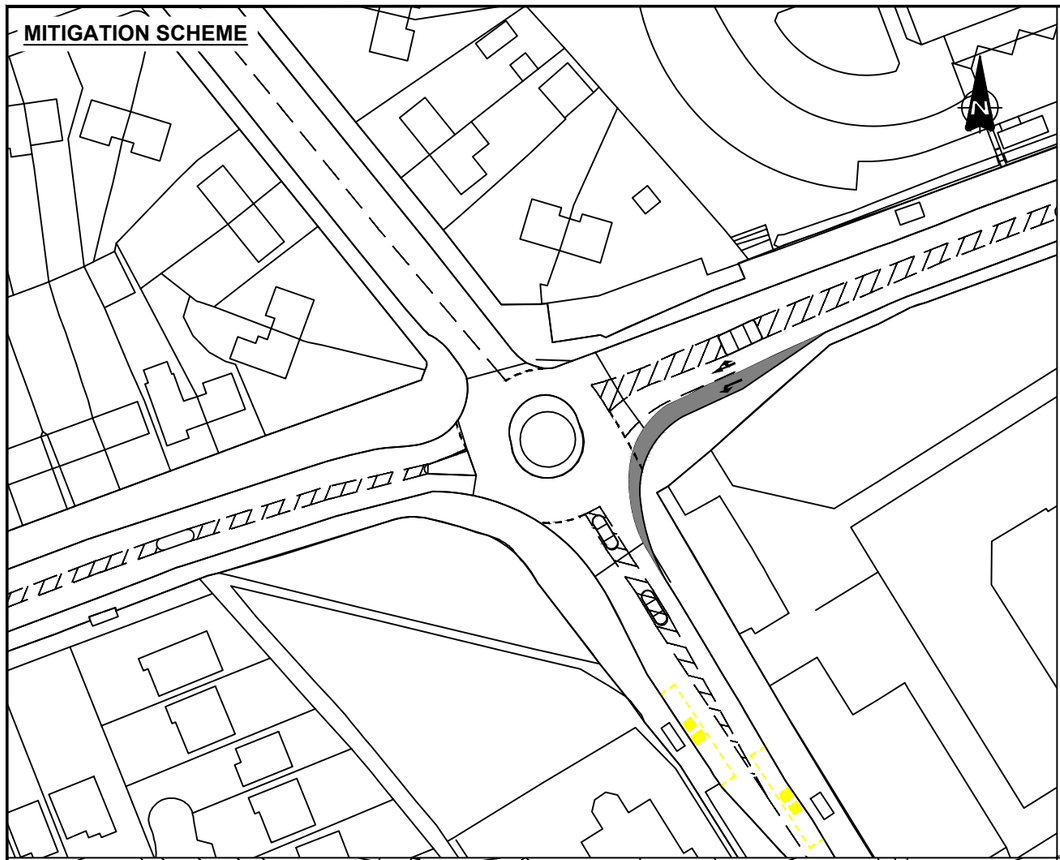
## MITIGATION SCHEME



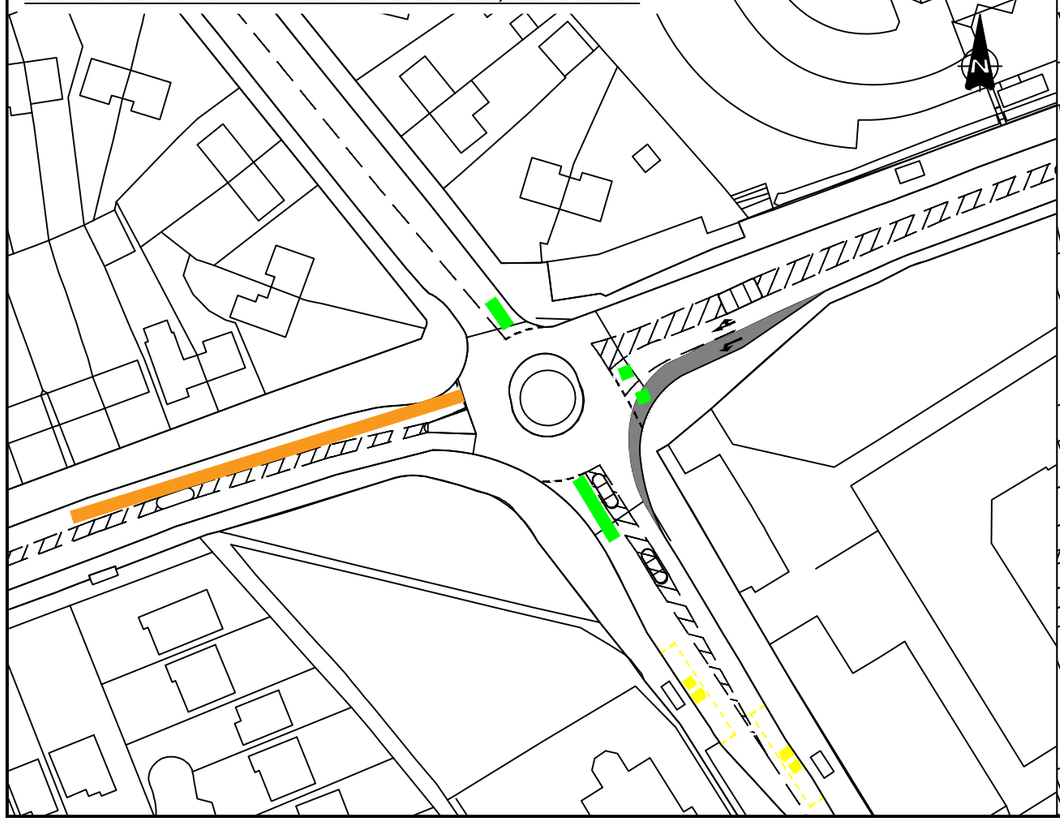
## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SHB004 | Hebburn Town Centre | 33 | 35 |
| ED3.6 | Former Hawthorne Leslie Shipyard | 29 | 22 |
| SHB012 | Ashworth Frazer Ind Estate | 23 | 24 |
| SHB034 | Land bounded by Chaytor Street | 21 | 16 |
| ED3.3 | Land at South Tynesdie College | 16 | 17 |
| | Remaining Developments | 49 | 50 |

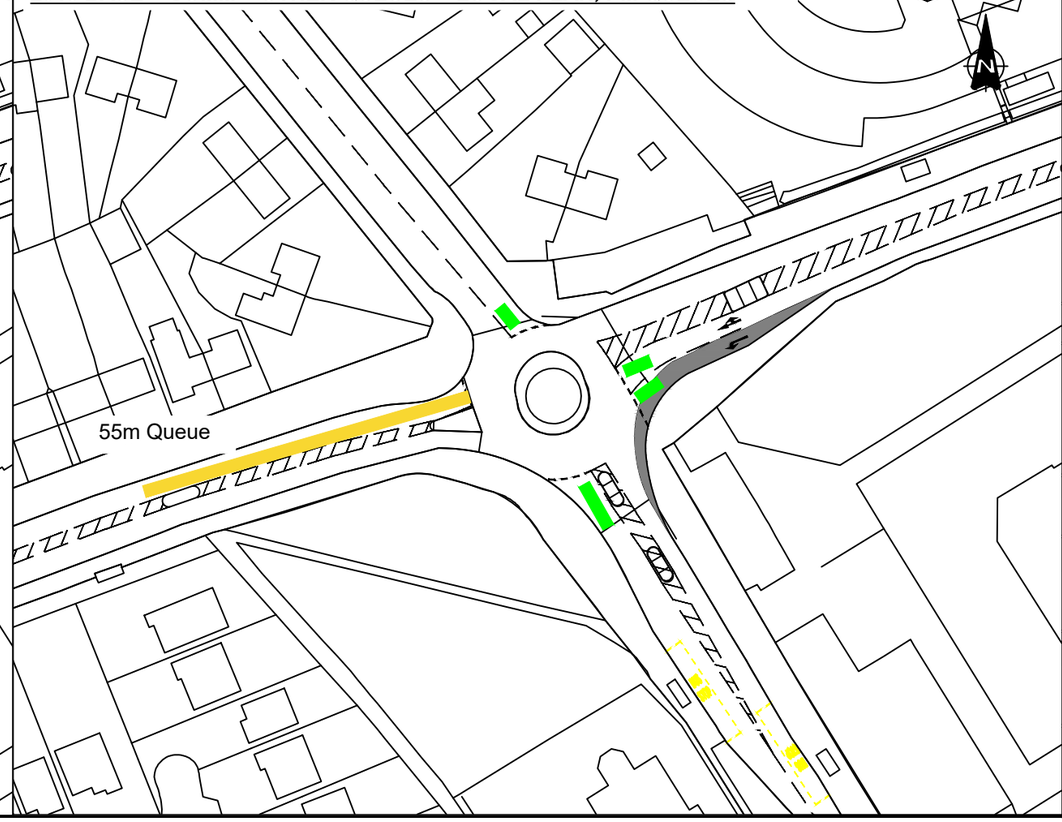
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER QUEUES + LOCAL PLAN, PM QUEUES

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Project
LOCAL PLAN ASSESSMENT

Title
A185 / CAMPBELL PARK ROAD
PROPOSED LAYOUT QUEUES

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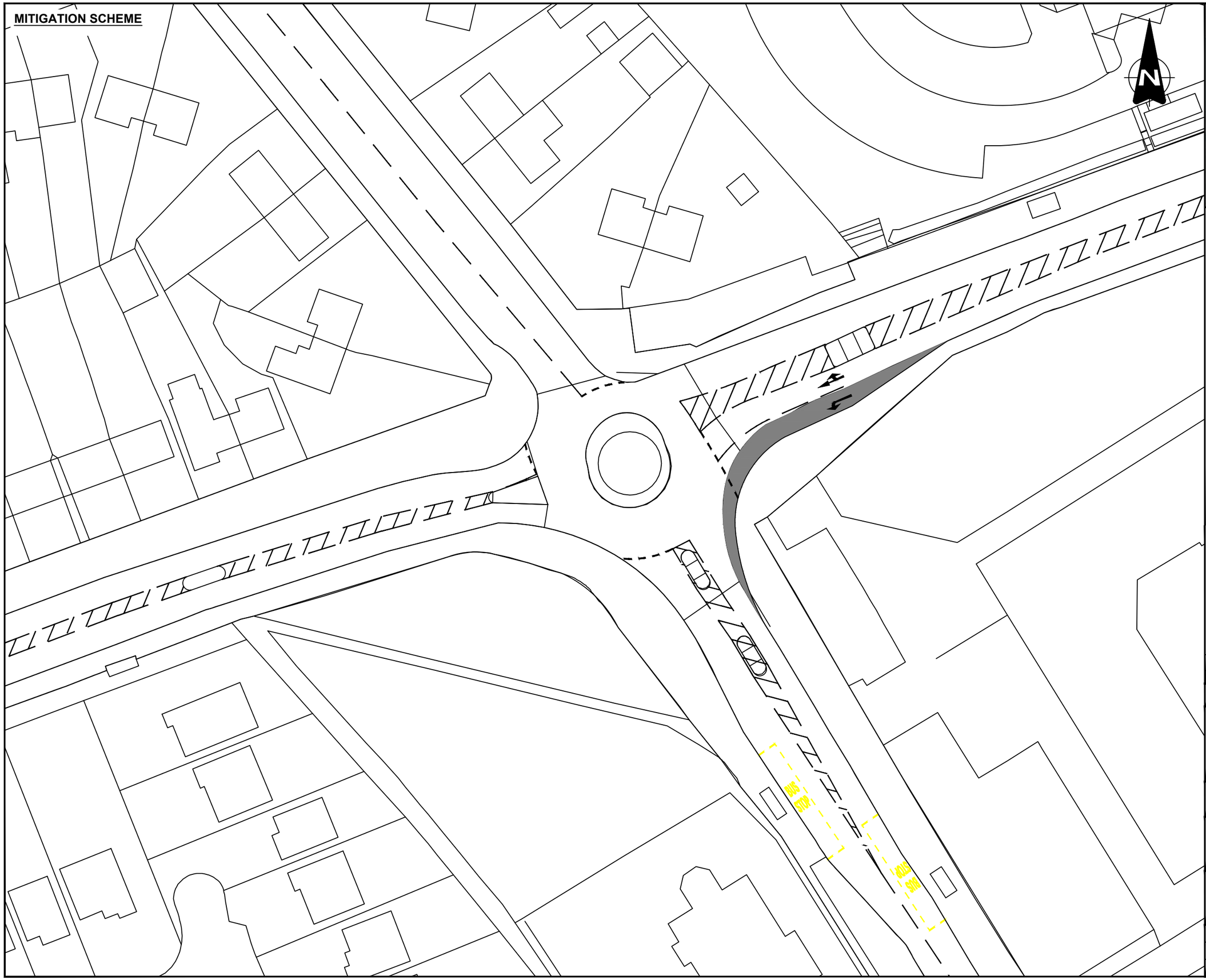
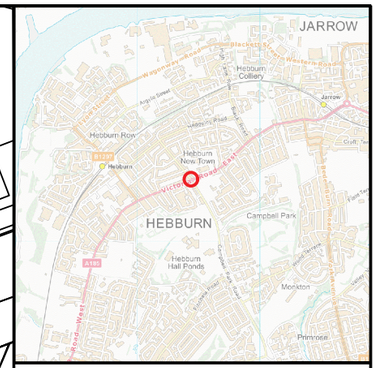
## MITIGATION SCHEME




**NOTES**

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**KEY**

- Kerbline
- Footway
- Area of Proposed Footway
- Existing Carriageway
- Area of Carriageway Widening
- Road Markings

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Client: South Tyneside Council

Project: LOCAL PLAN ASSESSMENT

Title: A185 / CAMPBELL PARK ROAD MITIGATION SCHEME

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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:500 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-07-003 | Rev.: - |

## 3.8 Junction 8 – A185 / Park Road / Hill Street Signalised Junction

**2018 Base + Committed Development + Other Development**

3.8.1 The junction can be seen to be approaching its theoretical capacity in both peak periods.

Table 23. A185 / Park Road / Hill Street– 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Hill Street | 40.8 | 3.7 | 90.6 | 9.9 |
| A185 East | 69.4 | 10.1 | 90.6 | 19.4 |
| Park Road (Left) | 47.4 | 4.6 | 52 | 3.6 |
| Park Road (Ahead Right) | 86.8 | 10.6 | 87.5 | 6.4 |
| A185 West | 88.9 | 21 | 67.3 | 12.4 |
| Junction Deg. Sat. (%) | 88.9 | | 90.6 | |
| Junction PRC All Lanes (%) | 1.2 | | -0.7 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.8.2 The junction can be seen very close to its theoretical capacity in the morning peak period and evening peak period. There is significant queuing on the A185 West arm in the morning peak and on the A185 East arm in the evening peak.

Table 24. A185 / Park Road / Hill Street – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Hill Street | 43.7 | 3.8 | 98.6 | 13.3 |
| A185 East | 76.7 | 12.1 | 98 | 28 |
| Park Road (Left) | 50.3 | 4.5 | 56.3 | 3.8 |
| Park Road (Ahead Right) | 95.2 | 13.8 | 88.8 | 6.7 |
| A185 West | 93.8 | 25.6 | 73.7 | 14.9 |
| Junction Deg. Sat. (%) | 95.2 | | 98.6 | |
| Junction PRC All Lanes (%) | -5.8 | | -9.6 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.8.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.8.4 This involves footway widening works to limit Hill Street to northbound movements only.

3.8.5 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.8.6 The proposed mitigation scheme is considered to improve junction performance. The modelling results below show that this returns the junction to a comparable operation to the 2018 Base + Committed Development + Other Development scenario.

3.8.7 The capacity assessment is summarised on Drawing Ref 16L02-08-001 and 16L02-08-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-08-003 overleaf.

3.8.8 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station to the west of this junction.

Table 25. A185 / Park Road / Hill Street – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A185 East (Left Ahead) | 50.4 | 8.3 | 69.2 | 13.6 |
| Park Road (Left) | 48.9 | 4.7 | 56.3 | 3.8 |
| Park Road (Ahead Right) | 89.7 | 11.9 | 65.4 | 3.8 |
| A185 West (Left Ahead Right) | 89.4 | 22.6 | 70.9 | 12.9 |
| Junction Deg. Sat. (%) | 89.7 | | 70.9 | |
| Junction PRC All Lanes (%) | 0.4 | | 26.9 | |

**Cost of Mitigation**

3.8.9 The junction is located in a built up area with buildings located adjacent to the highway envelope. There are no substantial level changes from the edge of carriageway.

3.8.10 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.8.11 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. There is no presence of utility infrastructure at ground level where the footway widening would be undertaken.

3.8.12 The introduction of the proposed mitigation is anticipated to cost in the region of £50,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.8.13 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.8.14 The Local Plan development traffic has been incrementally added to the base model to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

3.8.15 For the purposes of this assessment, the junction is considered to require mitigation when 70% of the Local Plan development has come forward. A mitigation scheme would therefore need to be delivered in advance of reaching this point. This is anticipated to be in 11-15 years of the Local Plan period.

**Composition of Trips Through Junction**

3.8.16 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan. As can be seen the increase in development traffic as a result of the Local Plan is comparable to that generated by committed development traffic.

3.8.17 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Land bounded by Chaytor Street with the majority of the trip being made up cumulatively of a number of developments.

Figure 15. Composition of traffic passing through junction at the end of the plan period – Morning Peak

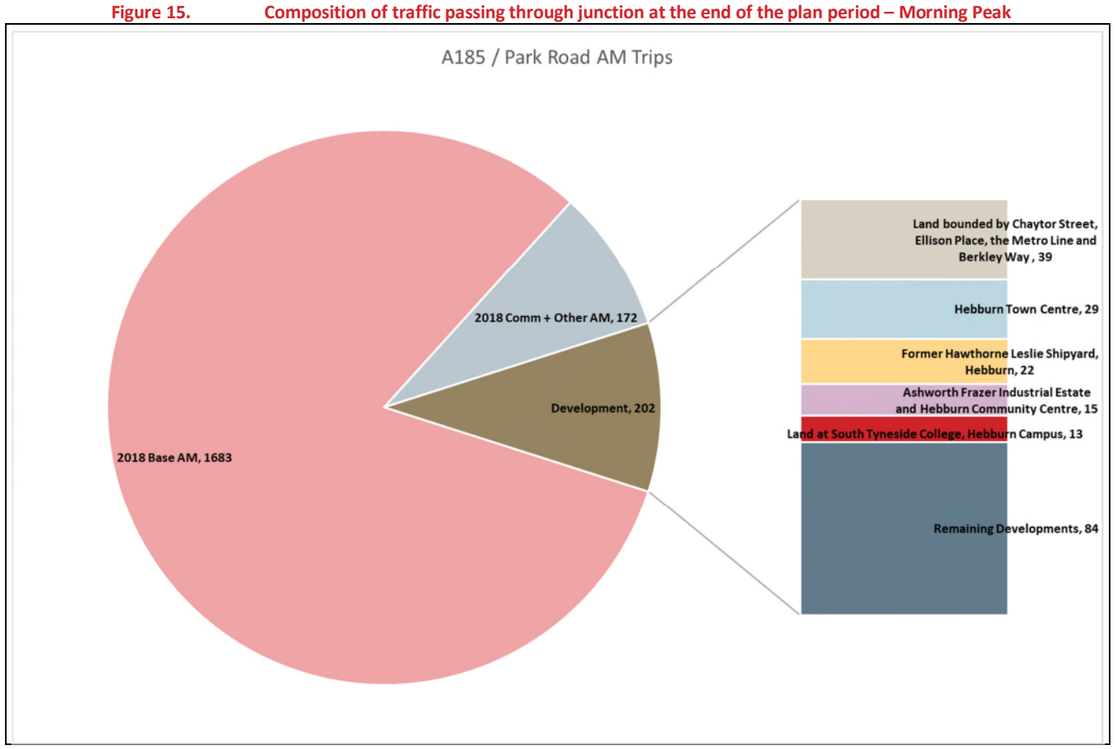
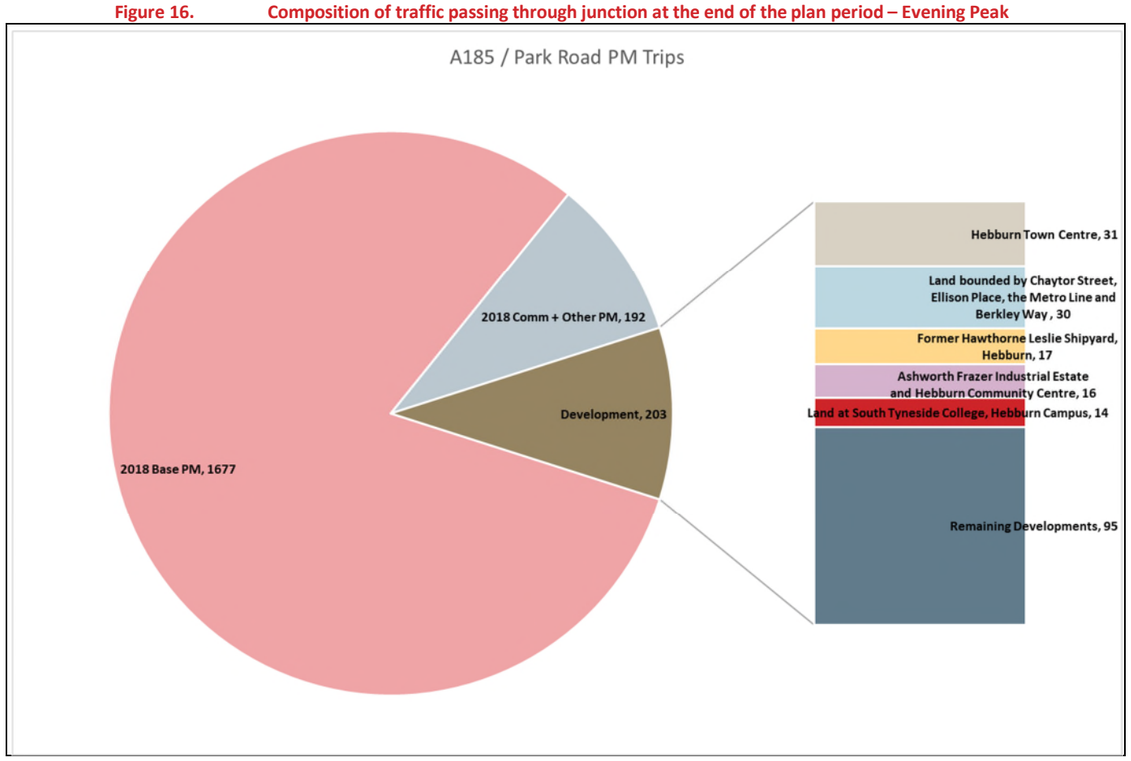
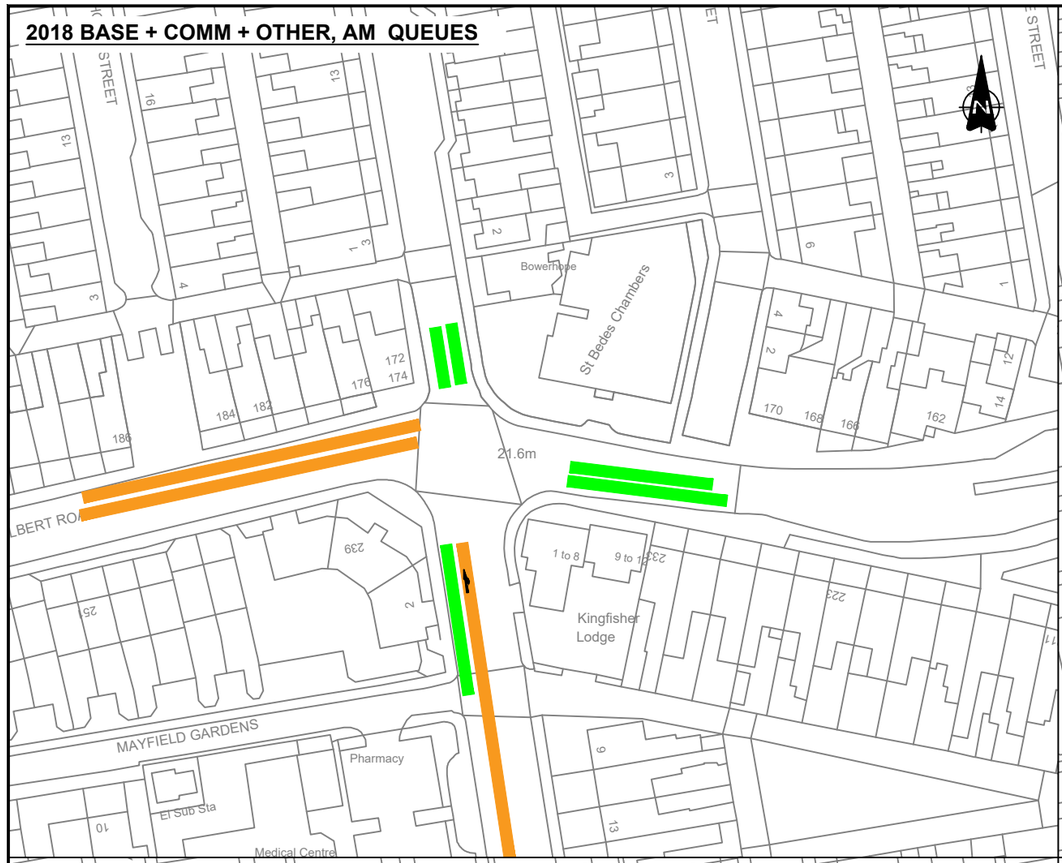


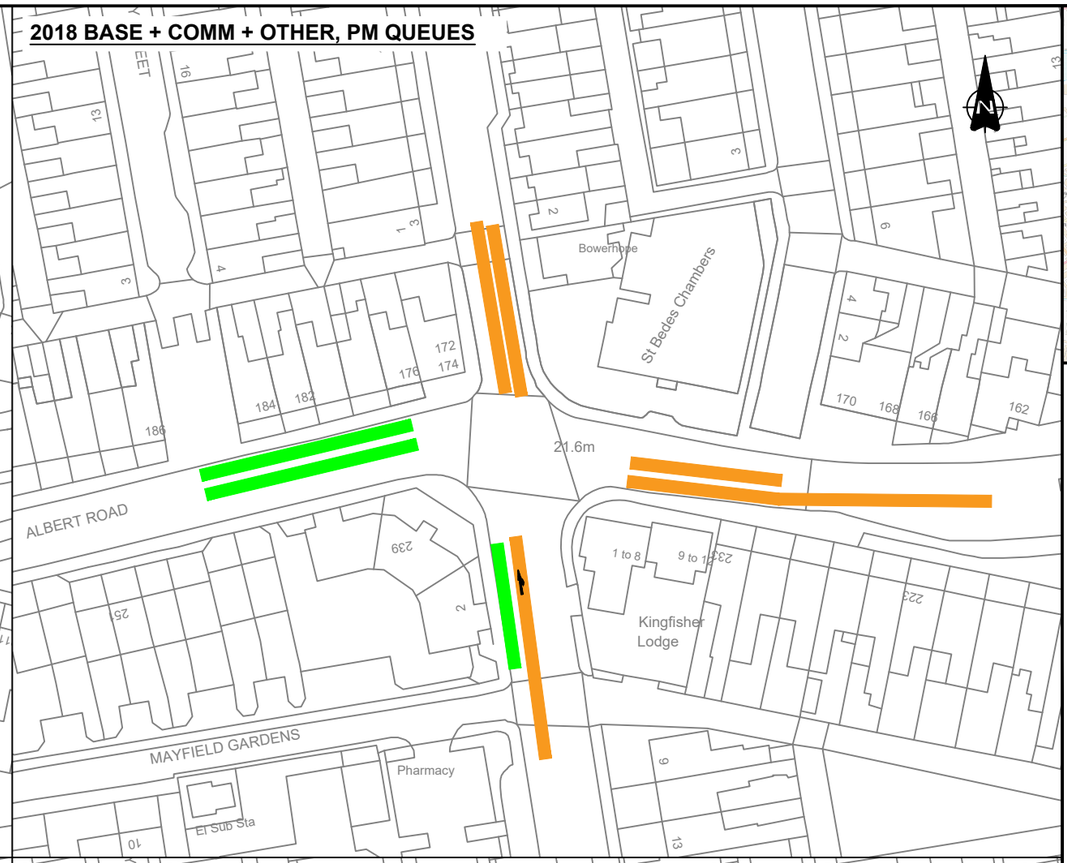

Figure 16. Composition of traffic passing through junction at the end of the plan period – Evening Peak



## 2018 BASE + COMM + OTHER, AM QUEUES




## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES

## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES

**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

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Project
LOCAL PLAN ASSESSMENT

Title
A185 / PARK ROAD
EXISTING LAYOUT QUEUES

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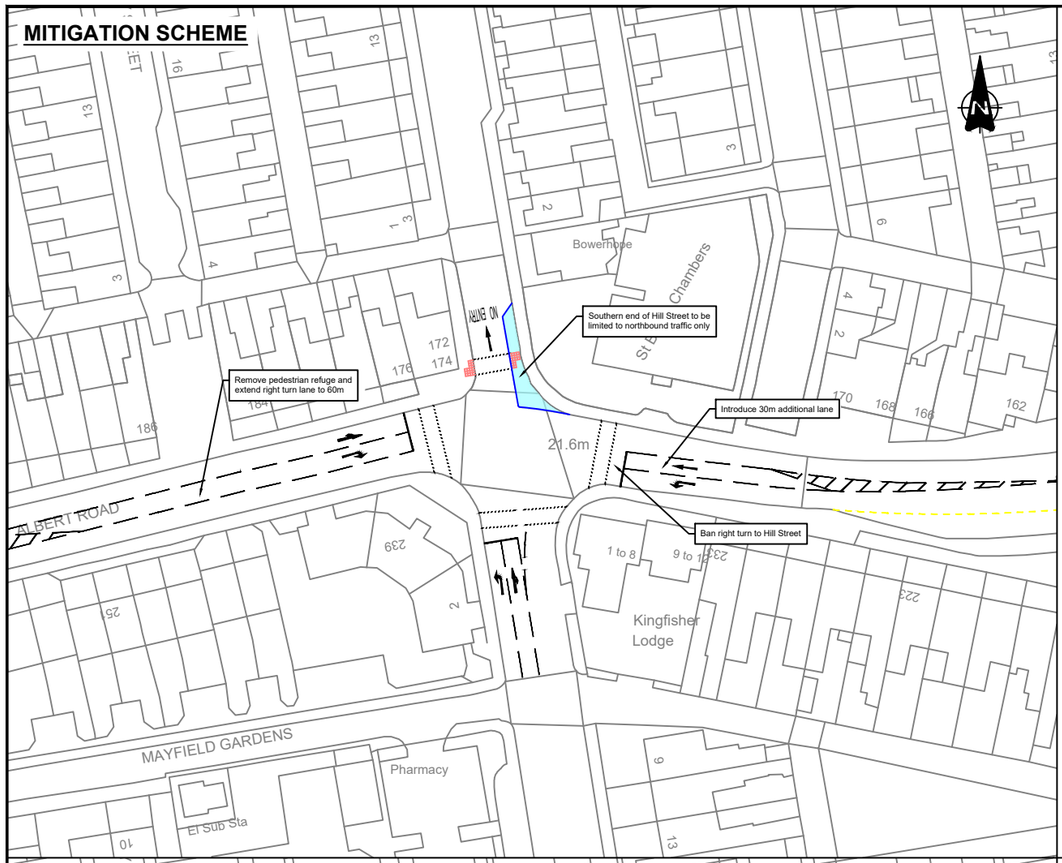
## MITIGATION SCHEME



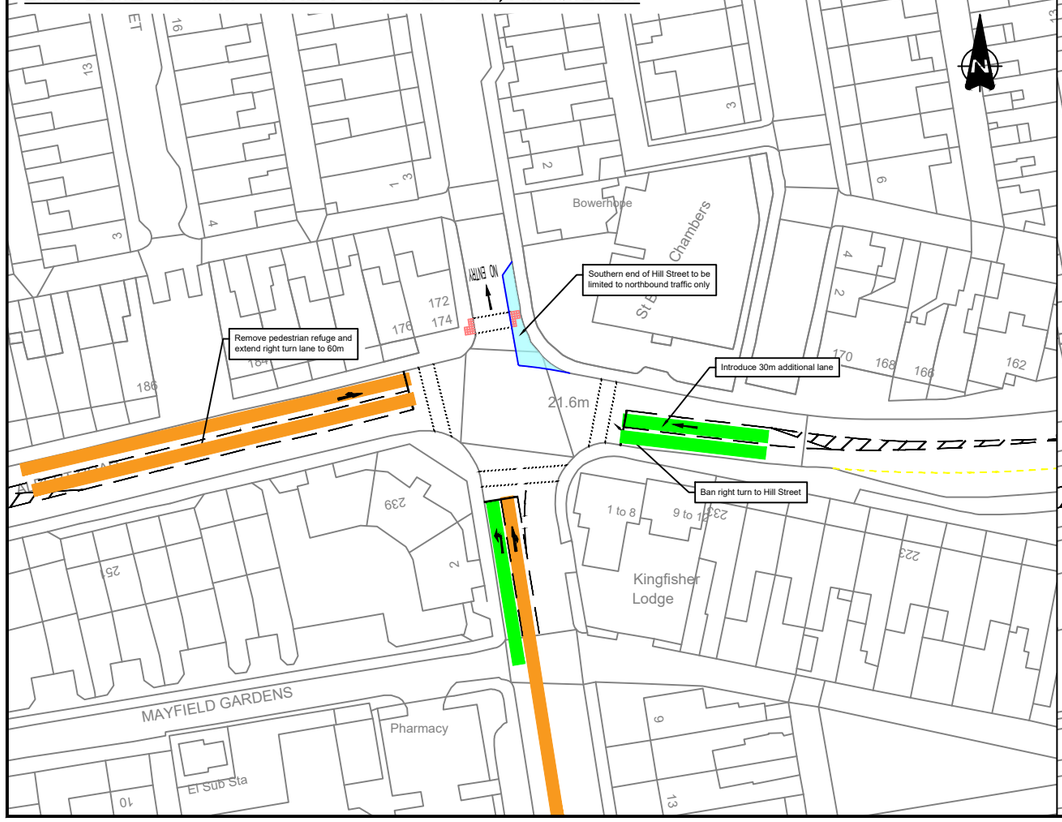

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE DEVELOPMENT | AM TRIPS | PM TRIPS |
|---|---|---|---|
| ED2.7 | Land bounded by Chaytor Street, Ellison Place | 39 | 30 |
| SHB004 | Hebburn Town Centre | 29 | 31 |
| ED2.11 | Former Hawthorne Leslie Shipyard, Hebburn | 22 | 17 |
| SHB012 | Ashworth Frazer Ind Estate and Hebburn Community centre | 15 | 16 |
| SHB034 | South Tyneside College, Hebburn Campus - playing fields | 13 | 14 |
| | Remaining Developments | 84 | 95 |

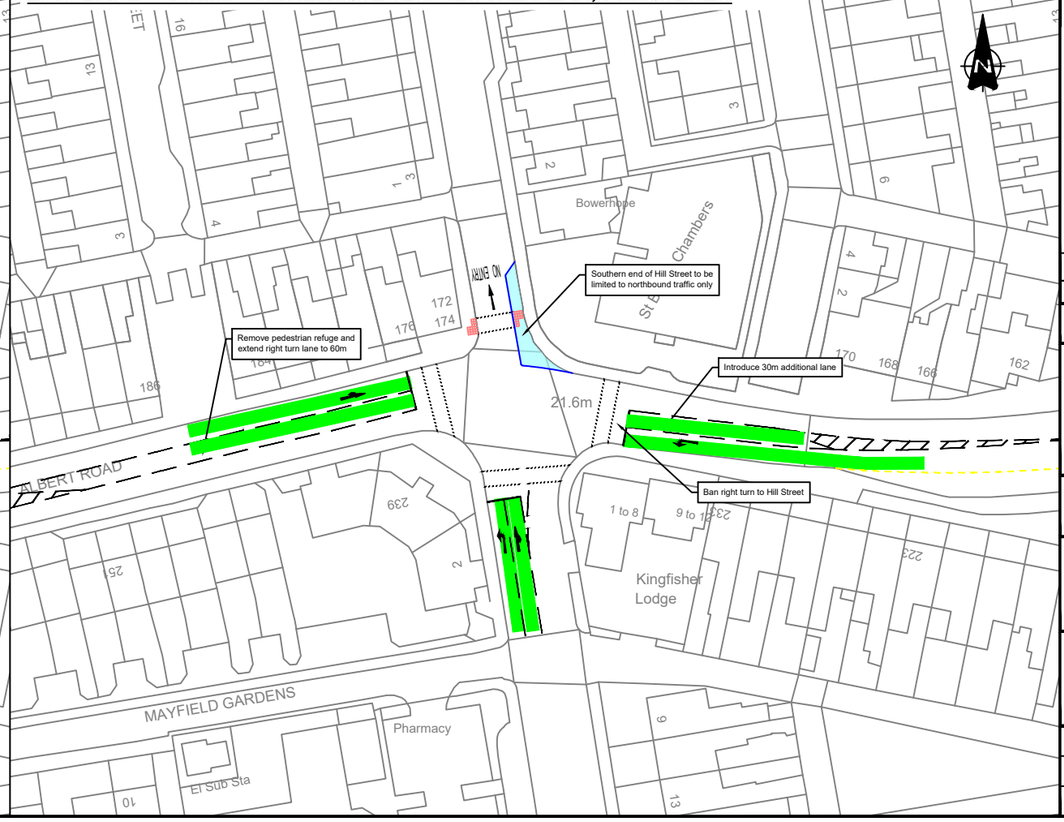
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER QUEUES + LOCAL PLAN, PM QUEUES

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Title: A185 / PARK ROAD PROPOSED LAYOUT QUEUES

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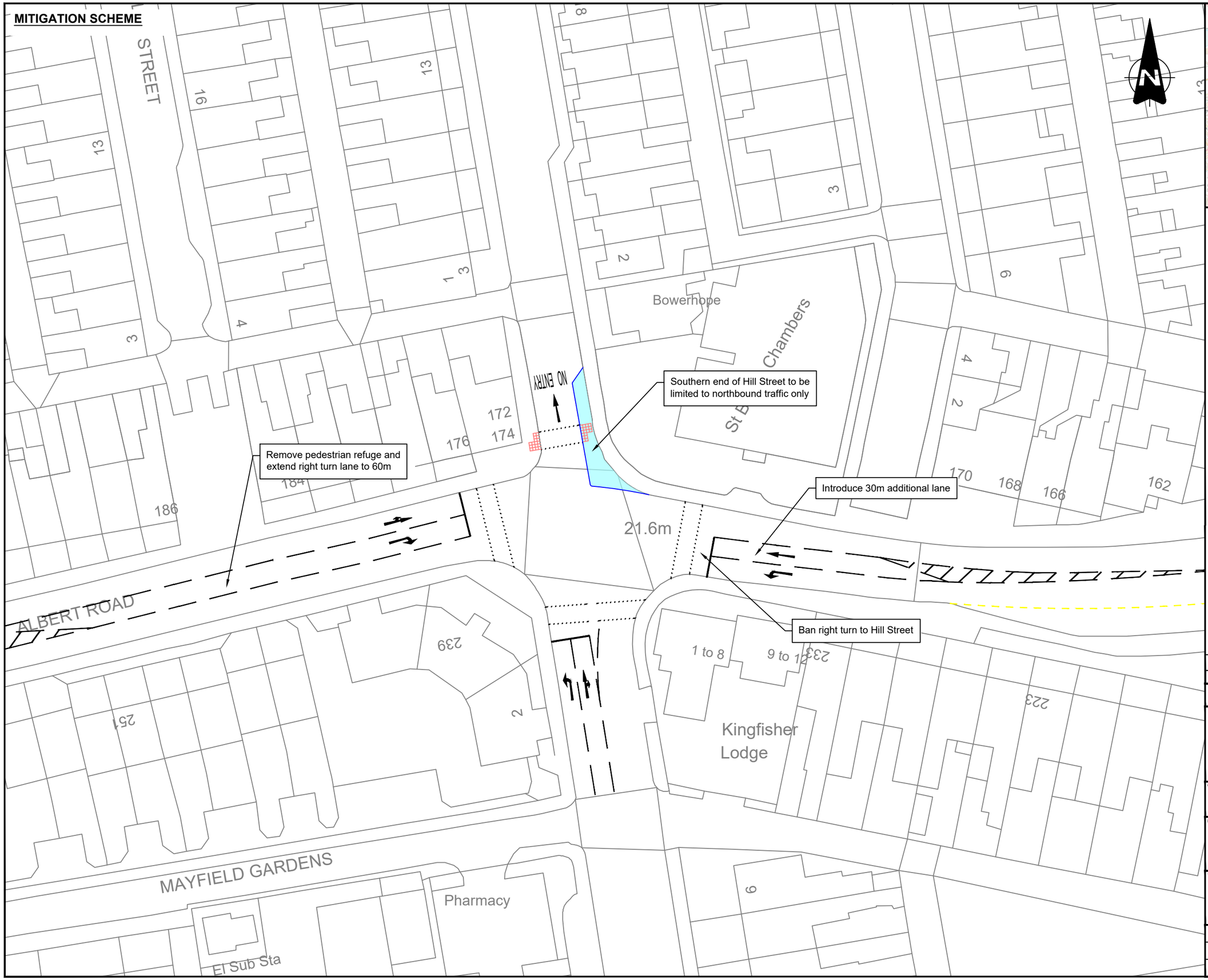
## MITIGATION SCHEME



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**KEY**

- Proposed Kerbline
- Proposed Footway
- Existing Carridgeway
- Area of Carriageway Widening
- Proposed Road Markings

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Title: A185 / PARK ROAD MITIGATION SCHEME

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## 3.9 Junction 9 – A185 / B1297 Ellison Street Roundabout

**2018 Base + Committed Development + Other Development**

3.9.1 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such there are minimal queues on all arms of the junction.

Table 26. A185 / Ellison Street Roundabout – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| B1297 Ellison Street | 0.21 | 0.3 | 0.3 | 0.5 |
| A185 East | 0.47 | 0.9 | 0.62 | 1.6 |
| A185 West | 0.42 | 0.8 | 0.44 | 0.8 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.9.2 With the addition of Local Plan traffic at this junction, the junction remains well within its theoretical capacity.

Table 27. A185 / Ellison Street Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| B1297 Ellison Street | 0.25 | 0.4 | 0.37 | 0.6 |
| A185 East | 0.53 | 1.2 | 0.67 | 2 |
| A185 West | 0.5 | 1.1 | 0.49 | 1 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.9.3 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme. There is an increase in the RFC and queuing on the A194 North and West Way arms of the junction, however they are not considered to be substantial.

3.9.4 The capacity assessment is summarised on Drawing Ref 16L02-09-001 overleaf.

3.9.5 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

**Cost of Mitigation**

3.9.6 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.9.7 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.9.8 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not require a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.9.9 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.9.10 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land bounded at Chaytor Street with the majority of the trips being made up cumulatively by a number of developments.

Figure 17. Composition of traffic passing through junction at the end of the plan period – Morning Peak

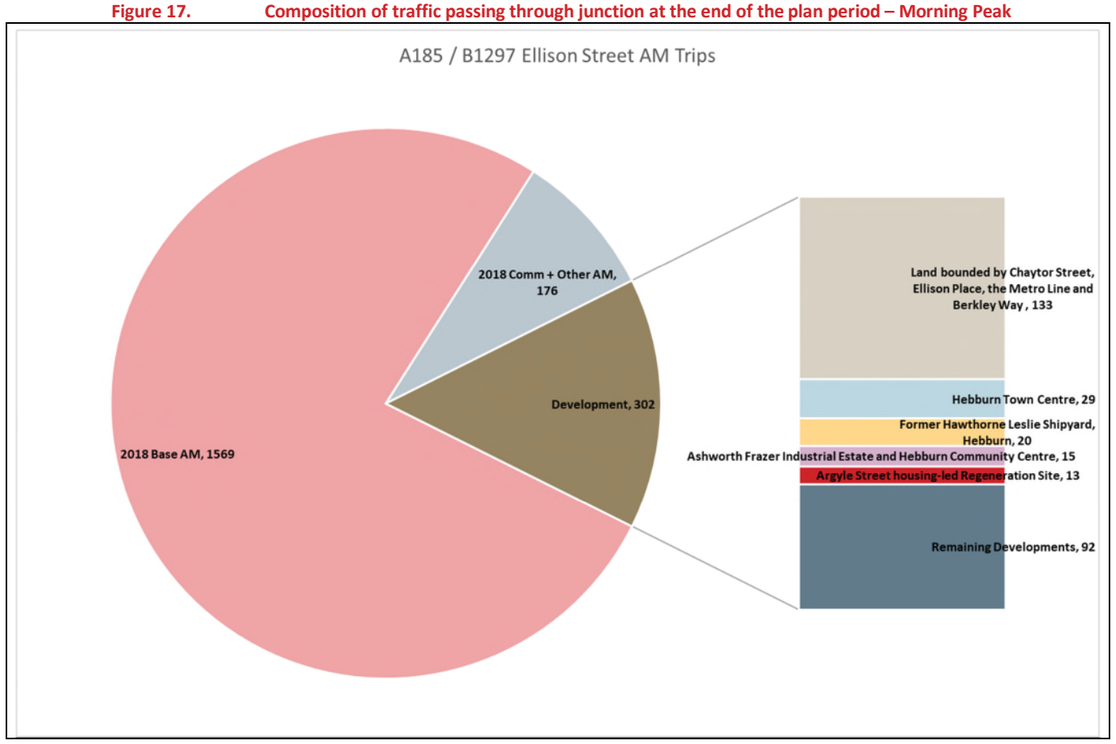
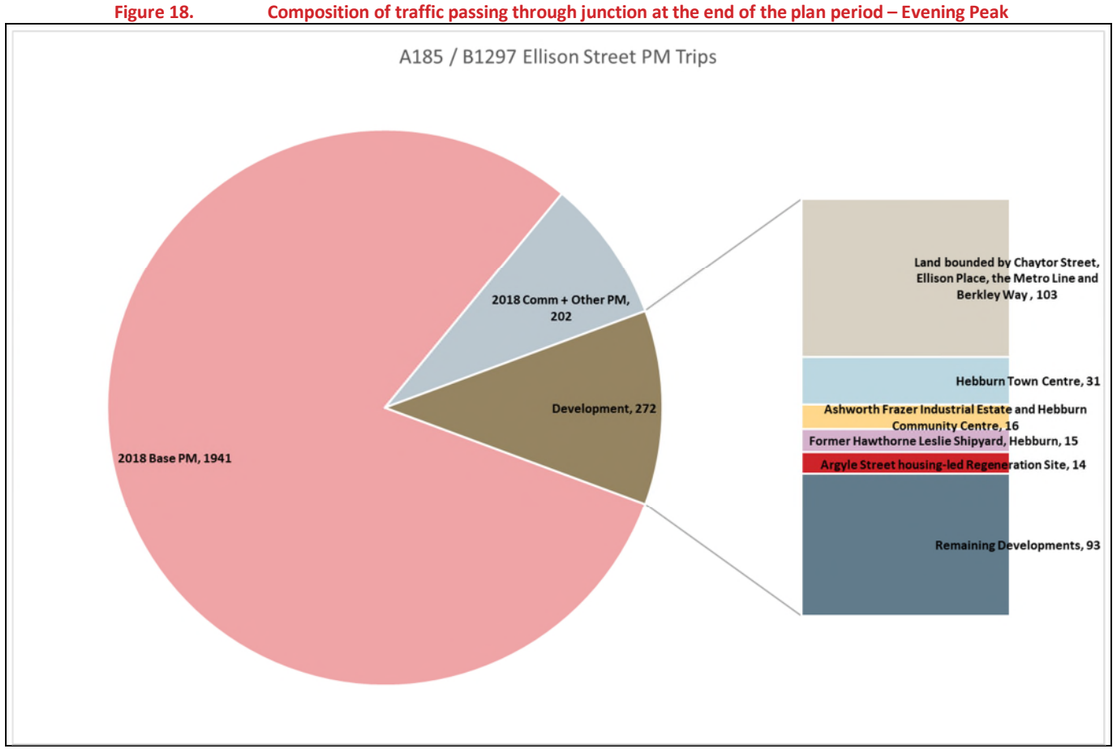
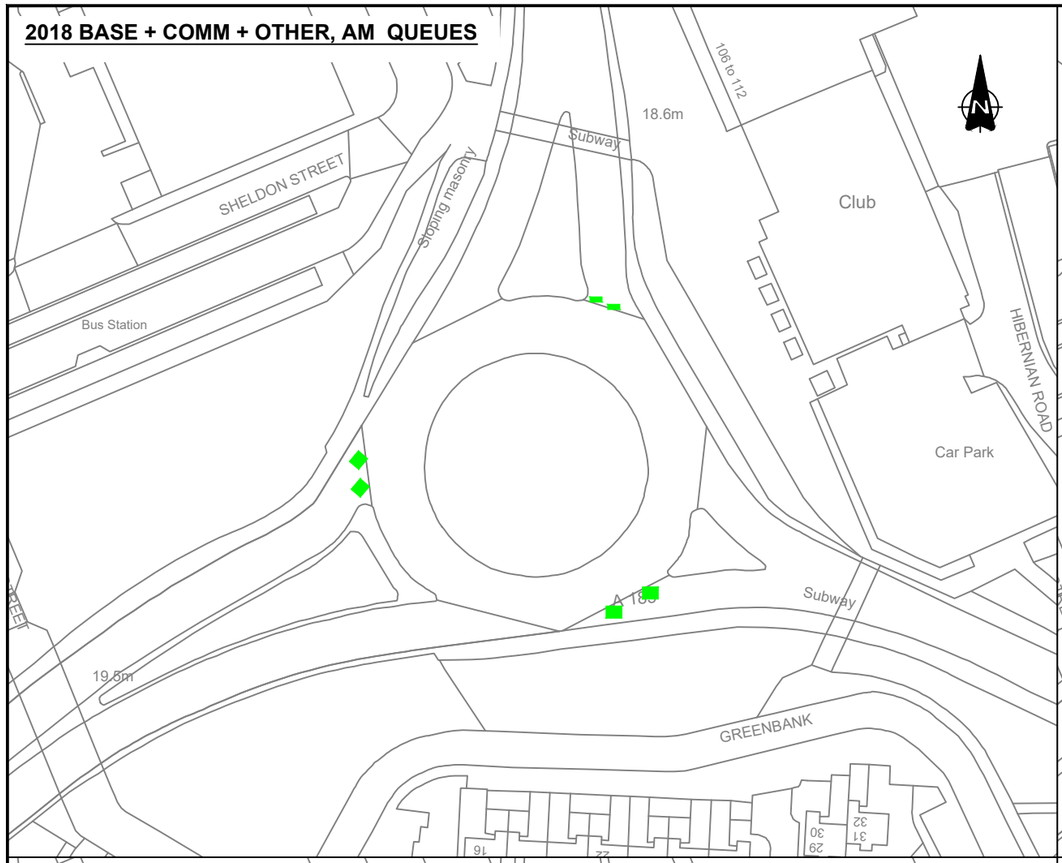


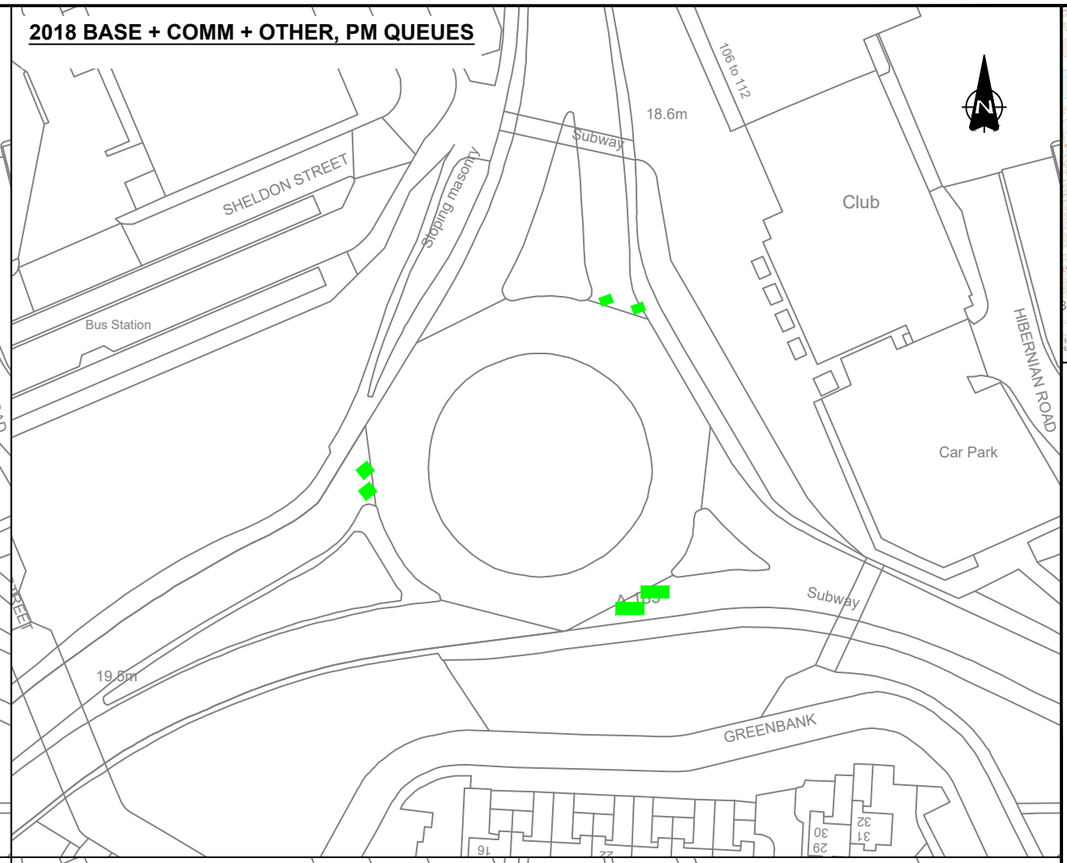
Figure 18. Composition of traffic passing through junction at the end of the plan period – Evening Peak



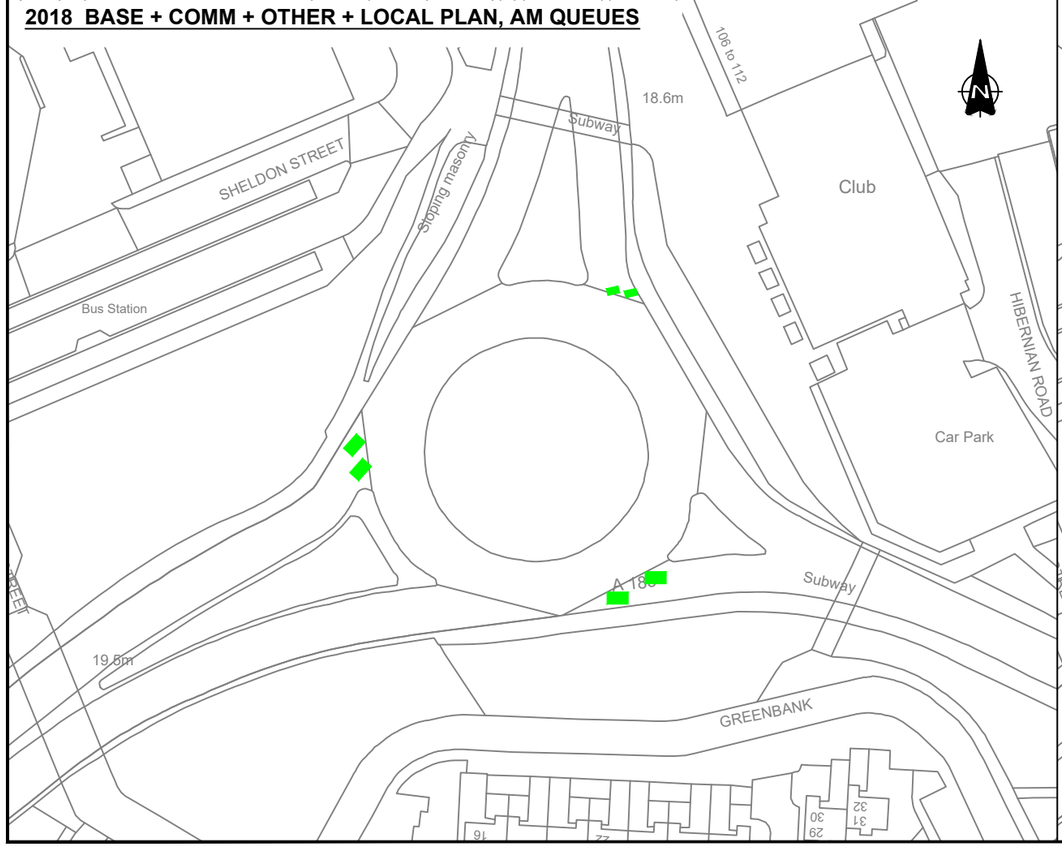
## 2018 BASE + COMM + OTHER, AM QUEUES



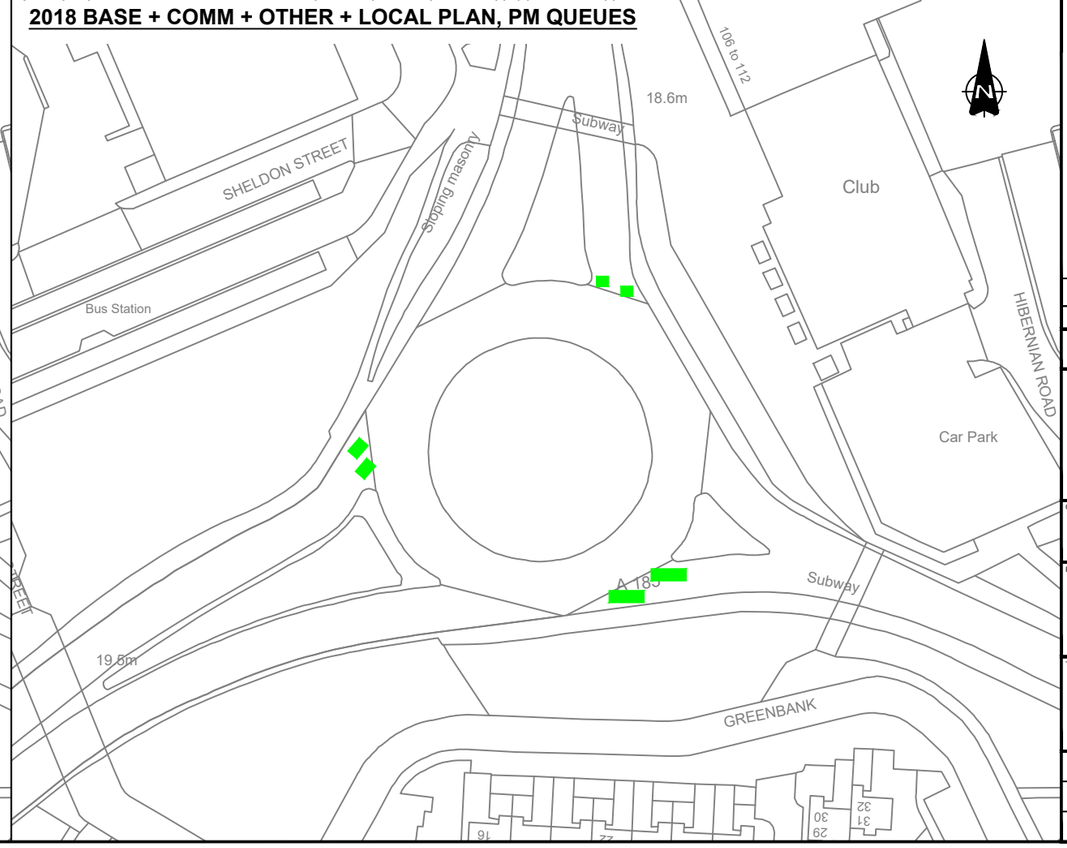

## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

- Queue Length (Within Capacity)
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- Queue Length (Above Capacity)

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Project
LOCAL PLAN ASSESSMENT

Title
A185 / B1297 ELLISON STREET
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:500 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-09-001 | Rev. - |

## 3.10 Junction 10 – A185 / Monkton Terrace Roundabout

**2018 Base + Committed Development + Other Development**

3.10.1 The junction can be seen to be working well within its theoretical capacity in the morning peak but approaching capacity in the evening peak on the A185 arms.

Table 28. A185 / Monkton Terrace Roundabout – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Monkton Terrace North | 0.3 | 0.5 | 0.76 | 3.1 |
| A185 East | 0.38 | 0.6 | 0.97 | 16.4 |
| Monkton Terrace South | 0.38 | 0.7 | 0.36 | 0.6 |
| A185 West | 0.3 | 0.5 | 0.88 | 6.7 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.10.2 With the addition of Local Plan traffic at this junction, the junction remains within capacity in the morning peak but is operating in excess of capacity on the A185 East arm and approaching capacity on two arms in the evening peak.

Table 29. A185 / Monkton Terrace Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Monkton Terrace North | 0.34 | 0.5 | 0.90 | 8.2 |
| A185 East | 0.5 | 1 | 1.06 | 50.3 |
| Monkton Terrace South | 0.42 | 0.8 | 0.38 | 0.6 |
| A185 West | 0.39 | 0.7 | 0.99 | 22.1 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.10.1 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.10.2 This involves minor widening on the A185 approaches to provide two lane entries on the A185 arms. The modelling results below show that this returns the junction to operate within capacity.

3.10.3 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.10.4 The proposed mitigation scheme is considered to improve junction performance and return it to working within theoretical capacity.

3.10.5 The capacity assessment is summarised on Drawing Ref 16L02-10-001 and 16L02-10-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-10-003 overleaf.

3.10.6 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station to the west of this junction.

Table 30. A185 / Monkton Terrace Roundabout – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Monkton Terrace North | 0.28 | 0.4 | 0.72 | 2.5 |
| A185 East | 0.40 | 0.7 | 0.81 | 4.3 |
| Monkton Terrace South | 0.36 | 0.6 | 0.33 | 0.5 |
| A185 West | 0.27 | 0.4 | 0.71 | 2.4 |

**Cost of Mitigation**

3.10.7 The junction is located in a built up area with buildings located adjacent to the highway envelope. There are no substantial level changes from the edge of carriageway.

3.10.8 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.10.9 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. There is no presence of utility infrastructure at ground level where the minor widening works would be undertaken.

3.10.10 The introduction of the proposed mitigation is anticipated to cost in the region of £100,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.10.11 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.10.12 The Local Plan development traffic has been incrementally added to the base model to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

3.10.13 For the purposes of this assessment, the junction is considered to require a mitigation scheme in advance of 60% of the Local Plan development coming forward. This is anticipated to be in 11-15 years of the Local Plan period.

**Composition of Trips Through Junction**

3.10.14 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.10.15 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land bounded at Chaytor Street and Land South of Fellgate with the majority of the trips being made up cumulatively by a number of developments.

Figure 19. Composition of traffic passing through junction at the end of the plan period – Morning Peak

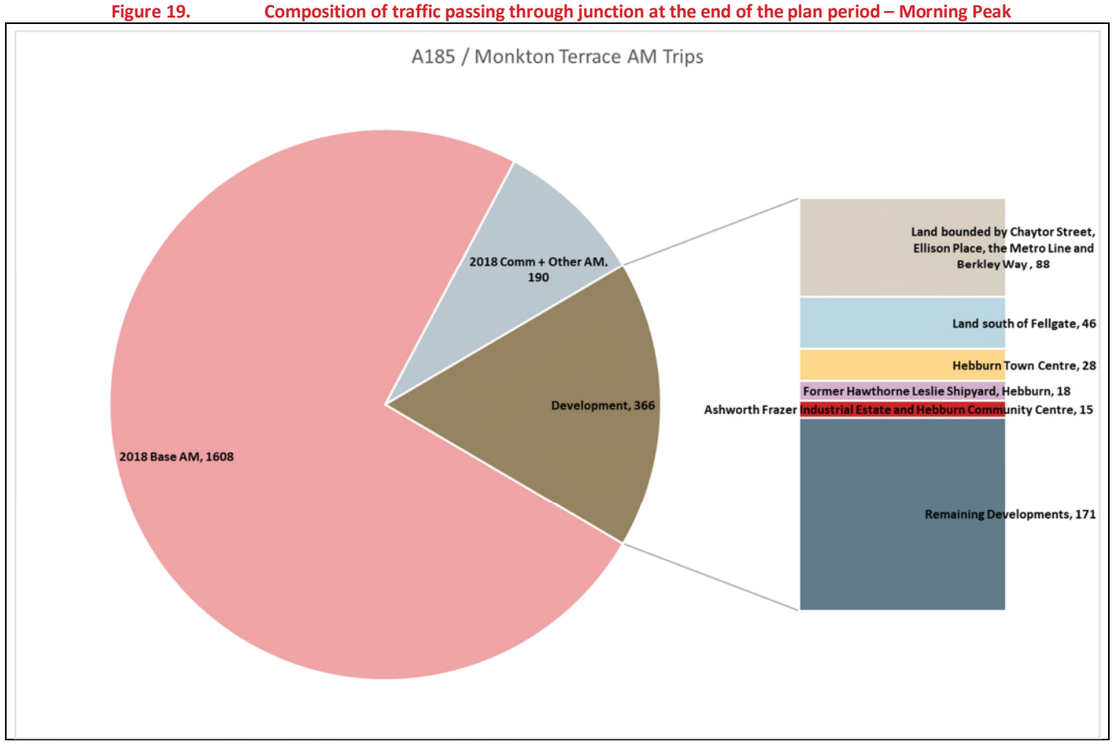
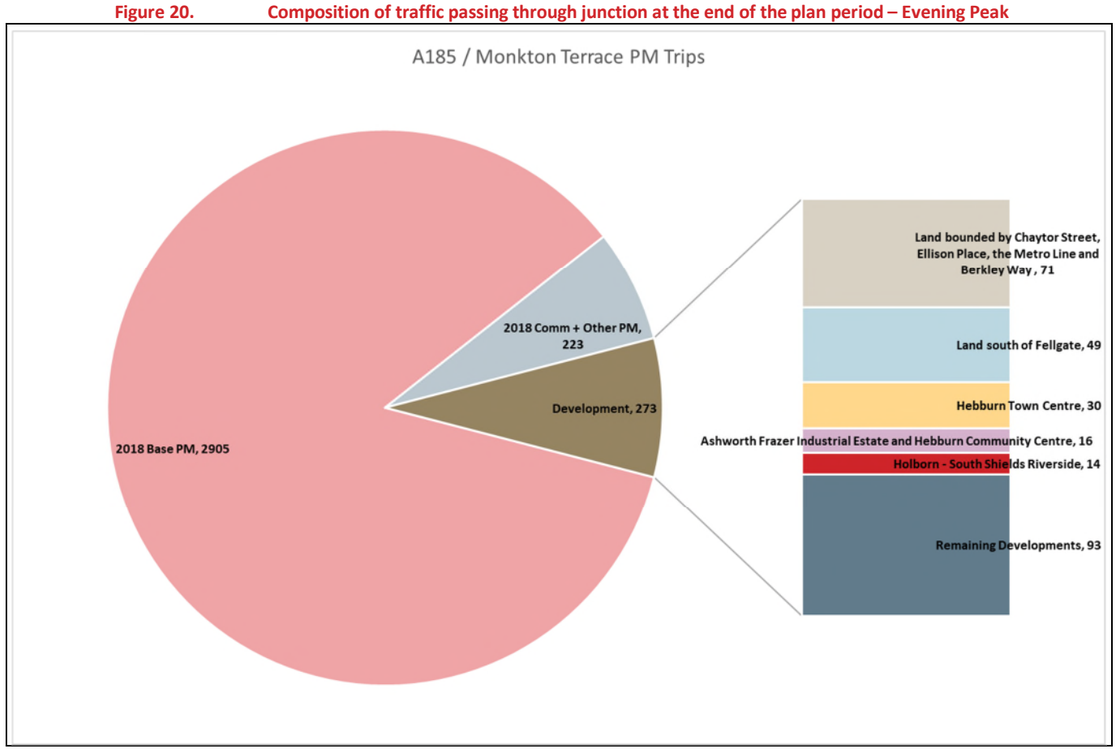
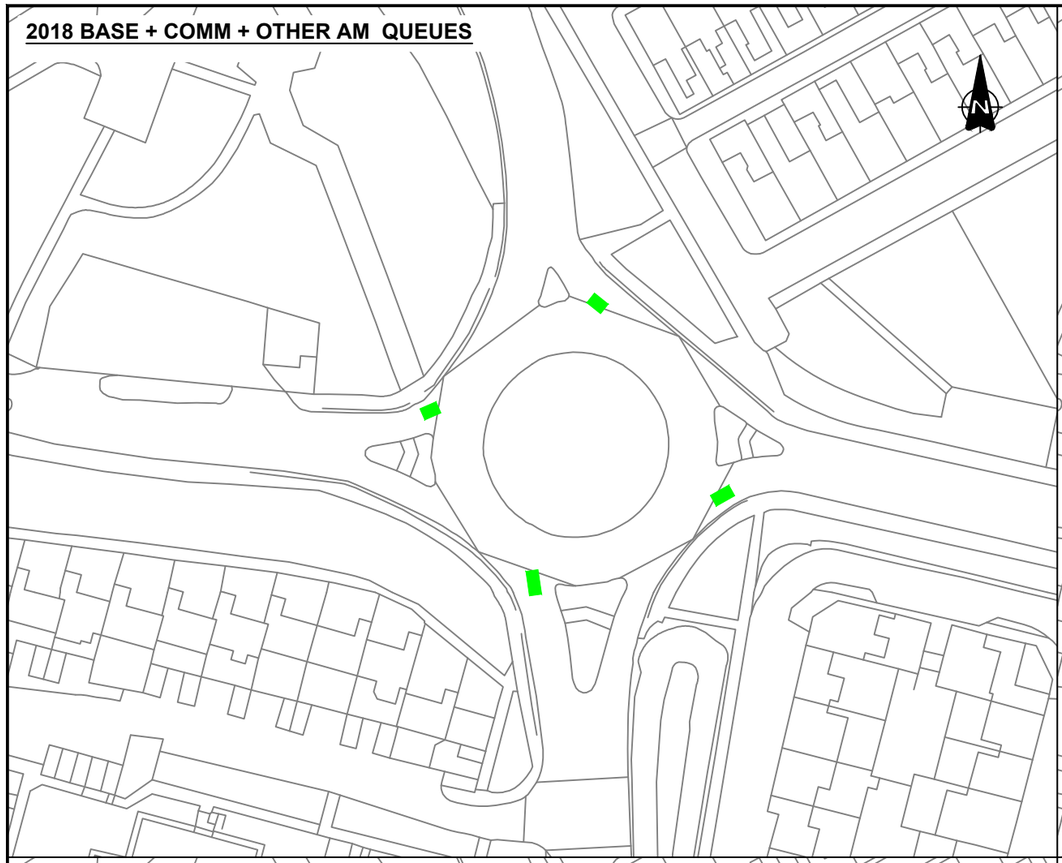


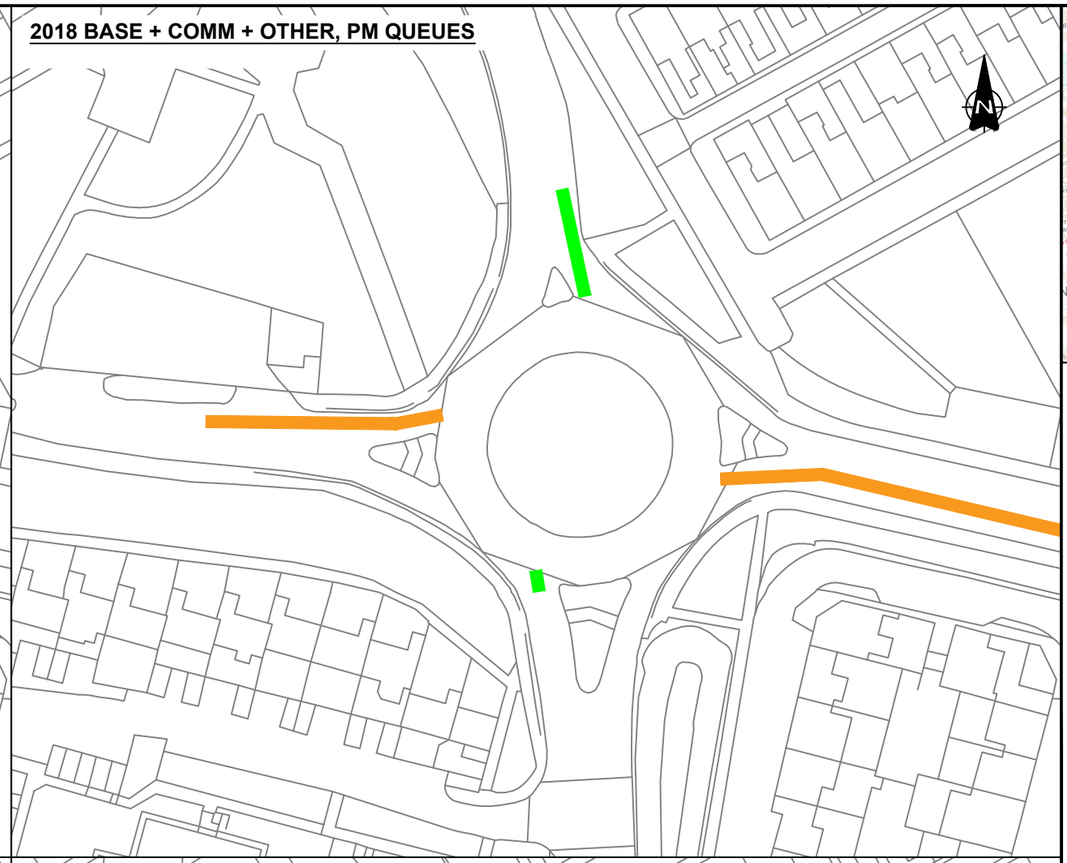

Figure 20. Composition of traffic passing through junction at the end of the plan period – Evening Peak



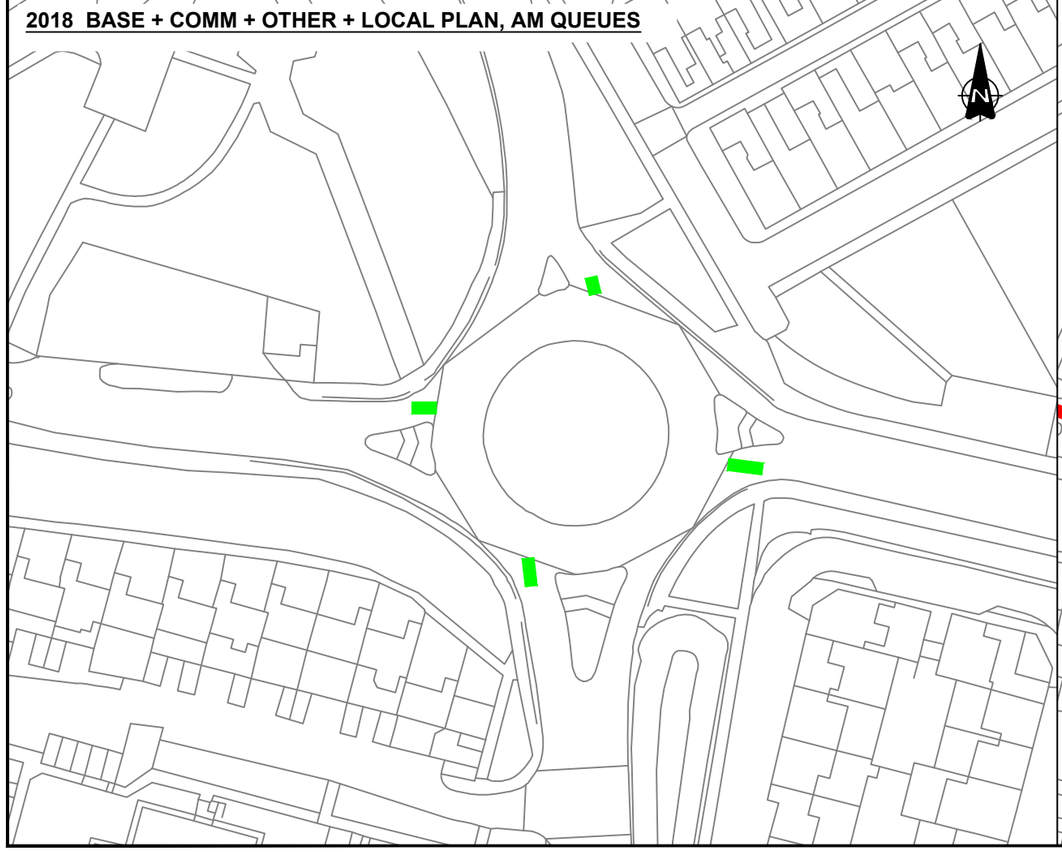
## 2018 BASE + COMM + OTHER AM QUEUES



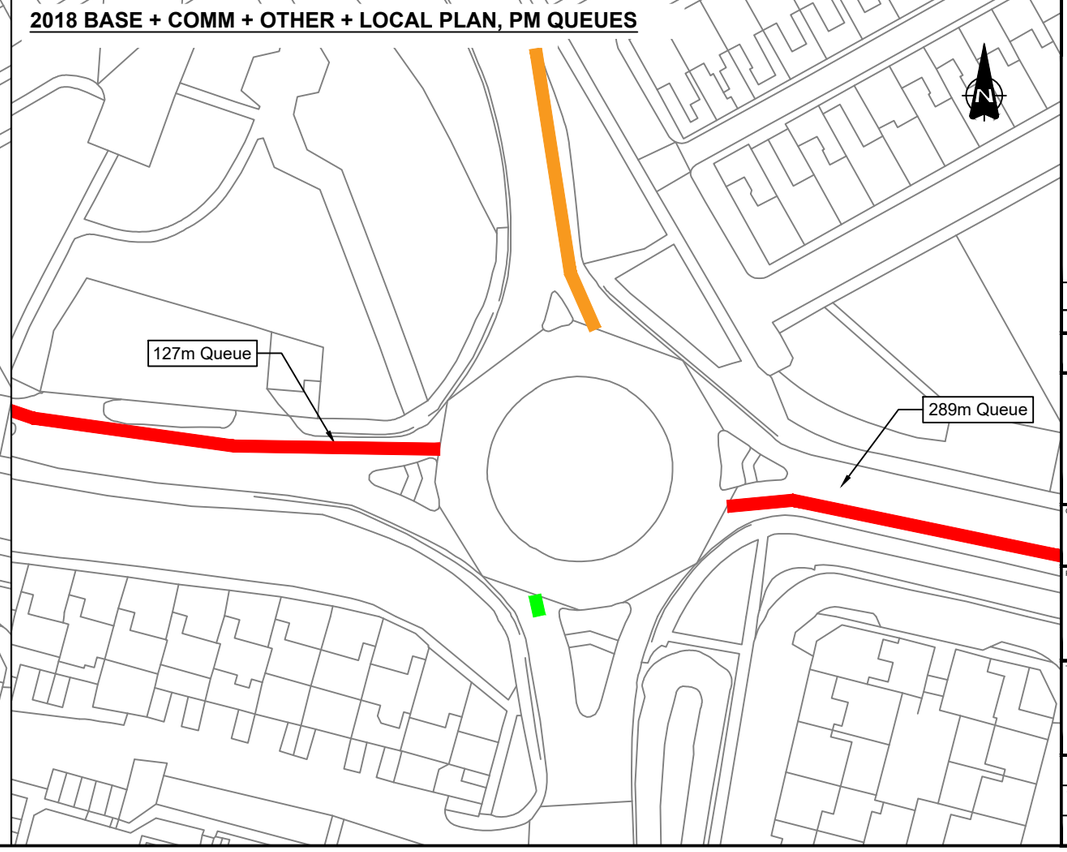
## 2018 BASE + COMM + OTHER, PM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

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Project
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Title
A185 / MONKTON TERRACE
EXISTING LAYOUT QUEUES

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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:500 |
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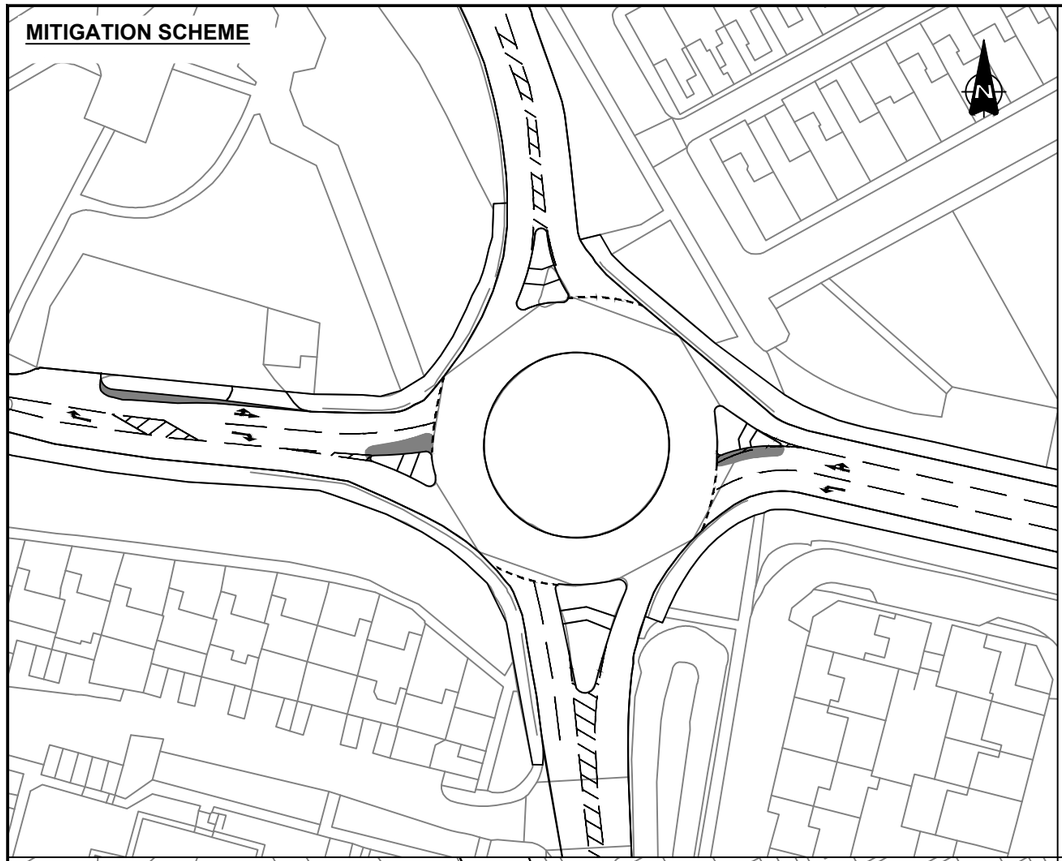
## MITIGATION SCHEME



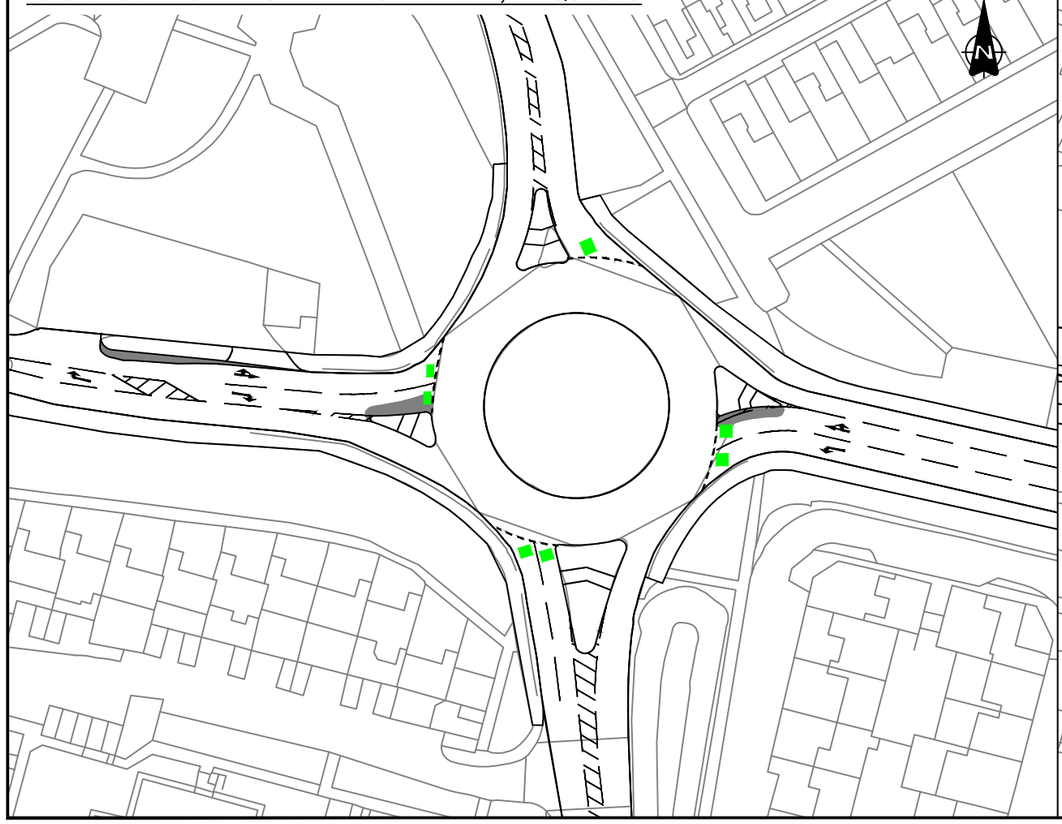
## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| ED2.7 | Land bounded by Chaytor Street and Ellison Place | 88 | 71 |
| SFG072 | Land South of Fellgate | 46 | 49 |
| SHB004 | Hebburn Town Centre | 28 | 30 |
| ED2.11 | Former Hawthorne Leslie Shipyard | 18 | 14 |
| SHB012 | Ashworth Frazer Ind Estate, Hebburn Com Centre | 15 | 16 |
| | Remaining Developments | 171 | 93 |

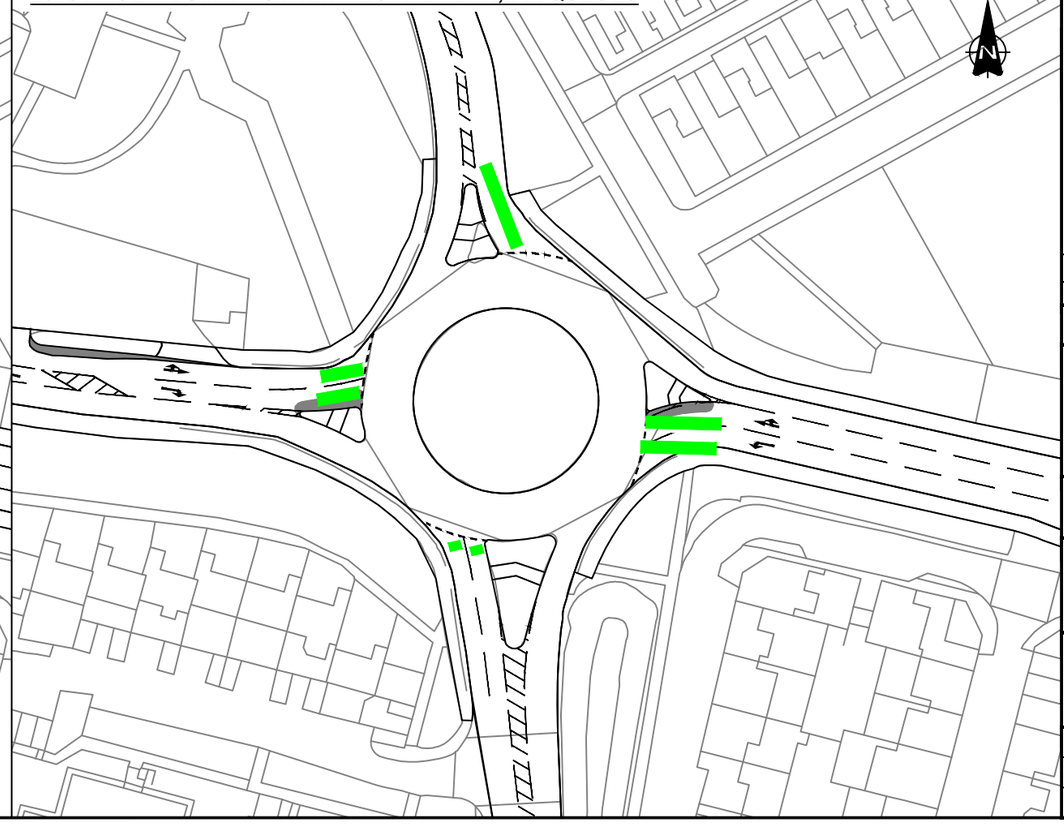
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



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Title
A185 / MONKTON TERRACE
PROPOSED LAYOUT QUEUES

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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:500 |
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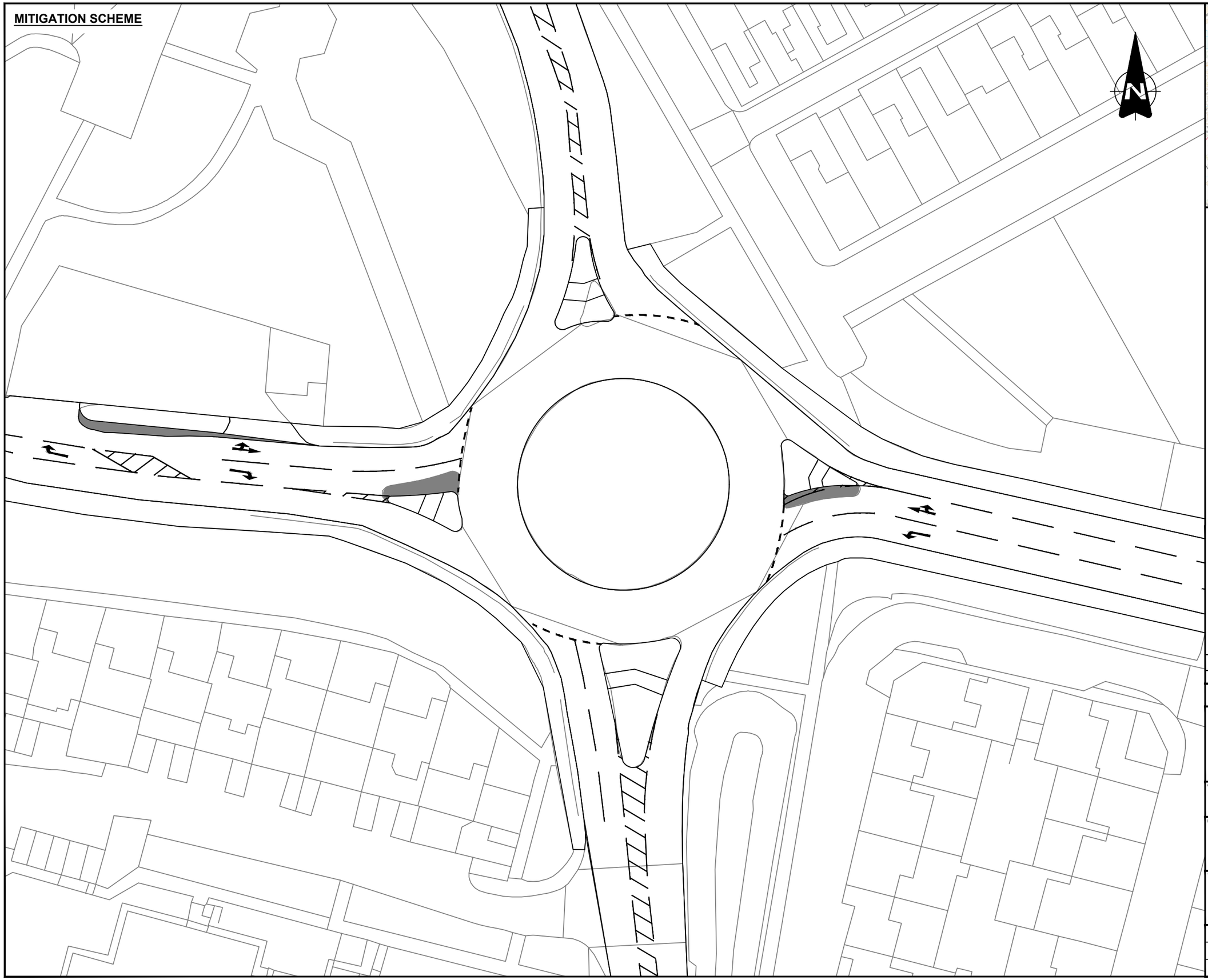
## MITIGATION SCHEME



**NOTES**

1. Do not scale from this drawing.
2. This drawing is based on OS Mastermap Topographical layer.
3. All dimensions in metres unless otherwise stated.
4. This drawing is for planning purposes only.

**KEY**

- Kerbline
- Footway
- Area of Proposed Footway
- Carriageway
- Area of Carriageway Widening
- Proposed Road Markings

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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Title
A185 / MONKTON TERRACE
MITIGATION SCHEME

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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:500 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-10-003 | Rev.: - |

## 3.11 Junction 11 – B1297 Ellison Street / Western Road Roundabout

**2018 Base + Committed Development + Other Development**

3.11.1 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such there are minimal queues on all arms of the junction.

Table 31. B1297 Ellison Street / Western Road – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Ellison Street North | 0.32 | 0.5 | 0.32 | 0.5 |
| Ellison Street South | 0.18 | 0.2 | 0.16 | 0.2 |
| Western Road | 0.33 | 0.5 | 0.41 | 0.8 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.11.2 With the addition of Local Plan traffic at this junction, the junction remains well within its theoretical capacity.

Table 32. B1297 Ellison Street / Western Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Ellison Street North | 0.36 | 0.6 | 0.4 | 0.7 |
| Ellison Street South | 0.29 | 0.4 | 0.19 | 0.2 |
| Western Road | 0.35 | 0.5 | 0.42 | 0.8 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.11.3 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme with the junction continuing to work well within its theoretical capacity.

3.11.4 The capacity assessment is summarised on Drawing Ref 16L02-11-001overleaf.

3.11.5 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

**Cost of Mitigation**

3.11.6 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.11.7 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.11.8 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not require a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.11.9 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.11.10 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land bounded by Chaytor Street.

Figure 21. Composition of traffic passing through junction at the end of the plan period – Morning Peak

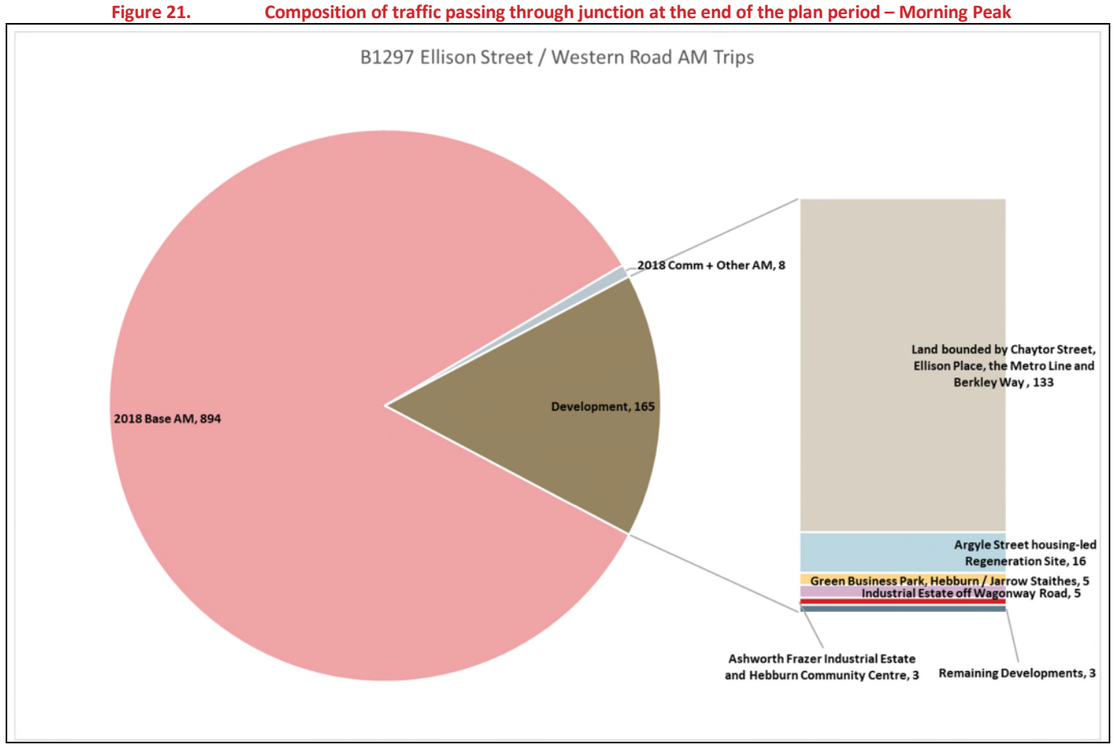
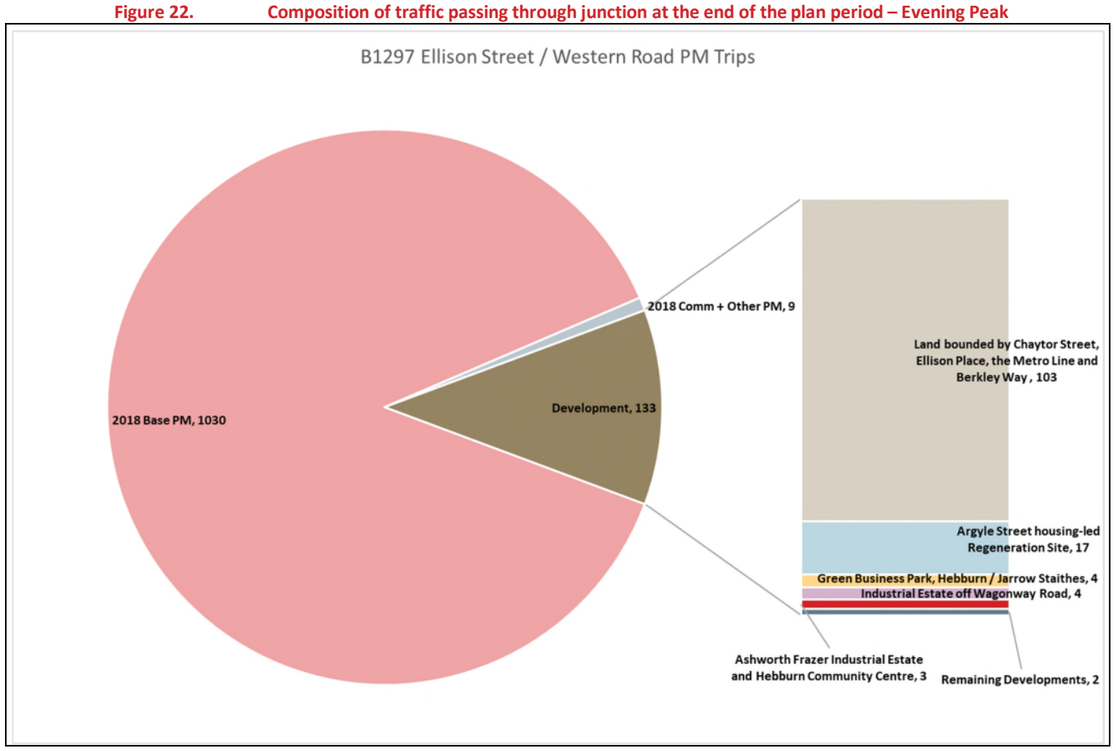
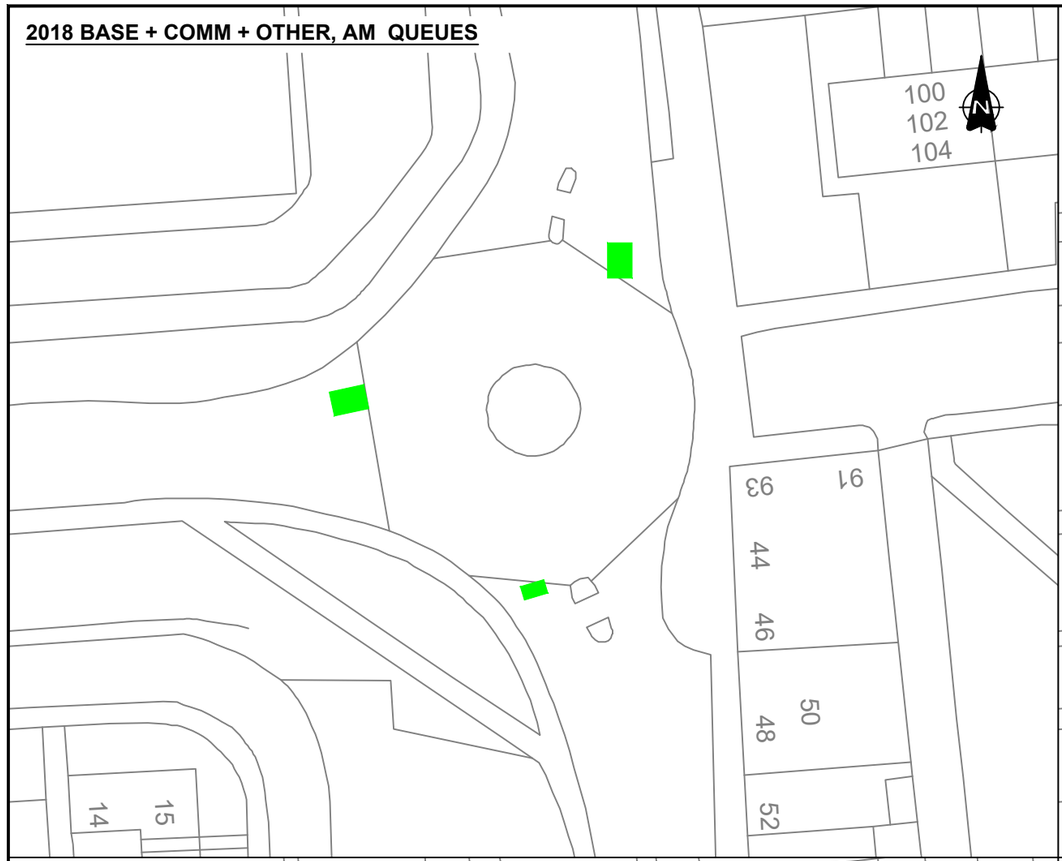


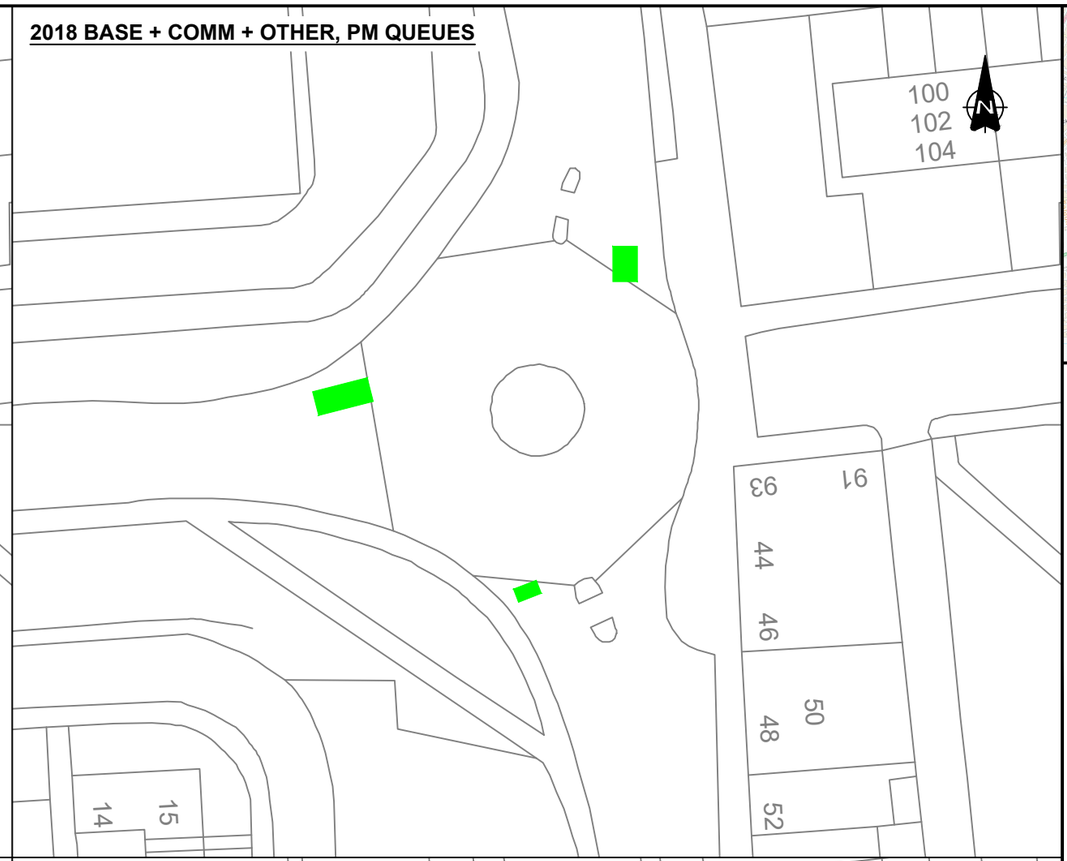
Figure 22. Composition of traffic passing through junction at the end of the plan period – Evening Peak



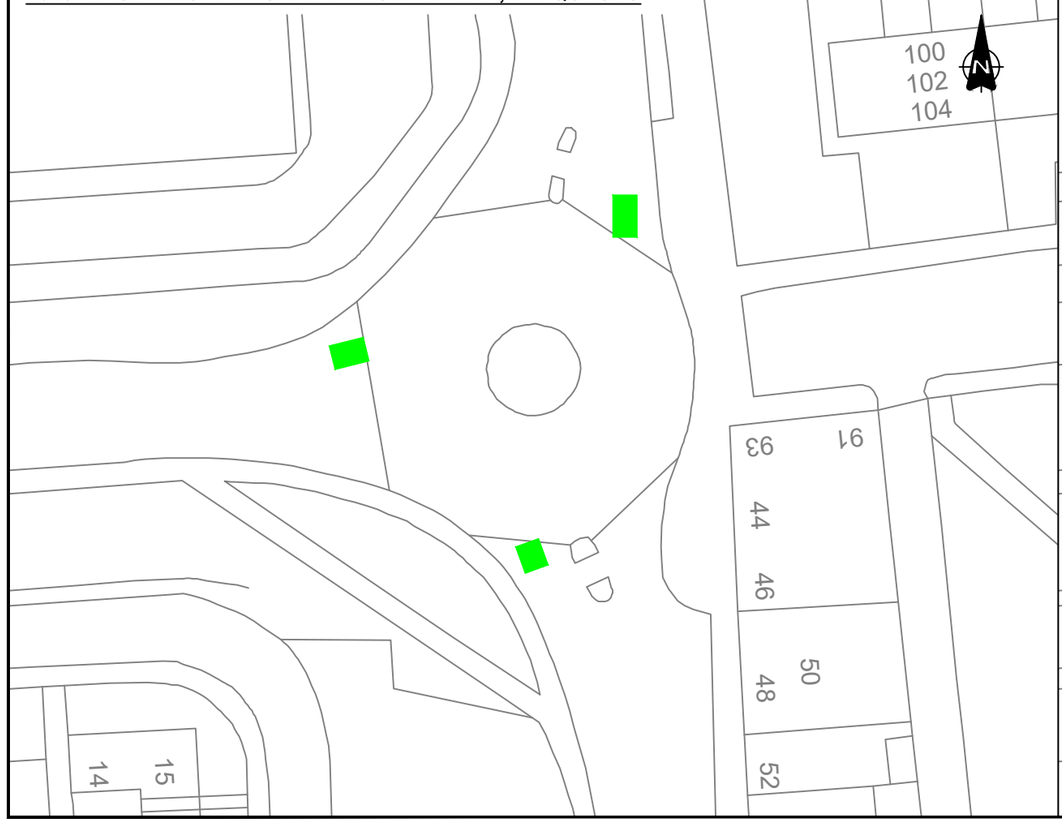
**2018 BASE + COMM + OTHER, AM QUEUES**



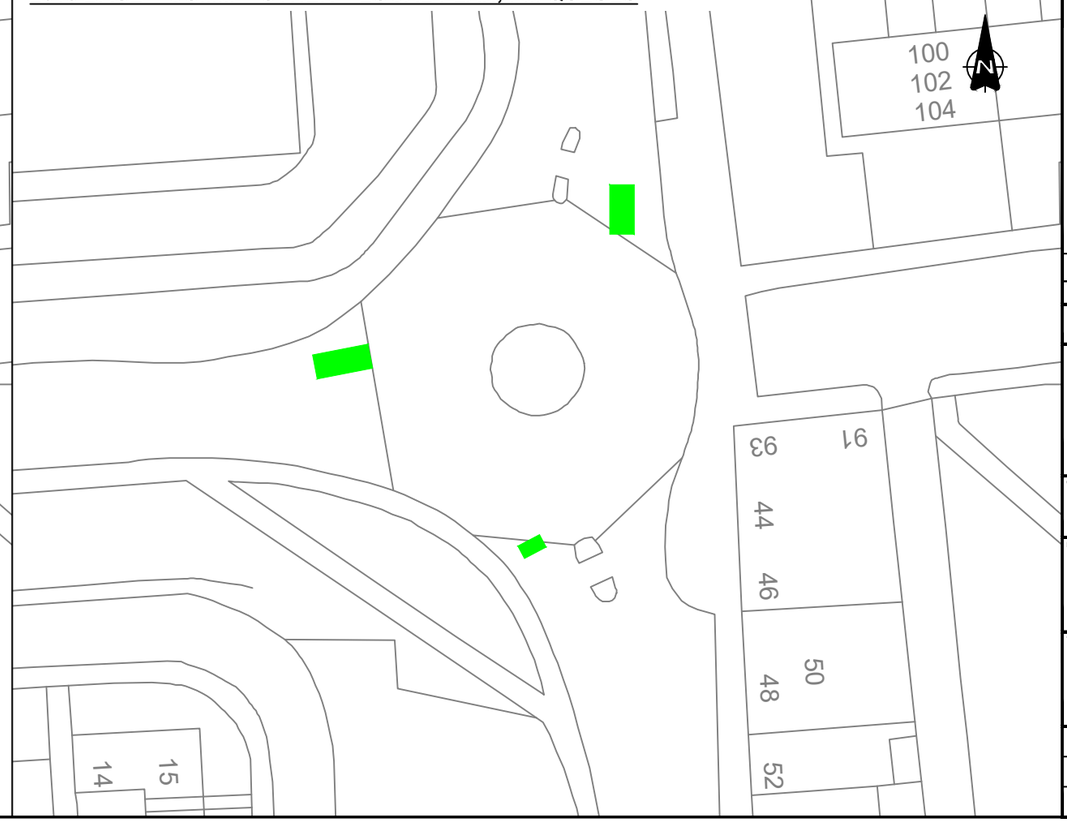

**2018 BASE + COMM + OTHER, PM QUEUES**




**2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES**




**2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES**



**KEY**

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Project
LOCAL PLAN ASSESSMENT

Title
B1297 ELLISON STREET / WESTERN ROAD
EXISTING LAYOUT QUEUES

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| Drawing Status: PRELIMINARY | Drawing Number: 16L02-11-001 | Rev.: - |

## 3.12 Junction 12 – Priory Road / Church Bank Priority Junction

**2018 Base + Committed Development + Other Development**

3.12.1 The junction can be seen to be exceeding its theoretical capacity in the morning peak with substantial queues for right turners out of the Church Bank arm of the junction.

Table 33. Priory Road / Church Bank – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Church Bank to Priory Road South | 0.35 | 0.6 | 0.13 | 0.1 |
| Church Bank to Priory Road North | 1.0 | 16.6 | 0.49 | 1 |
| Priory Road South to Church Bank / Priory Road North | 0.11 | 0.1 | 0.14 | 0.2 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.12.2 The addition of Local Plan traffic results in a negligible impact on the performance of the junction. The junction continues to exceed its theoretical capacity during the morning peak.

Table 34. Priory Road / Church Bank – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Church Bank to Priory Road South | 0.35 | 0.6 | 0.13 | 0.1 |
| Church Bank to Priory Road North | 1.0 | 16.8 | 0.49 | 1 |
| Priory Road South to Church Bank / Priory Road North | 0.11 | 0.1 | 0.14 | 0.2 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.12.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction. It should be noted that this is not as a result of the addition of Local Plan traffic per se, the junction is over capacity in the base situation and it is considered appropriate to mitigate this before further traffic is added.

3.12.4 The scheme involves the introduction of traffic signal control at the junction with localised widening on approach to provide two lane entries. The modelling results show that this returns the junction to operate within capacity.

3.12.5 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.12.6 The proposed mitigation scheme is considered to improve junction performance and return it to working within theoretical capacity.

3.12.7 The capacity assessment is summarised on Drawing Ref 16L02-12-001 and 16L02-12-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-12-003 overleaf.

3.12.8 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

Table 35. Priory Road / Church Bank – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Church Bank | 80.2 | 15.3 | 58.8 | 6.3 |
| Priory Road North | 86 | 12.9 | 66 | 9.3 |
| Priory Road South | 26.7 | 2.4 | 17 | 1.5 |
| Junction Deg. Sat. (%) | 86 | | 66 | |
| Junction PRC All Lanes (%) | 4.7 | | 36.6 | |

**Cost of Mitigation**

3.12.9 The junction is located in a built up area with buildings located adjacent to the highway envelope. There are no substantial level changes from the edge of carriageway.

3.12.10 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.12.11 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of utility covers and street lighting located in close proximity to where the minor widening to allow two entry lanes is to be undertaken.

3.12.12 The introduction of the proposed mitigation is anticipated to cost in the region of £300,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.12.13 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.12.14 For the purposes of this assessment, the junction is considered to justify the delivery of a scheme before any of the Local Plan development has come forward.

3.12.15 This is anticipated to be in the first 5 years of the Local Plan period.

**Composition of Trips Through Junction**

3.12.16 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan. As can be seen the increase in development traffic as a result of the Local Plan is very minor.

Figure 23. Composition of traffic passing through junction at the end of the plan period – Morning Peak

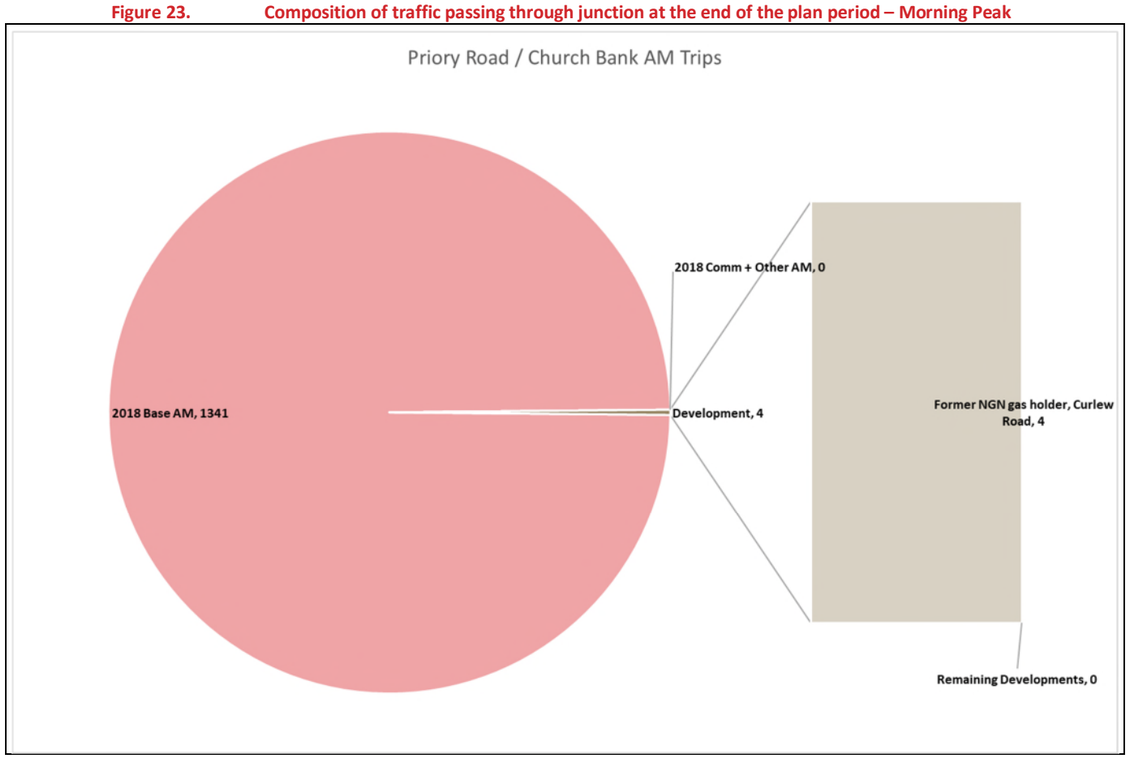
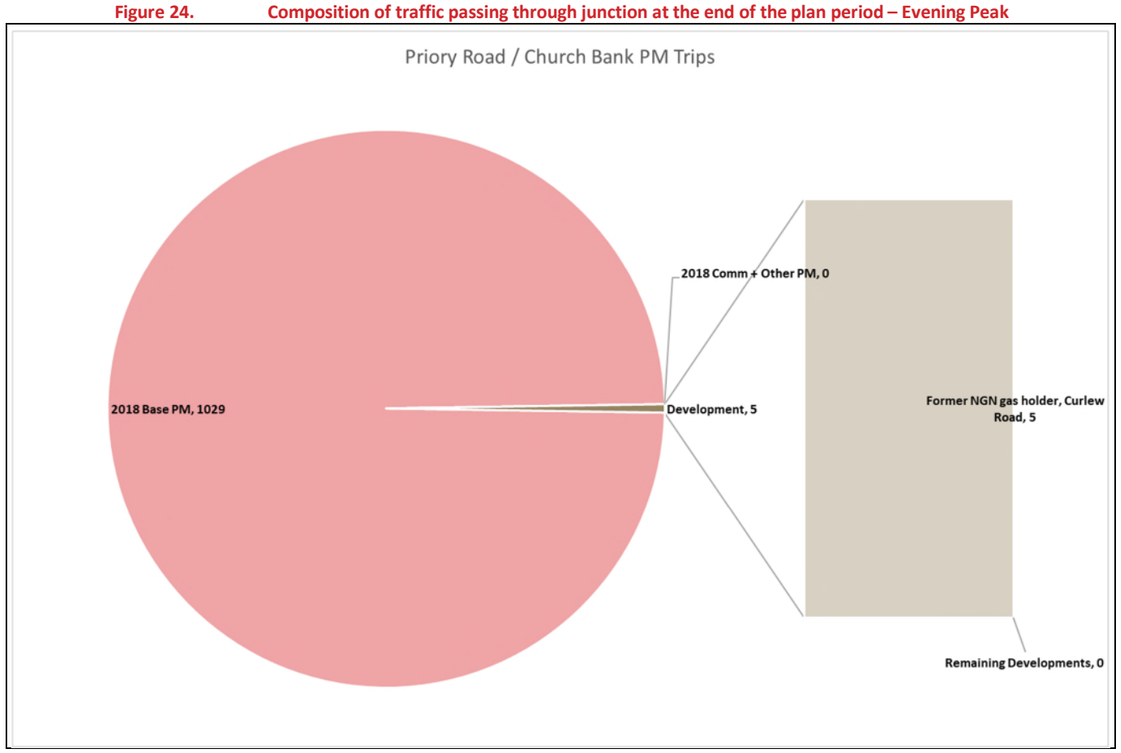
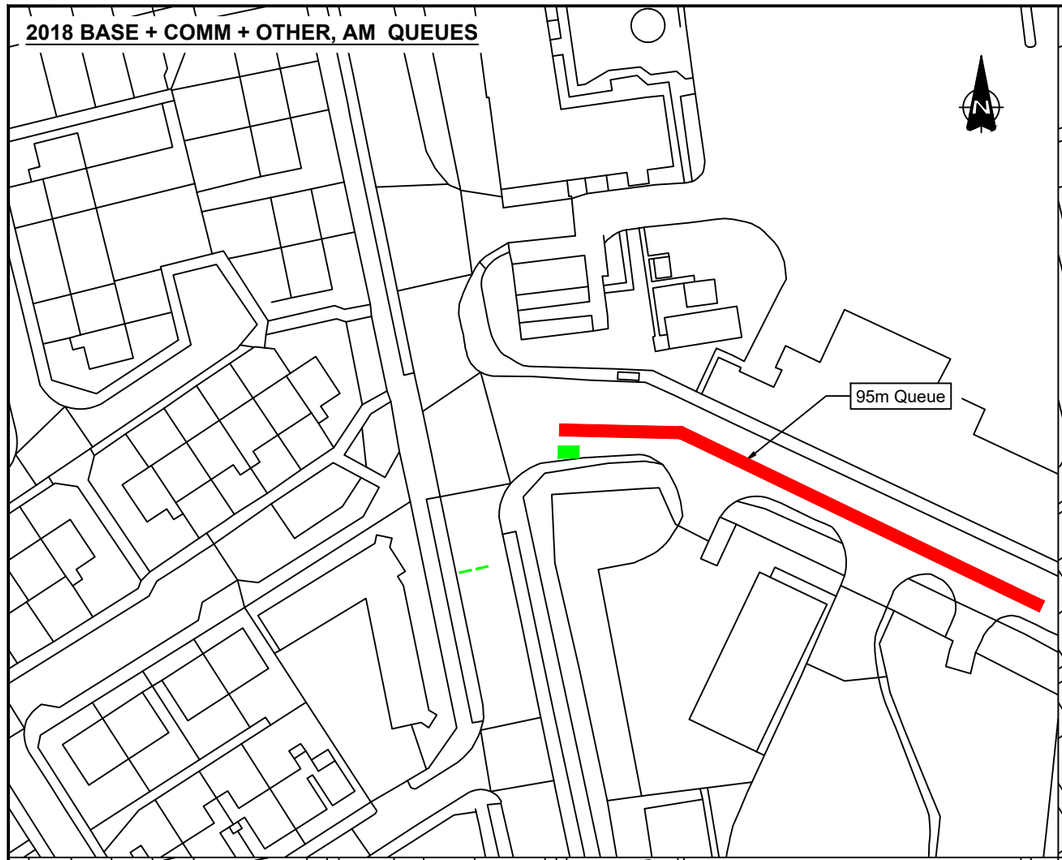


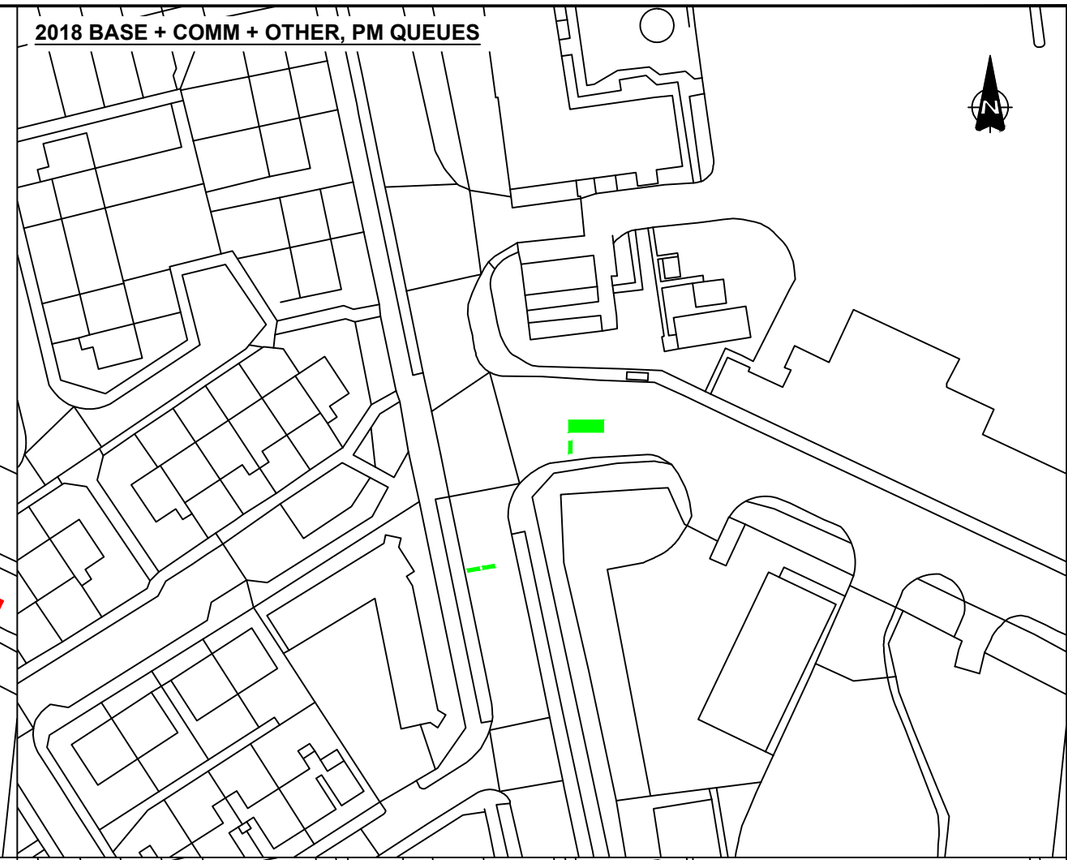

Figure 24. Composition of traffic passing through junction at the end of the plan period – Evening Peak



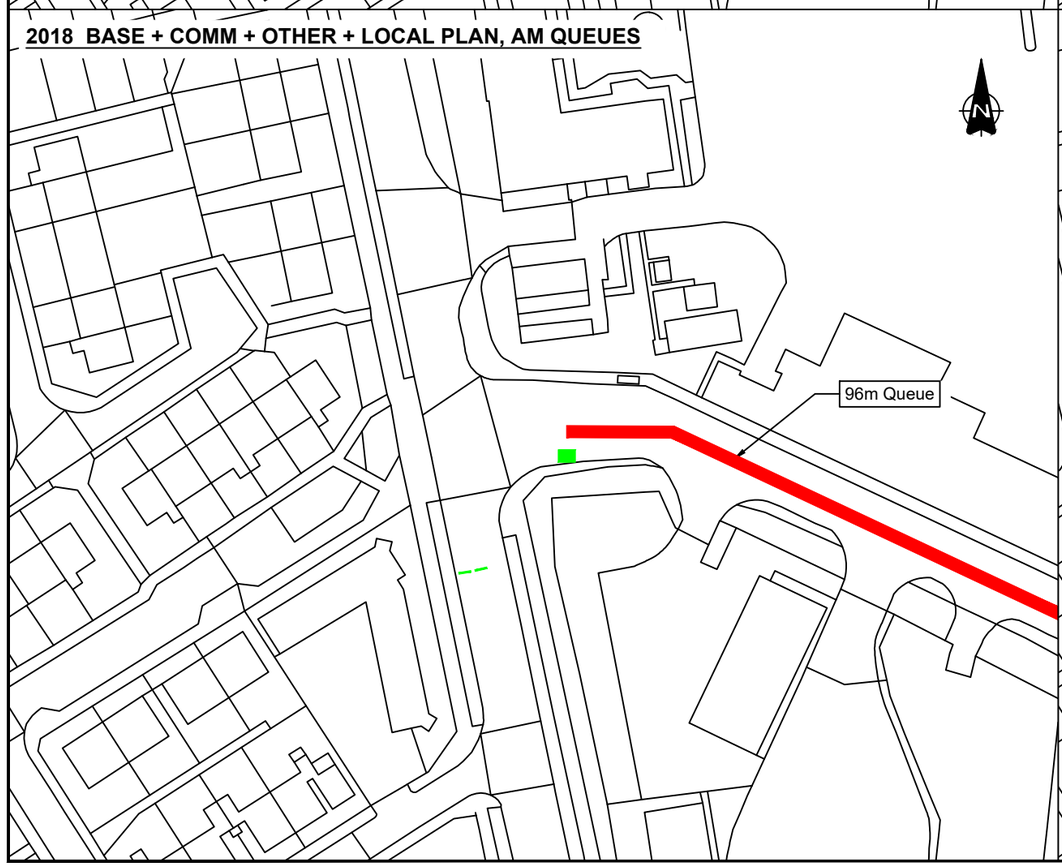
## 2018 BASE + COMM + OTHER, AM QUEUES



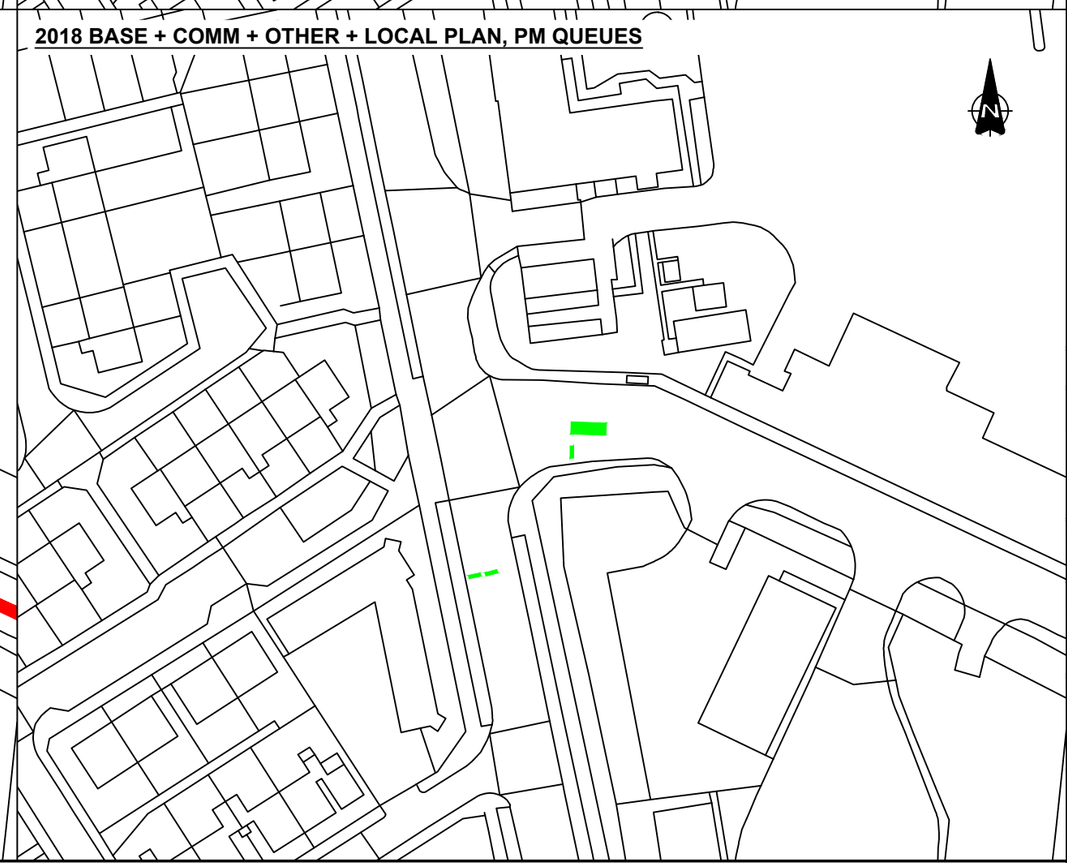

## 2018 BASE + COMM + OTHER, PM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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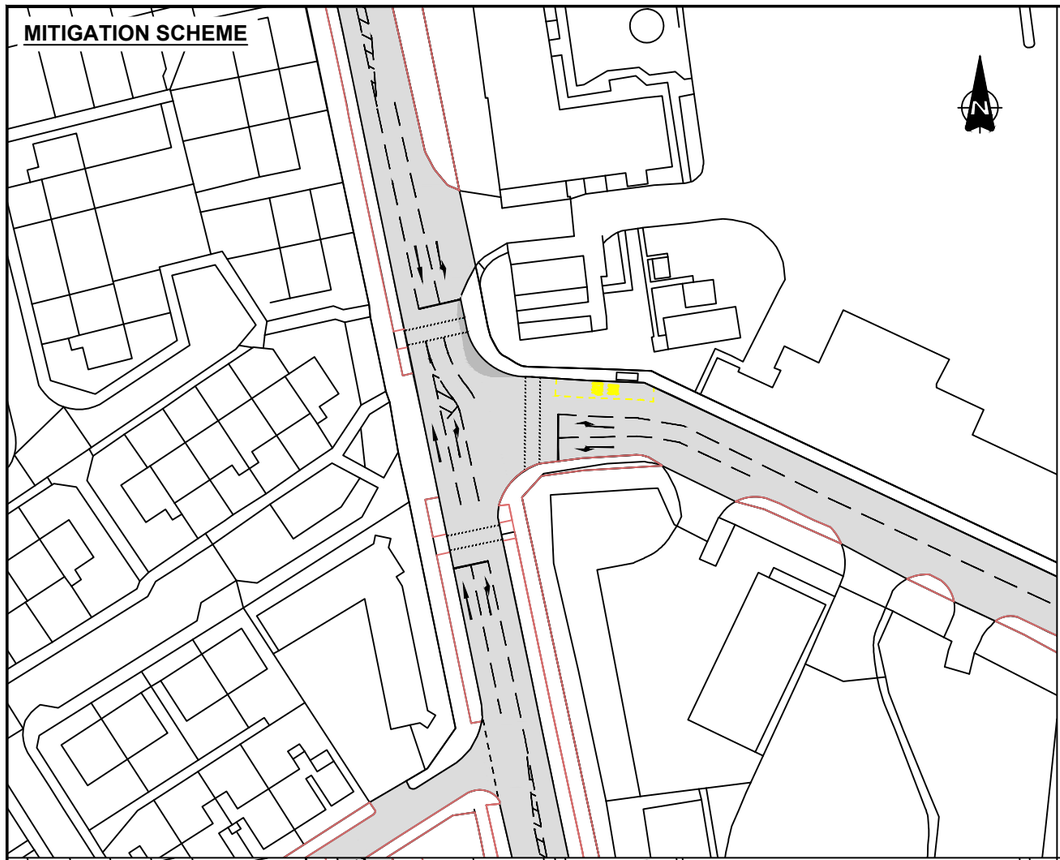
Project
LOCAL PLAN ASSESSMENT

Title
PRIORY ROAD / CHURCH BANK
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-12-001 | Rev.: - |

## MITIGATION SCHEME



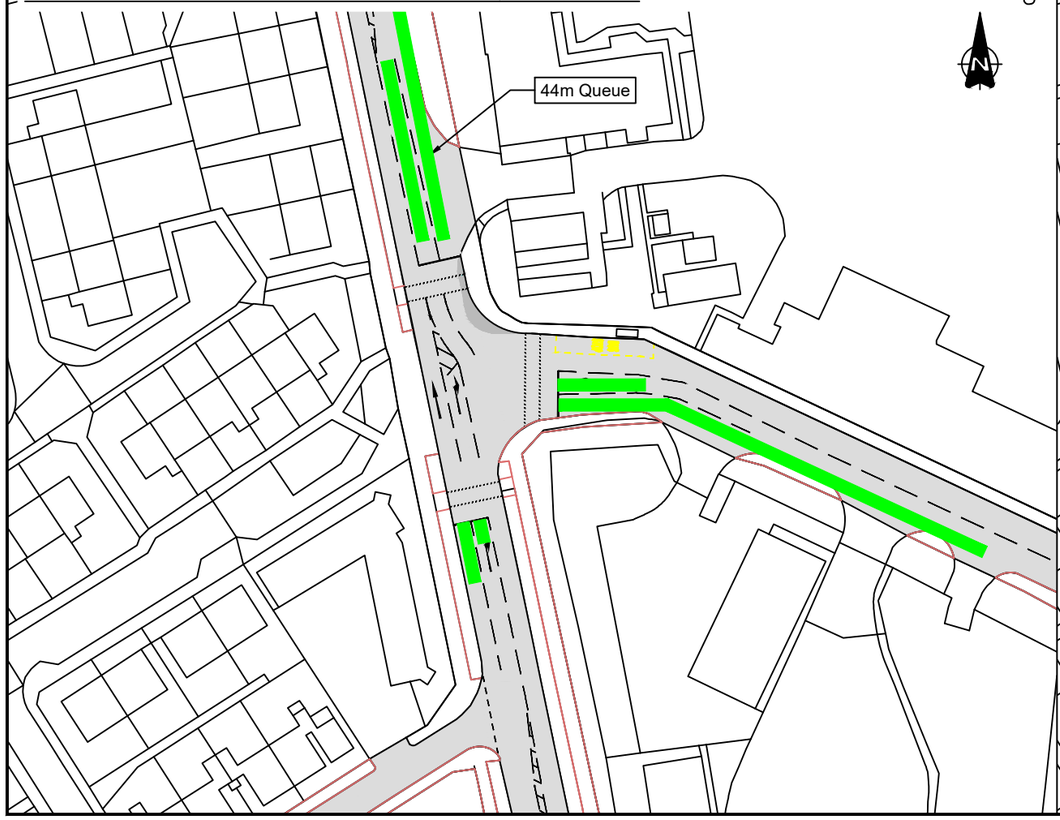
## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| ED2.8 | Former NGN Gas Holder, Curlew Road | 4 | 5 |
| | Remaining Developments | 0 | 0 |

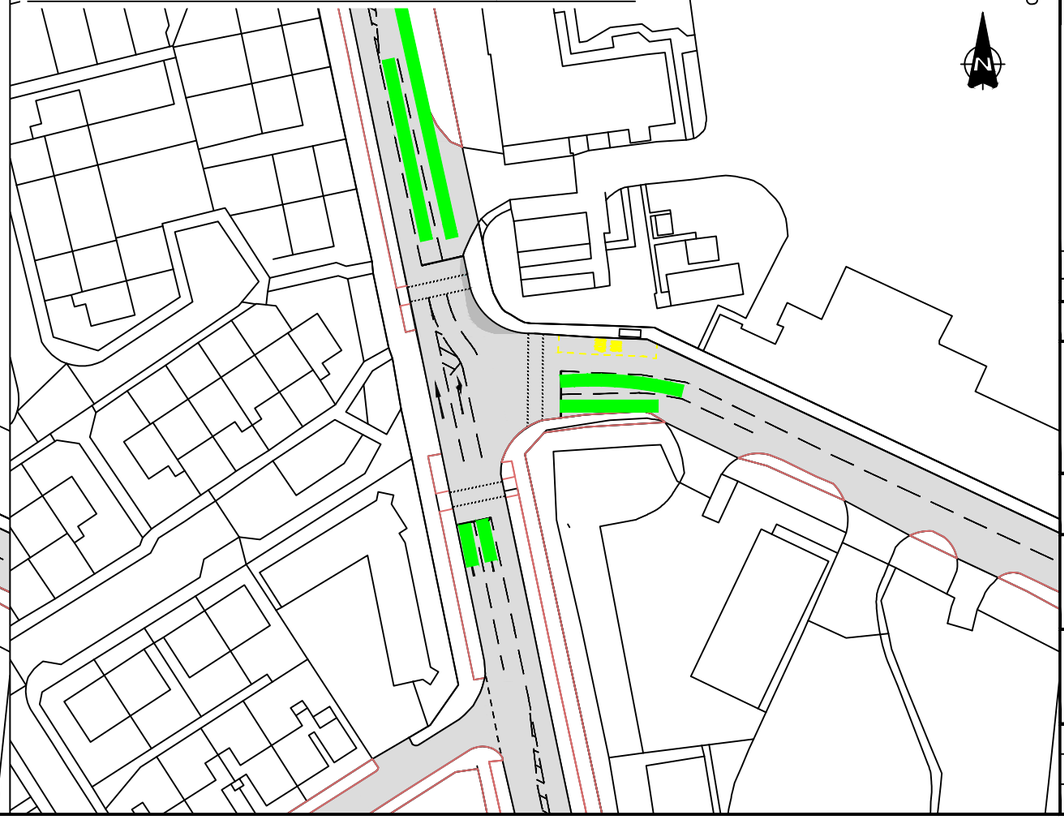
## KEY

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



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Title
PRIORY ROAD / CHURCH BANK
PROPOSED LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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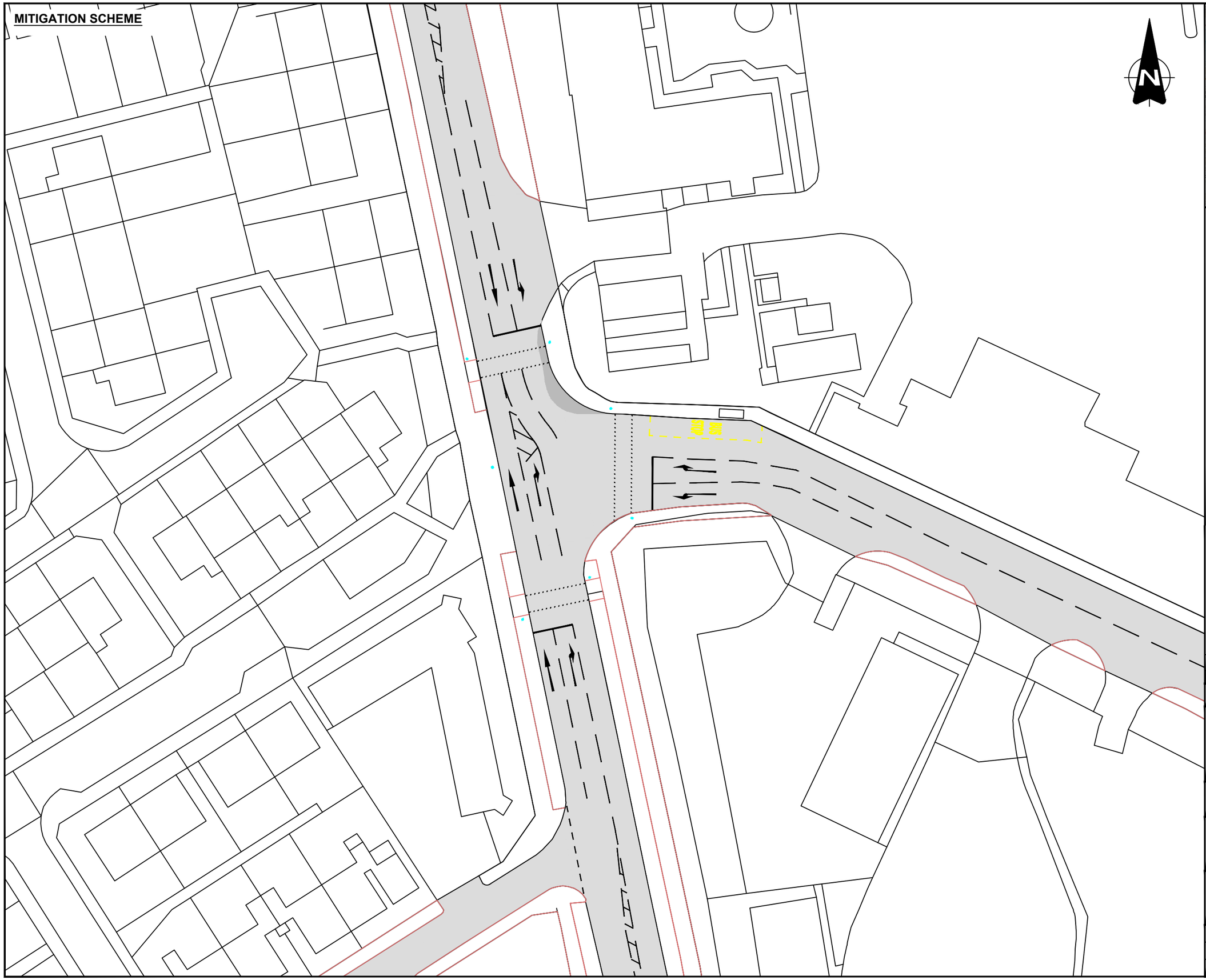
## MITIGATION SCHEME



**NOTES**

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3. All dimensions in metres unless otherwise stated.
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**KEY**

- Kerbline
- Existing Footway
- Carriageway
- Area of Carriageway Widening
- Road Markings

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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Title
PRIORY ROAD / CHURCH BANK
MITIGATION SCHEME

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|---|---|---|
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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:500 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-12-003 | Rev.: - |

## 3.13 Junction 13 – A1300 / B1298 / Whiteleas Way Roundabout

**2018 Base + Committed Development + Other Development**

3.13.1 The junction can be seen to be operating within its theoretical capacity during the assessment period. As such there are minimal queues on all arms of the junction.

Table 36. A1300 / B1298 / Whiteleas Way – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| B1298 Boldon Lane | 0.53 | 1.1 | 0.53 | 1.1 |
| A1300 East | 0.64 | 1.7 | 0.63 | 1.7 |
| B1298 Whiteleas Way | 0.8 | 4 | 0.8 | 3.9 |
| A1300 West | 0.45 | 0.8 | 0.45 | 0.8 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.13.2 With the addition of Local Plan traffic at this junction, the B1298 Whiteleas Way arm begins to approach its theoretical capacity in the morning and evening peak. The other arms of the junction remain operating within capacity.

Table 37. A1300 / B1298 / Whiteleas Way – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| B1298 Boldon Lane | 0.6 | 1.5 | 0.67 | 2 |
| A1300 East | 0.7 | 2.3 | 0.7 | 2.3 |
| B1298 Whiteleas Way | 0.95 | 13 | 0.89 | 7.2 |
| A1300 West | 0.5 | 1 | 0.54 | 1.2 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.13.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.13.4 The scheme involves the extending of the two lane approach on the B1298 Whiteleas Way arm.

3.13.5 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.13.6 The proposed mitigation scheme is considered to improve junction performance.

3.13.7 The capacity assessment is summarised on Drawing Ref 16L02-13-001 and 16L02-13-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-13-003 overleaf.

3.13.8 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

Table 38. A1300 / B1298 / Whiteleas Way – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| B1298 Boldon Lane | 0.6 | 1.5 | 0.67 | 2 |
| A1300 East | 0.7 | 2.3 | 0.7 | 2.3 |
| B1298 Whiteleas Way | 0.89 | 7 | 0.83 | 4.7 |
| A1300 West | 0.51 | 1 | 0.54 | 1.2 |

### 3.13.9 Cost of Mitigation

3.13.10 The junction is located in a built up area but there is substantial space within the highway envelope. The carriageway is raised above the surrounding area which can result in substantial level changes from the edge of carriageway.

3.13.11 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.13.12 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by surface covers located around the junction.

3.13.13 The introduction of the proposed mitigation is anticipated to cost in the region of £150,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.13.14 In addition, contributions to local or wider sustainable transport improvements may be necessary.

### 3.13.15 Trigger Point Analysis

3.13.16 The Local Plan development traffic has been incrementally added to the base model to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

3.13.17 For the purposes of this assessment, the junction is considered to require a mitigation scheme when 90% of the Local Plan development has come forward. A mitigation scheme would therefore need to be delivered in advance of reaching this point. This is anticipated to be in 11-15 years of the Local Plan period.

**Composition of Trips Through Junction**

3.13.18 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.13.19 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land at Chuter Ede Education Centre and Former Brinkburn Comprehensive School with the majority of the trips being made up cumulatively by a number of developments.

Figure 25. Composition of traffic passing through junction at the end of the plan period – Morning Peak

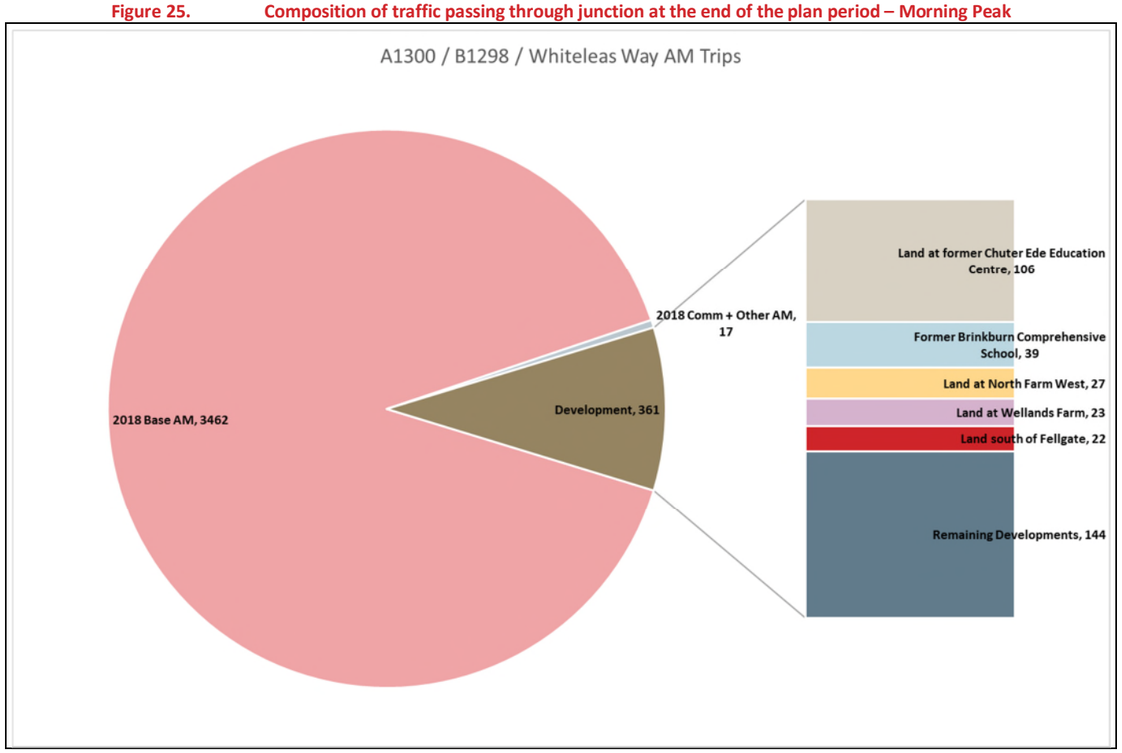
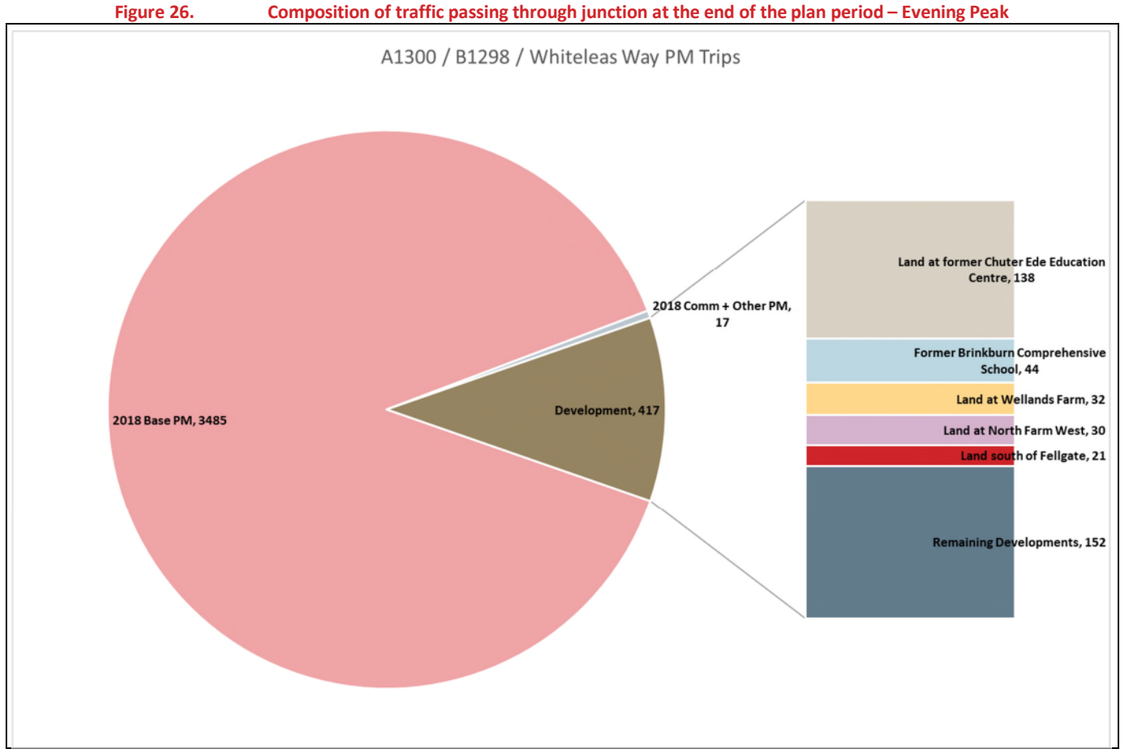
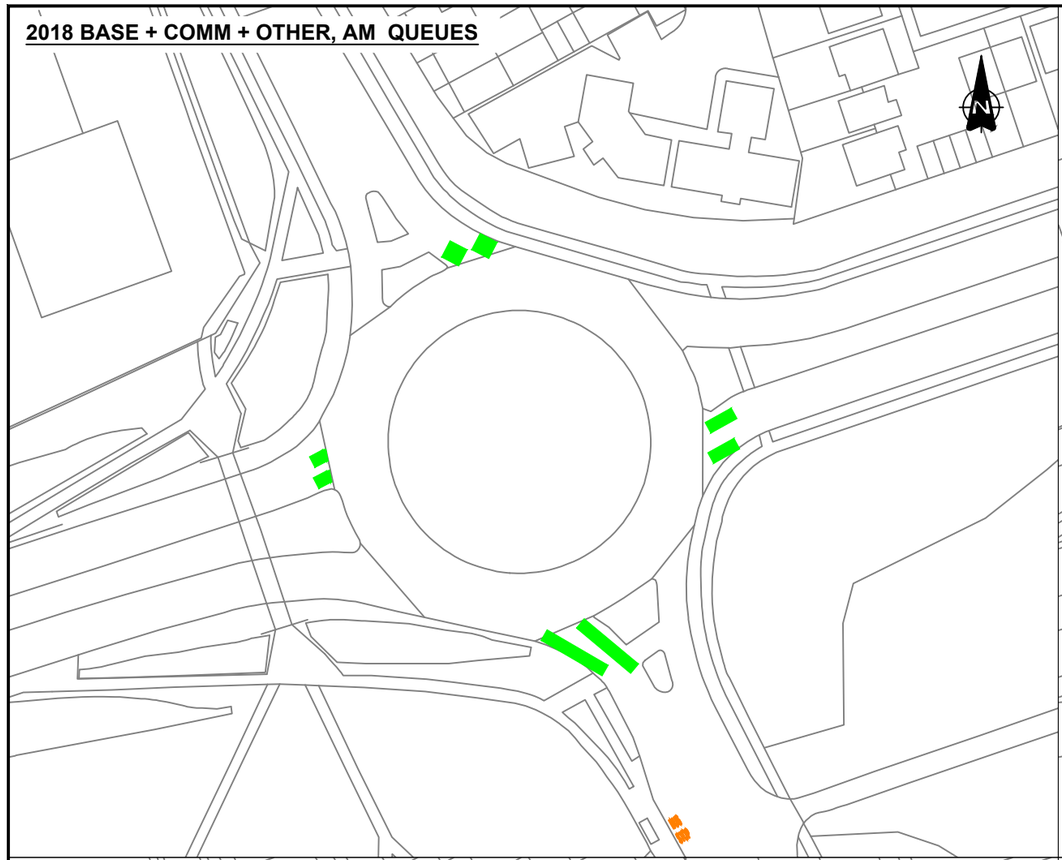


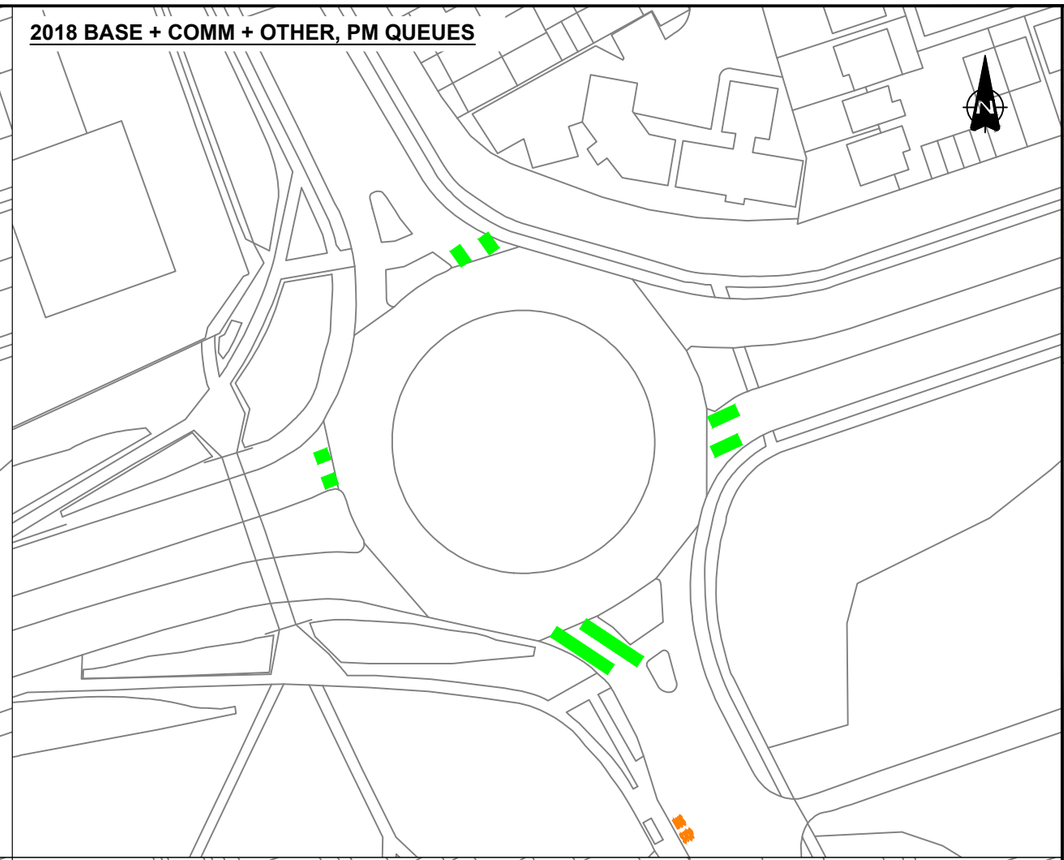

Figure 26. Composition of traffic passing through junction at the end of the plan period – Evening Peak



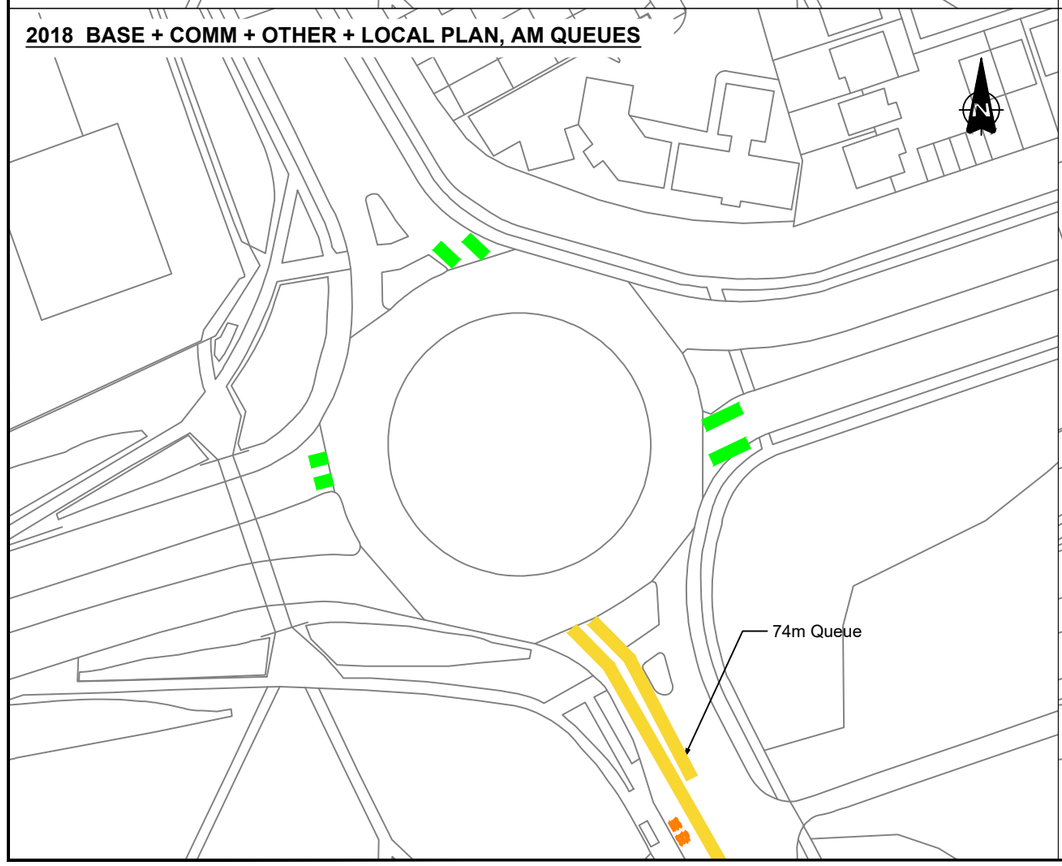
## 2018 BASE + COMM + OTHER, AM QUEUES



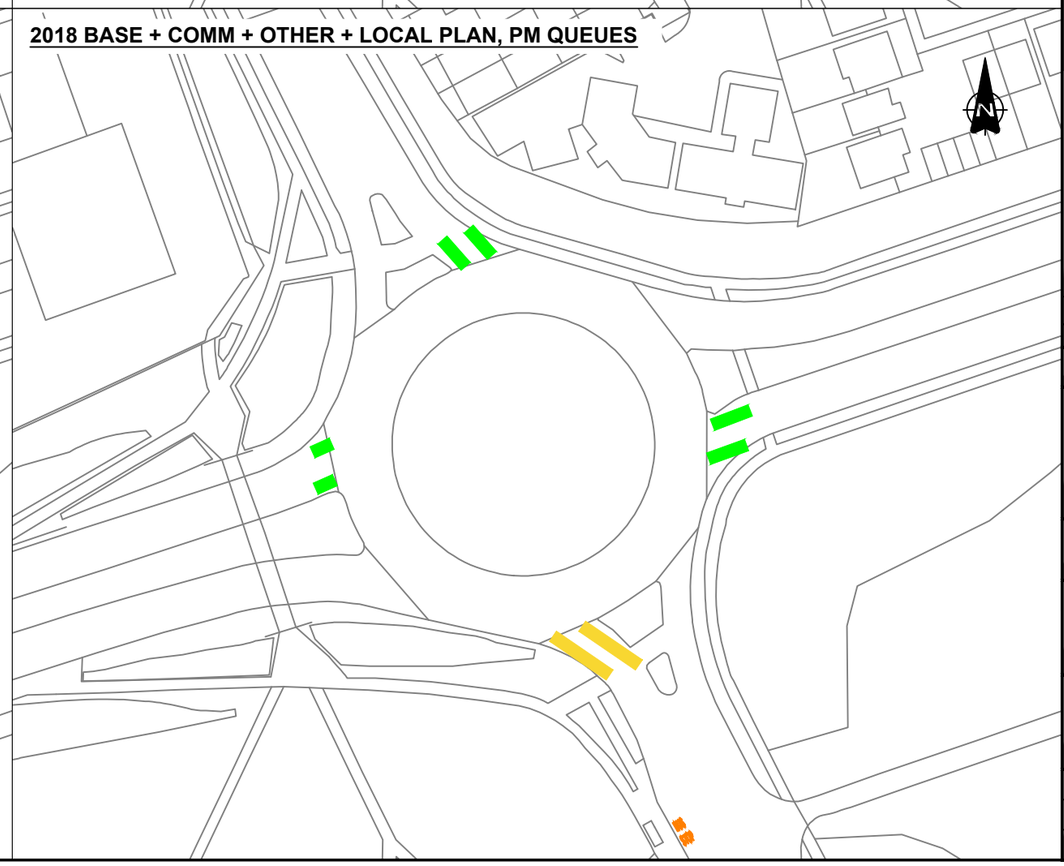
## 2018 BASE + COMM + OTHER, PM QUEUES

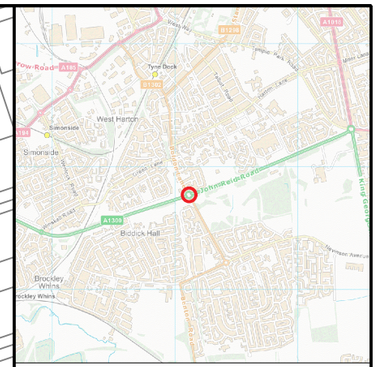


## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES





**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

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Project
LOCAL PLAN ASSESSMENT

Title
A1300 / B1298 / WHITELEAS WAY
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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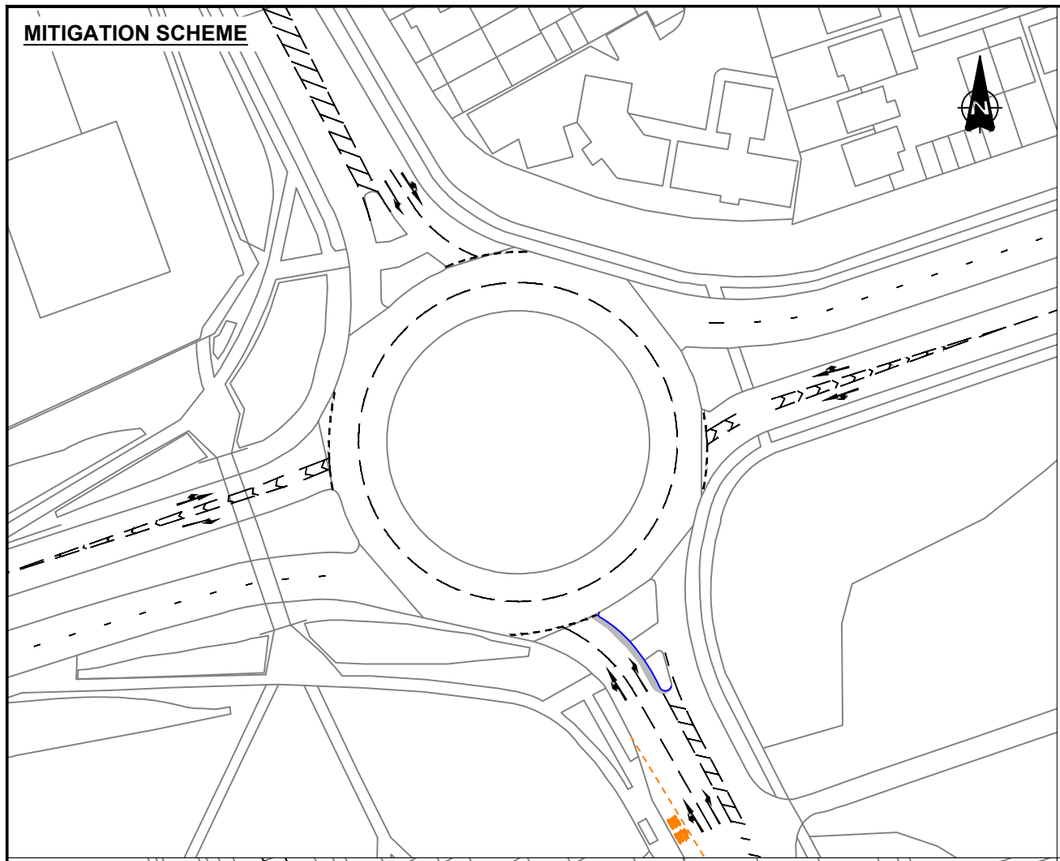
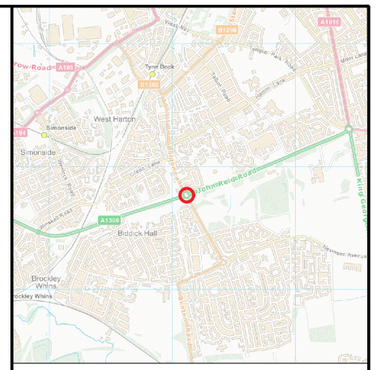
## MITIGATION SCHEME



## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SOS040 | Land at Chuder Ede Education centre (excluding Brydon court) | 106 | 138 |
| SBC009 | Former Brinkburn Comprehensive School | 39 | 44 |
| SBC030 | Land at North Farm (West) | 27 | 30 |
| SWH009 | Land at Wellands Farm | 23 | 32 |
| SFG072 | Land South of Fellgate | 22 | 21 |
| | Remaining Developments | 144 | 152 |



## KEY

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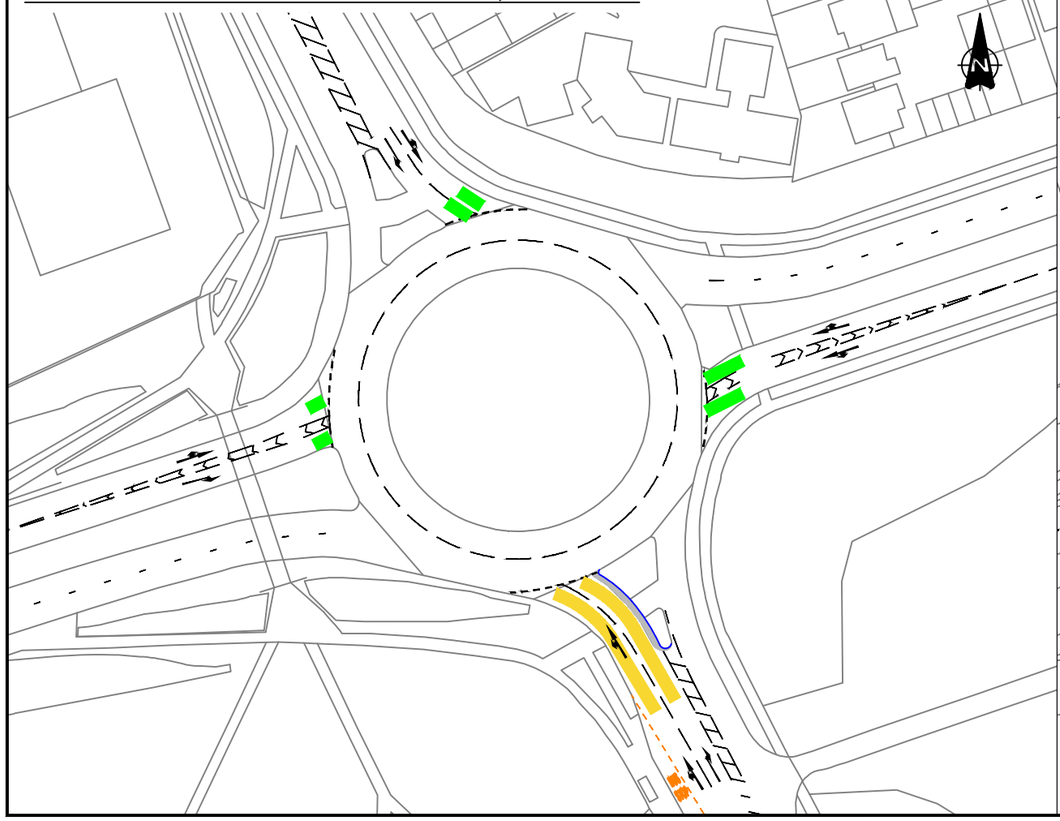
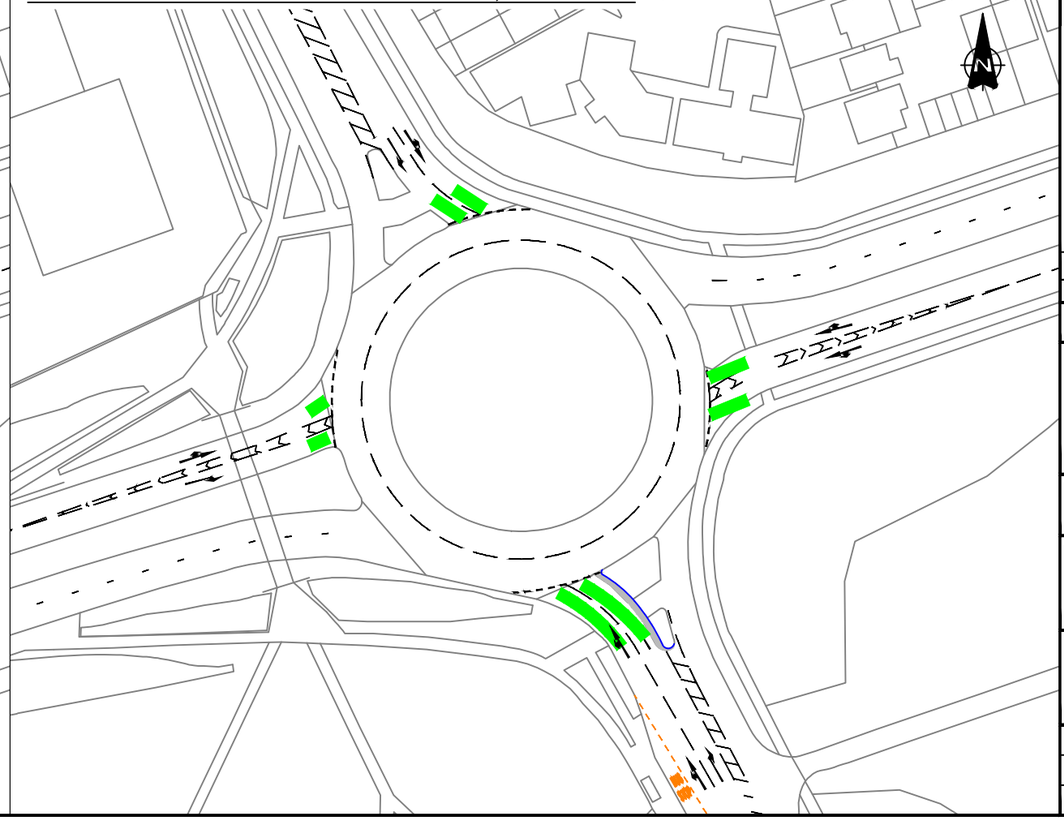
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



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Project
LOCAL PLAN ASSESSMENT

Title
A1300 / B1298 / WHITELEAS WAY
PROPOSED LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
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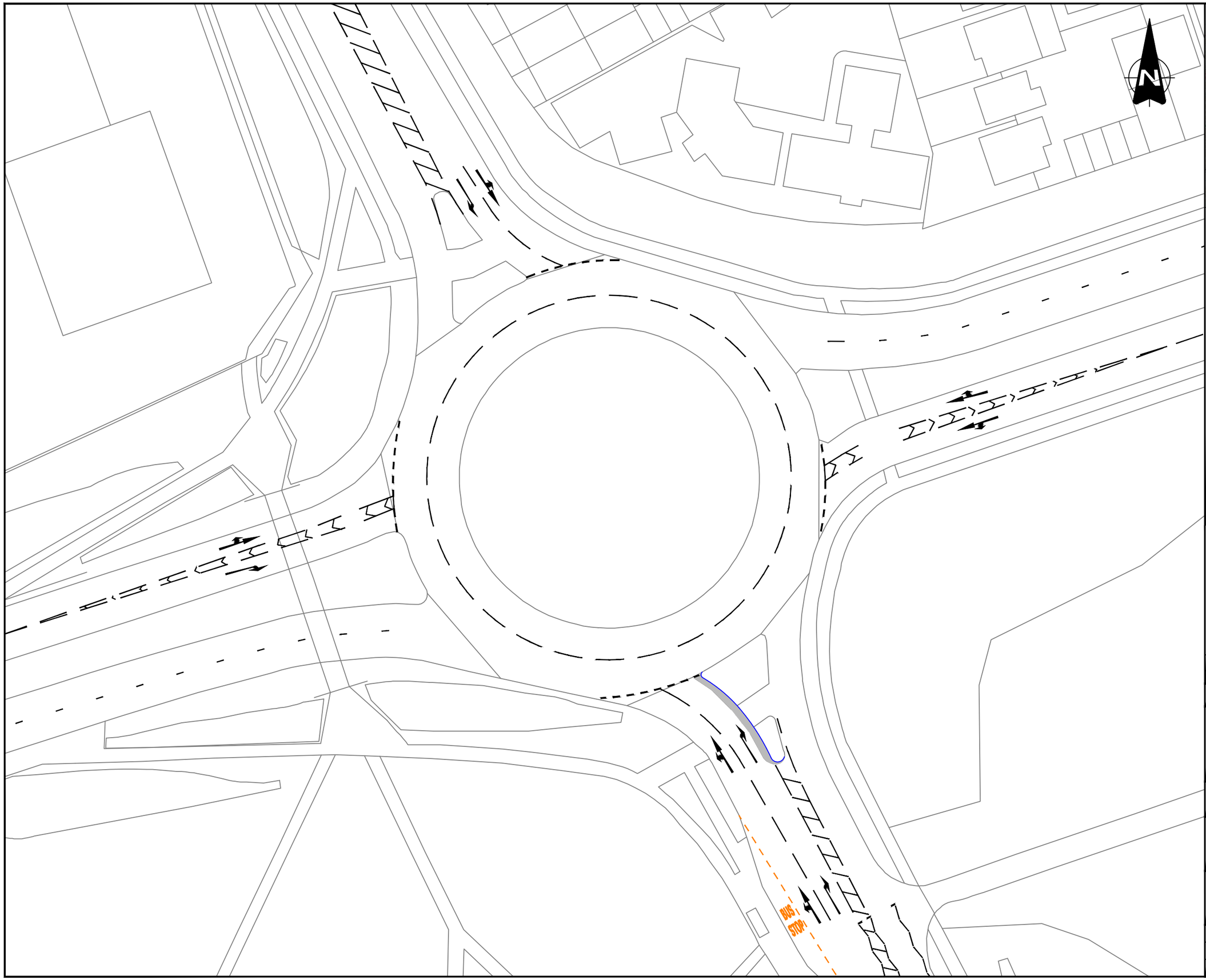


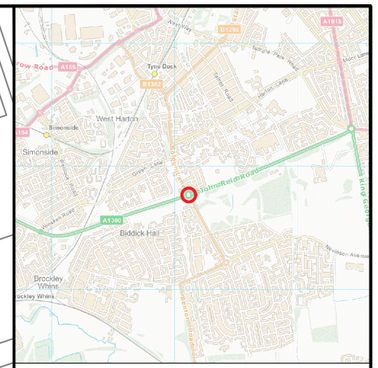


**NOTES**

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3. All dimensions in metres unless otherwise stated.
4. This drawing is for planning purposes only.

**KEY**

- Proposed Kerbline
- Proposed Footway
- Area of Carriageway Widening

| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
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Project
LOCAL PLAN ASSESSMENT

Title
A1300 / B1298 / WHITELEAS WAY
MITIGATION SCHEME

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|---|---|---|
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| Original drg. size: A3 | Date: 14.06.17 | Scale: 1:500 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-05-003 | Rev.: - |

## 3.14 Junction 14 – A1300 / A1018 / Temple Park Road Roundabout

**2018 Base + Committed Development + Other Development**

3.14.1 In the morning peak scenario, the A1018 South arm of this junction operates over its theoretical capacity with substantial queuing. In the evening peak scenario, the A1300 West and Temple Park Road arms of the junction can be seen to be approaching its theoretical capacity.

Table 39. A1300 / A1018 / Temple Park Road – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| A1018 North | 0.46 | 0.9 | 0.71 | 2.4 |
| A1300 East | 0.85 | 5.1 | 0.73 | 2.6 |
| A1018 South | 1.09 | 54.1 | 0.71 | 2.4 |
| A1300 West | 0.69 | 2.2 | 0.89 | 7.2 |
| Temple Park Road | 0.54 | 1.2 | 0.86 | 5.4 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.14.2 With the addition of Local Plan traffic at this junction, the A1018 South arm further exceeds capacity with queuing exceeding 130 PCUs in the morning peak. In the evening peak, the A1033 West and Temple Park Road arms can be seen to be operating close to their theoretical capacity.

Table 40. A1300 / A1018 / Temple Park Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| A1018 North | 0.49 | 1 | 0.8 | 3.9 |
| A1300 East | 0.88 | 6.7 | 0.8 | 3.7 |
| A1018 South | 1.25 | 132 | 0.79 | 3.6 |
| A1300 West | 0.7 | 2.3 | 0.96 | 14.6 |
| Temple Park Road | 0.56 | 1.3 | 0.97 | 11.4 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.14.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.14.4 The scheme involves the widening on the A1300 West arm and A1018 South arm to provide three lane approaches to the roundabout and widening to the A1300 East arm to provide a longer two lane approach.

3.14.5 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.14.6 The proposed mitigation scheme is considered to improve junction performance and return it to working within theoretical capacity.

3.14.7 The capacity assessment is summarised on Drawing Ref 16L02-14-001 and 16L02-14-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-14-003 overleaf.

3.14.8 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

Table 41. A1300 / A1018 / Temple Park Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| A1018 North | 0.5 | 1 | 0.82 | 4.3 |
| A1300 East | 0.8 | 3.9 | 0.72 | 2.6 |
| A1018 South | 0.86 | 5.6 | 0.56 | 1.3 |
| A1300 West | 0.59 | 1.4 | 0.75 | 2.9 |
| Temple Park Road | 0.52 | 1.1 | 0.79 | 3.6 |

**Cost of Mitigation**

3.14.9 The junction is located in a built up area with buildings located adjacent to the highway envelope, although highway verges are present. There are no substantial level changes from the edge of carriageway.

3.14.10 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.14.11 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of street lighting and illuminated signage where the kerb widening works would be undertaken.

3.14.12 The introduction of the proposed mitigation is anticipated to cost in the region of £300,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.14.13 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.14.14 The Local Plan development traffic has been incrementally added to the base model to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

3.14.15 For the purposes of this assessment, the junction is considered to require a mitigation scheme to be delivered in advance of 30% of the Local Plan development coming forward. This is anticipated to be in 6-10 years of the Local Plan period.

**Composition of Trips Through Junction**

3.14.16 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.14.17 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Land of West Hall Farm with the majority of the trips being made up cumulatively of a number of developments.

Figure 27. Composition of traffic passing through junction at the end of the plan period – Morning Peak

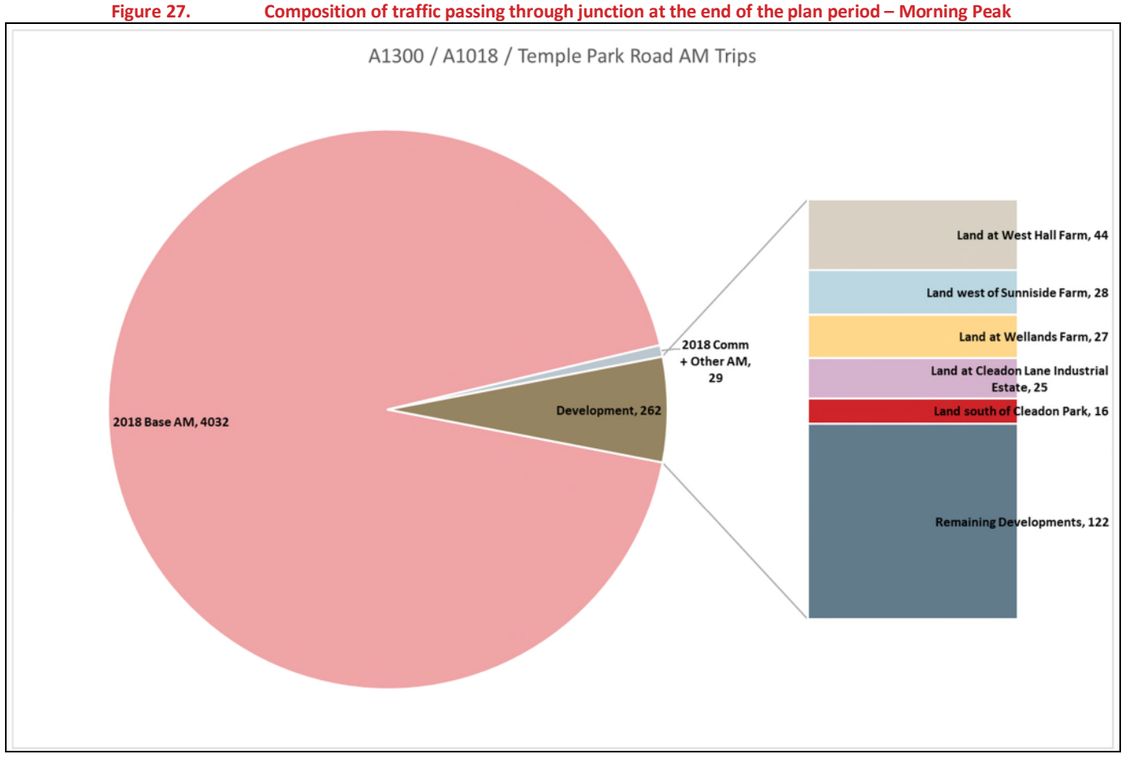
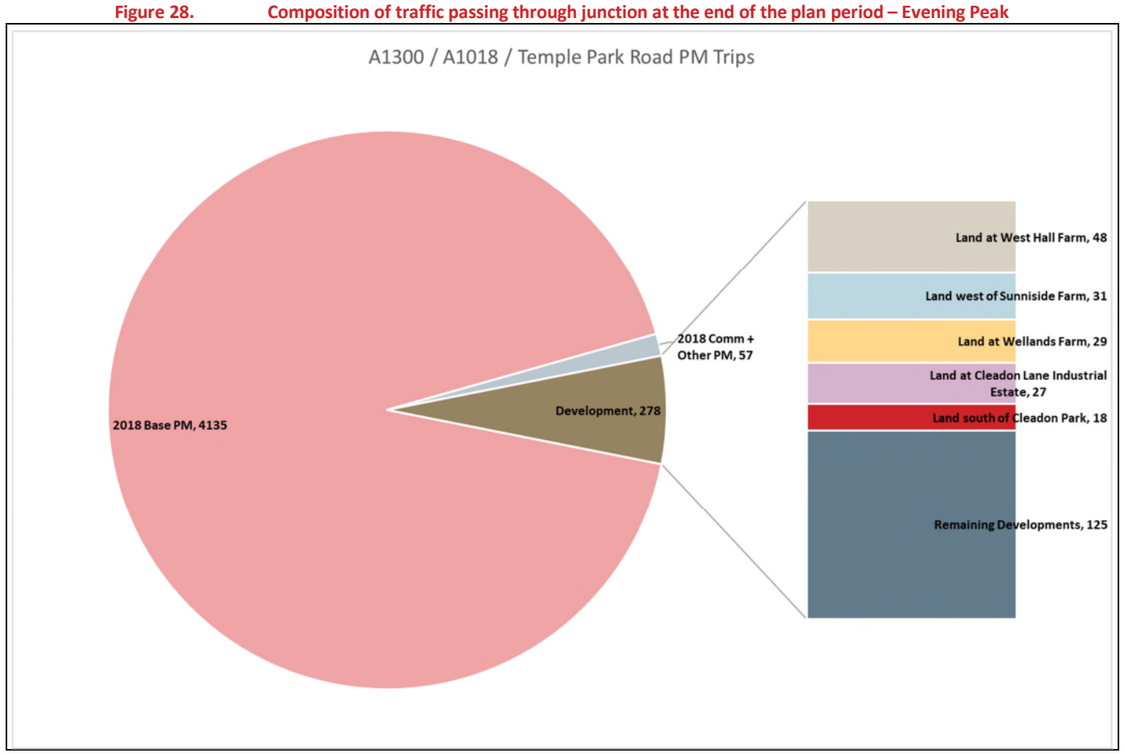
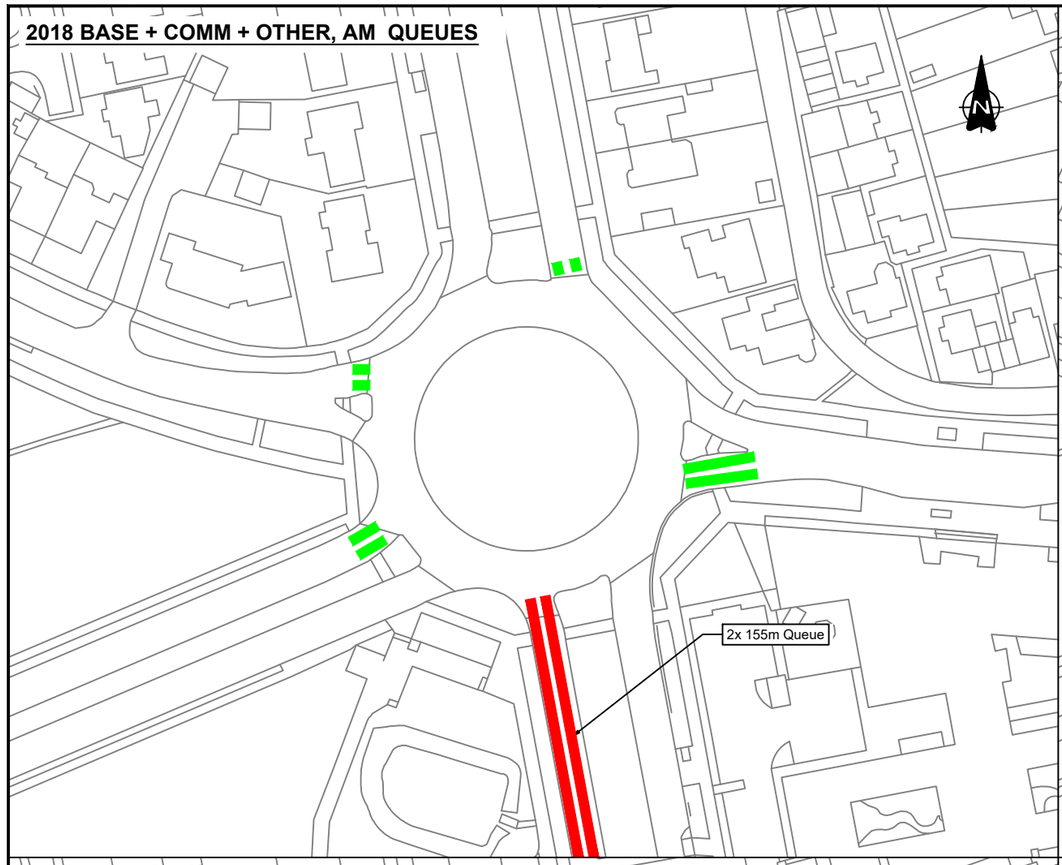


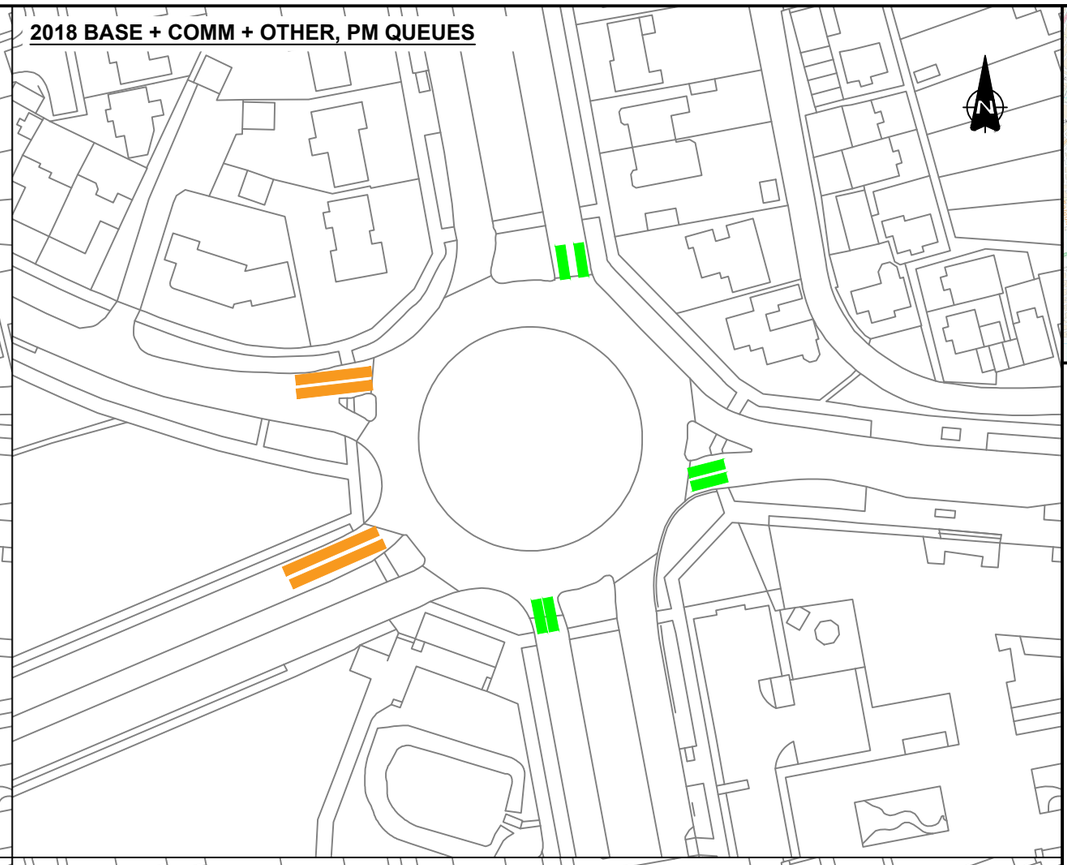

Figure 28. Composition of traffic passing through junction at the end of the plan period – Evening Peak



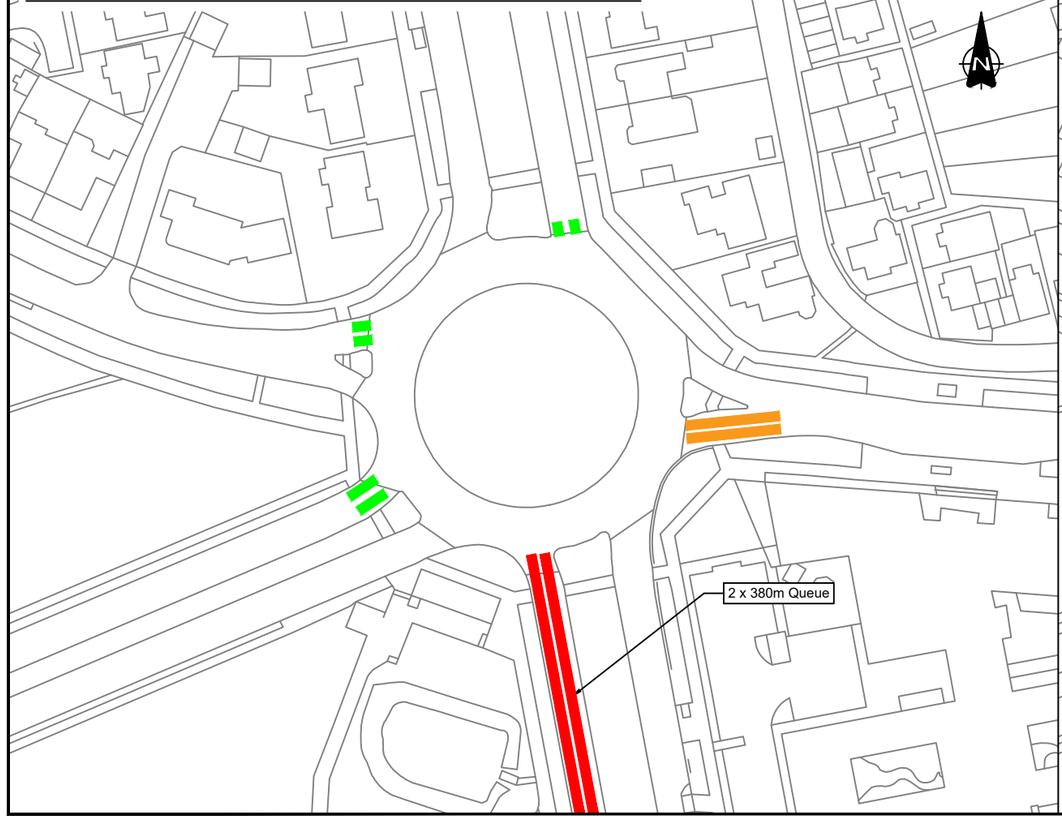
## 2018 BASE + COMM + OTHER, AM QUEUES



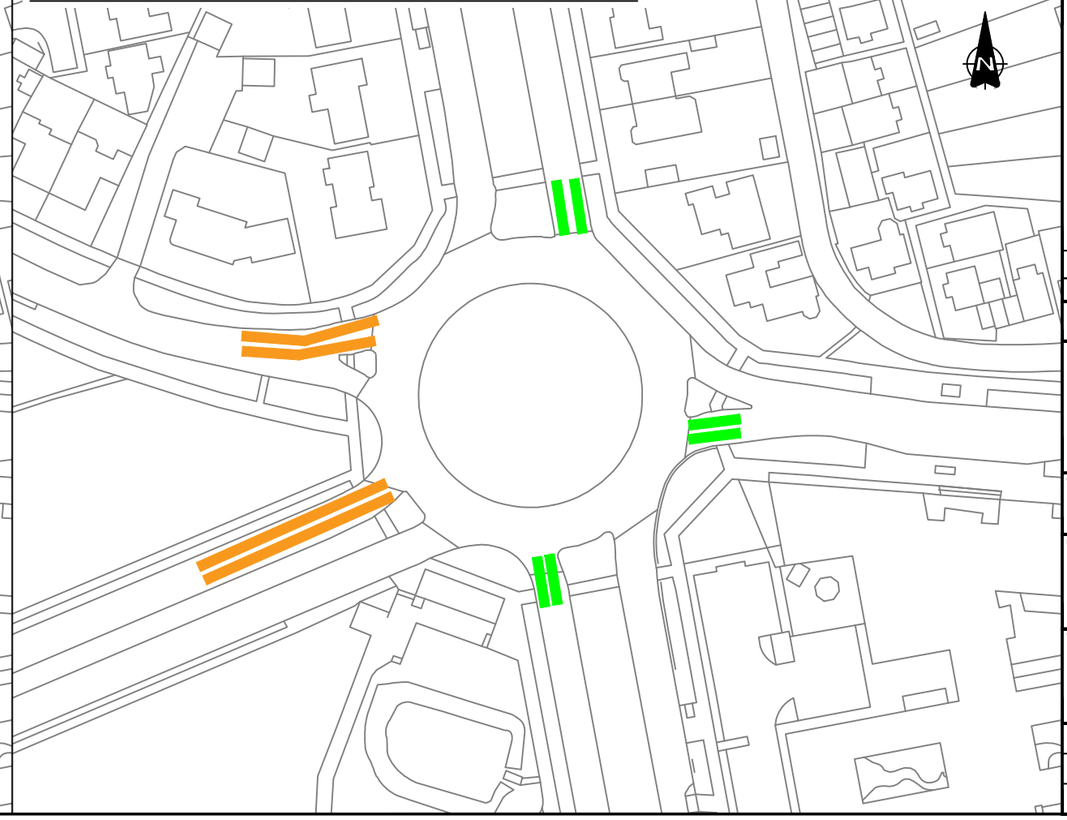

## 2018 BASE + COMM + OTHER, PM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
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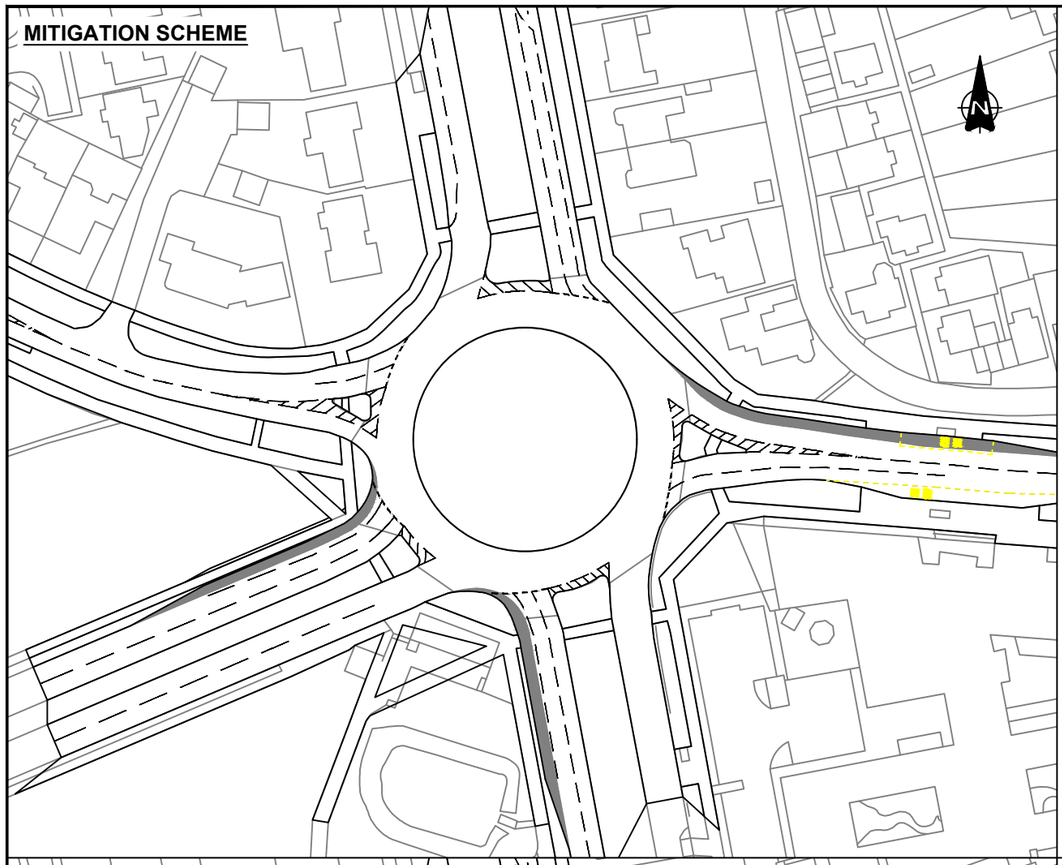
Project
LOCAL PLAN ASSESSMENT

Title
A1300 / A1018 / TEMPLE PARK ROAD
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1250 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-14-001 | Rev.: - |

## MITIGATION SCHEME



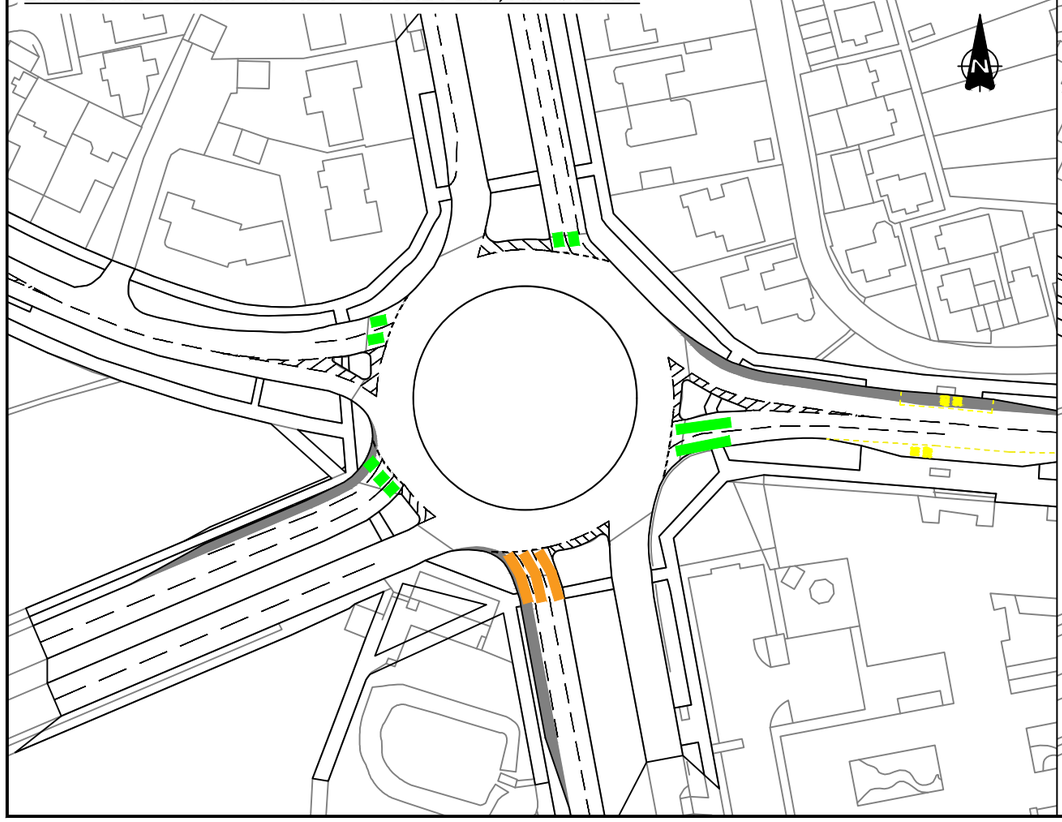
## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SBC051 | Land at West Hall Farm | 44 | 48 |
| SBC101 | Land West of Sunniside Farm | 28 | 31 |
| SWH009 | Land at Wellands Farm | 27 | 29 |
| SBC010 | Land at Cleadon Lane Ind Estate | 25 | 27 |
| SCB100 | Land South of Cleadon Park | 16 | 18 |
| | Remaining Developments | 122 | 125 |

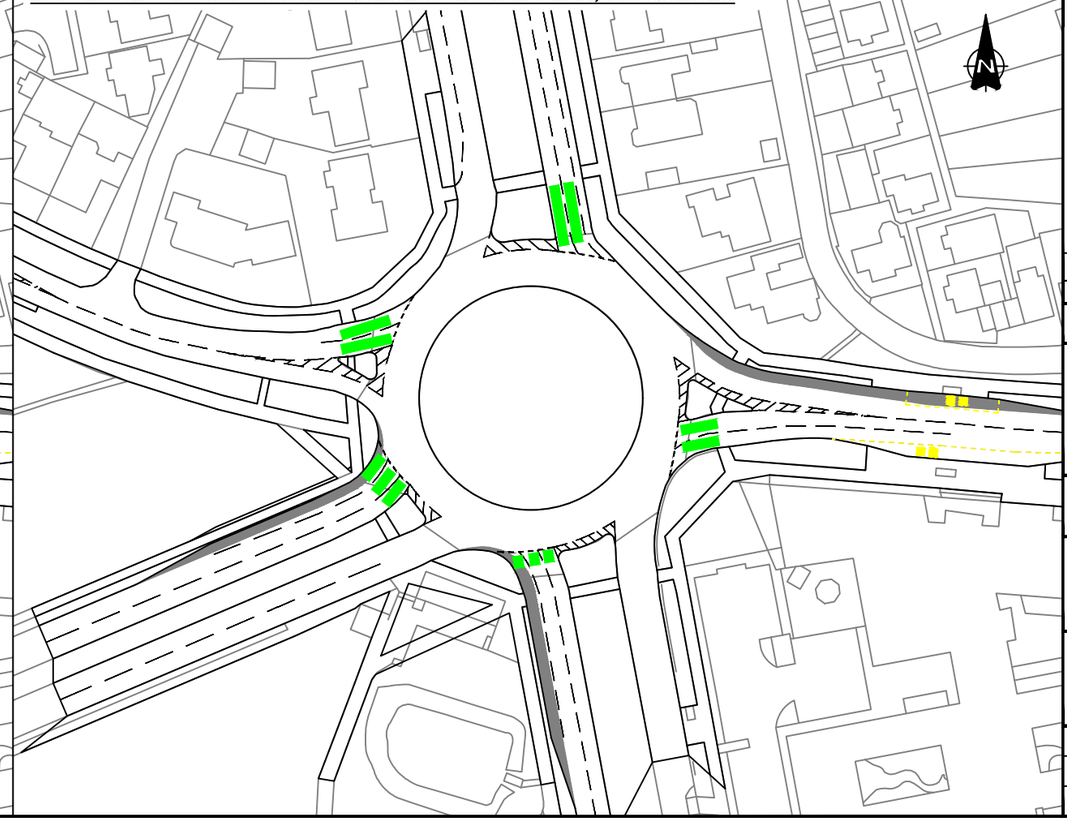
## KEY

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER QUEUES + LOCAL PLAN, PM QUEUES



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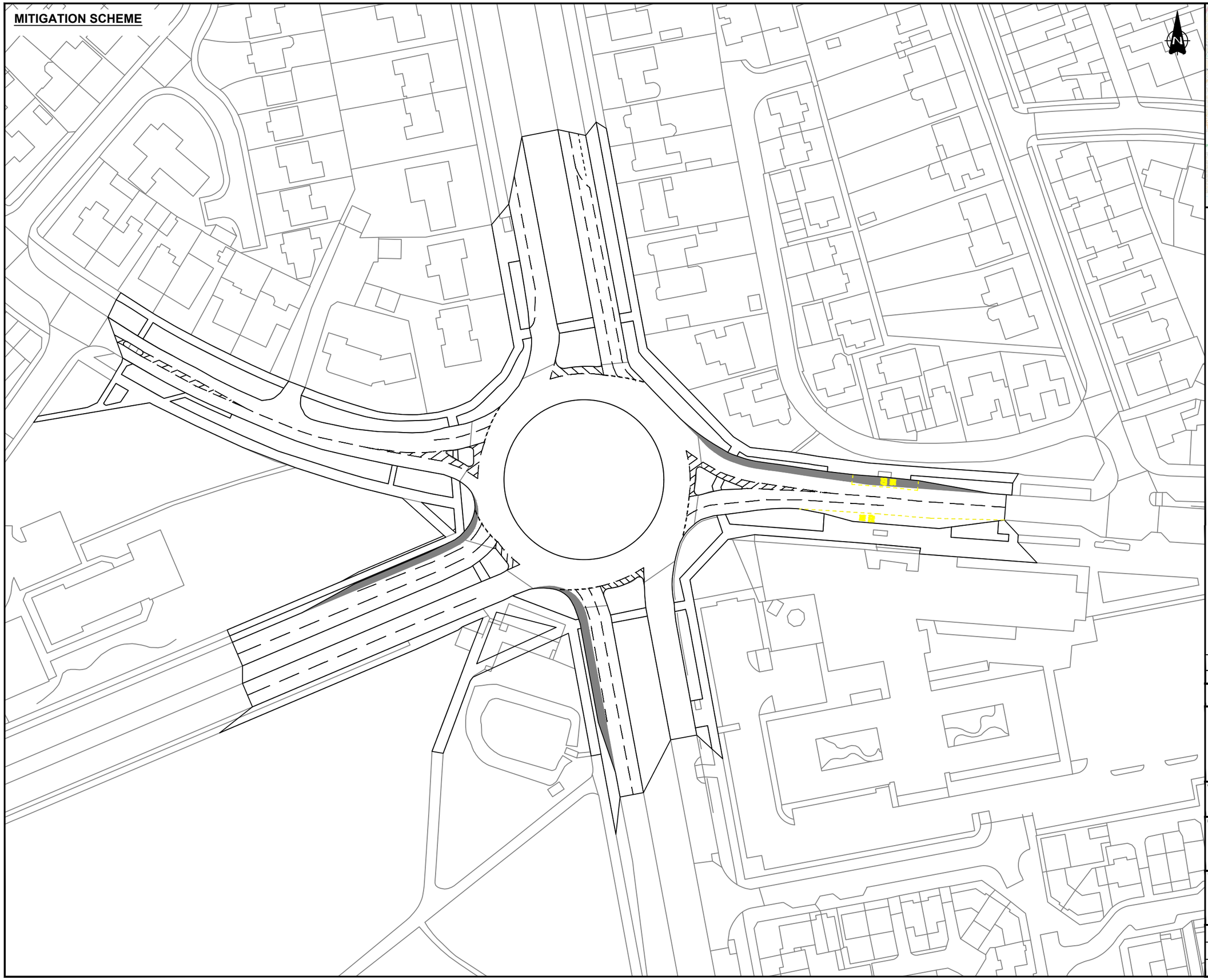
Project
LOCAL PLAN ASSESSMENT

Title
A1300 / A1018 / TEMPLE PARK ROAD
PROPOSED LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1250 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-14-002 | Rev.: - |

## MITIGATION SCHEME



**NOTES**

1. Do not scale from this drawing.
2. This drawing is based on OS Mastermap Topographical layer.
3. All dimensions in metres unless otherwise stated.
4. This drawing is for planning purposes only.

**KEY**

- Kerbline
- Footway
- Area of Carriageway Widening
- Proposed Road Markings

| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
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Project
LOCAL PLAN ASSESSMENT

Title
A1300 / A1018 / TEMPLE PARK ROAD
MITIGATION SCHEME

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:500 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-14-003 | Rev. - |

## 3.15 Junction 15 – B1298 Abingdon Way / Brooklands Way Roundabout

**2018 Base + Committed Development + Other Development**

3.15.1 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such there are minimal queues on all arms of the junction.

Table 42. B1298 Abingdon Way / Brooklands Way – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Abingdon Way North | 0.4 | 0.7 | 0.4 | 0.7 |
| Henley Way | 0.54 | 1.2 | 0.36 | 0.6 |
| Abingdon Way South | 0.49 | 1 | 0.55 | 1.2 |
| Brooklands Way | 0.09 | 0.1 | 0.29 | 0.4 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.15.2 The junction remains well within its theoretical capacity with the addition of Local Plan traffic.

Table 43. B1298 Abingdon Way / Brooklands Way – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Abingdon Way North | 0.42 | 0.7 | 0.46 | 0.8 |
| Henley Way | 0.72 | 2.6 | 0.46 | 0.9 |
| Abingdon Way South | 0.56 | 1.3 | 0.71 | 2.4 |
| Brooklands Way | 0.1 | 0.1 | 0.35 | 0.5 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.15.3 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme with the junction continuing to work within its theoretical capacity.

3.15.4 The capacity assessment is summarised on Drawing Ref 16L02-15-001 overleaf.

3.15.5 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station to the east of this junction, an extension to the existing Park and Ride car park at East Boldon or an increased Metro service through track dualling.

**Cost of Mitigation**

3.15.6 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.15.7 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.15.8 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not require a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.15.9 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.15.10 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land at Cleadon Lane Industrial Estate with substantial contributions from a number of developments.

Figure 29. Composition of traffic passing through junction at the end of the plan period – Morning Peak

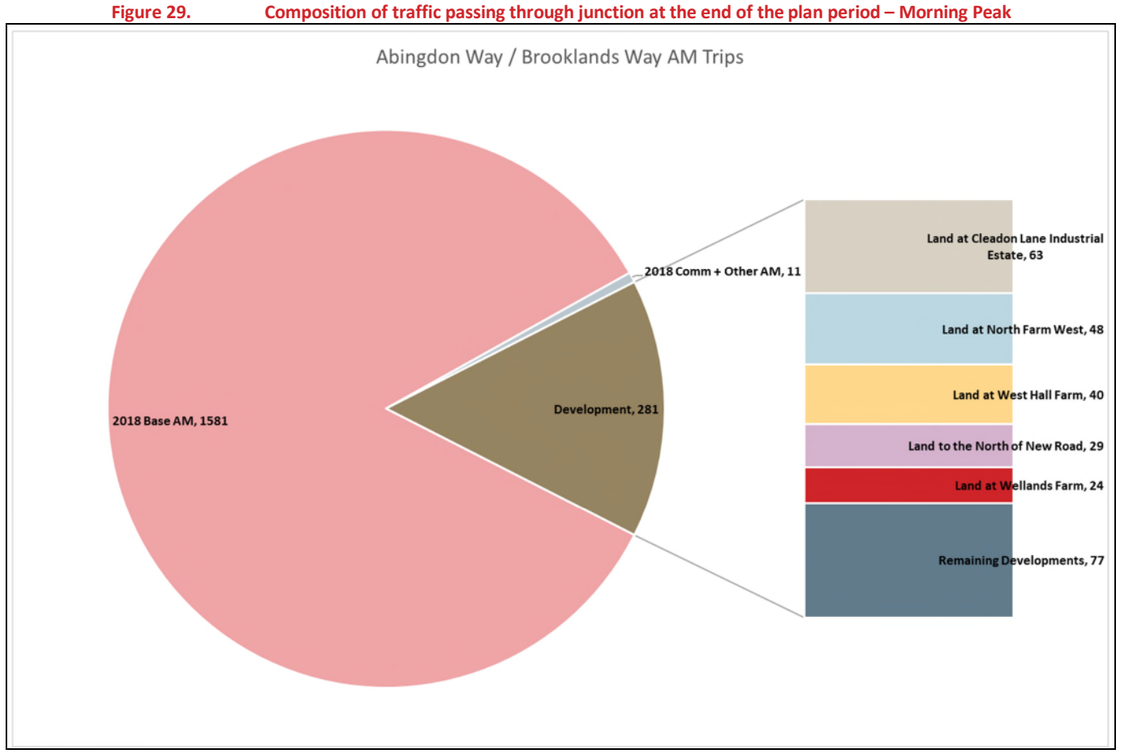
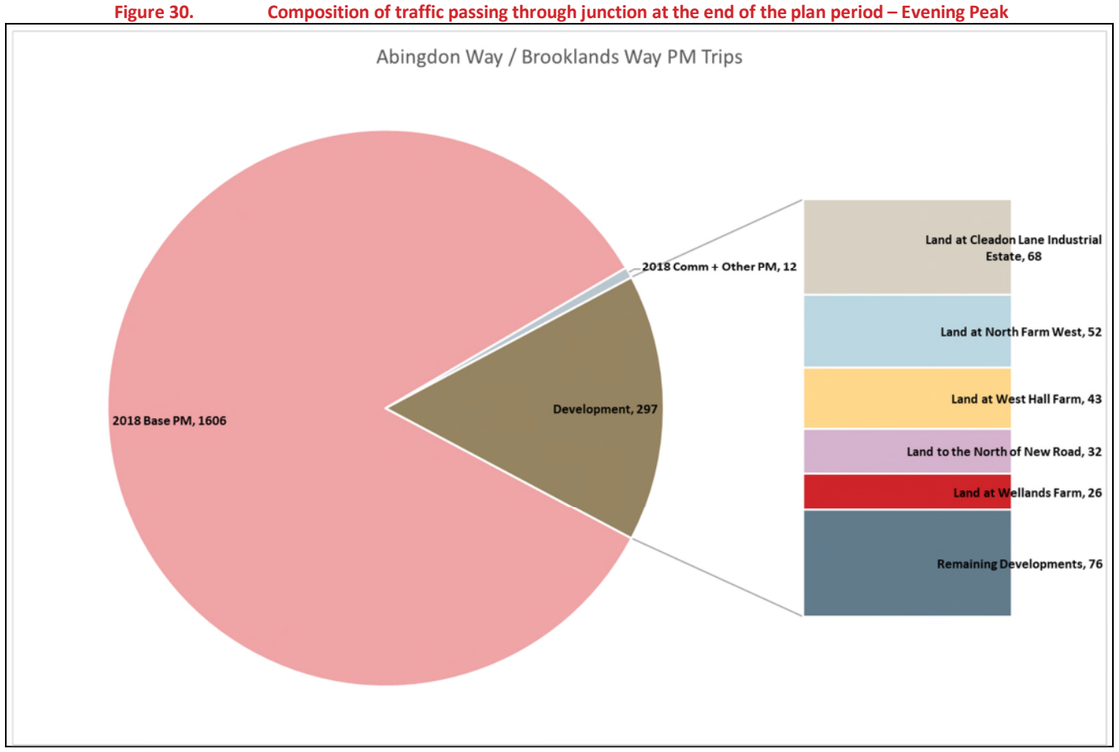
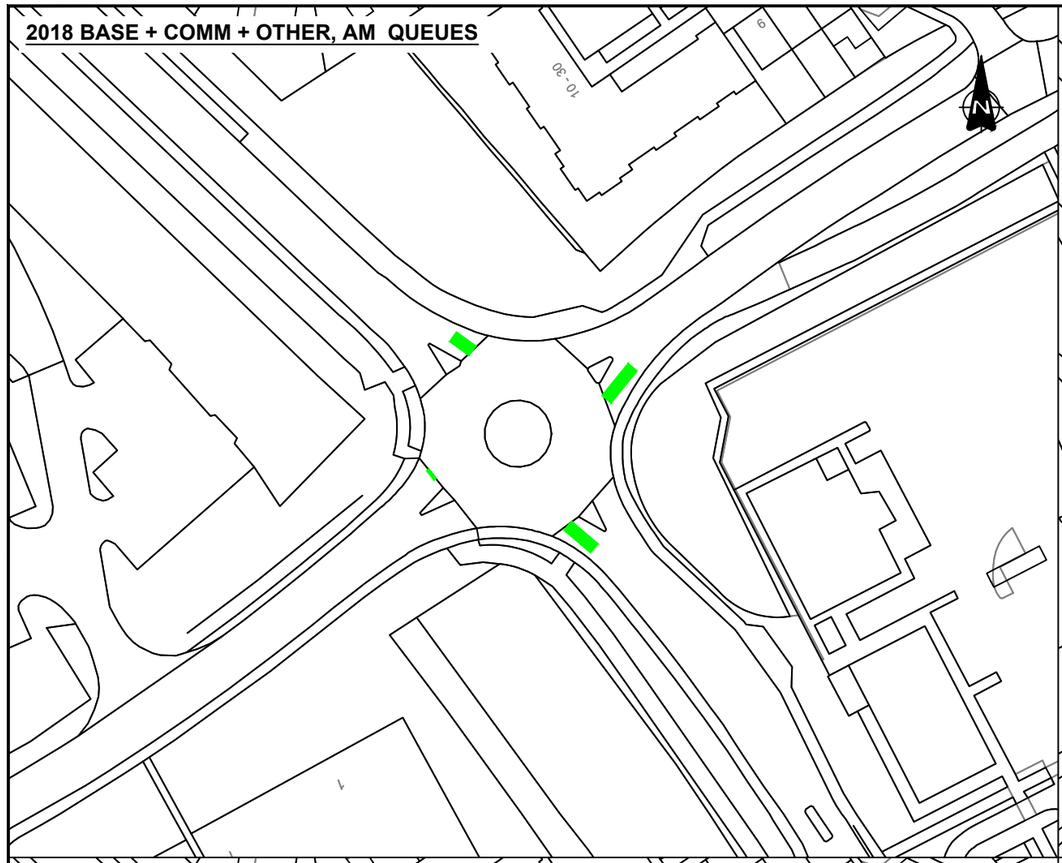
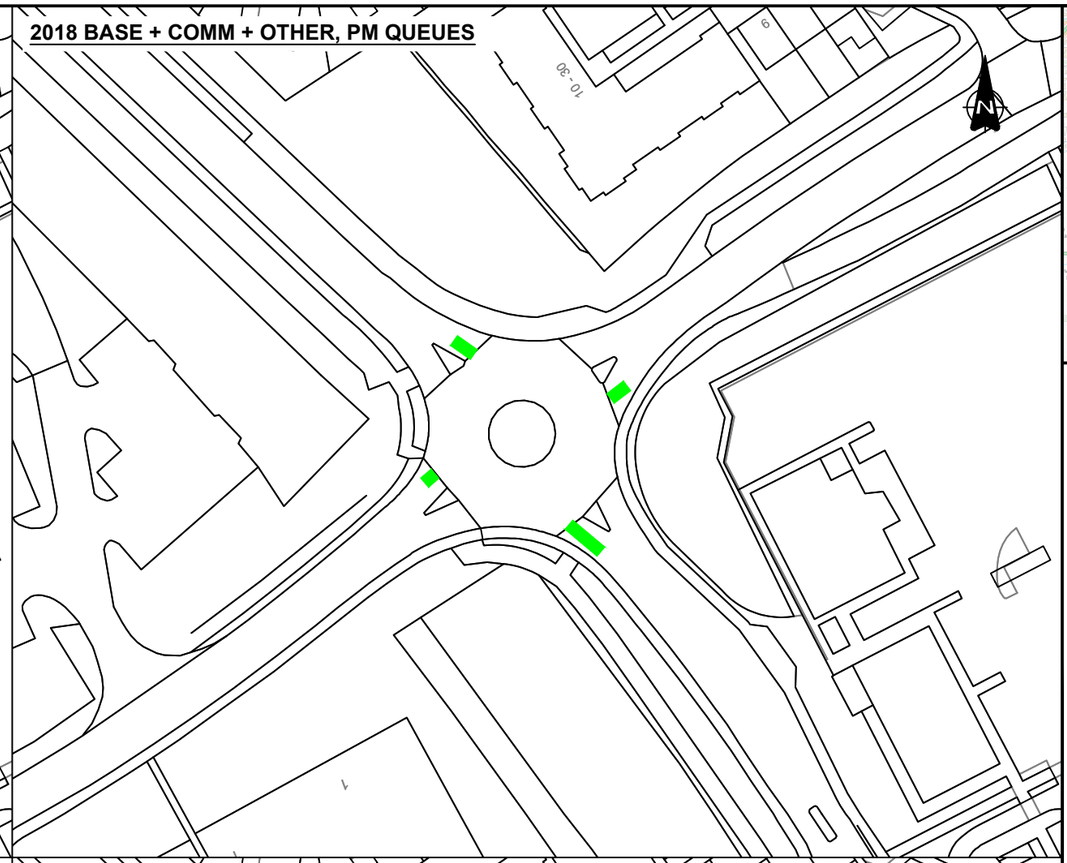
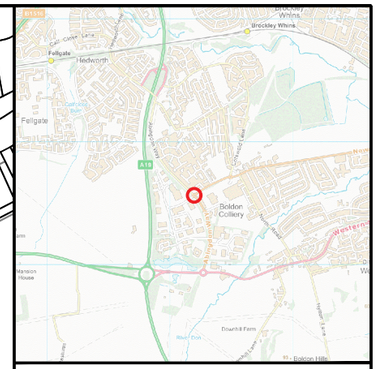


Figure 30. Composition of traffic passing through junction at the end of the plan period – Evening Peak



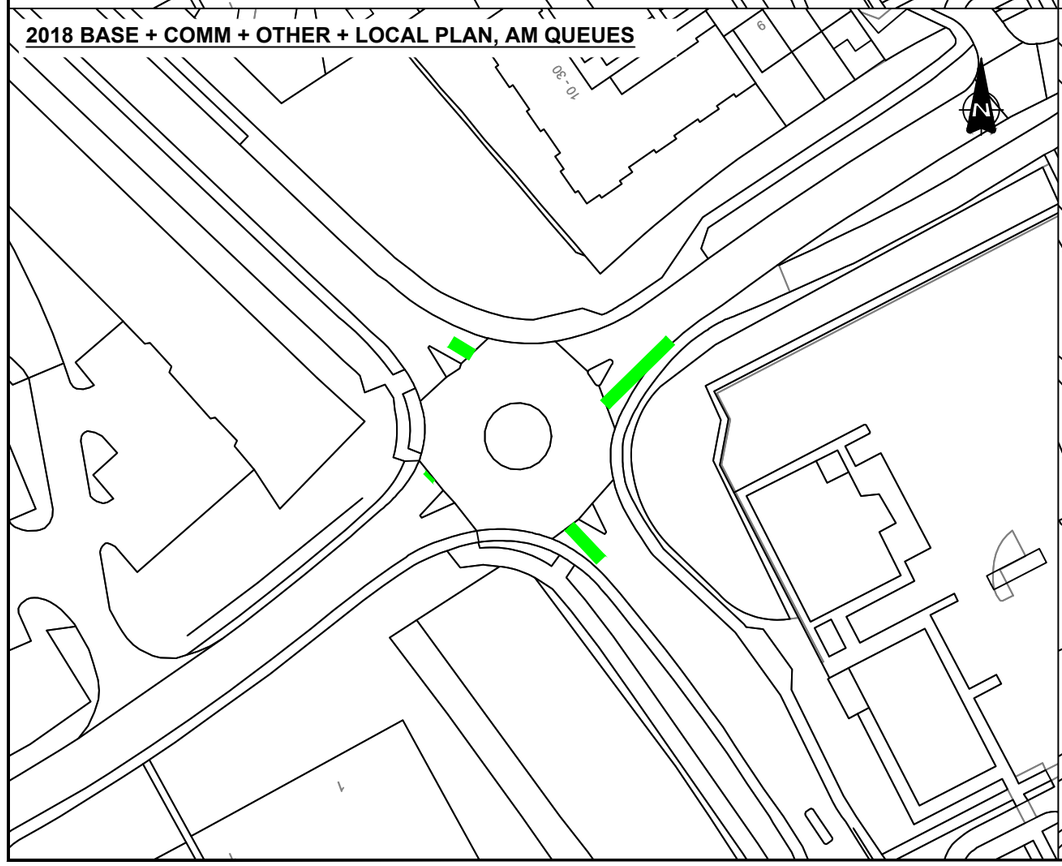


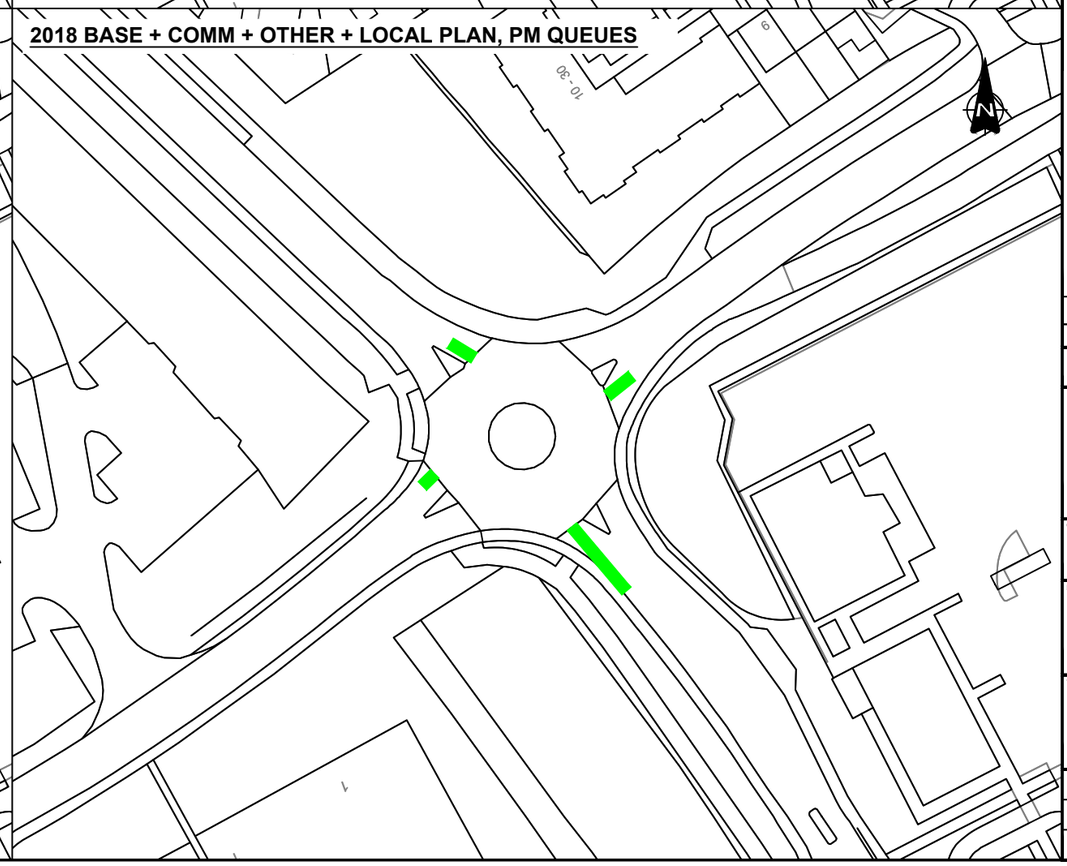




**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)




| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
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Project
LOCAL PLAN ASSESSMENT

Title
ABINGDON WAY / BROOKLANDS WAY
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-15-001 | Rev.: - |

## 3.16 Junction 16 – New Road / ASDA Roundabout

**2018 Base + Committed Development + Other Development**

3.16.1 The junction can be seen to be approaching its theoretical capacity on Henley Way in the evening peak.

Table 44. New Road / ASDA – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Cotswold Lane | 0.32 | 0.5 | 0.34 | 0.5 |
| Hubert Street | 0.65 | 1.9 | 0.56 | 1.3 |
| ASDA | 0.16 | 0.2 | 0.5 | 1 |
| Henley Way | 0.59 | 1.5 | 0.94 | 9.8 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.16.2 With the addition of Local Plan traffic at this junction Henley Way can be seen to be exceeding its theoretical capacity in the evening peak with significant queueing. It should be noted that in reality the operation of the junction is anticipated to be worse than reported as queuing from the adjacent junction (Junction 17) would be expected to back through this junction.

Table 45. New Road / ASDA – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Cotswold Lane | 0.34 | 0.5 | 0.38 | 0.6 |
| Hubert Street | 0.83 | 4.8 | 0.66 | 1.9 |
| ASDA | 0.19 | 0.2 | 0.54 | 1.2 |
| Henley Way | 0.71 | 2.4 | 1.27 | 96.5 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.16.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.16.4 It should be noted that this is not as a result of the addition of Local Plan traffic per se, the junction and the adjacent junction are operating close to capacity in the base situation and it is considered appropriate to mitigate this before further traffic is added.

3.16.5 The scheme involves the signalisation of the junction with widening on several approaches and the linking of the junction with the adjacent Hubert Street / North Road signalised junction (Junction 17).

3.16.6 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.16.7 The proposed mitigation scheme is considered to improve junction performance though queuing still occurs across the junction.

3.16.8 The capacity assessment is summarised on Drawing Ref 16L02-16-17-001 and 16L02-16-17-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-16-17-003 overleaf.

3.16.9 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station to the east of this junction, an extension to the existing Park and Ride car park at East Boldon or an increased Metro service through track dualling.

Table 46. New Road / ASDA – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Hubert Street West Ahead | 50 | 5.4 | 83.6 | 9.1 |
| Hubert Street West Right | 24.8 | 0.7 | 32 | 0.7 |
| North Road | 81.1 | 10.1 | 96.1 | 14.9 |
| Hubert Street East | 85.2 | 24.1 | 67.7 | 13.7 |
| Hubert Street West (mid) Ahead/Left | 41.4 | 14.8 | 39.7 | 10.2 |
| Hubert Street West (mid) Right | 52.4 | 14.2 | 58.6 | 6.7 |
| Cotswold Lane | 77 | 9.3 | 76.8 | 8.9 |
| Henley Way | 37.9 | 7.6 | 94.9 | 25.8 |
| ASDA Access | 24.1 | 9.1 | 94.5 | 17 |
| Junction Deg. Sat. (%) | 85.2 | | 96.1 | |
| Junction PRC All Lanes (%) | 5.7 | | -6.8 | |

**Cost of Mitigation**

3.16.1 The junction is located in a built up area with buildings located adjacent to the highway envelope, although, highway verges are present.

3.16.2 The proposed scheme has been designed to remain within the highway boundary as far as possible, however land is required to the northern kerbline between this and the next junction, however this land is under council ownership. This negates the requirement for purchasing third party land.

3.16.3 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of street lighting and illuminated signage where the kerb widening works would be undertaken.

3.16.4 The introduction of the proposed mitigation to both the New Road / ASDA and Hubert Street/ North Road junctions is anticipated to cost in the region of £500,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.16.5 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.16.6 For the purposes of this assessment, the junction is considered to justify the delivery of a scheme before any of the Local Plan development has come forward.

3.16.7 This is anticipated to be in the first 5 years of the Local Plan period.

**Composition of Trips Through Junction**

3.16.1 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.16.2 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result Land at Cleadon Lane Industrial Estate with substantial contributions from a number of developments.

Figure 31. Composition of traffic passing through junction at the end of the plan period – Morning Peak

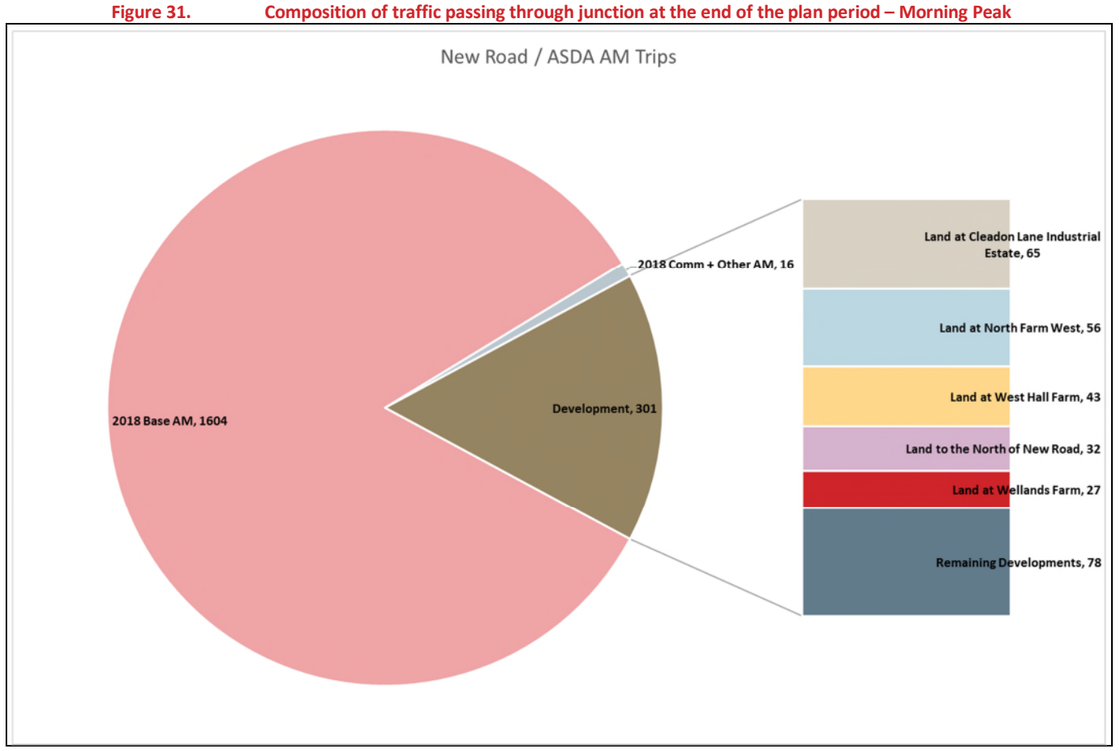
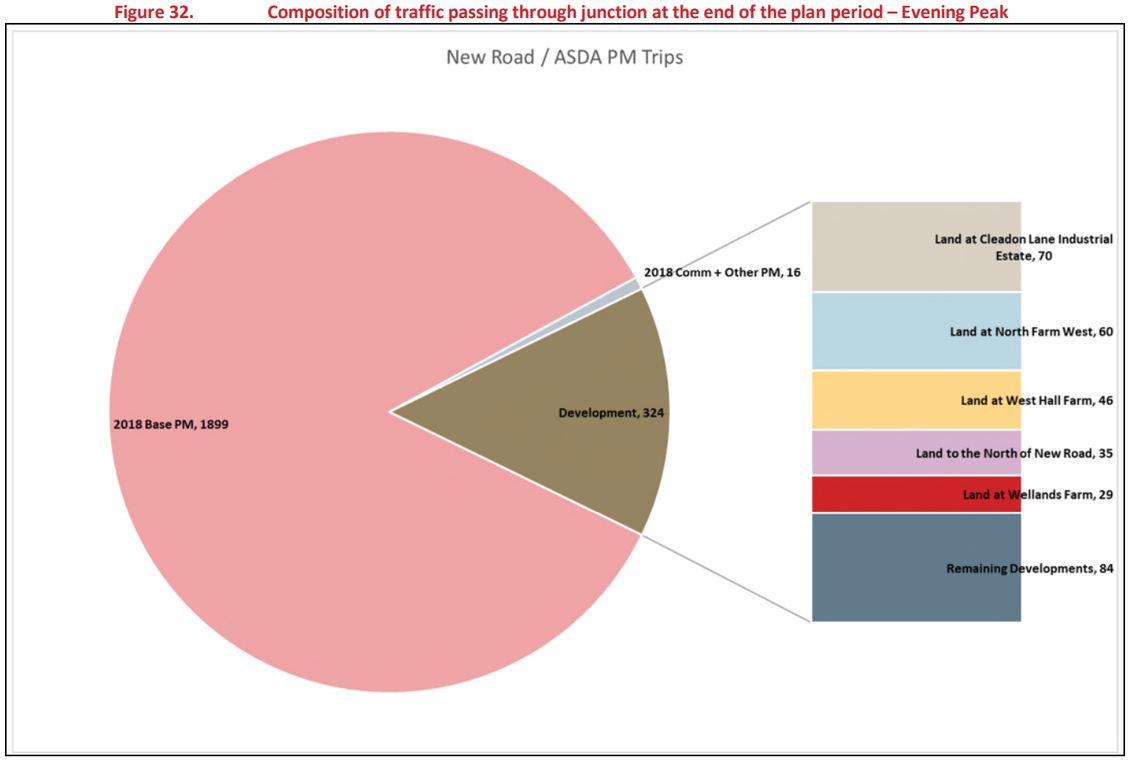
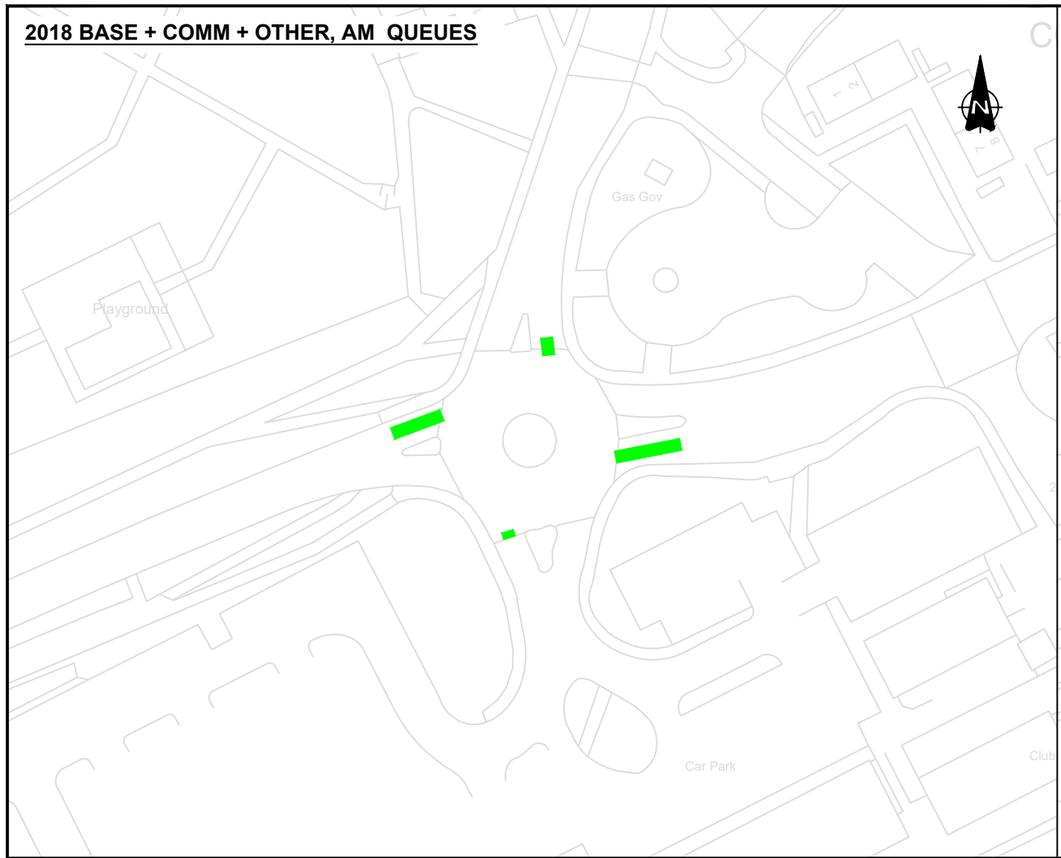


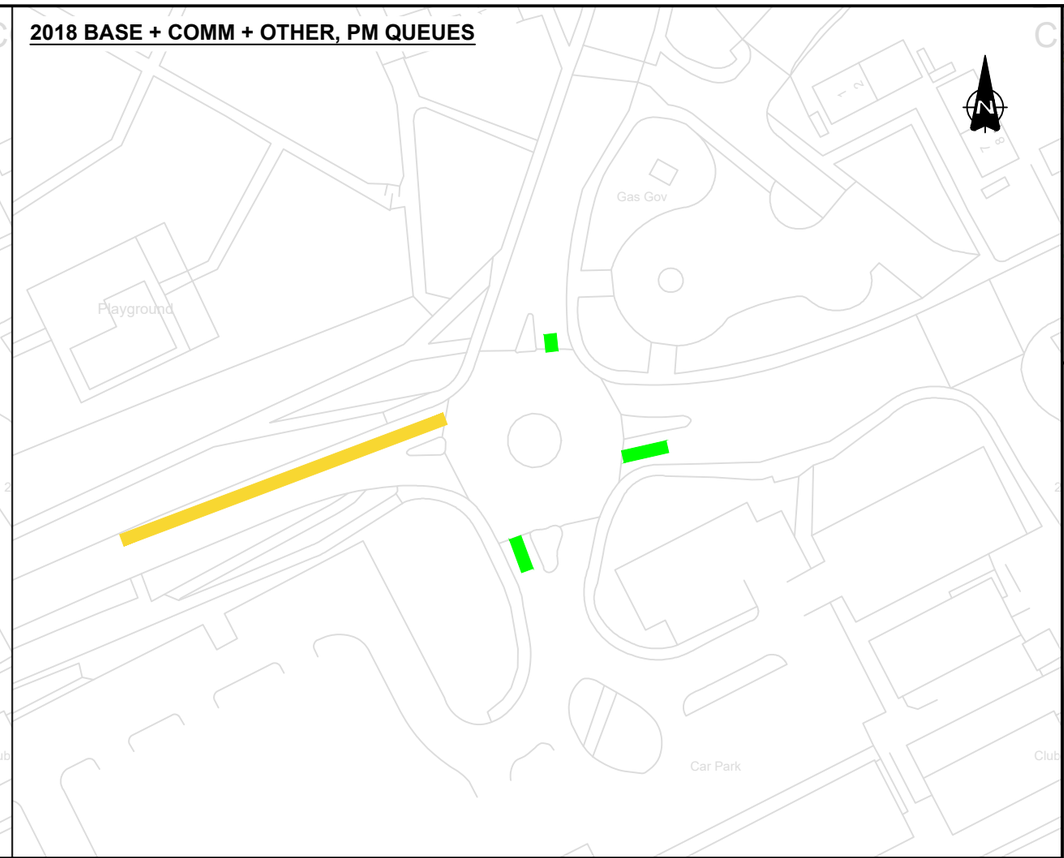
Figure 32. Composition of traffic passing through junction at the end of the plan period – Evening Peak



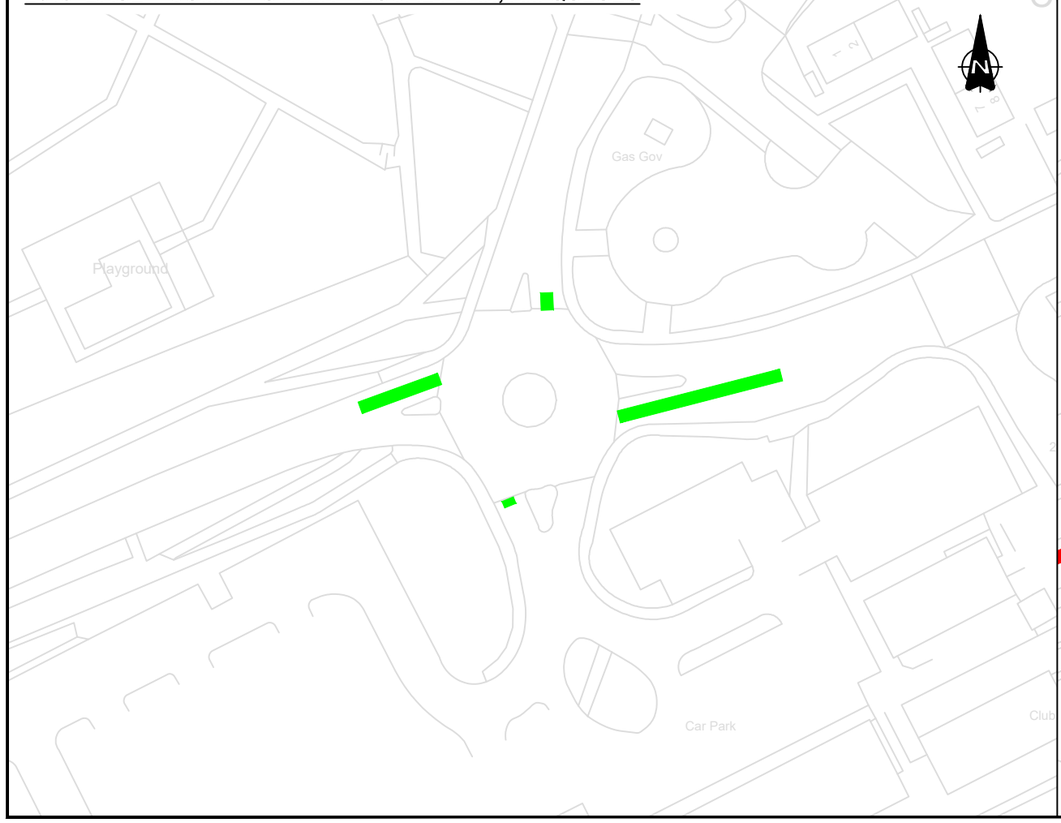
## 2018 BASE + COMM + OTHER, AM QUEUES



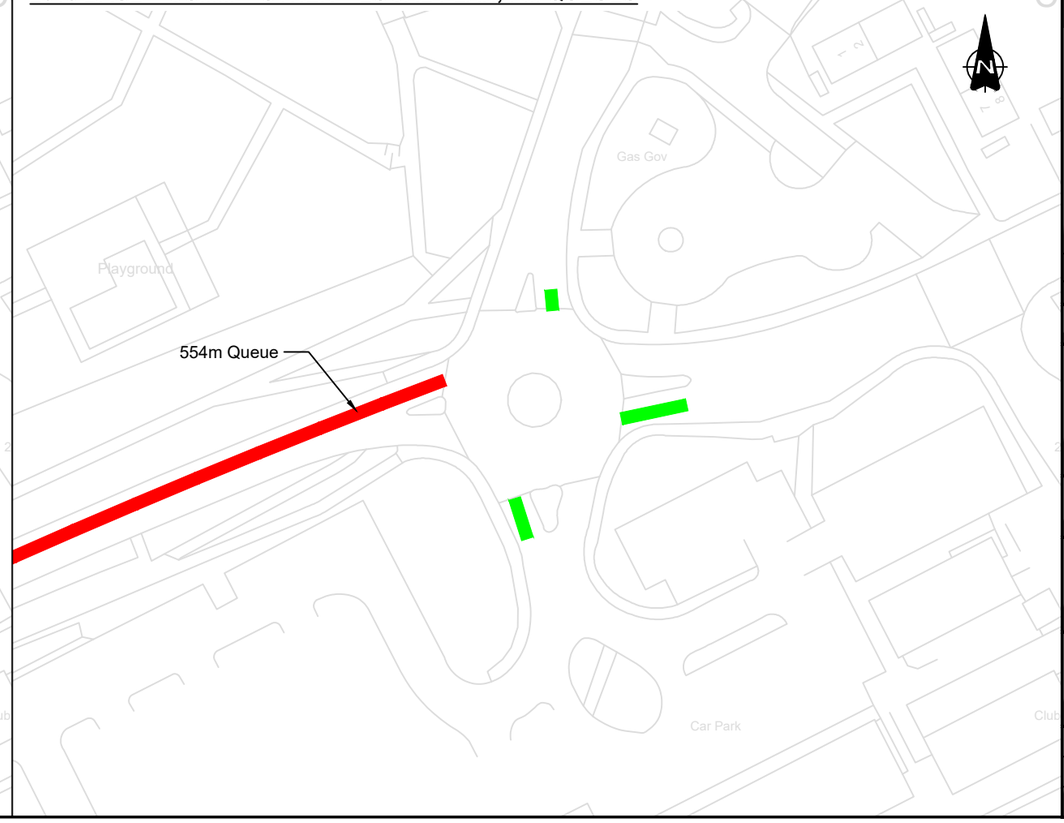

## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



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Project
LOCAL PLAN ASSESSMENT

Title
NEW ROAD / COTSWOLD LANE / ASDA
EXISTING LAYOUT QUEUES

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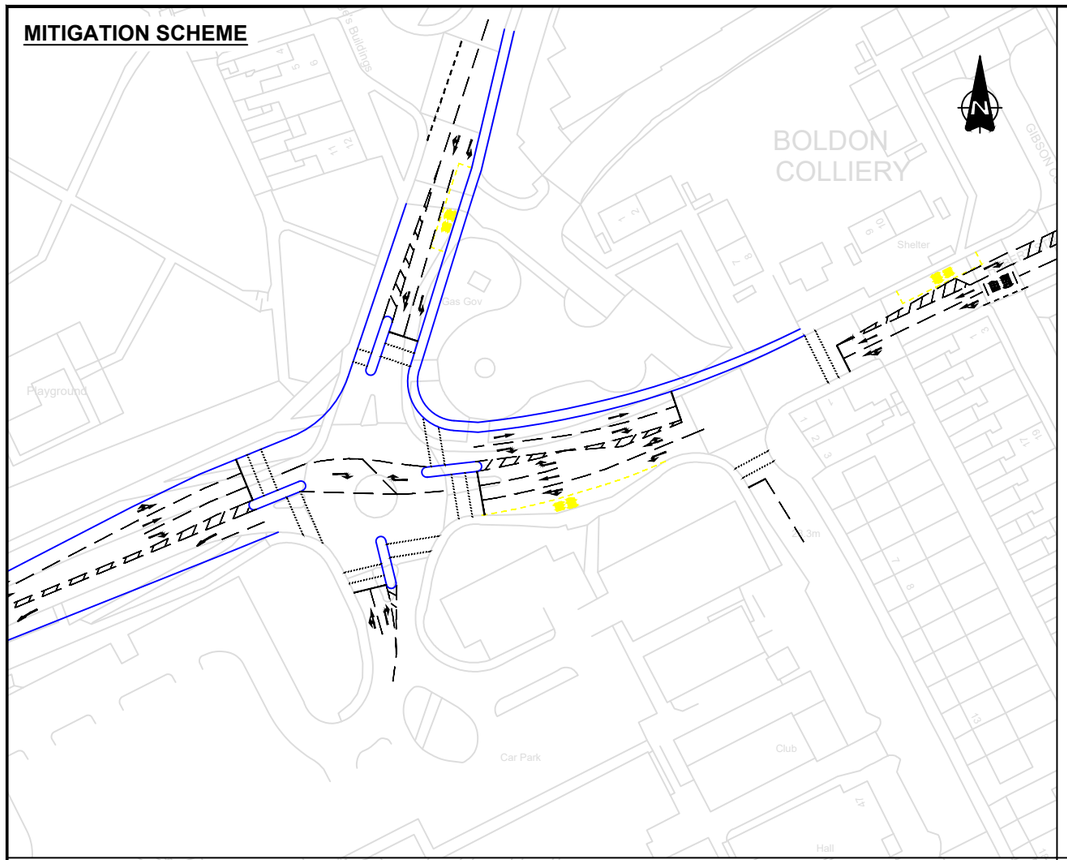
## MITIGATION SCHEME



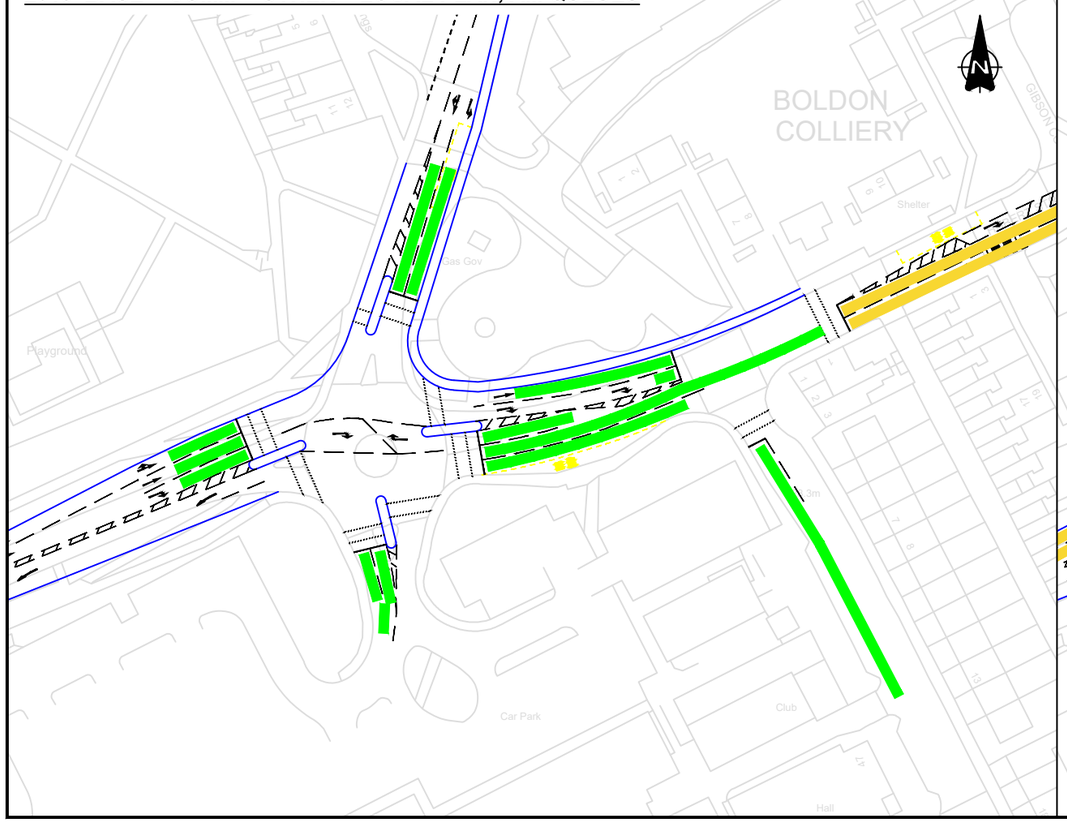

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SBC010 | Land at Cleadon Lane Ind Estate | 65 | 70 |
| SBC030 | Land at North Farm (West) | 56 | 60 |
| SBC051 | Land at West Hall Farm | 43 | 46 |
| SBC120 | Land to the North of New Road | 32 | 35 |
| SWH009 | Land at Wellands Farm | 27 | 29 |
| | Remaining Developments | 78 | 84 |

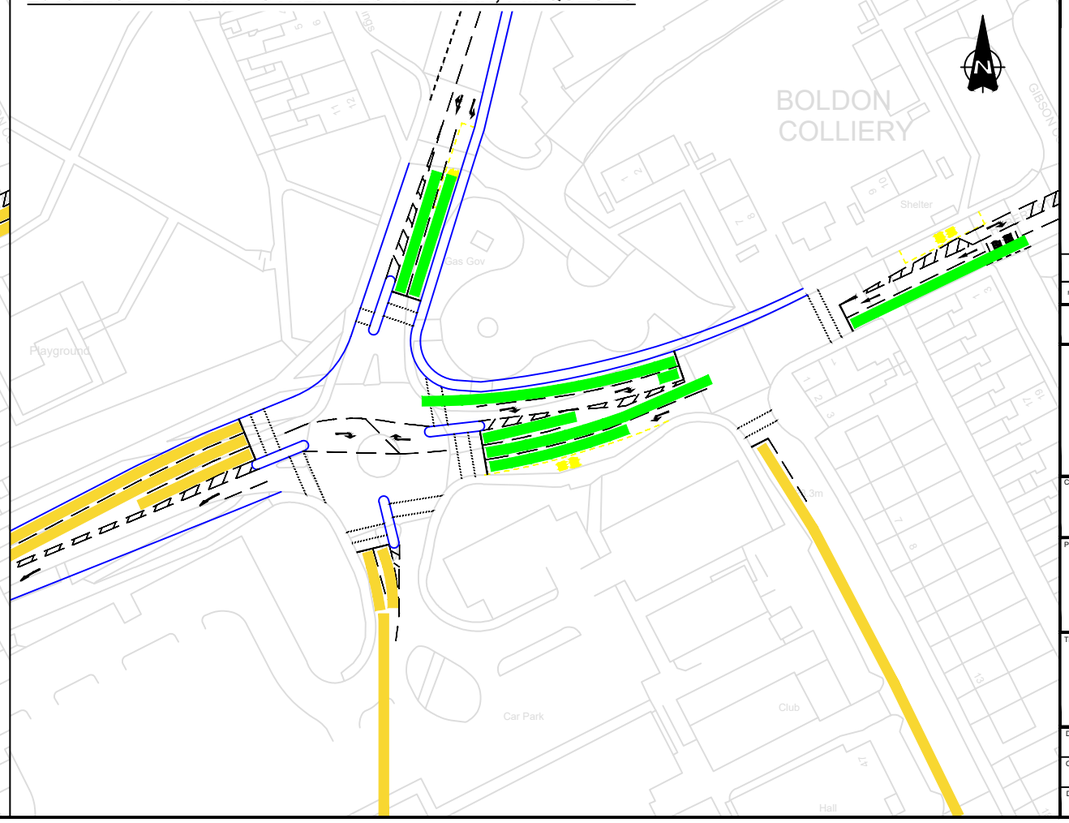
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES

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Title
NEW ROAD / ASDA / NORTH ROAD
PROPOSED LAYOUT QUEUES

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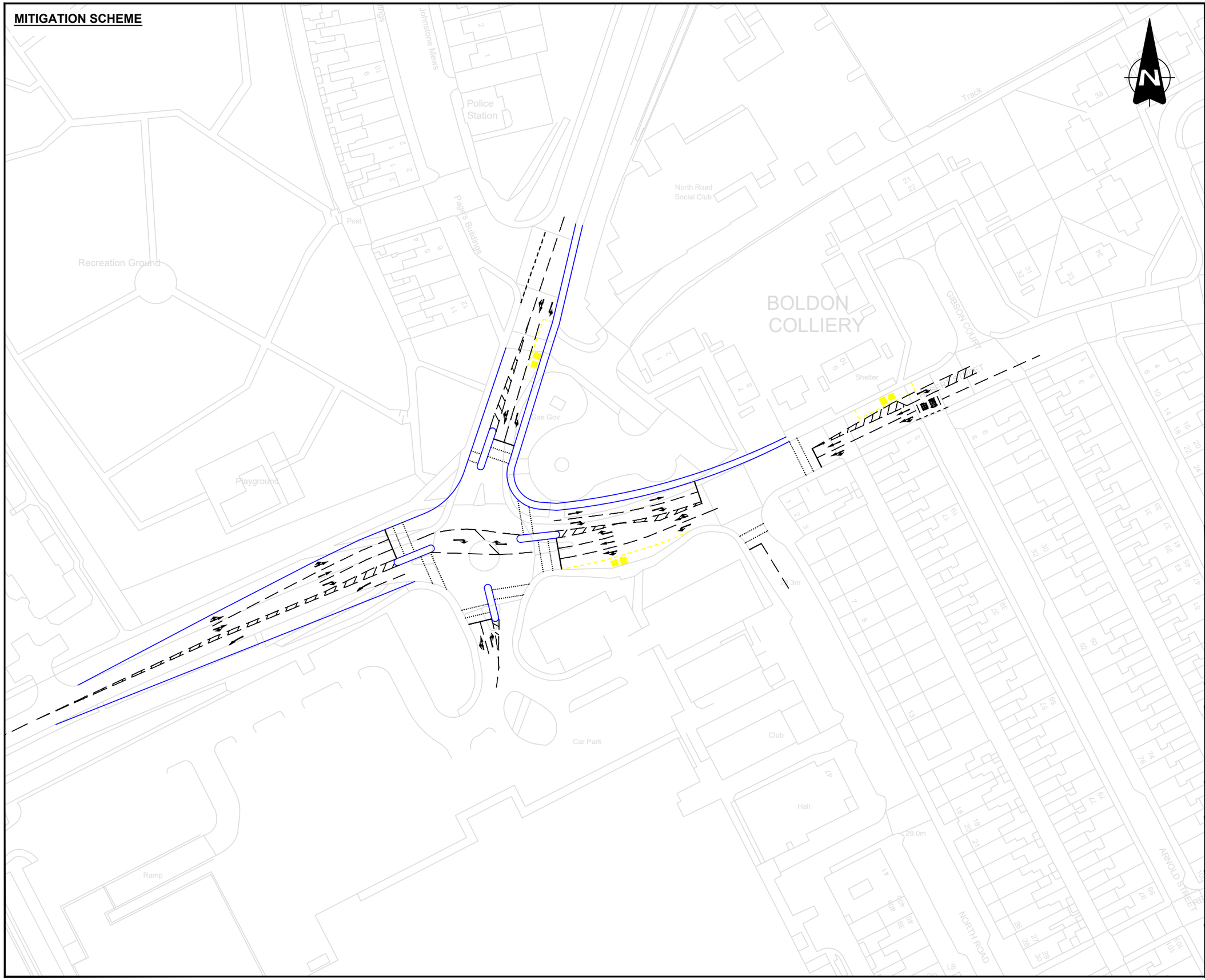
## MITIGATION SCHEME



**NOTES**

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**KEY**

Kerbline

Proposed Road Markings

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Project
LOCAL PLAN ASSESSMENT

Title
NEW ROAD / ASDA / NORTH ROAD
MITIGATION SCHEME

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| Original drg. size: A3 | Date: 12.11.20 | Scale: NTS |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-16-17-003 | Rev.: - |

## 3.17 Junction 17 – Hubert Street / North Road Signalised Junction

**2018 Base + Committed Development + Other Development**

3.17.1 The junction can be seen to be approaching its theoretical capacity during the morning and evening peak.

Table 47. Hubert Street / North Road – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Hubert Street West | 55.7 | 9 | 93.6 | 27.1 |
| North Road | 88.8 | 9.3 | 88.6 | 9.6 |
| Hubert Street East | 87.6 | 19.7 | 65.3 | 11.3 |
| Junction Deg. Sat. (%) | 88.8 | | 93.6 | |
| Junction PRC All Lanes (%) | 1.4 | | -0.4 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.17.2 With the addition of Local Plan traffic at this junction significant queueing can be seen on Hubert Street East in the morning peak and on Hubert Street West in the evening peak, with substantial queuing on the other arms. It should be noted that in reality the operation of the junction is anticipated to be worse than reported as queuing from the adjacent junction (Junction 16) would be expected to back through this junction.

Table 48. Hubert Street / North Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Hubert Street West | 60.8 | 10.5 | 109.8 | 88.9 |
| North Road | 105.2 | 18.2 | 103.8 | 17.9 |
| Hubert Street East | 108.6 | 68.2 | 75.6 | 14.8 |
| Junction Deg. Sat. (%) | 108.2 | | 109.8 | |
| Junction PRC All Lanes (%) | -20.7 | | -22 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.17.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.17.4 It should be noted that this is not as a result of the addition of Local Plan traffic per se, the junction and the adjacent junction are operating close to capacity in the base situation and it is considered appropriate to mitigate this before further traffic is added.

3.17.5 The scheme involves the linking of the junction with the adjacent New Road / ASDA signalised junction (Junction 16) with carriageway widening between the two junctions.

3.17.6 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.17.7 The proposed mitigation scheme is considered to improve junction performance though queuing still occurs across the junction.

3.17.8 The capacity assessment is summarised on Drawing Ref 16L02-16-17-001 and 16L02-16-17-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-16-17-003 overleaf.

3.17.9 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements. This could include for example the provision of a new Metro Station to the east of this junction, an extension to the existing Park and Ride car park at East Boldon or an increased Metro service through track dualling.

Table 49. Hubert Street / North Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Hubert Street West Ahead | 50 | 5.4 | 83.6 | 9.1 |
| Hubert Street West Right | 24.8 | 0.7 | 32 | 0.7 |
| North Road | 81.1 | 10.1 | 96.1 | 14.9 |
| Hubert Street East | 85.2 | 24.1 | 67.7 | 13.7 |
| Hubert Street West (mid) Ahead/Left | 41.4 | 14.8 | 39.7 | 10.2 |
| Hubert Street West (mid) Right | 52.4 | 14.2 | 58.6 | 6.7 |
| Cotswold Lane | 77 | 9.3 | 76.8 | 8.9 |
| Henley Way | 37.9 | 7.6 | 94.9 | 25.8 |
| ASDA Access | 24.1 | 9.1 | 94.5 | 17 |
| Junction Deg. Sat. (%) | 85.2 | | 96.1 | |
| Junction PRC All Lanes (%) | 5.7 | | -6.8 | |

**Cost of Mitigation**

3.17.10 The junction is located in a built up area with buildings located adjacent to the highway envelope, although, highway verges are present.

3.17.11 The proposed scheme has been designed to remain within the highway boundary as far as possible, however land is required to the northern kerbline between this and the next junction, however this land is under council ownership. This negates the requirement for purchasing third party land.

3.17.12 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of street lighting and illuminated signage where the kerb widening works would be undertaken.

3.17.13 The introduction of the proposed mitigation to both the New Road / ASDA and Hubert Street/ North Road junctions is anticipated to cost in the region of £500,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.17.14 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.17.15 For the purposes of this assessment, the junction is considered to justify the delivery of a scheme before any of the Local Plan development has come forward.

3.17.16 This is anticipated to be in the first 5 years of the Local Plan period.

**Composition of Trips Through Junction**

3.17.17 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.17.18 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land at Cleadon Lane Industrial Estate with substantial contributions from a number of developments.

Figure 33. Composition of traffic passing through junction at the end of the plan period – Morning Peak

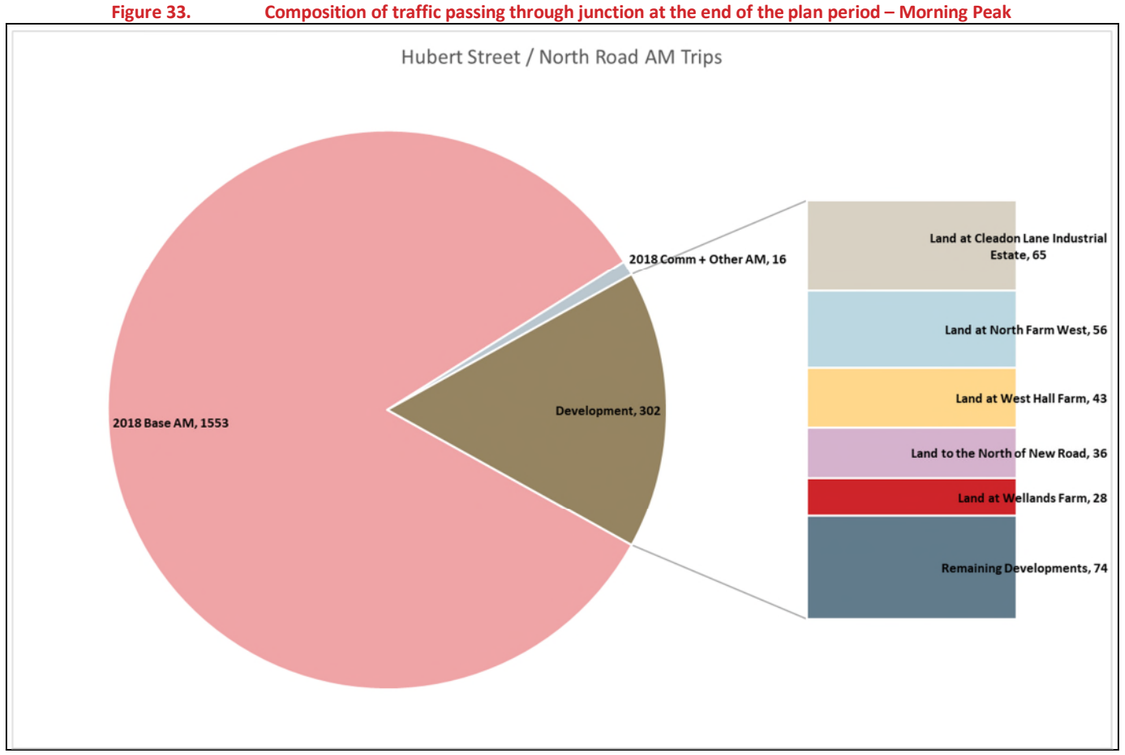
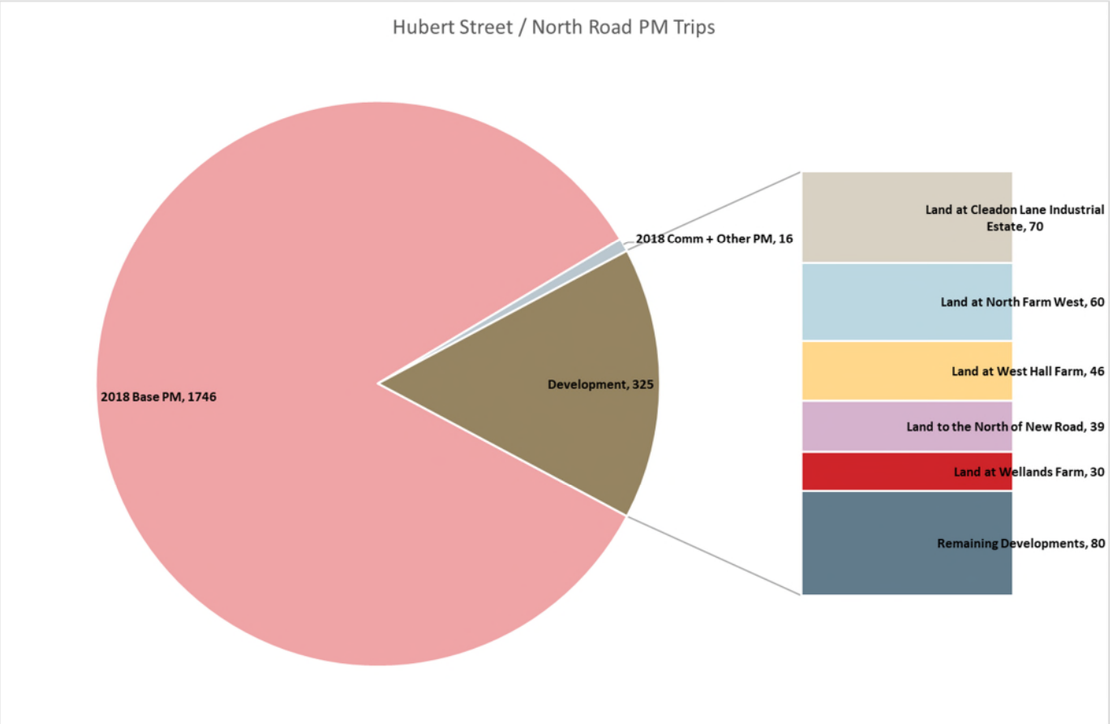
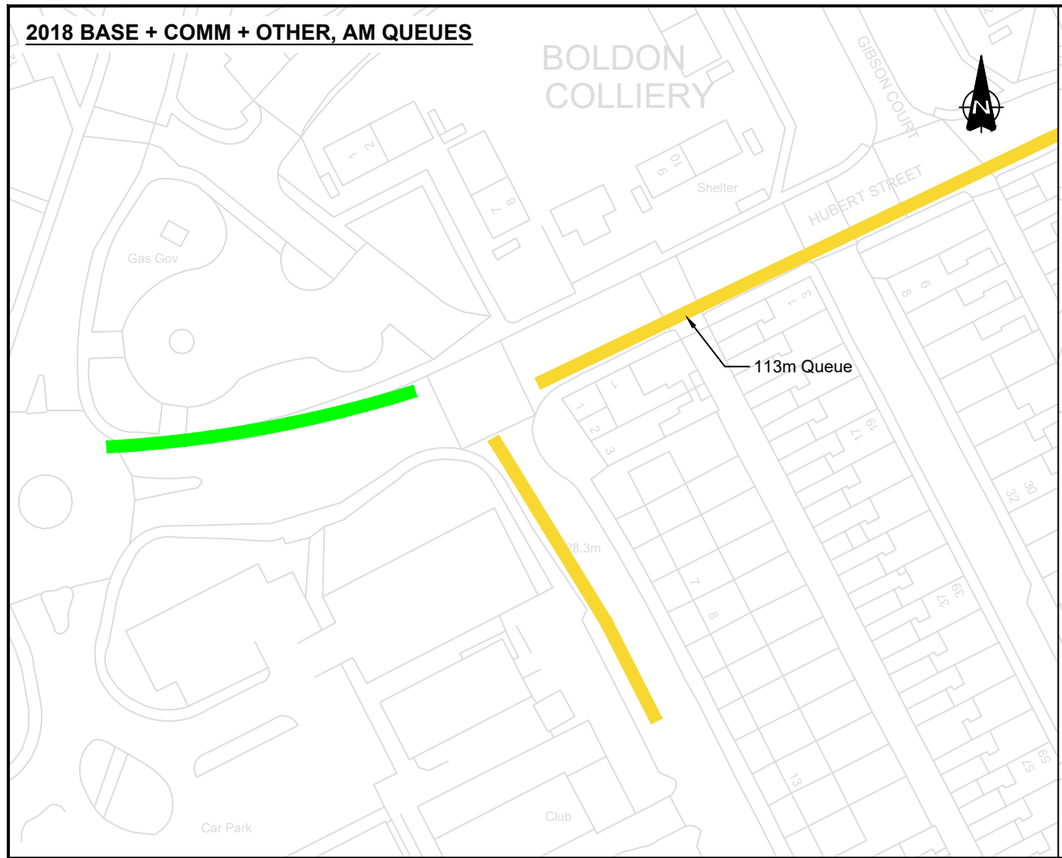


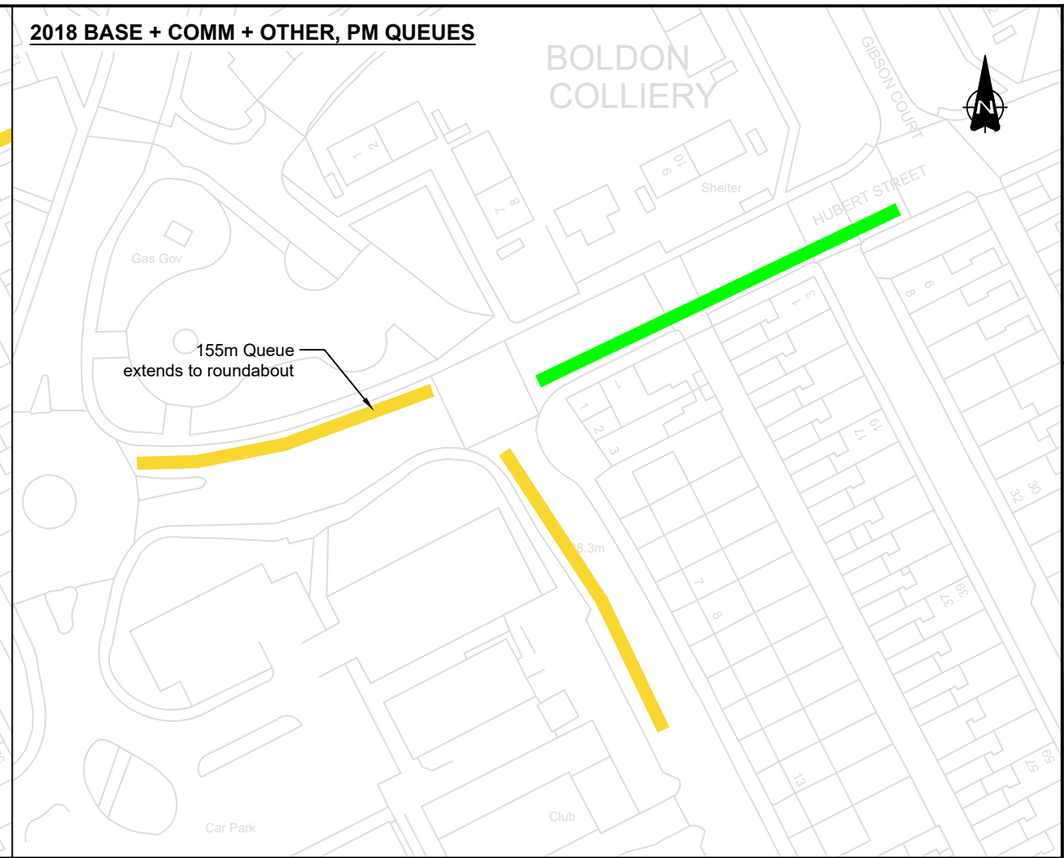
Figure 34. Composition of traffic passing through junction at the end of the plan period – Evening Peak



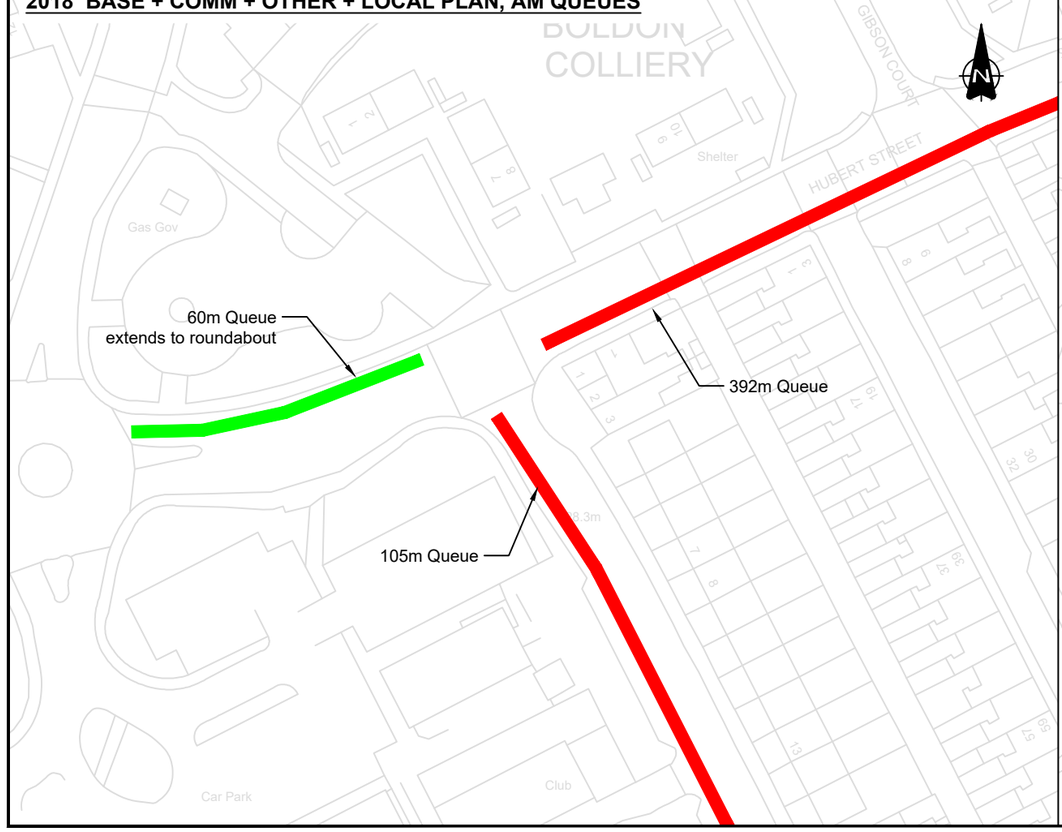
## 2018 BASE + COMM + OTHER, AM QUEUES



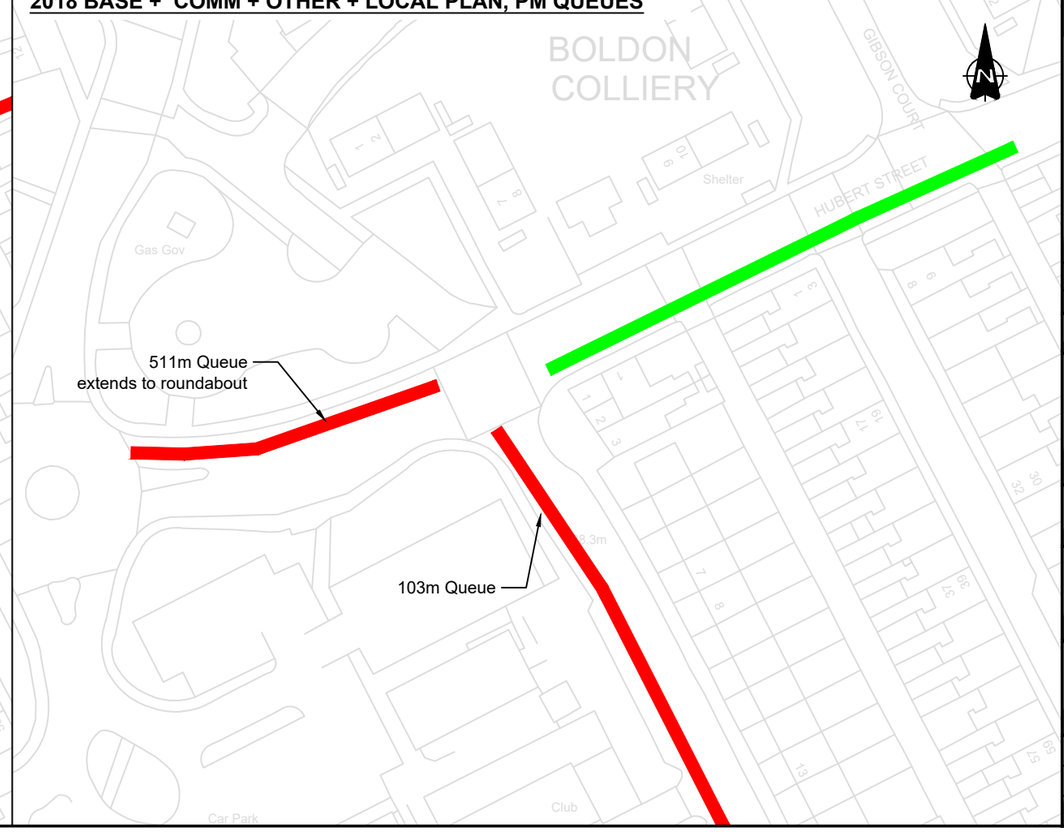

## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



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Title
HUBERT STREET / NORTH ROAD
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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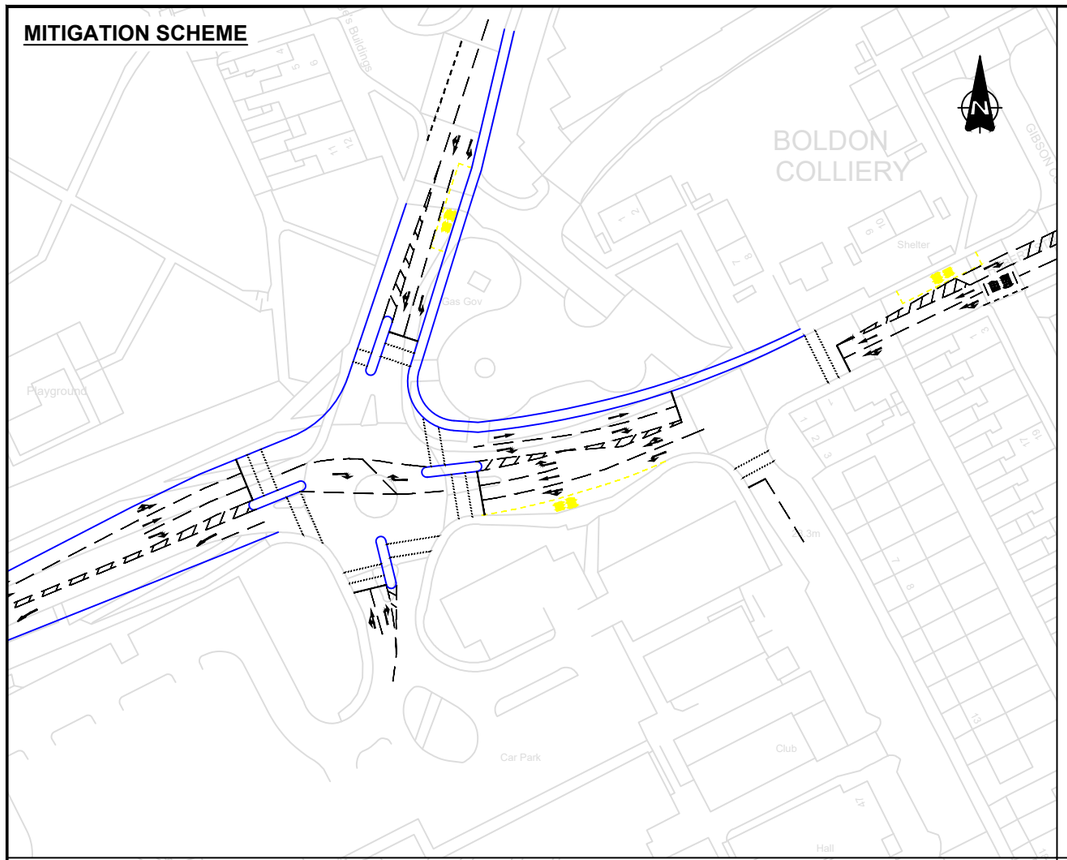
## MITIGATION SCHEME



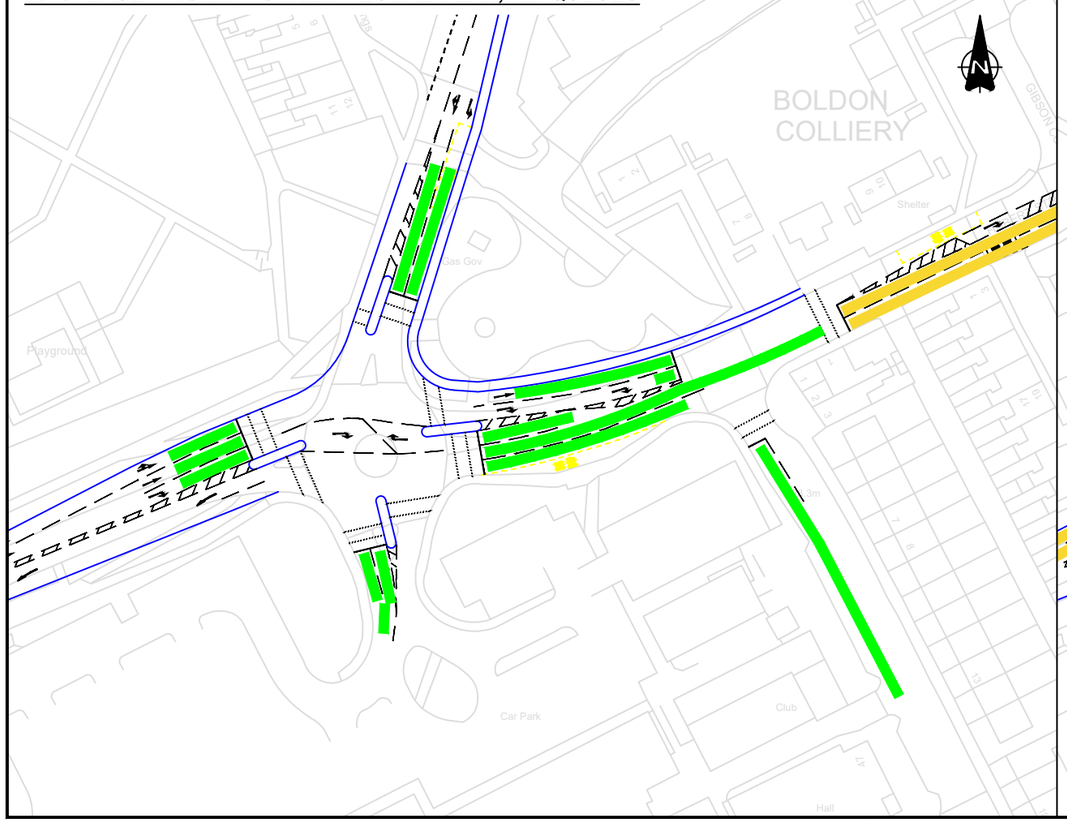

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SBC010 | Land at Cleadon Lane Ind Estate | 65 | 70 |
| SBC030 | Land at North Farm (West) | 56 | 60 |
| SBC051 | Land at West Hall Farm | 43 | 46 |
| SBC120 | Land to the North of New Road | 36 | 39 |
| SWH009 | Land at Wellands Farm | 28 | 30 |
| | Remaining Developments | 74 | 80 |

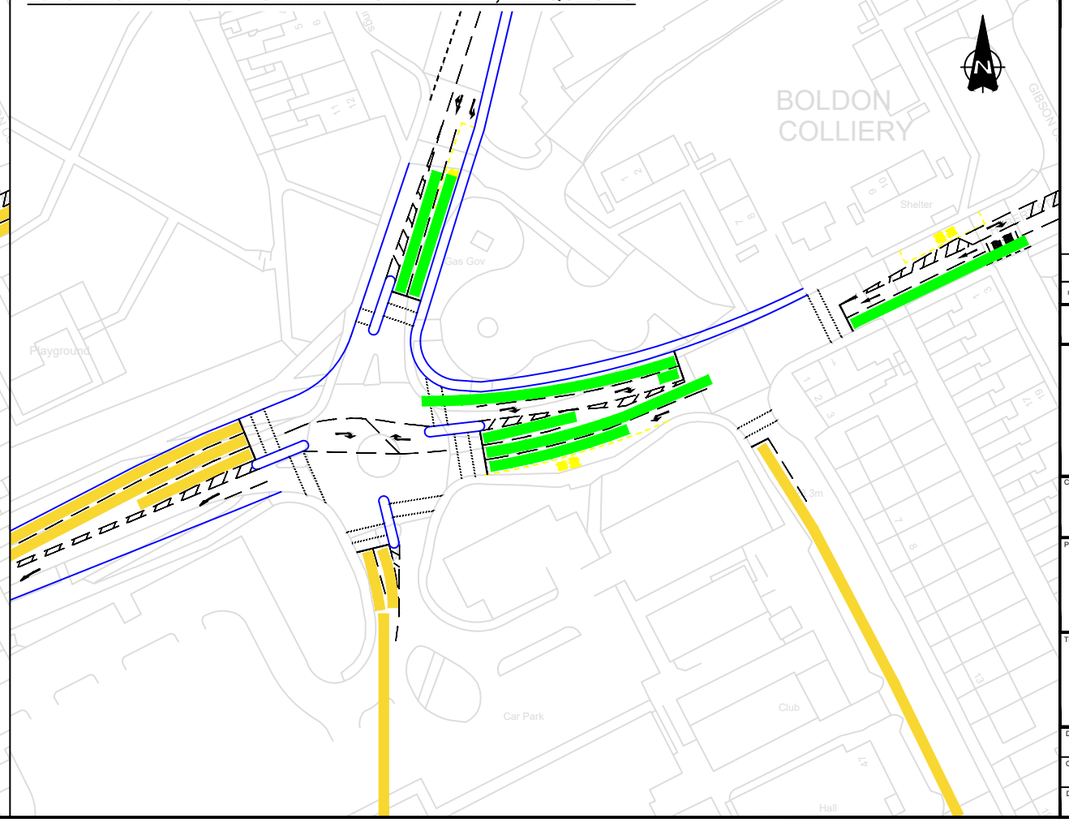
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES

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Title
NEW ROAD / ASDA / NORTH ROAD
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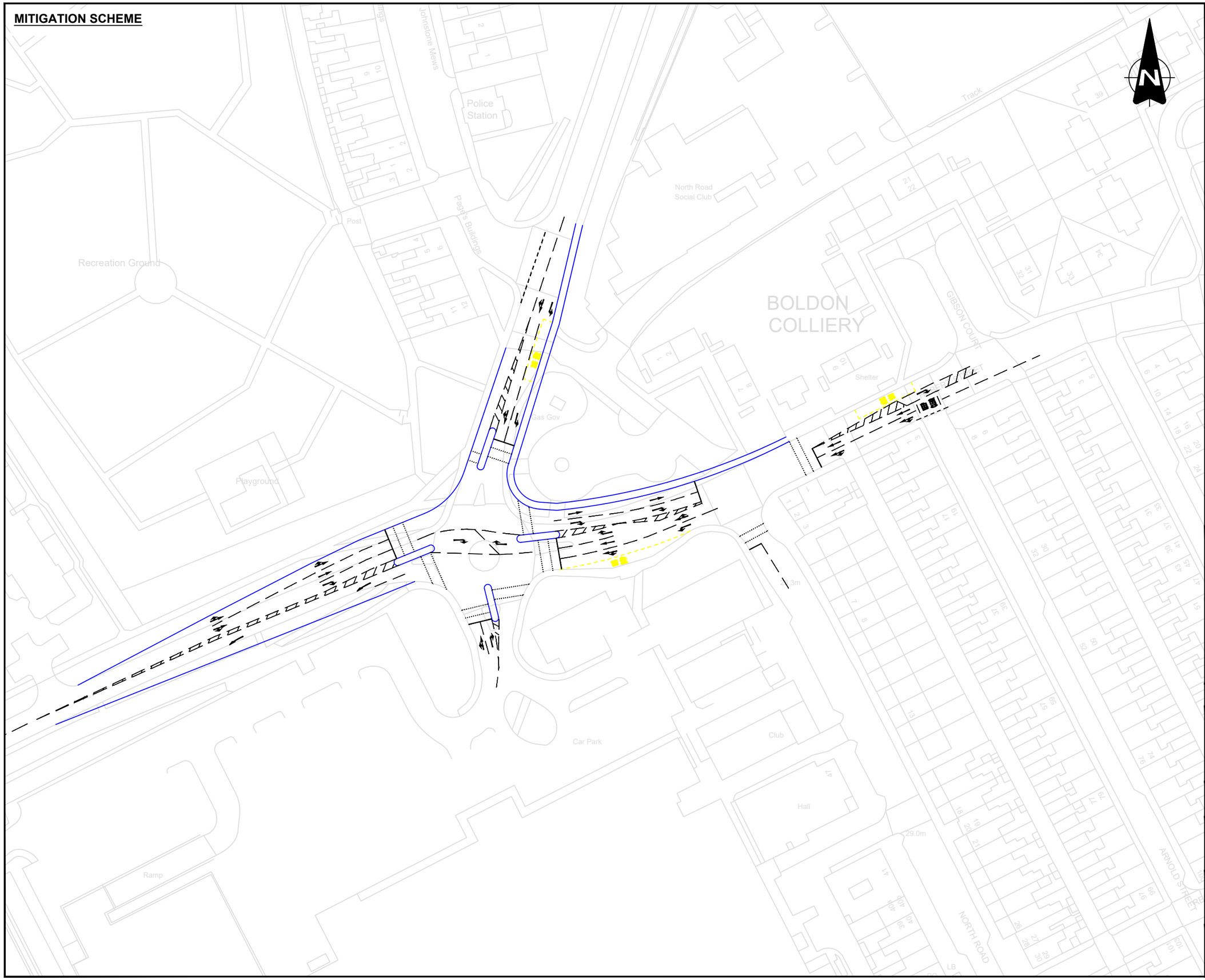
## MITIGATION SCHEME



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## 3.18 Junction 18 – A184 / B1298 Abingdon Way Roundabout

**2018 Base + Committed Development + Other Development**

3.18.1 The junction can be seen to be working within its theoretical capacity during the morning peak period and evening evening peak period.

Table 50. A184 / B1298 Abingdon Way – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Abingdon Way | 0.42 | 0.7 | 0.61 | 1.6 |
| A184 East | 0.53 | 1.1 | 0.49 | 1.3 |
| A184 West | 0.6 | 1.5 | 0.78 | 3.5 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.18.2 With the addition of Local Plan traffic at this junction, the A184 West arm is seen to be approaching its theoretical capacity and a substantial queue is beginning to form.

Table 51. A184 / B1298 Abingdon Way – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Abingdon Way | 0.55 | 1.2 | 0.71 | 2.4 |
| A184 East | 0.61 | 1.5 | 0.55 | 1.2 |
| A184 West | 0.66 | 1.9 | 0.92 | 8.3 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.18.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.18.4 The scheme involves the provision of a left filter lane from the A184 West to the Abingdon Way arm.

3.18.5 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.18.6 The proposed mitigation scheme is considered to improve junction performance, returning the junction to operating within capacity.

3.18.7 The capacity assessment is summarised on Drawing Ref 16L02-18-001 and 16L02-18-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-18-003 overleaf.

3.18.8 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

Table 52. A184 / B1298 Abingdon Way – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Abingdon Way | 0.52 | 1.1 | 0.74 | 2.8 |
| A184 East | 0.59 | 1.4 | 0.6 | 1.5 |
| A184 West | 0.25 | 0.3 | 0.73 | 2.7 |

**3.18.9 Cost of Mitigation**

3.18.1 The junction is located in a built up area with buildings located adjacent to the highway envelope, although, highway verges are present. There are no substantial level changes from the edge of carriageway.

3.18.2 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.18.3 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by surface covers located on the north western footway where the proposed highway works would be undertaken.

3.18.4 The introduction of the proposed mitigation is anticipated to cost in the region of £500,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.18.5 In addition, contributions to local or wider sustainable transport improvements may be necessary.

**3.18.6 Trigger Point Analysis**

3.18.7 The Local Plan development traffic has been incrementally added to the base model to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

3.18.8 For the purposes of this assessment, the junction is considered to require a mitigation scheme when 50% of the Local Plan development has come forward. A mitigation scheme would therefore need to be delivered in advance of reaching this point. This is anticipated to be in 6-10 years of the Local Plan period.

**Composition of Trips Through Junction**

3.18.9 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.18.10 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Land at Cleadon Lane Industrial Estate with substantial contributions from a number of developments.

Figure 35. Composition of traffic passing through junction at the end of the plan period – Morning Peak

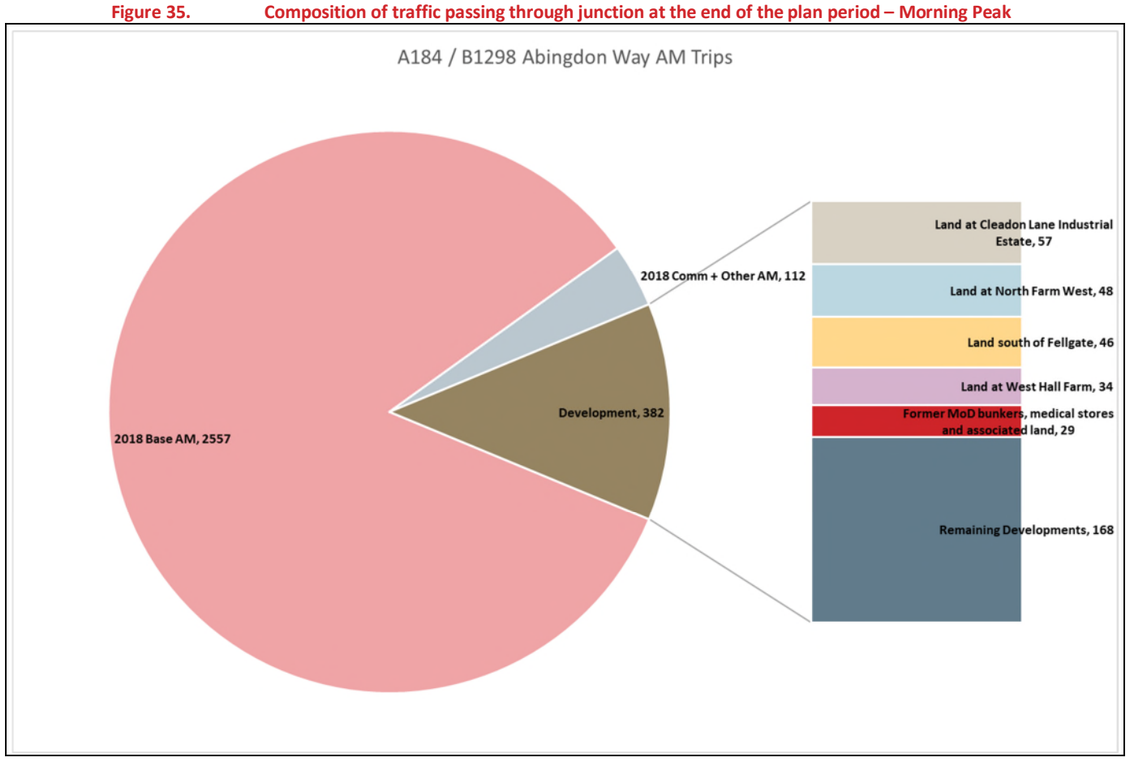
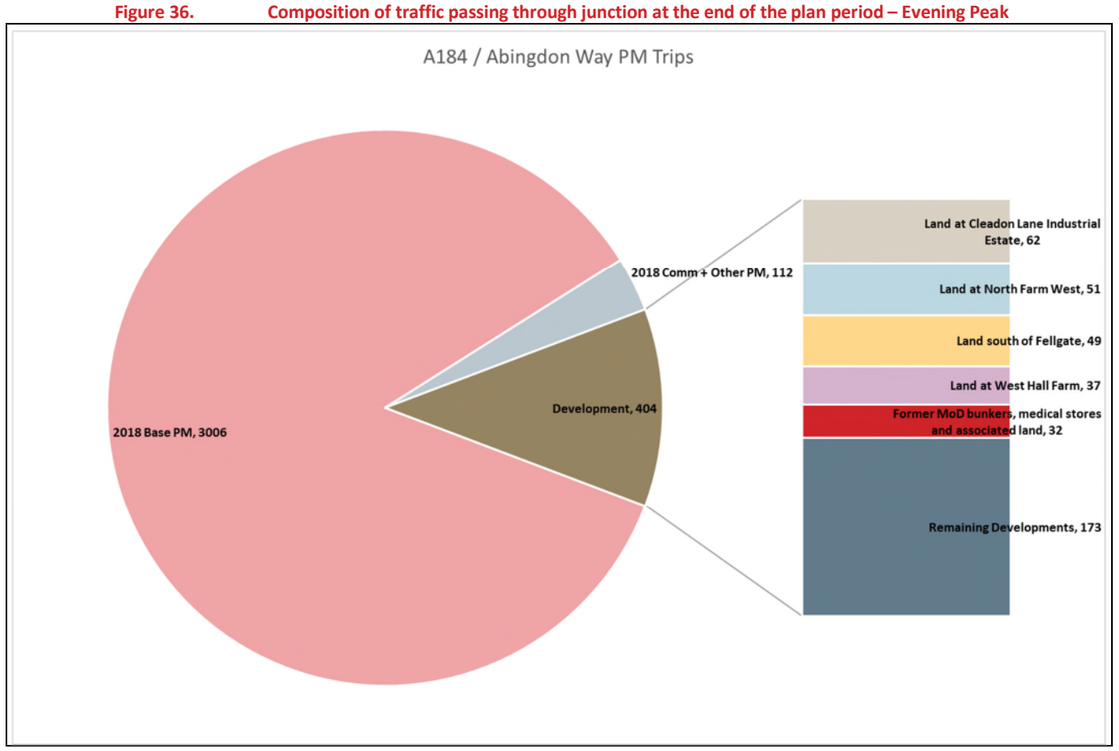
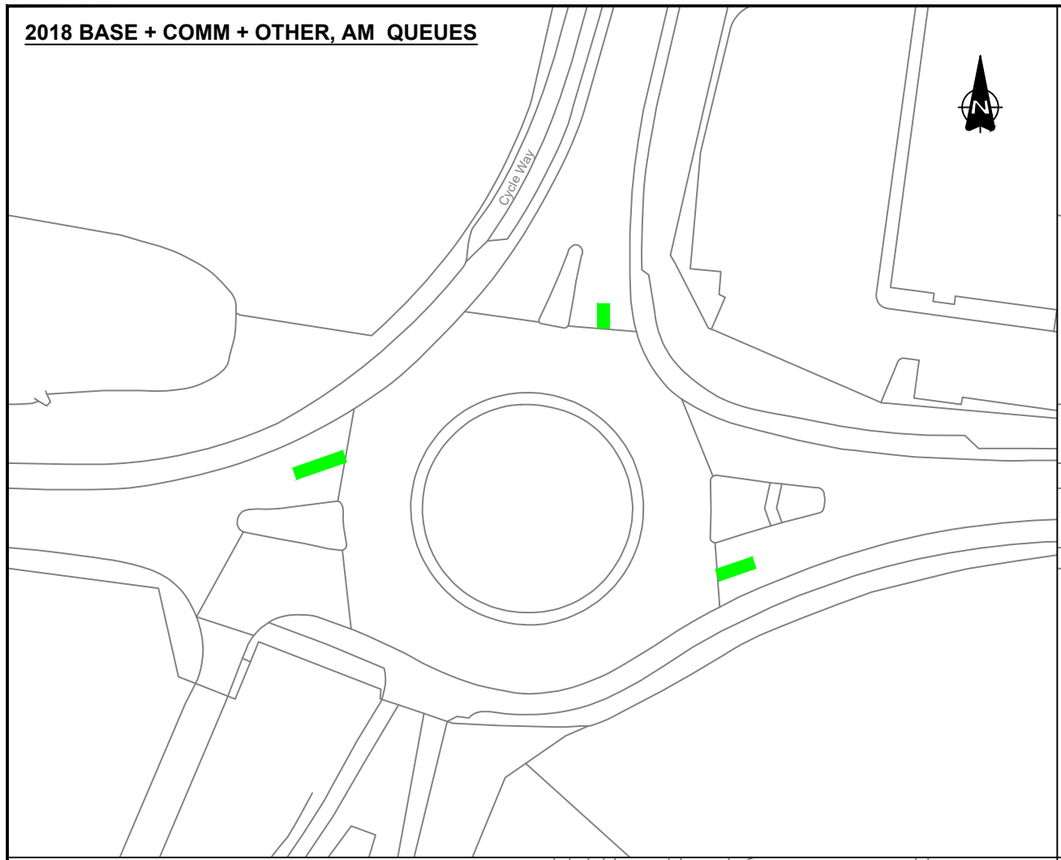


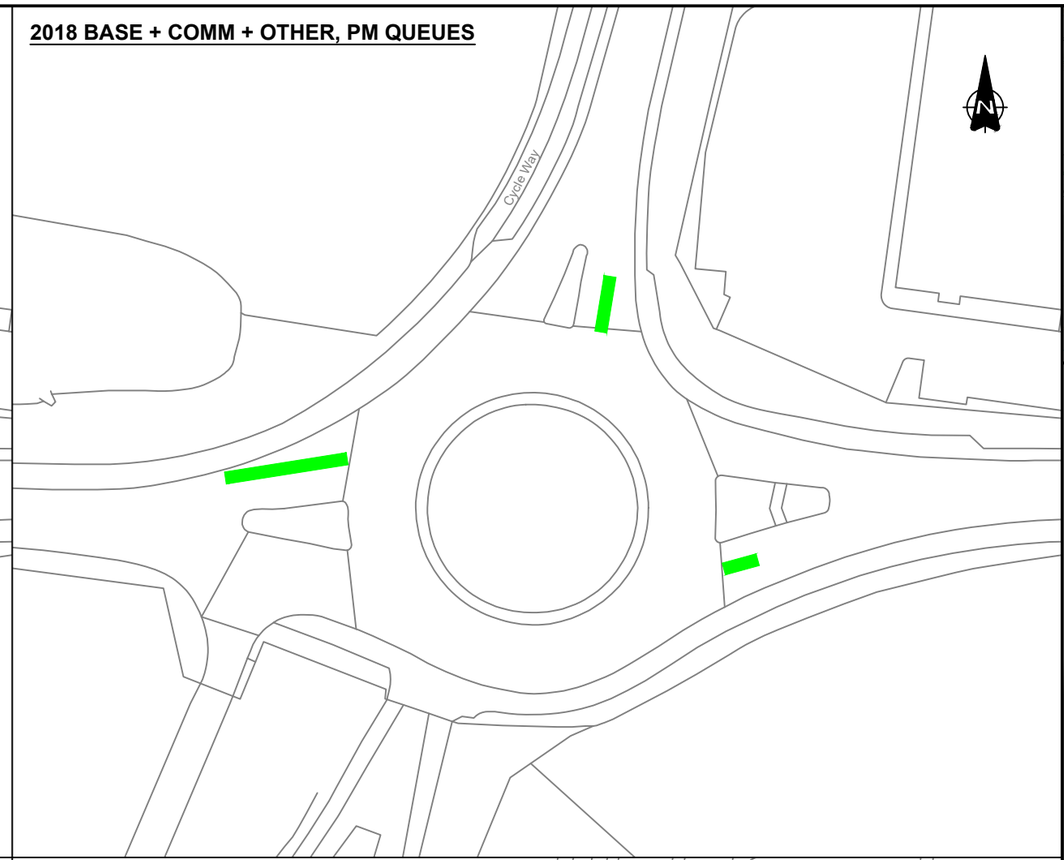

Figure 36. Composition of traffic passing through junction at the end of the plan period – Evening Peak



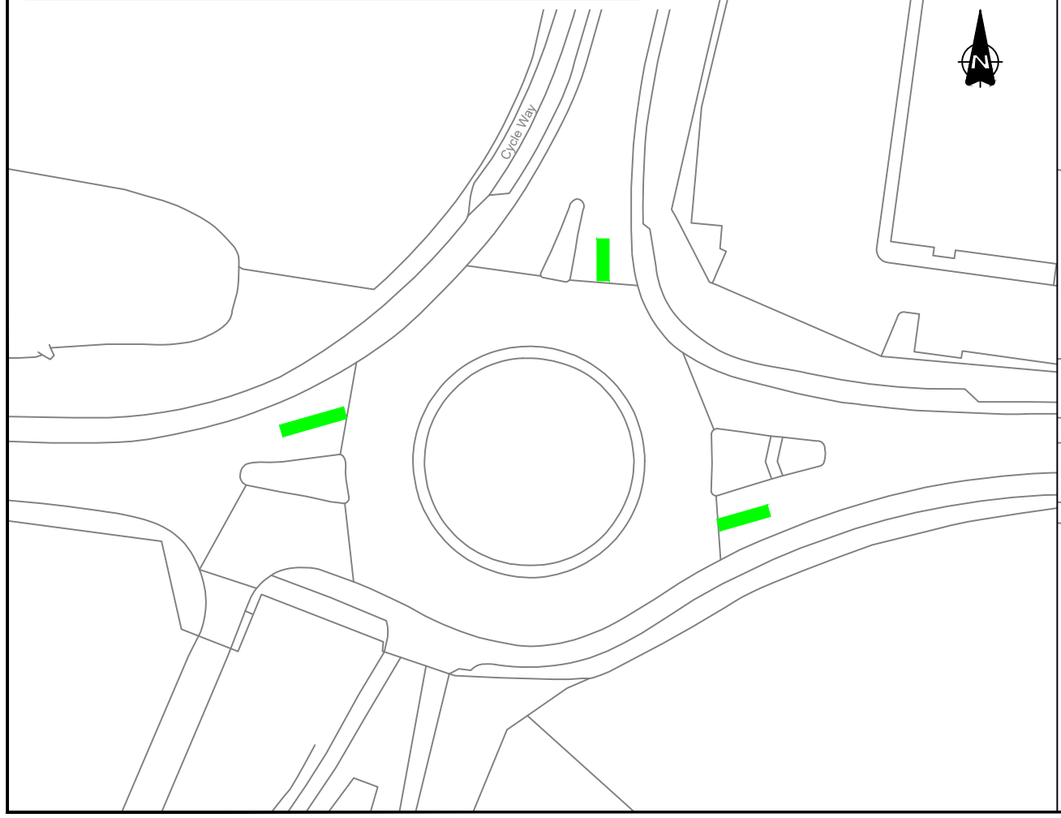
## 2018 BASE + COMM + OTHER, AM QUEUES



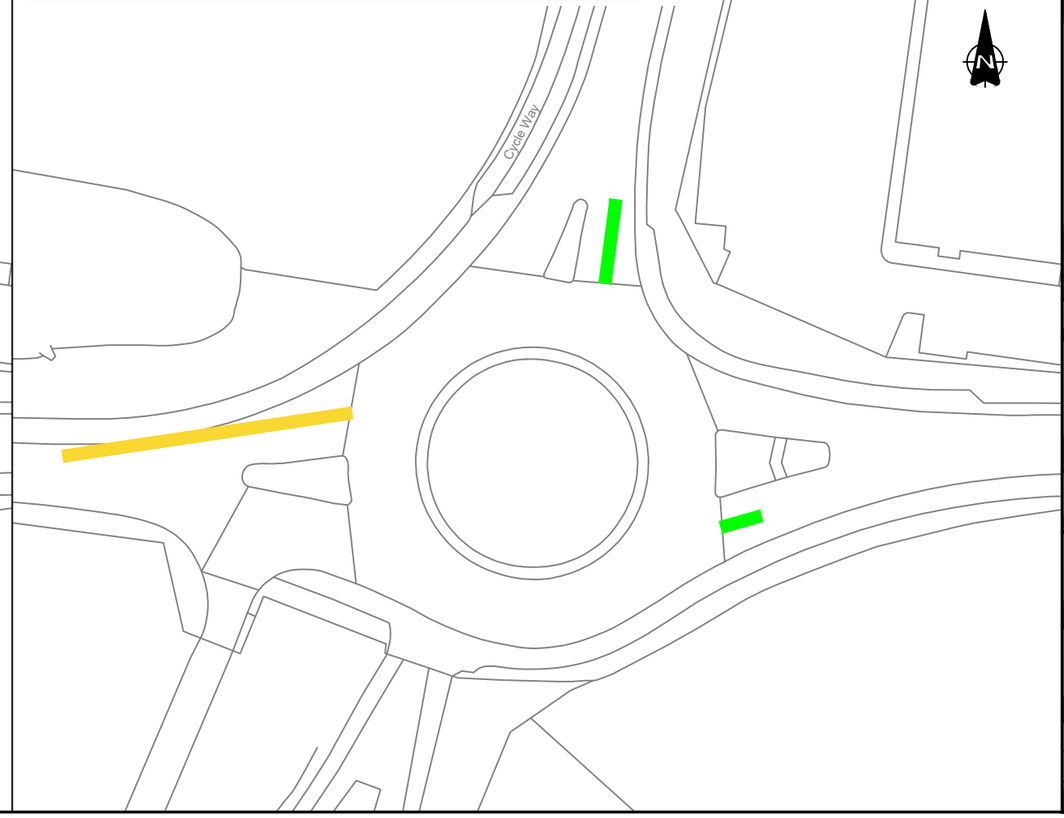

## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

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Client
South Tyneside Council

Project
LOCAL PLAN ASSESSMENT

Title
A184 / ABIINGDON WAY
EXISTING LAYOUT QUEUES

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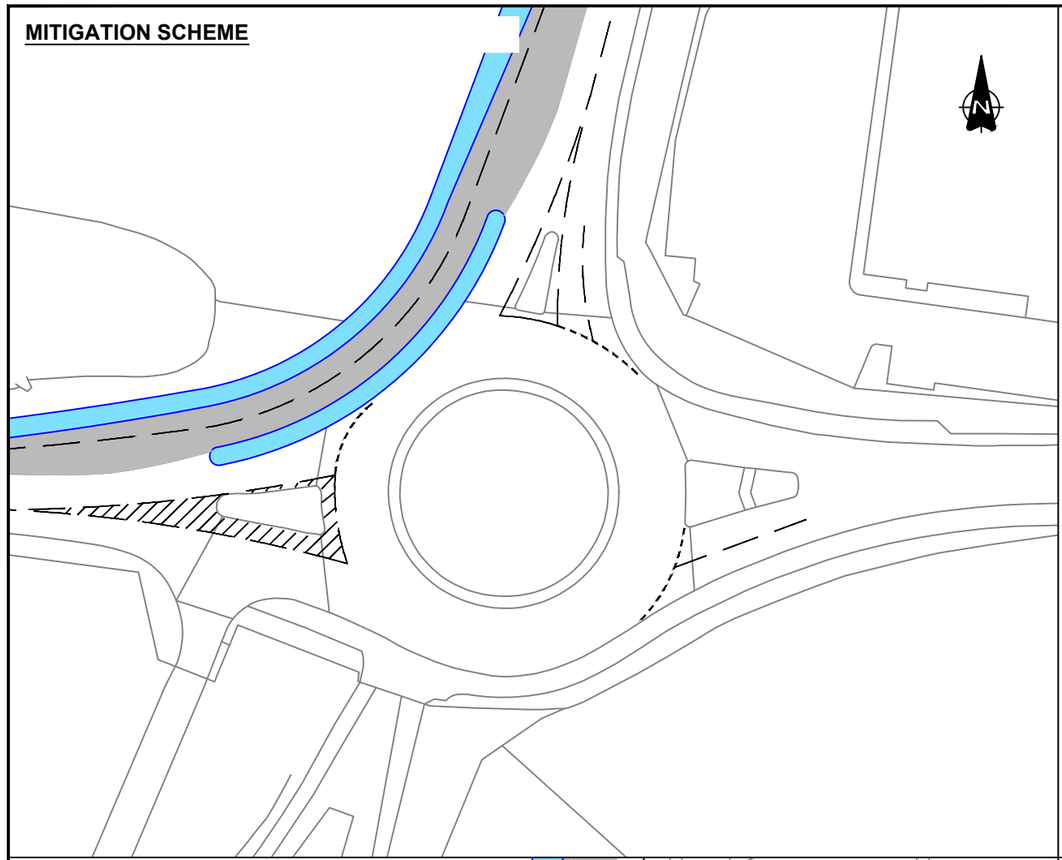
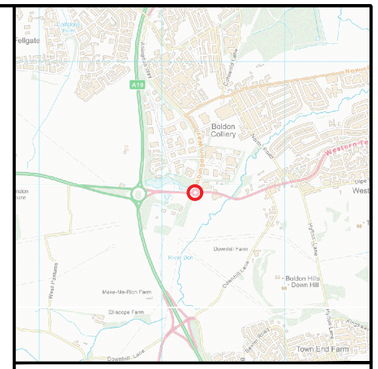
## MITIGATION SCHEME



## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SBC010 | Land at Cleadon Lane Ind Estate | 57 | 62 |
| SBC030 | Land at North Farm (West) | 48 | 51 |
| SFG072 | Land at South of Fellgate | 46 | 49 |
| SBC051 | Land tat West Hall Farm | 34 | 37 |
| SBC084 | Former MoD Bunkers, medical stores and associated land | 29 | 32 |
| | Remaining Developments | 168 | 173 |



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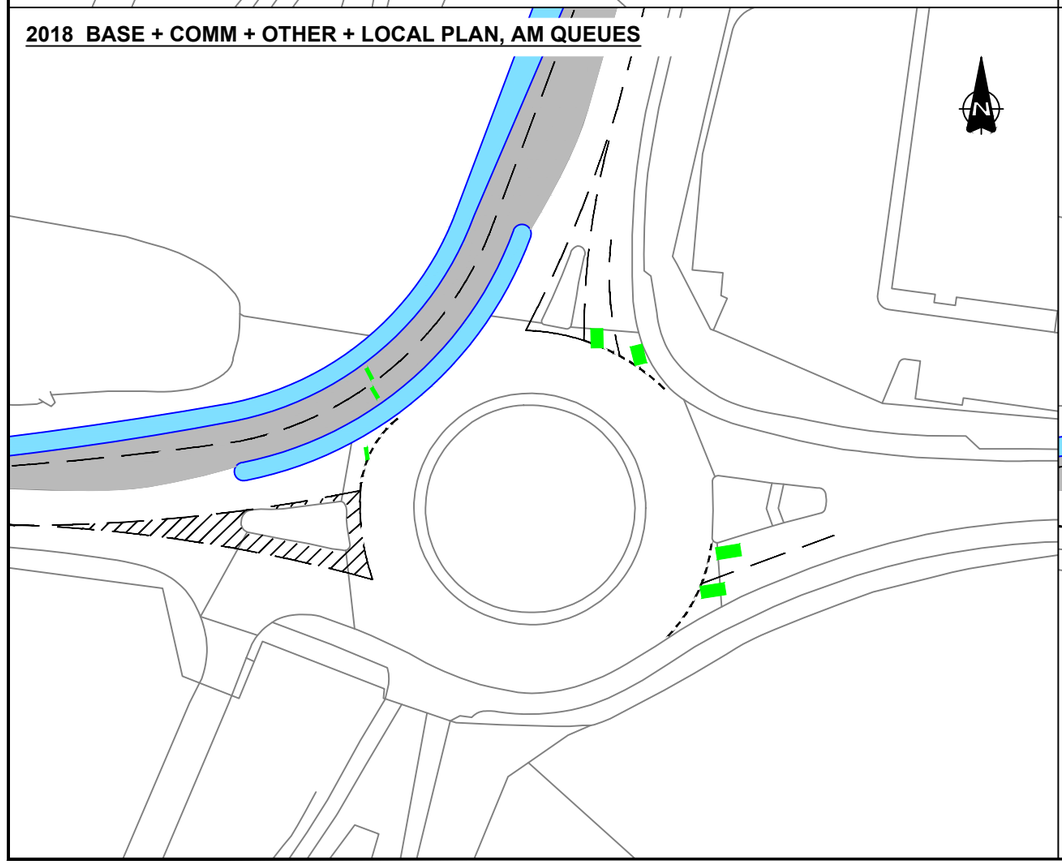

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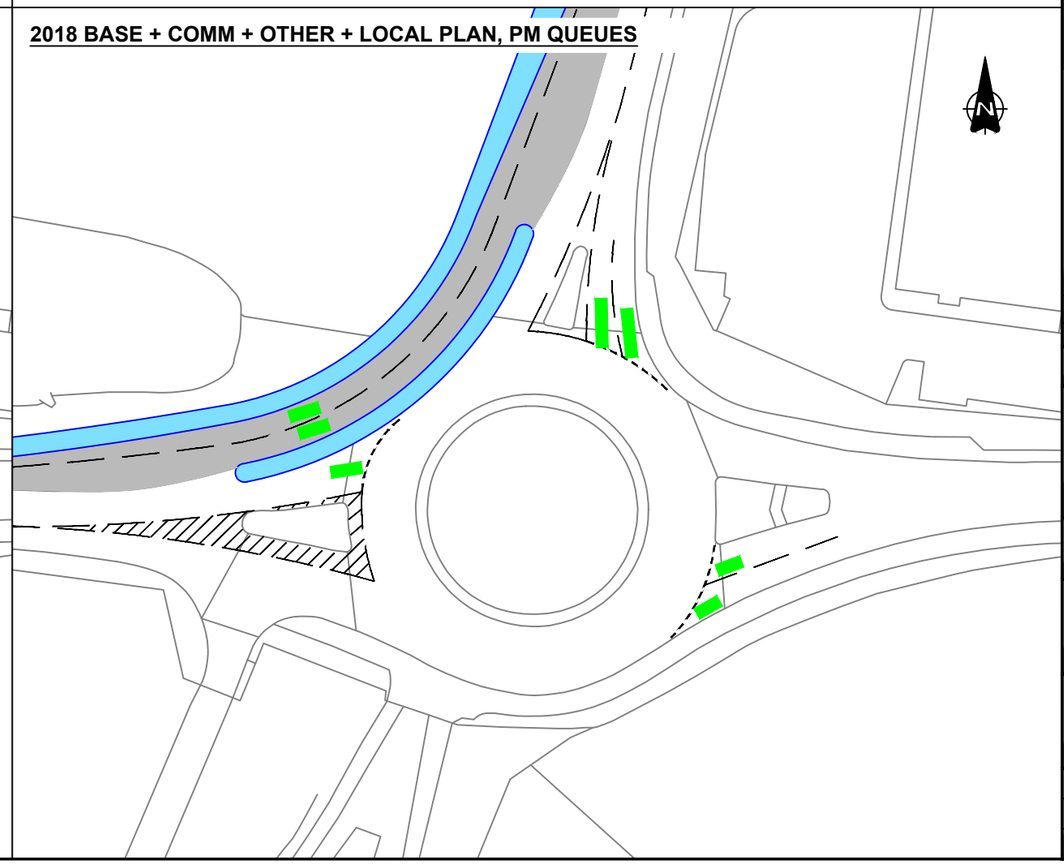

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Client: South Tyneside Council

Project: LOCAL PLAN ASSESSMENT

Title: A184 / ABIINGDON WAY
EXISTING LAYOUT QUEUES

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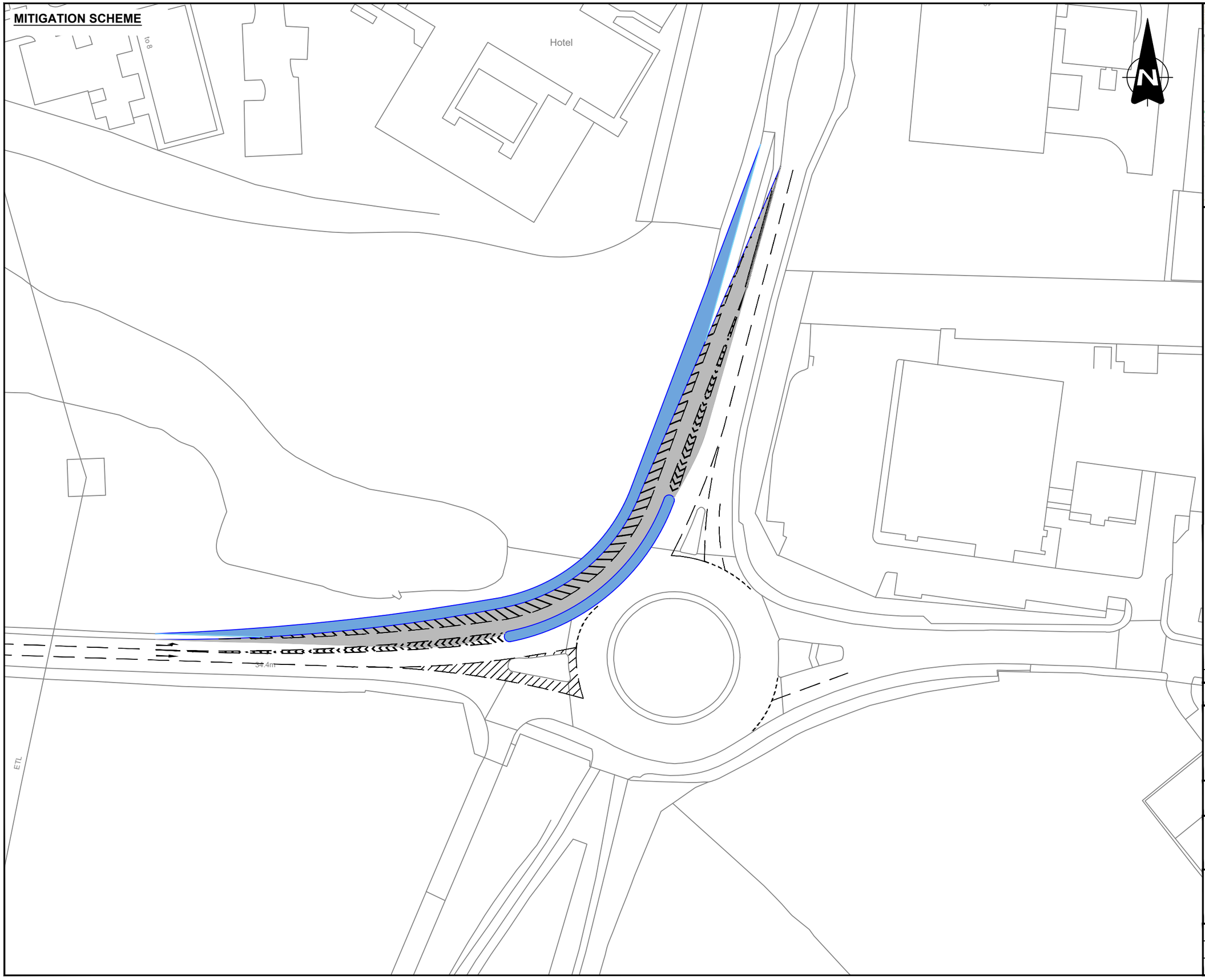


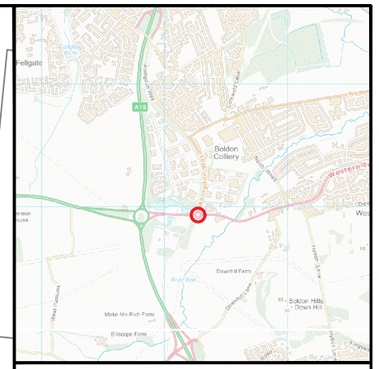

**NOTES**

1. Do not scale from this drawing.
2. This drawing is based on OS Mastermap Topographical layer.
3. All dimensions in metres unless otherwise stated.
4. This drawing is for planning purposes only.

**KEY**

- Proposed Kerbline
- Proposed Footway
- Area of Carriageway Widening

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Project: LOCAL PLAN ASSESSMENT

Title: A184 / ABINGDON WAY MITIGATION SCHEME

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## 3.19 Junction 19 – A184 / Downhill Lane Priority Junction

**2018 Base + Committed Development + Other Development**

3.19.1 The junction can be seen to be exceeding its theoretical capacity during the evening peak on the Downhill Lane arm of the junction.

Table 53. A184 / Downhill Lane – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Downhill Lane to A184 East / A184 West | 0.71 | 2.3 | 1.42 | 50.3 |
| A184 West to A184 East / Downhill Lane | 0.04 | 0 | 0.05 | 0.1 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.19.2 With the addition of Local Plan traffic at this junction there is a significant increase in queueing vehicles on the Downhill Lane arm in the evening peak.

Table 54. A184 / Downhill Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Downhill Lane to A184 East / A184 West | 0.8 | 3.5 | 1.67 | 67.4 |
| A184 West to A184 East / Downhill Lane | 0.05 | 0 | 0.06 | 0.1 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.19.3 The assessment identifies that queues are formed on Downhill Lane with right turning traffic being restricted due to the high volume of traffic on the A184 in both directions, as well as a high volume of right turners into Downhill Lane preventing right turns out.

3.19.4 The investigation of traffic signal control at the junction could be considered, however the subsequent delay introduced on the A184 and throughout the day when traffic flows are considerably lower, is not considered commensurate with the capacity problems.

3.19.5 It is considered more appropriate to leave the junction as per the existing arrangement. This will encourage right turning traffic to utilise the A19 junction to access the A184.

3.19.6 Nonetheless, it is proposed that mitigation for this junction (and Junctions 20 – 22) should take the form of a package of measures which will aim to reduce traffic utilising the A184 through a combination of traffic management measures, sustainable transport improvements and travel planning. It is envisaged that this could result in a reduction in base, committed and other traffic of 5% and of Local Plan development traffic of 10%. In reality, these reductions could be greater should large strategic infrastructure projects come forward for example new metro stations. However testing a more modest reduction is considered to result in a robust assessment.

3.19.7 The following package of measures will be considered for implementation during the lifetime of the plan period.

3.19.8 Introduction of a series of traffic management measures for the A184 corridor as a whole. This could include a reduction in speed limit to form a 20mph zone with self-enforcement via engineering measures. Given the A184 is passing through the built up area of the Boldons, this could take the form of public realm improvement schemes incorporating features such as raised plateaus, build outs incorporating planting areas and widening footways. Such measures would have to be carefully implemented so as not to cause unnecessary difficulties and inconvenience to local buses and HGV traffic, which has no other realistic choice. The reduction in the speed of vehicles travelling along the mainline is considered to discourage extraneous vehicles passing through the corridor; encourage modal shift; but also to increase the visible and available gap for right turning vehicles.

3.19.9 This should be supported by the introduction of formalised pedestrian crossing facilities at several locations along the A184 corridor. This could take the form of zebra crossings, however puffin crossings are considered to be more effective. These crossings will break up the mainline flow of vehicles along the A184 allowing for greater opportunities to move to and from side roads.

3.19.10 The further removal of extraneous traffic from the A184 will be supported by the continued upgrade of the Sunderland Strategic Transport Corridor. This scheme aims to provide a continuous high quality dual carriageway from Sunderland to the A19. This scheme will encourage trips from north Sunderland, which currently choose to use the A184 to access Testo's roundabout to instead use the A1231.

3.19.11 South Tyneside's Local Cycling and Walking Infrastructure Plan (LCWIP) was developed with the ambition of making cycling and walking the natural choice for shorter journeys, or as party of longer journeys. The strategy identifies numerous areas for improvement across the borough including along the A184 corridor.

3.19.12 A number of sustainable transport schemes are already committed which will benefit the local area and the borough as a whole. This includes the committed Metro Flow project which will see an existing freight line upgraded and electrified in South Tyneside, making it capable of carrying Metro services, boosting the capacity for an extra 24,000 passenger journeys every day. The benefits of the project include increasing the frequency of Metro trains to one every 10 minutes outside central areas; delivering capacity for an extra 24,000 passengers a day; improving reliability and allow quicker recovery from major disruptions; and will unlock the door to the expansion of the Metro system. This will be supported by the Metro fleet upgrades which will see new carriages designed and built specially, with world-class reliability and comfort, much greater energy-efficiency and modern carriage features and technology for passengers. The new trains will enter service in 2023 and will provide decades of effective service to Metro and its passengers. The investment now will secure the system's future and let us explore potential new routes. In addition, a partnership containing the local councils, commercial transport operators and Nexus has forged a path towards one of the biggest roll outs of smart technology in the UK. Every passenger now has the ability to access smart technology, with the ability to pre-load smartcards ahead of travel and avoiding the need to carry to cash, or use ticket machines. Integration is also key, with the smartcards being able to be used on Metro, the Shields Ferry and bus services. Nexus has also developed a new Pop app for phones allowing weekly tickets to be paid via mobile phone.

3.19.13 In addition there may still be requirements for local or wider sustainable transport improvements. This could include for example the extension to the existing Park and Ride car park at East Boldon.

3.19.14 The proposed allocations most likely to impact on the corridor will also be required to incorporate robust sustainable transport measures into their development proposals through the implementation of Travel Plans. Preparation of Travel Plans are particularly important at sensitive locations on the road network or where a development is likely to increase the risk of conflict with other road users. Measures will include ensuring home working is achievable through fast broadband connections and provision of offices within new build dwellings, restricting parking provision, providing cycle parking and ensuring developments encourage sustainable travel particularly to local facilities through their design.

3.19.15 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

Table 55. A184 / Downhill Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Downhill Lane to A184 East / A184 West | 0.69 | 2.1 | 1.41 | 46.4 |
| A184 West to A184 East / Downhill Lane | 0.04 | 0 | 0.05 | 0.1 |

3.19.16 The proposed package of mitigation is considered to improve junction performance back to the base situation though queuing still occurs at the junction.

3.19.17 Nonetheless, if substantial queuing does occur along the A184 corridor, and resultant delay occurs, it is assumed that drivers will naturally alter their route choice and divert to an alternative route or change their travel patterns.

3.19.18 The capacity assessment is summarised on Drawing Ref 16L02-19-001, 16L02-19-002 and 16L02-19-004. The proposed mitigation scheme can be seen on Drawing Ref 16L02-19-003 overleaf.

**Cost of Mitigation**

3.19.19 The introduction of the proposed traffic management mitigation measures are anticipated to cost in the region of £750,000. The anticipated cost also covers proposed mitigation associated with Junctions 20 - 22.

3.19.20 It should be noted that this cost is for indicative use only and a more detailed cost will be required at detailed design stage.

3.19.21 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary..

**Trigger Point Analysis**

3.19.22 For the purposes of this assessment, the traffic management scheme should be implemented incrementally to coincide with the roll out of developments within the Local Plan.

**Composition of Trips Through Junction**

3.19.23 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.19.24 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Land south of Fellgate with the majority of the trips being made up cumulatively by a number of developments.

Figure 37. Composition of traffic passing through junction at the end of the plan period – Morning Peak

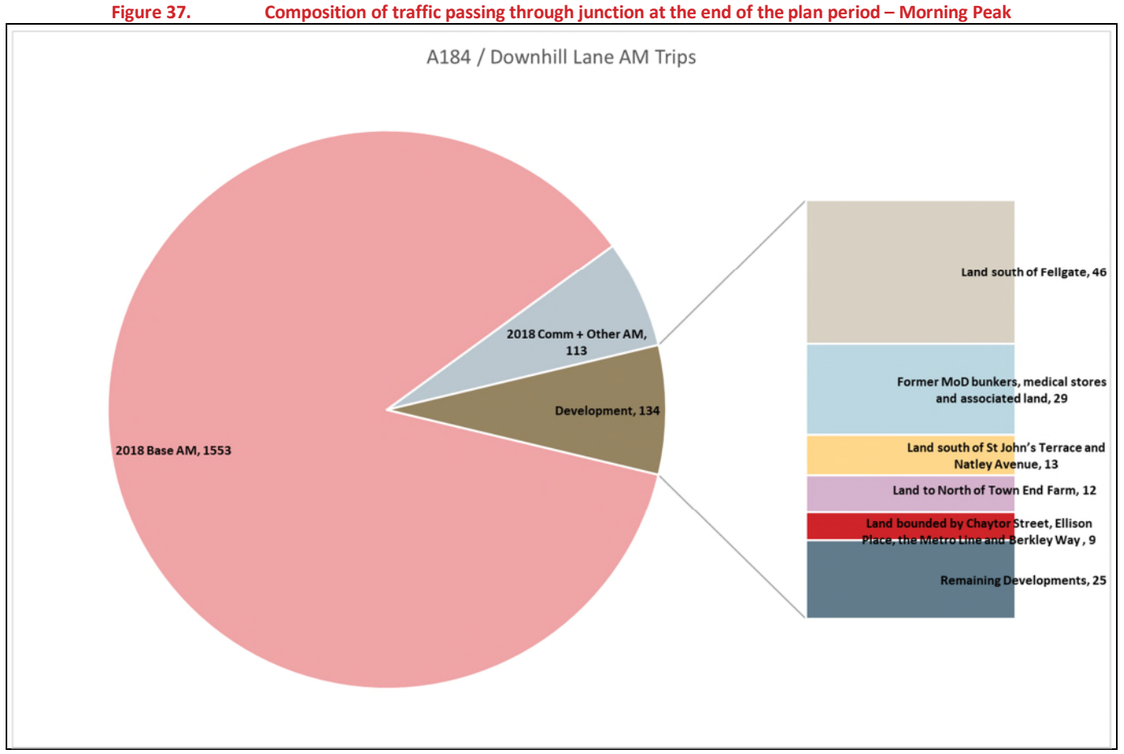
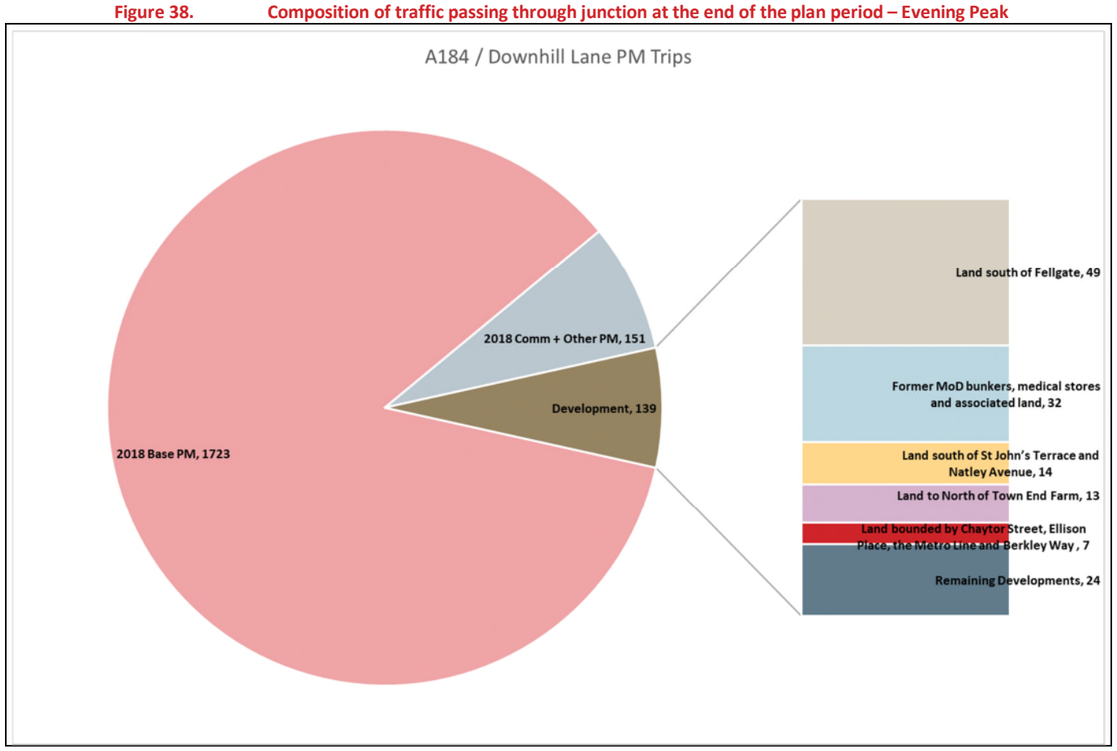


Figure 38. Composition of traffic passing through junction at the end of the plan period – Evening Peak




**2018 Base + Committed Development + Other Development + Local Plan Development (Alternative Distribution)**

3.19.25 As stated in Paragraph 1.2.5 the Council is undertaking studies to identify schemes, investigate deliverability and suitable funding streams, to delivery schemes to bridge the existing level crossing to the north of Boldon. This is in response to commentary from Network Rail around the need to provide full barriers at these level crossings. The provision of full barriers at these locations is anticipated to result in the effective closure of Tileshed Lane / New Road and Boldon Lane for 30 minutes within every hour that the Metro operates.

3.19.26 An additional sensitivity test has therefore been undertaken that assigns the Local Plan traffic anticipated to use Tileshed Lane / New Road (as in the above assessment) to the A184. It should be noted that base traffic or Committed & Other traffic has not been reassigned and for the purposes of this assessment will continue to use Tileshed Lane / New Road. In reality this is unlikely to be the case and therefore the modelling results are anticipated to be worse than presented.

3.19.1 When considering the sensitivity test, the junction can be seen to be over capacity in both morning and evening peaks.

Table 56. A184 / Downhill Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution)

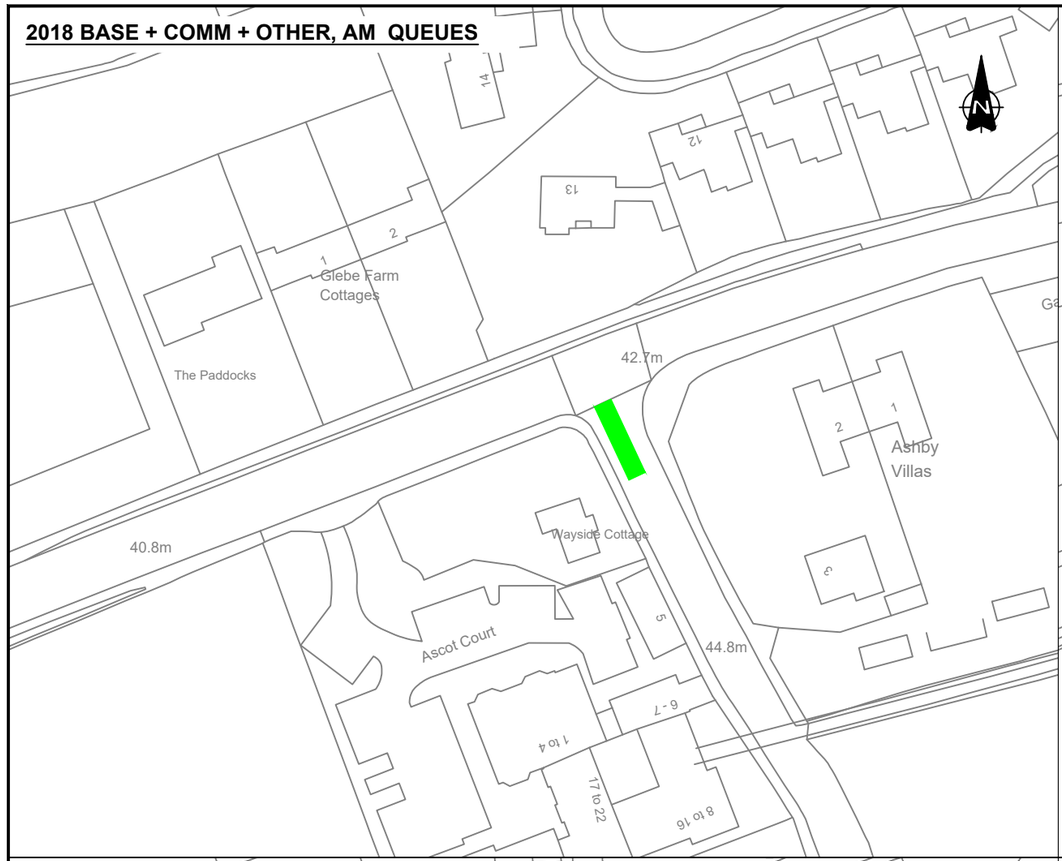
| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Downhill Lane to A184 East / A184 West | 1.11 | 13.8 | 2.3 | 104.9 |
| A184 West to A184 East / Downhill Lane | 0.05 | 0.1 | 0.06 | 0.1 |

3.19.2 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

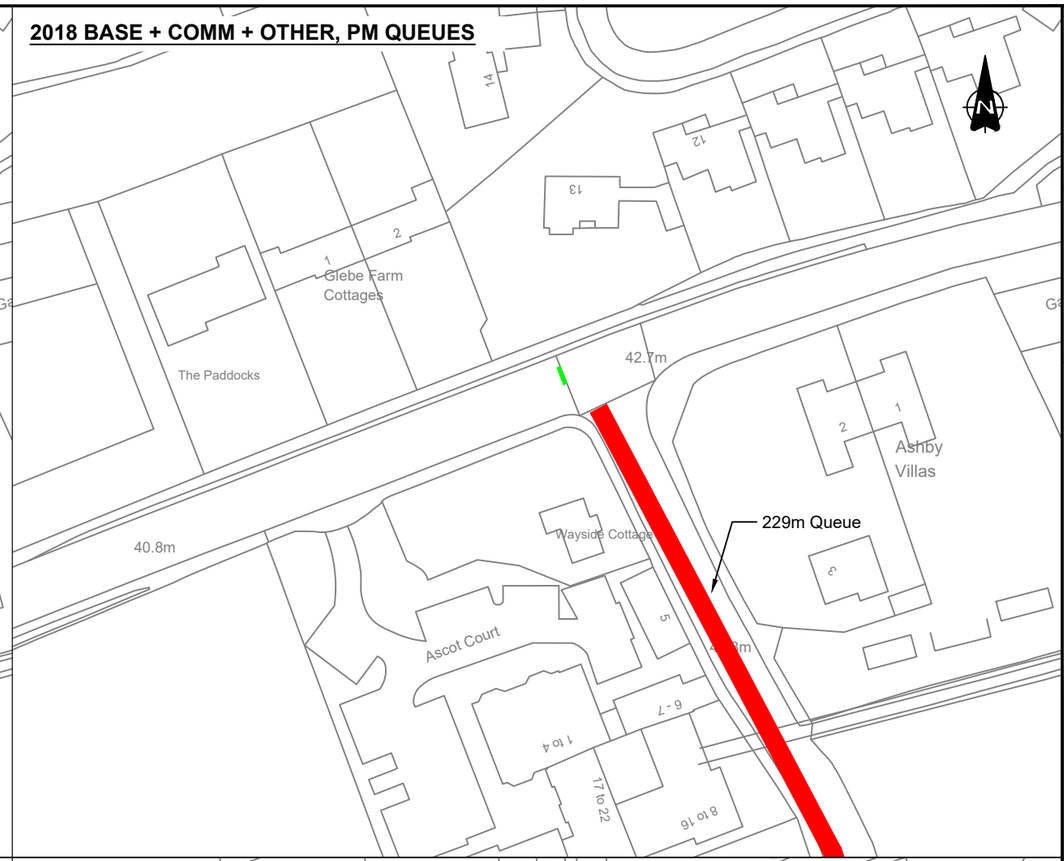
Table 57. A184 / Downhill Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Downhill Lane to A184 East / A184 West | 0.89 | 5.1 | 1.8 | 70.9 |
| A184 West to A184 East / Downhill Lane | 0.05 | 0 | 0.05 | 0.1 |

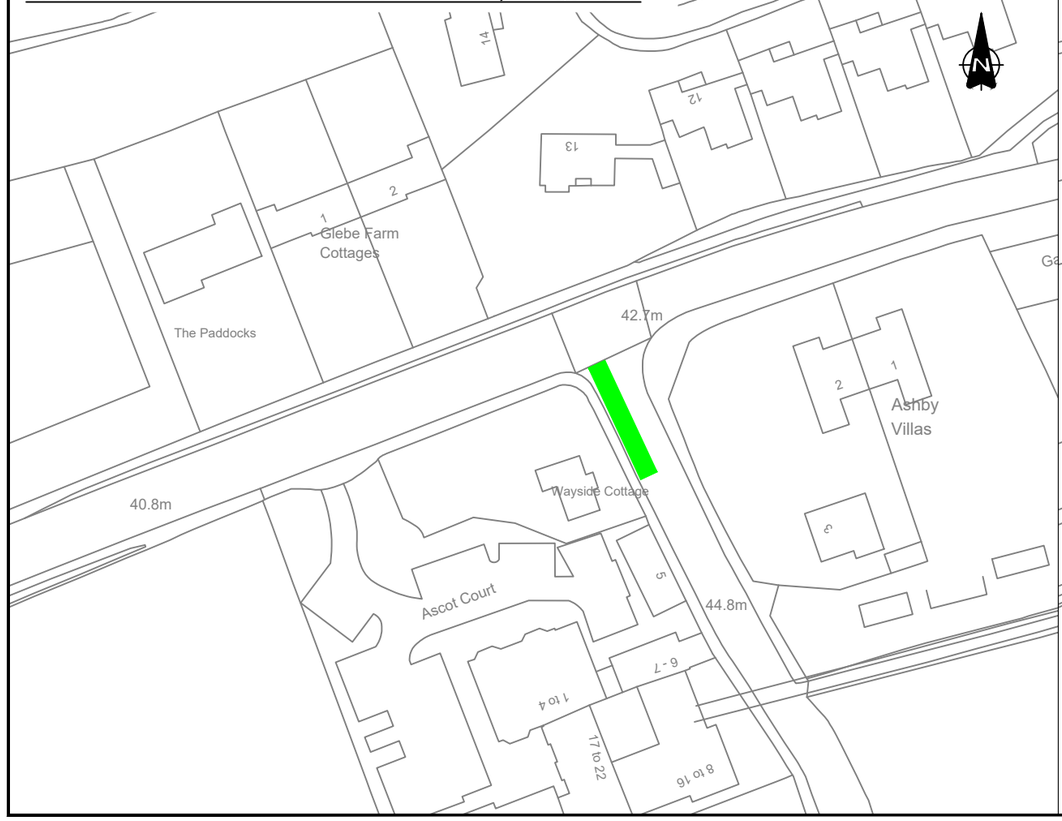
## 2018 BASE + COMM + OTHER, AM QUEUES




## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES

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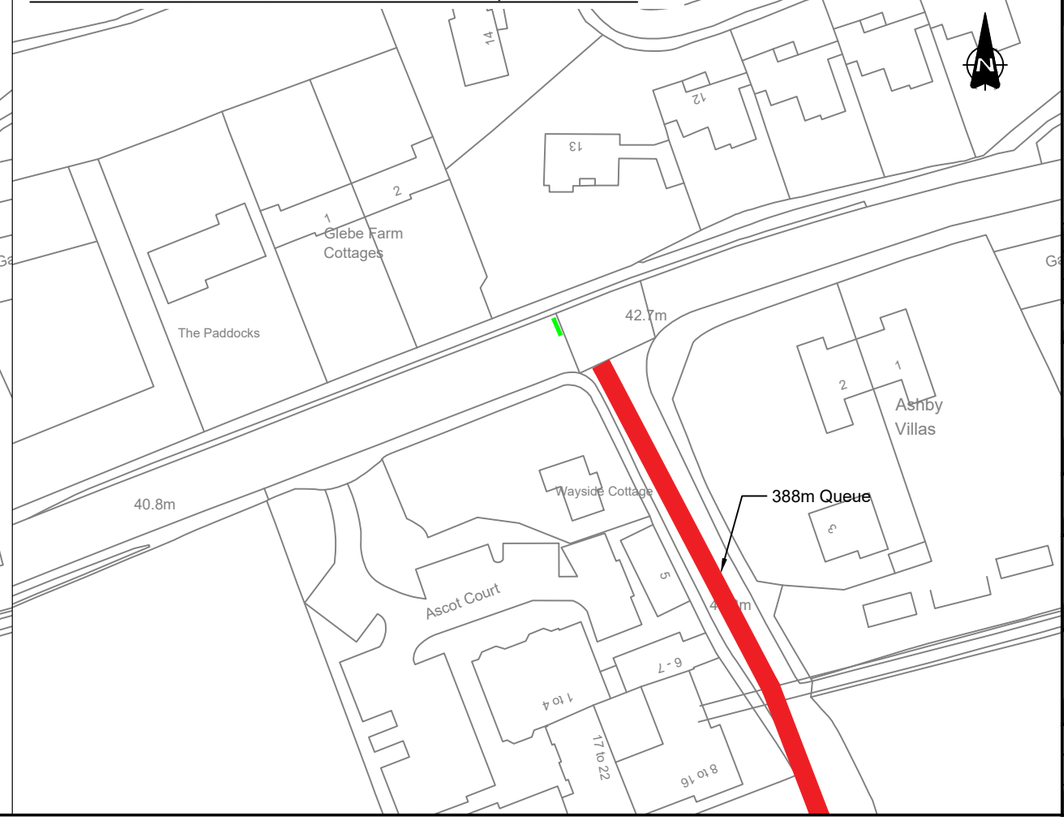

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Project: LOCAL PLAN ASSESSMENT

Title: A184 / DOWNHILL LANE
EXISTING LAYOUT QUEUES

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|---|---|---|
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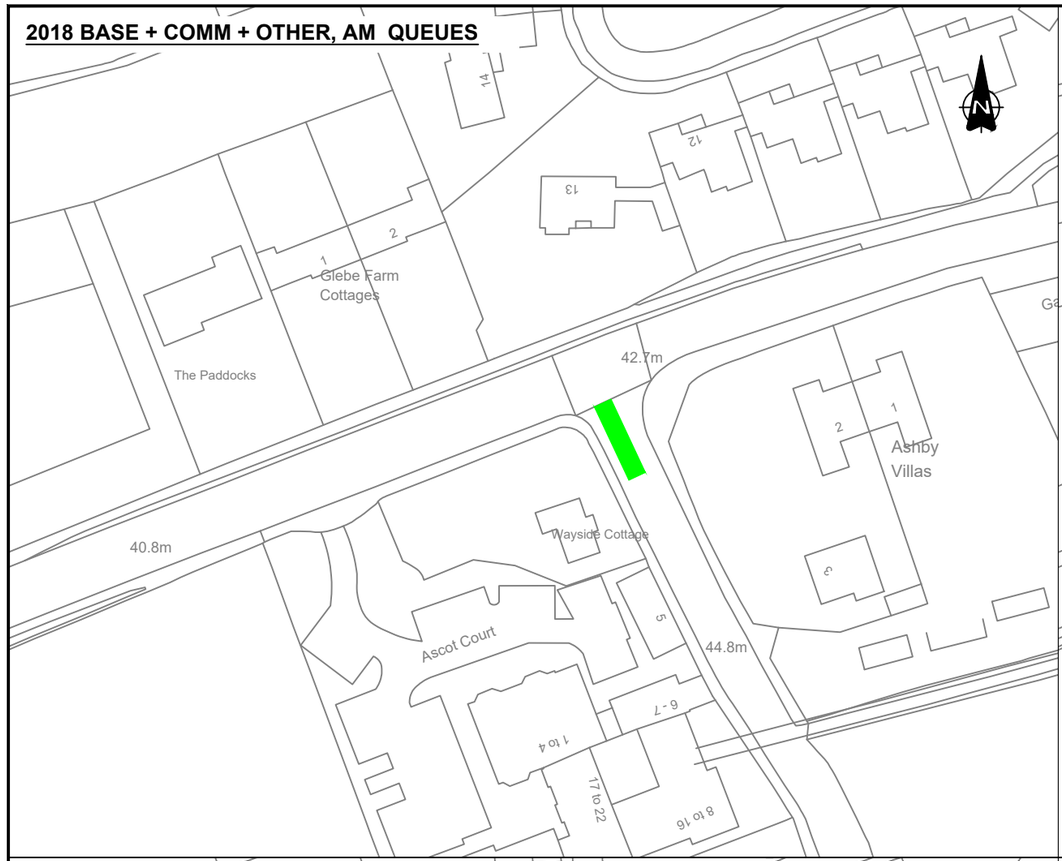
## 2018 BASE + COMM + OTHER, AM QUEUES

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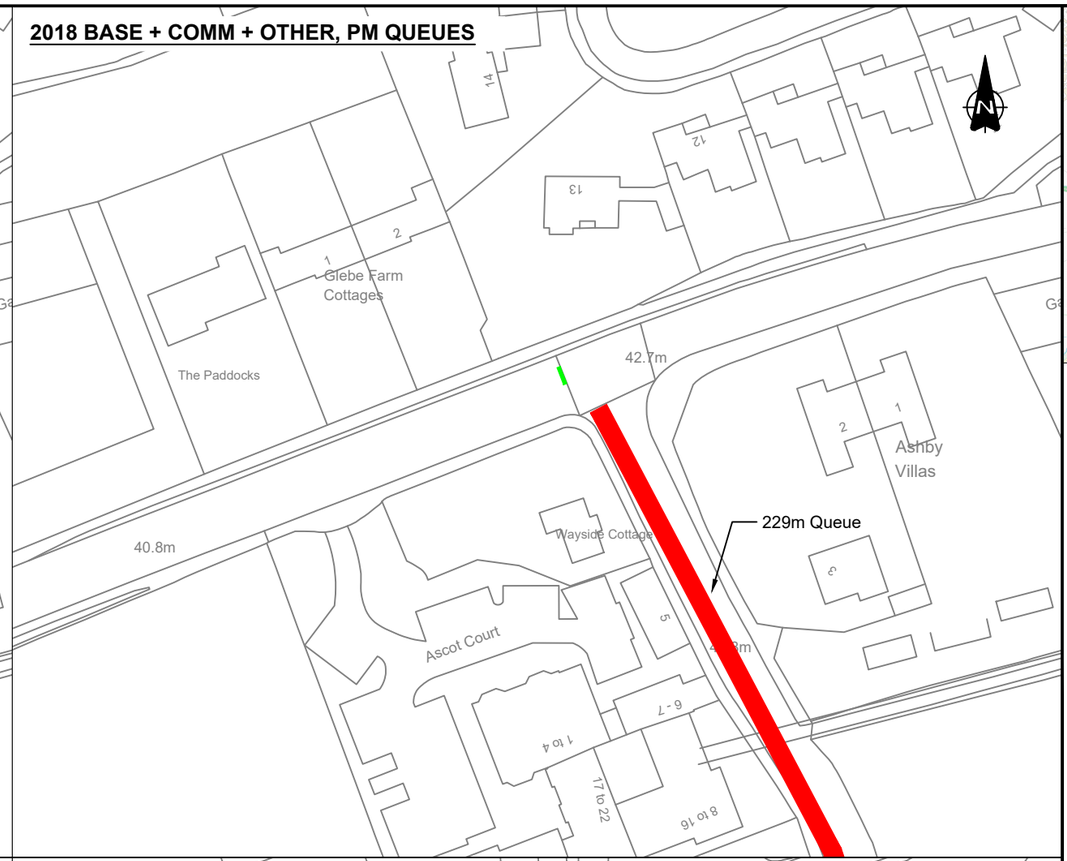
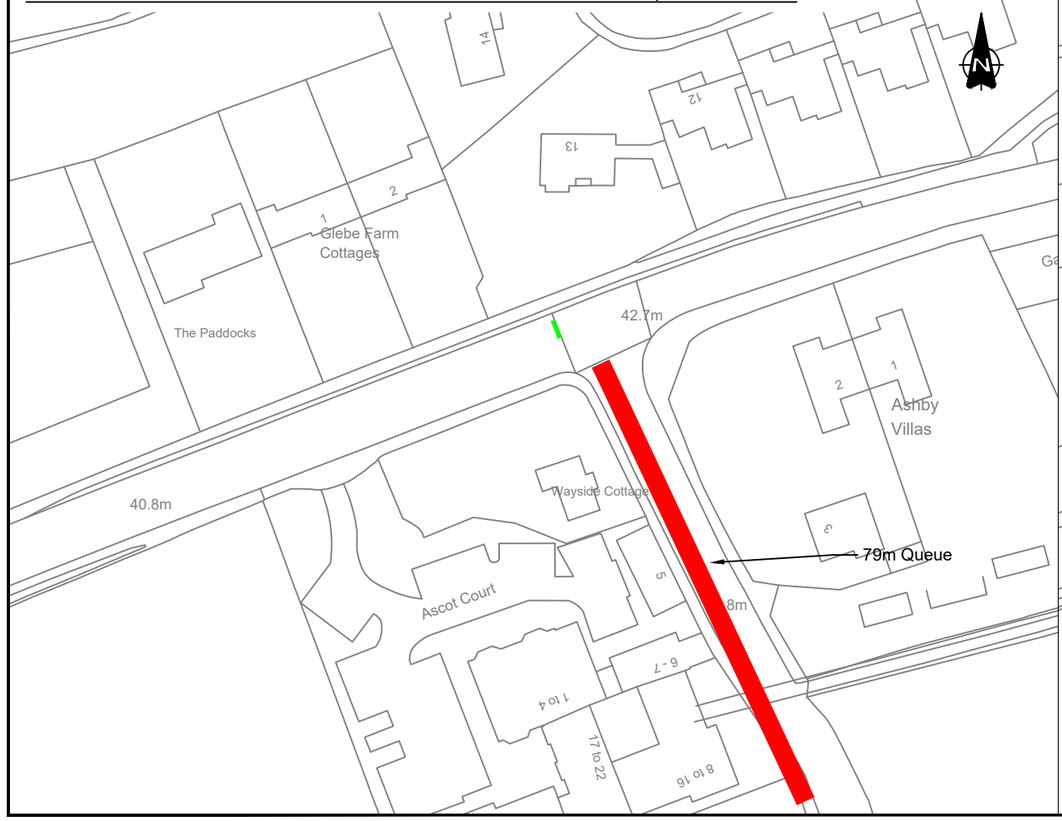
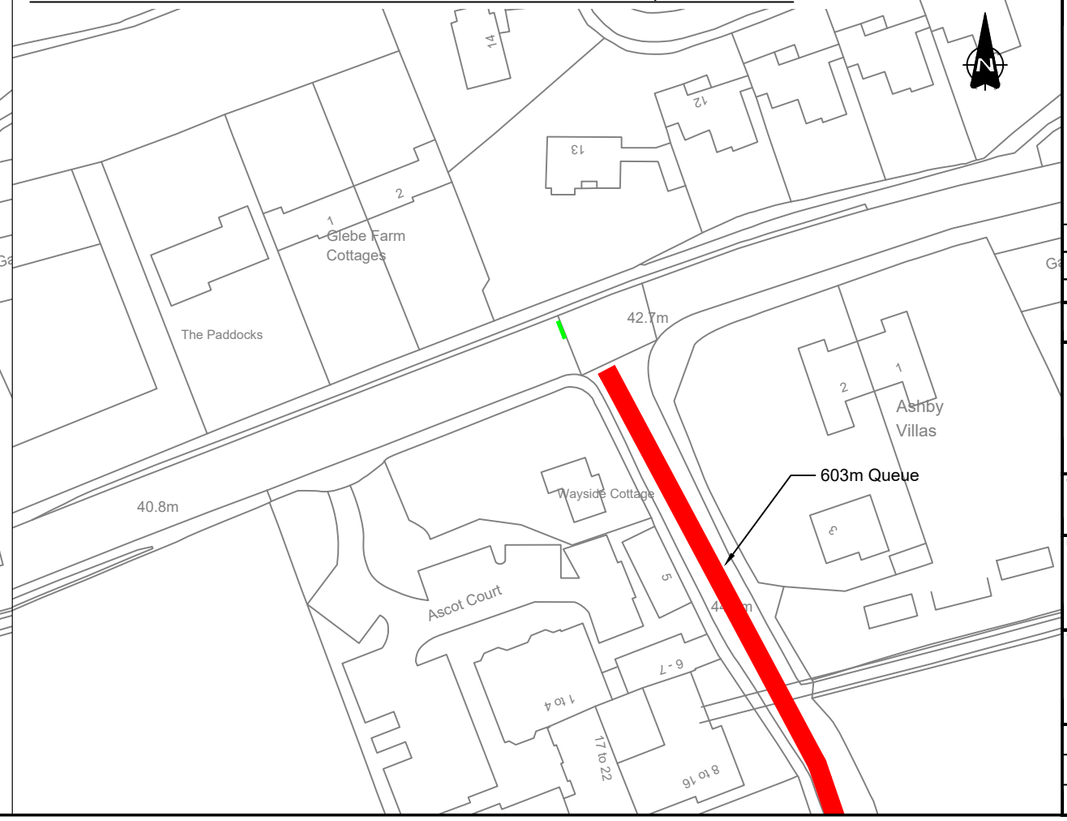



## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN, PM QUEUES



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Client: South Tyneside Council

Project: LOCAL PLAN ASSESSMENT

Title: A184 / DOWNHILL LANE EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
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| JP | JQ | SP |
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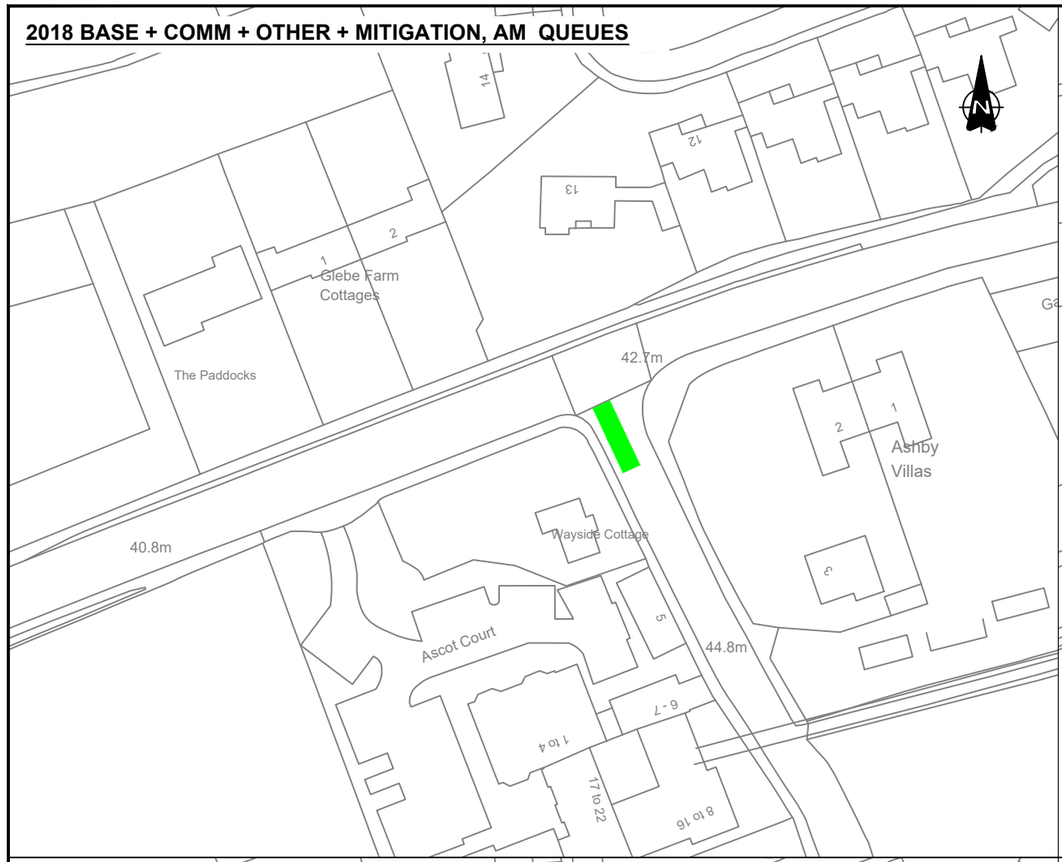
## 2018 BASE + COMM + OTHER + MITIGATION, AM QUEUES

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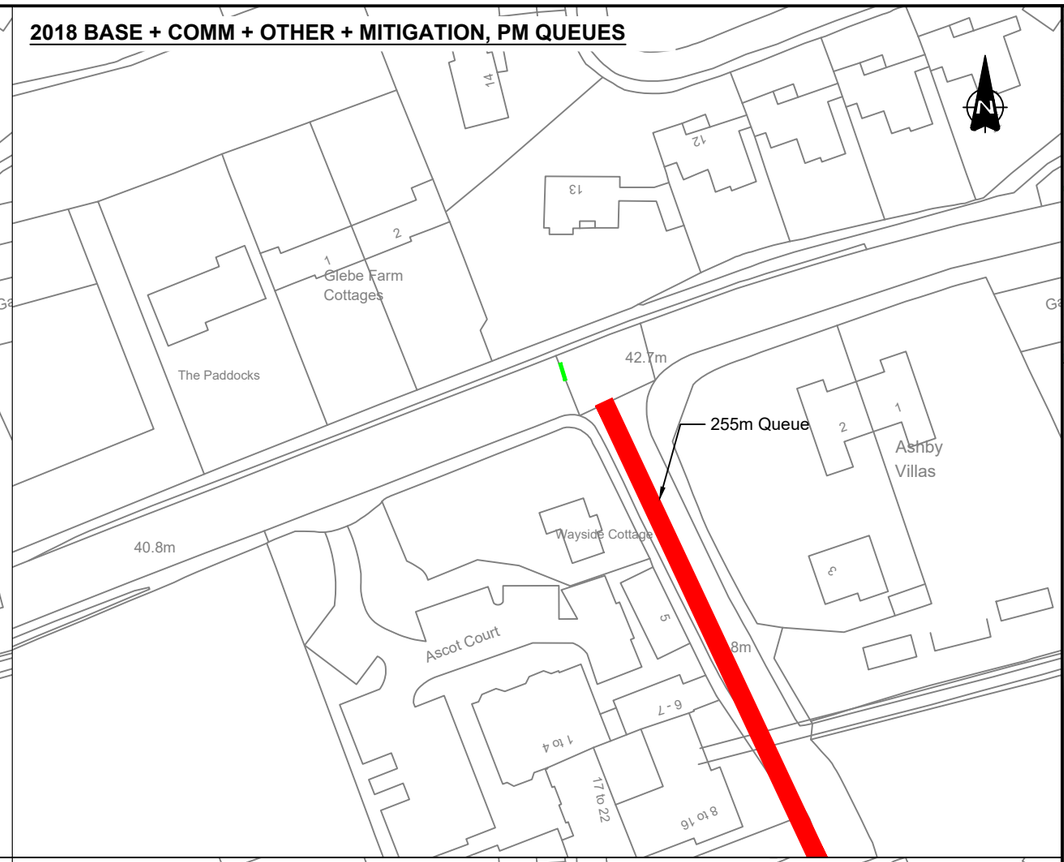


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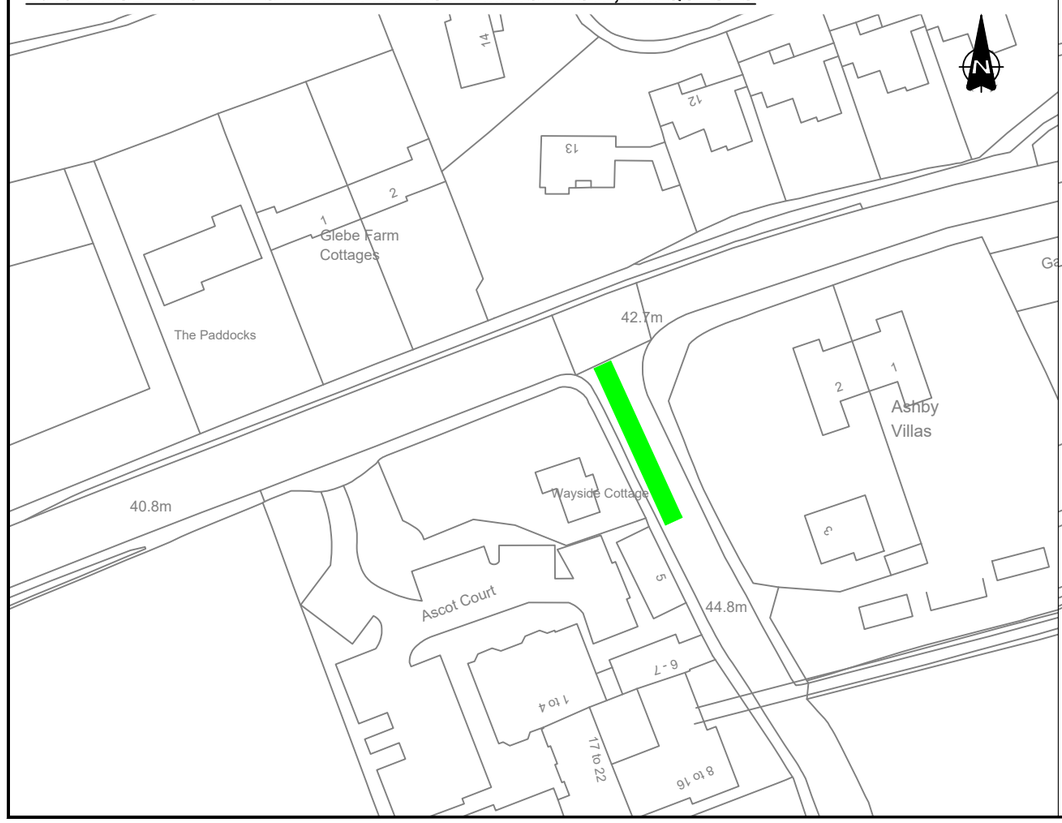


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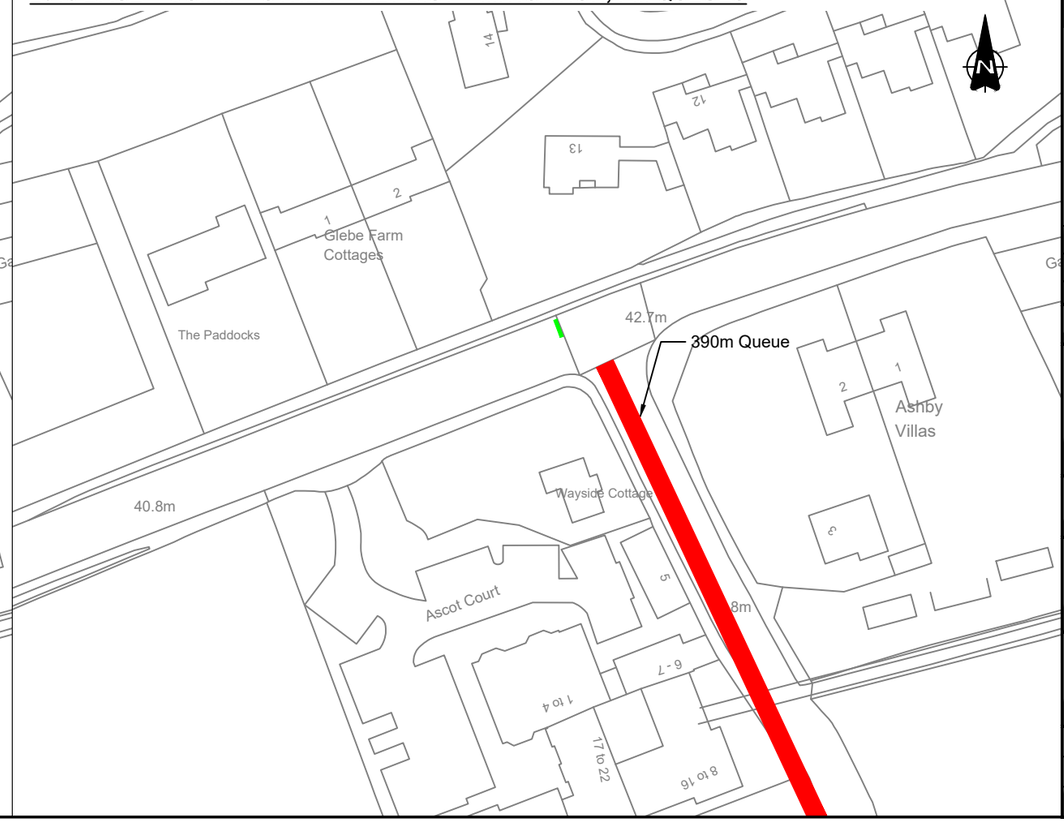

**KEY**

- Queue Length (Within Capacity)
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| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
| B | 23.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
| A | 06.12.21 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (NOVEMBER 2021) | JH | CC | JQ |

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Client: South Tyneside Council

Project: LOCAL PLAN ASSESSMENT

Title: A184 / DOWNHILL LANE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
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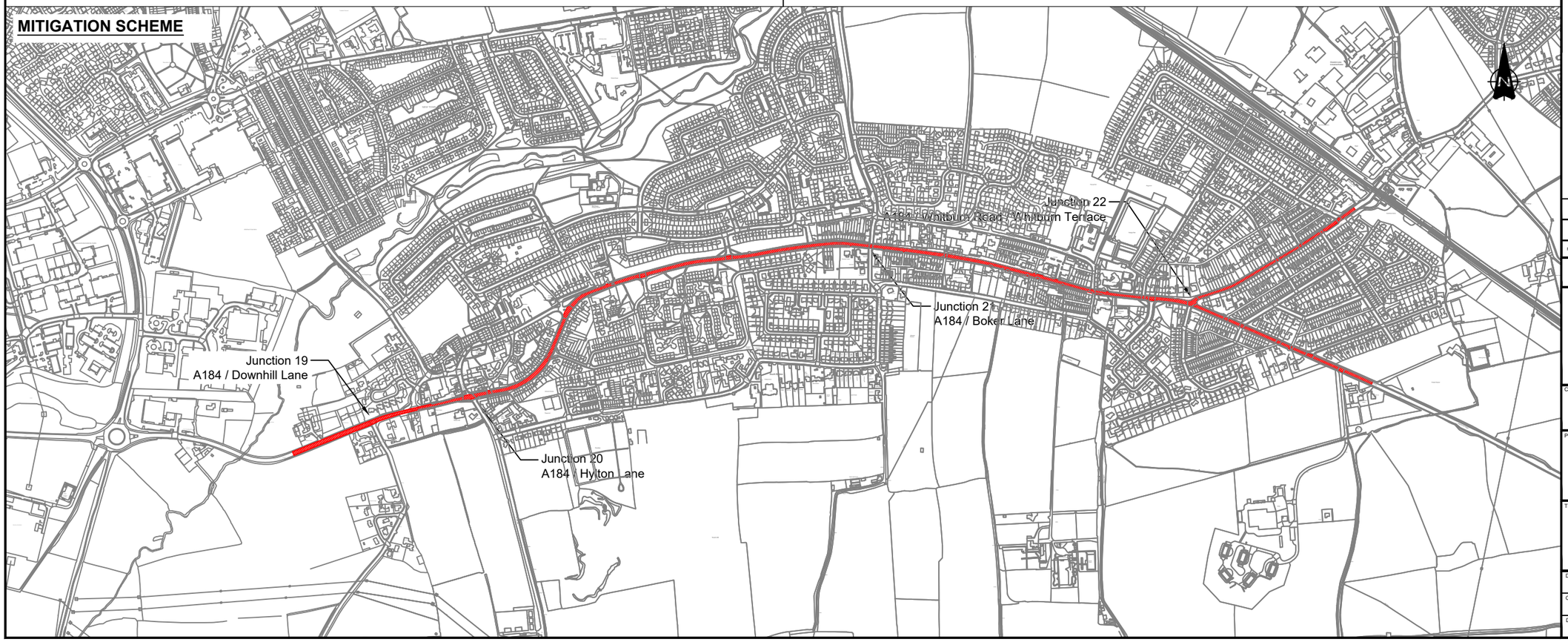
## MITIGATION

Mitigation is proposed to be a series of traffic management and sustainable transport measures that will address the A184 corridor (Junctions 19 to 22) as a whole. This could include the introduction of an area wide 20mph zone, public realm improvements, pedestrian crossing facilities and small or large scale sustainable transport improvements. These measures will discourage extaneous traffic from using the A184, encourage modal shift and break up the flow of traffic allowing for increased opportunities for vehicles to move to and from side arms.

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SFG072 | Land south of Fellgate | 46 | 49 |
| SBC084 | Former MoD Bunkers, medical stores and associated land | 29 | 32 |
| SBC087 | Land south of St John's Terrace and Natley Avenue | 13 | 14 |
| SBC102 | Land to North of Town End Farm | 12 | 13 |
| ED2.7 | Land bounded by Chaytor Street and Ellison Place | 9 | 7 |
| | Remaining Developments | 25 | 24 |

## MITIGATION SCHEME




| Rev. | Date | Revision details | Drawn | Checked | Approved |
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| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
| A | 06.12.21 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (NOVEMBER 2021) | JH | CC | JQ |

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South Tyneside Council

Project
LOCAL PLAN ASSESSMENT

Title
A184 / DOWNHILL LANE
PROPOSED LAYOUT QUEUES

| Drawn | Checked | Approved |
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| Original drg. size: A3 | Date: 14.06.17 | Scale: 1:1000 |
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## 3.20 Junction 20 – A184 / Hylton Lane Signalised Junction

**2018 Base + Committed Development + Other Development**

3.20.1 The junction can be seen to be over capacity in both morning and evening peaks.

Table 58. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 76.9 | 4.7 | 99.5 | 10.4 |
| A184 Addison Road East | 108.2 | 59.6 | 99.3 | 30.8 |
| Hylton Lane | 101.3 | 15.7 | 100.8 | 16.2 |
| A184 Addison Road West | 68.9 | 11.6 | 108.1 | 57 |
| Junction Deg. Sat. (%) | 108.2 | | 108.1 | |
| Junction PRC All Lanes (%) | -20.2 | | -20.1 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.20.2 With the addition of Local Plan traffic at this junction, queueing is exacerbated at the junction with worst case queuing on the A184 East in the morning peak and the A184 West in the evening peak.

Table 59. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 78.1 | 4.8 | 102 | 11.8 |
| A184 Addison Road East | 112.5 | 78.7 | 104.3 | 45.7 |
| Hylton Lane | 110.9 | 24.4 | 110.9 | 26.1 |
| A184 Addison Road West | 74.6 | 13.6 | 113.6 | 79.8 |
| Junction Deg. Sat. (%) | 112.5 | | 113.6 | |
| Junction PRC All Lanes (%) | -25 | | -26.2 | |

3.20.3 In reality the junction is anticipated to operate more favourably than that reported above. The test assumes that the pedestrian demand is called every traffic signal cycle. It is anticipated that the pedestrian demand being called every other cycle is more realistic. The result for this can be seen below.

3.20.4 The junction is approaching its theoretical capacity in both peak periods with queues across the junction.

Table 60. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 78.1 | 5.5 | 96 | 9.9 |
| A184 Addison Road East | 96.8 | 32.9 | 90.6 | 24.9 |
| Hylton Lane | 95.1 | 13.1 | 96.1 | 14.3 |
| A184 Addison Road West | 63.8 | 12.7 | 97.9 | 33.9 |
| Junction Deg. Sat. (%) | 96.8 | | 97.9 | |
| Junction PRC All Lanes (%) | -7.6 | | -8.8 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.20.5 Given the existing junction constraints, a standard junction enhancement scheme is not achievable. Measures such as re-phasing the traffic signals and the closure of side arms has also been investigated. It is therefore proposed to introduce measures that will discourage extraneous vehicles passing through the junction, supplemented by measures that will encourage modal shift to sustainable transport modes.

3.20.6 It is proposed that mitigation for this junction (and Junctions 19 and 21 – 22) should take the form of a package of measures which will aim to reduce traffic utilising the A184 through a combination of traffic management measures, sustainable transport improvements and travel planning. It is envisaged that this could result in a reduction in base, committed and other traffic of 5% and of Local Plan development traffic of 10%. In reality, these reductions could be greater should large strategic infrastructure projects come forward for example new metro stations. However testing a more modest reduction is considered to result in a robust assessment.

3.20.7 The following package of measures will be considered for implementation during the lifetime of the plan period.

3.20.8 Introduction of a series of traffic management measures for the A184 corridor as a whole. This could include a reduction in speed limit to form a 20mph zone with self-enforcement via engineering measures. Given the A184 is passing through the built up area of the Boldons, this could take the form of public realm improvement schemes incorporating features such as raised plateaus, build outs incorporating planting areas and widening footways. Such measures would have to be carefully implemented so as not to cause unnecessary difficulties and inconvenience to local buses and HGV traffic, which has no other realistic choice. The reduction in the speed of vehicles travelling along the mainline is considered to discourage extraneous vehicles passing through the corridor; encourage modal shift; but also to increase the visible and available gap for right turning vehicles.

3.20.9 This should be supported by the introduction of formalised pedestrian crossing facilities at several locations along the A184 corridor. This could take the form of zebra crossings, however puffin crossings are considered to be more effective. These crossings will break up the mainline flow of vehicles along the A184 allowing for greater opportunities to move to and from side roads.

3.20.10 The further removal of extraneous traffic from the A184 will be supported by the continued upgrade of the Sunderland Strategic Transport Corridor. This scheme aims to provide a continuous high quality dual carriageway from Sunderland to the A19. This scheme will encourage trips from north Sunderland, which currently choose to use the A184 to access Testo's roundabout to instead use the A1231.

3.20.11 South Tyneside's Local Cycling and Walking Infrastructure Plan (LCWIP) was developed with the ambition of making cycling and walking the natural choice for shorter journeys, or as party of longer journeys. The strategy identifies numerous areas for improvement across the borough including along the A184 corridor.

3.20.12 A number of sustainable transport schemes are already committed which will benefit the local area and the borough as a whole. This includes the committed Metro Flow project which will see an existing freight line upgraded and electrified in South Tyneside, making it capable of carrying Metro services, boosting the capacity for an extra 24,000 passenger journeys every day. The benefits of the project include increasing the frequency of Metro trains to one every 10 minutes outside central areas; delivering capacity for an extra 24,000 passengers a day; improving reliability and allow quicker recovery from major disruptions; and will unlock the door to the expansion of the Metro system. This will be supported by the Metro fleet upgrades which will see new carriages designed and built specially, with world-class reliability and comfort, much greater energy-efficiency and modern carriage features and technology for passengers. The new trains will enter service in 2023 and will provide decades of effective service to Metro and its passengers. The investment now will secure the system's future and let us explore potential new routes. In addition, a partnership containing the local councils, commercial transport operators and Nexus has forged a path towards one of the biggest roll outs of smart technology in the UK. Every passenger now has the ability to access smart technology, with the ability to pre-load smartcards ahead of travel and avoiding the need to carry to cash, or use ticket machines. Integration is also key, with the smartcards being able to be used on Metro, the Shields Ferry and bus services. Nexus has also developed a new Pop app for phones allowing weekly tickets to be paid via mobile phone.

3.20.13 In addition there may still be requirements for local or wider sustainable transport improvements. This could include for example the extension to the existing Park and Ride car park at East Boldon.

3.20.14 The proposed allocations most likely to impact on the corridor will also be required to incorporate robust sustainable transport measures into their development proposals through the implementation of Travel Plans. Preparation of Travel Plans are particularly important at sensitive locations on the road network or where a development is likely to increase the risk of conflict with other road users. Measures will include ensuring home working is achievable through fast broadband connections and provision of offices within new build dwellings, restricting parking provision, providing cycle parking and ensuring developments encourage sustainable travel particularly to local facilities through their design.

3.20.15 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

Table 61. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 73.9 | 4.3 | 97.2 | 9.4 |
| A184 Addison Road East | 106.5 | 54.7 | 98.7 | 30.4 |
| Hylton Lane | 105.1 | 18.2 | 105.5 | 19.9 |
| A184 Addison Road West | 70.7 | 12.3 | 107.5 | 56.5 |
| Junction Deg. Sat. (%) | 106.5 | | 107.5 | |
| Junction PRC All Lanes (%) | -18.3 | | -19.4 | |

3.20.16 The proposed package of mitigation is considered to improve junction performance back to the base situation though queuing still occurs across the junction.

3.20.17 In reality the junction is anticipated to operate more favourably than that reported above. The test assumes that the pedestrian demand is called every traffic signal cycle. It is anticipated that the pedestrian demand being called every other cycle is more realistic. The result for this can be seen below.

Table 62. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 73.9 | 5.1 | 91.5 | 8.2 |
| A184 Addison Road East | 91.6 | 26 | 85.7 | 21.3 |
| Hylton Lane | 90.1 | 11 | 91.5 | 11.5 |
| A184 Addison Road West | 60.4 | 11.5 | 92.7 | 26 |
| Junction Deg. Sat. (%) | 91.6 | | 92.7 | |
| Junction PRC All Lanes (%) | -1.8 | | -3.0 | |

3.20.18 The proposed package of mitigation is considered to improve junction performance back to the base situation with the junction approaching its theoretical capacity.

3.20.19 Nonetheless, if substantial queuing does occur along the A184 corridor, and resultant delay occurs, it is assumed that drivers will naturally alter their route choice and divert to an alternative route or change their travel patterns.

3.20.20 The capacity assessment is summarised on Drawing Ref 16L02-20-001, 16L02-20-002, 16L02-20-003, 16L02-20-005 and 16L02-20-06. The proposed mitigation scheme can be seen on Drawing Ref 16L02-20-004 overleaf.

**Cost of Mitigation**

3.20.21 The introduction of the proposed traffic management mitigation measures are anticipated to cost in the region of £750,000. The anticipated cost also covers proposed mitigation associated with Junctions 19 and 21 - 22.

3.20.22 It should be noted that this cost is for indicative use only and a more detailed cost will be required at detailed design stage.

3.20.23 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary..

**Trigger Point Analysis**

3.20.24 For the purposes of this assessment, the traffic management scheme should be implemented incrementally to coincide with the roll out of developments within the Local Plan.

**Composition of Trips Through Junction**

3.20.25 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.20.26 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Land south of Fellgate with the majority of the trips being made up cumulatively by a number of developments.

Figure 39. Composition of traffic passing through junction at the end of the plan period – Morning Peak

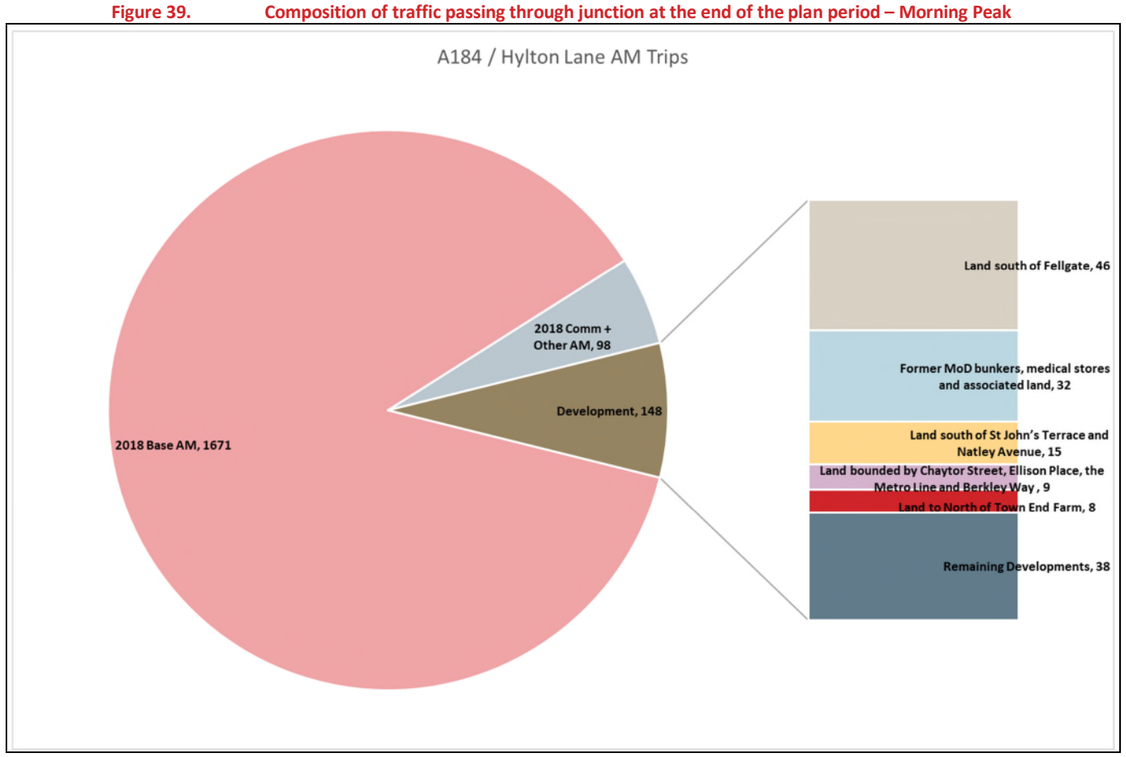
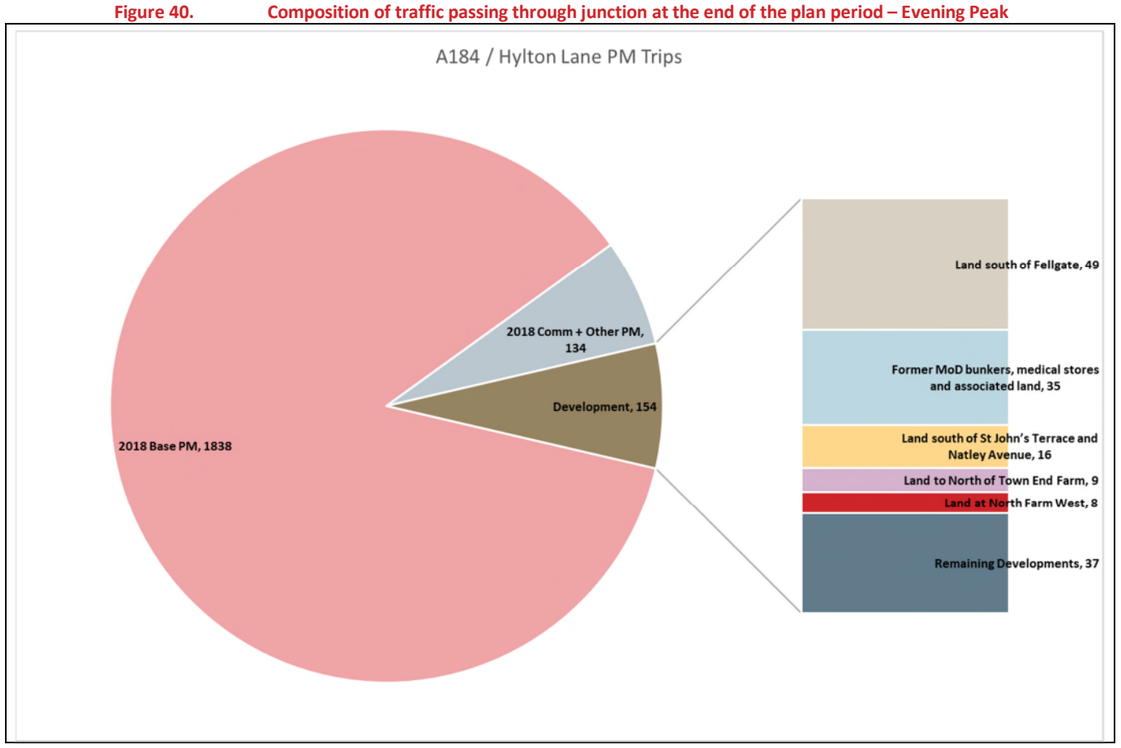


Figure 40. Composition of traffic passing through junction at the end of the plan period – Evening Peak




**2018 Base + Committed Development + Other Development + Local Plan Development (Alternative Distribution)**

3.20.27 As stated in Paragraph 1.2.5 the Council is undertaking studies to identify schemes, investigate deliverability and suitable funding streams, to delivery schemes to bridge the existing level crossing to the north of Boldon. This is in response to commentary from Network Rail around the need to provide full barriers at these level crossings. The provision of full barriers at these locations is anticipated to result in the effective closure of Tileshed Lane / New Road and Boldon Lane for 30 minutes within every hour that the Metro operates.

3.20.28 An additional sensitivity test has therefore been undertaken that assigns the Local Plan traffic anticipated to use Tileshed Lane / New Road (as in the above assessment) to the A184. It should be noted that base traffic or Committed & Other traffic has not been reassigned and for the purposes of this assessment will continue to use Tileshed Lane / New Road. In reality this is unlikely to be the case and therefore the modelling results are anticipated to be worse than presented.

3.20.29 When considering the sensitivity test, the junction can be seen to be over capacity in both morning and evening peaks.

Table 63. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution)

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 78.1 | 4.8 | 102 | 11.8 |
| A184 Addison Road East | 127.2 | 145.2 | 109.7 | 67.5 |
| Hylton Lane | 121 | 33.6 | 120.1 | 35.4 |
| A184 Addison Road West | 78.7 | 15.2 | 128.3 | 143.8 |
| Junction Deg. Sat. (%) | 127.2 | | 128.3 | |
| Junction PRC All Lanes (%) | -41.3 | | -42.6 | |

3.20.30 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

Table 64. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 73.9 | 4.3 | 97.2 | 9.4 |
| A184 Addison Road East | 119.6 | 111.8 | 103.4 | 44 |
| Hylton Lane | 114.7 | 26.6 | 114.3 | 28.3 |
| A184 Addison Road West | 74.2 | 13.7 | 120.6 | 111.2 |
| Junction Deg. Sat. (%) | 119.6 | | 120.6 | |
| Junction PRC All Lanes (%) | -32.9 | | -34 | |

**2018 Base + Committed Development + Other Development + Local Plan Development (Alternative Distribution) – Double Cycle**

3.20.1 When considering the sensitivity test under the double cycle scenario, the junction can be seen to be over capacity in both morning and evening peaks.

Table 65. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) – Double Cycle

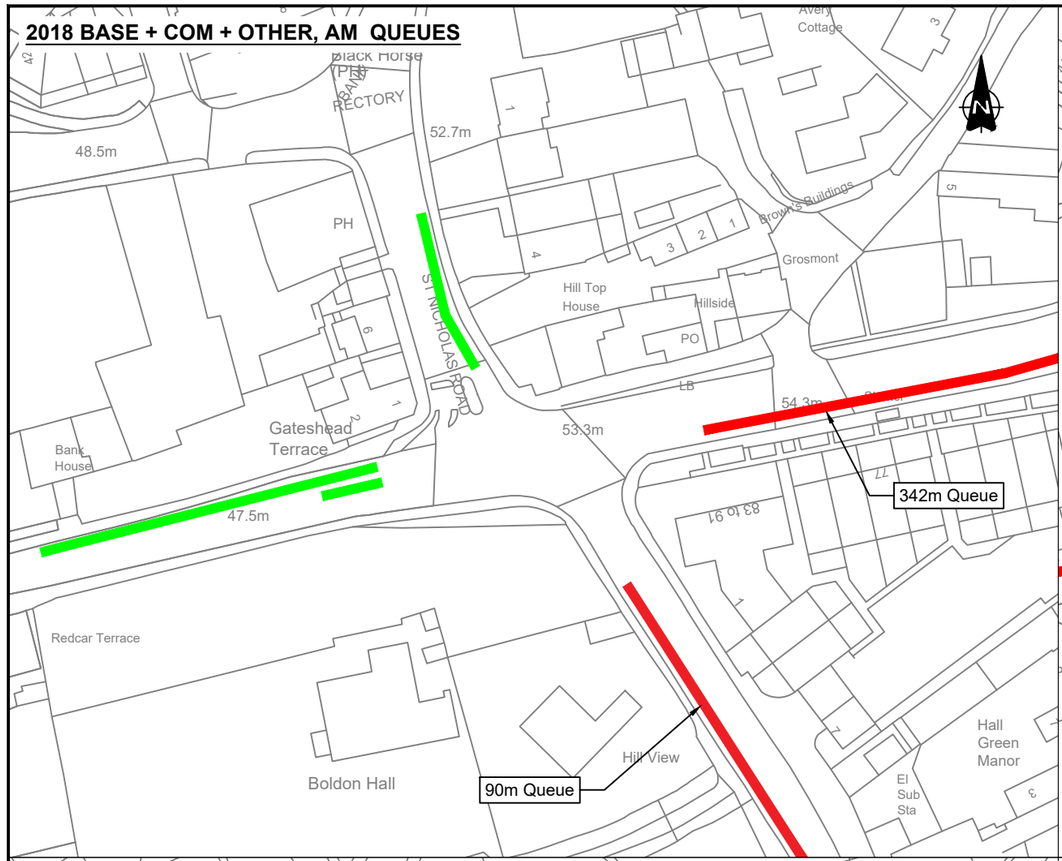
| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 78.1 | 5.1 | 102 | 12.3 |
| A184 Addison Road East | 108.6 | 78.9 | 93.3 | 29.4 |
| Hylton Lane | 106.5 | 21.4 | 106.8 | 23.1 |
| A184 Addison Road West | 66.7 | 14.7 | 108.3 | 75.7 |
| Junction Deg. Sat. (%) | 108.6 | | 108.3 | |
| Junction PRC All Lanes (%) | -20.6 | | -20.4 | |

3.20.2 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

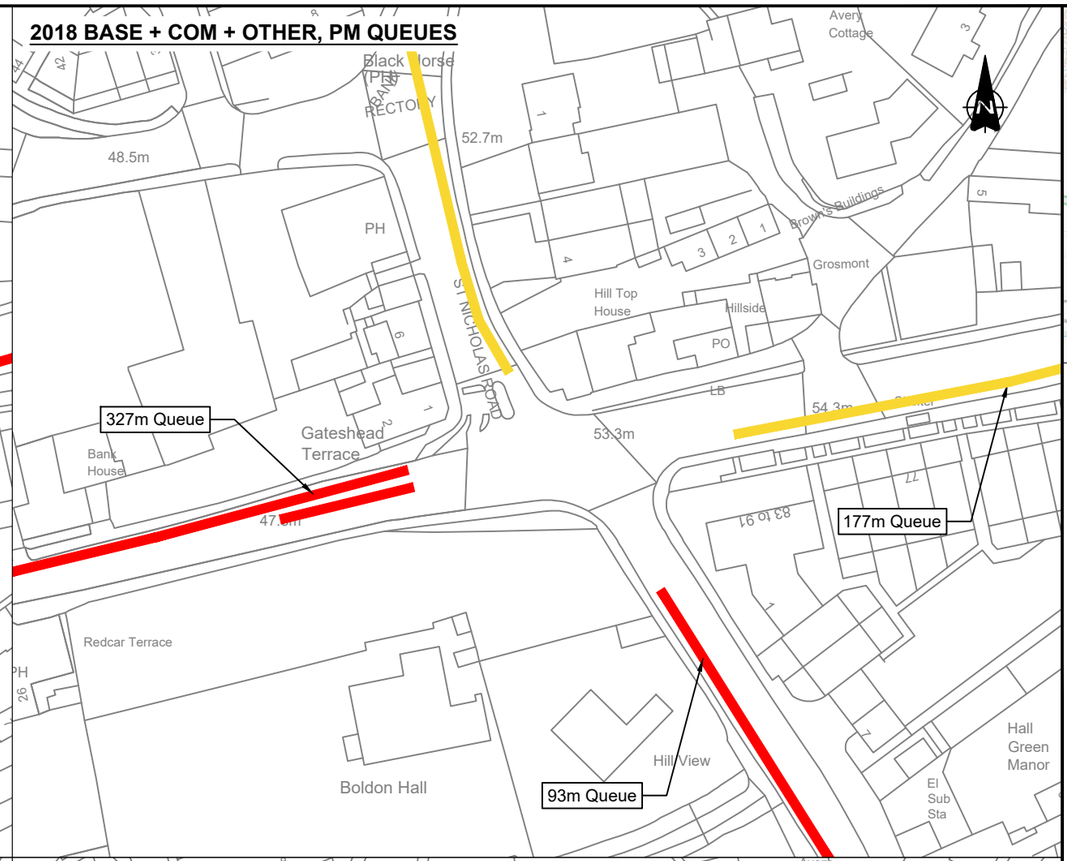
Table 66. A184 / Hylton Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) + Mitigation – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 73.9 | 4.8 | 97.2 | 10 |
| A184 Addison Road East | 102.1 | 49.4 | 87.9 | 24 |
| Hylton Lane | 100.9 | 15.8 | 101.6 | 17.9 |
| A184 Addison Road West | 62.9 | 13.1 | 101.8 | 47.2 |
| Junction Deg. Sat. (%) | 102.1 | | 101.8 | |
| Junction PRC All Lanes (%) | -13.4 | | -13.2 | |

## 2018 BASE + COM + OTHER, AM QUEUES




## 2018 BASE + COM + OTHER, PM QUEUES

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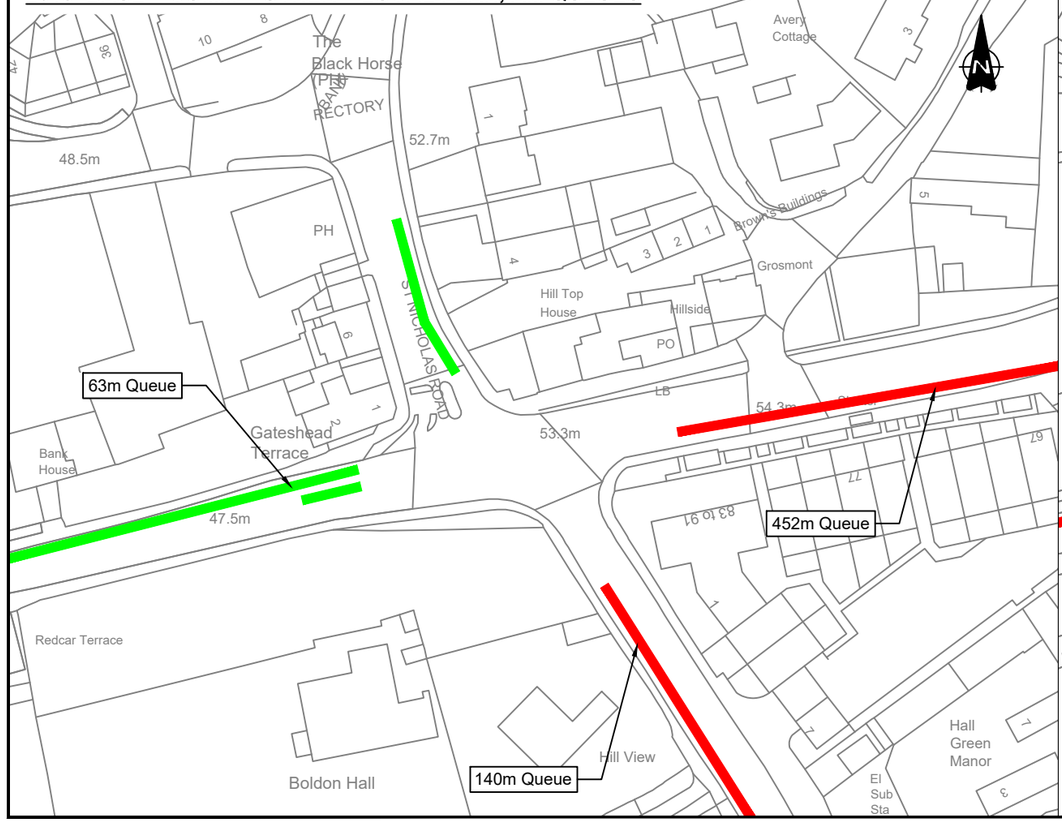


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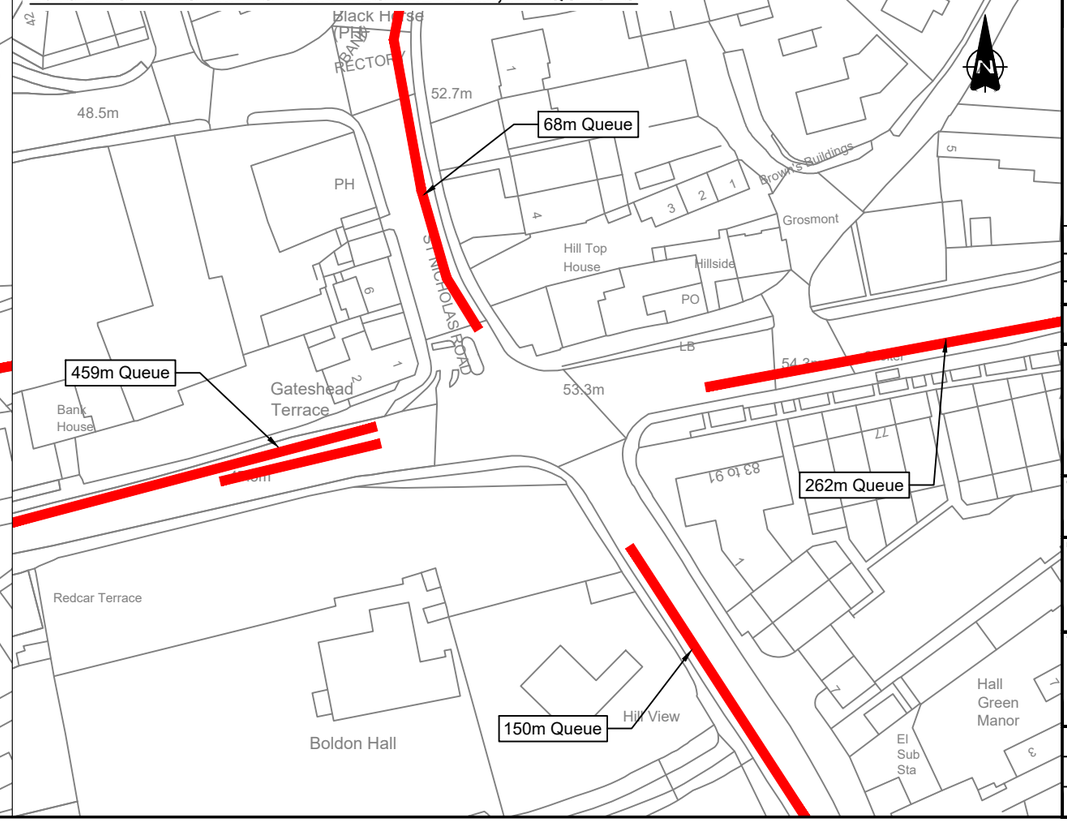

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Project
LOCAL PLAN ASSESSMENT

Title
A184 / HYLTON LANE
EXISTING LAYOUT QUEUES

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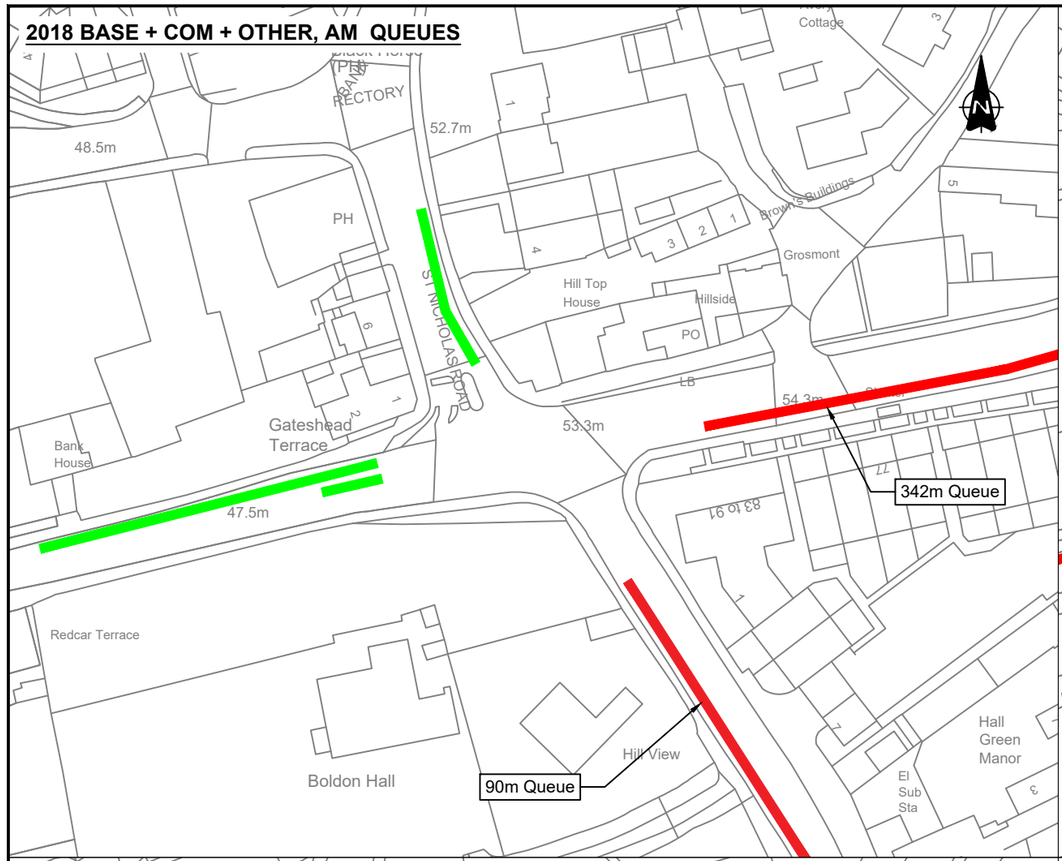


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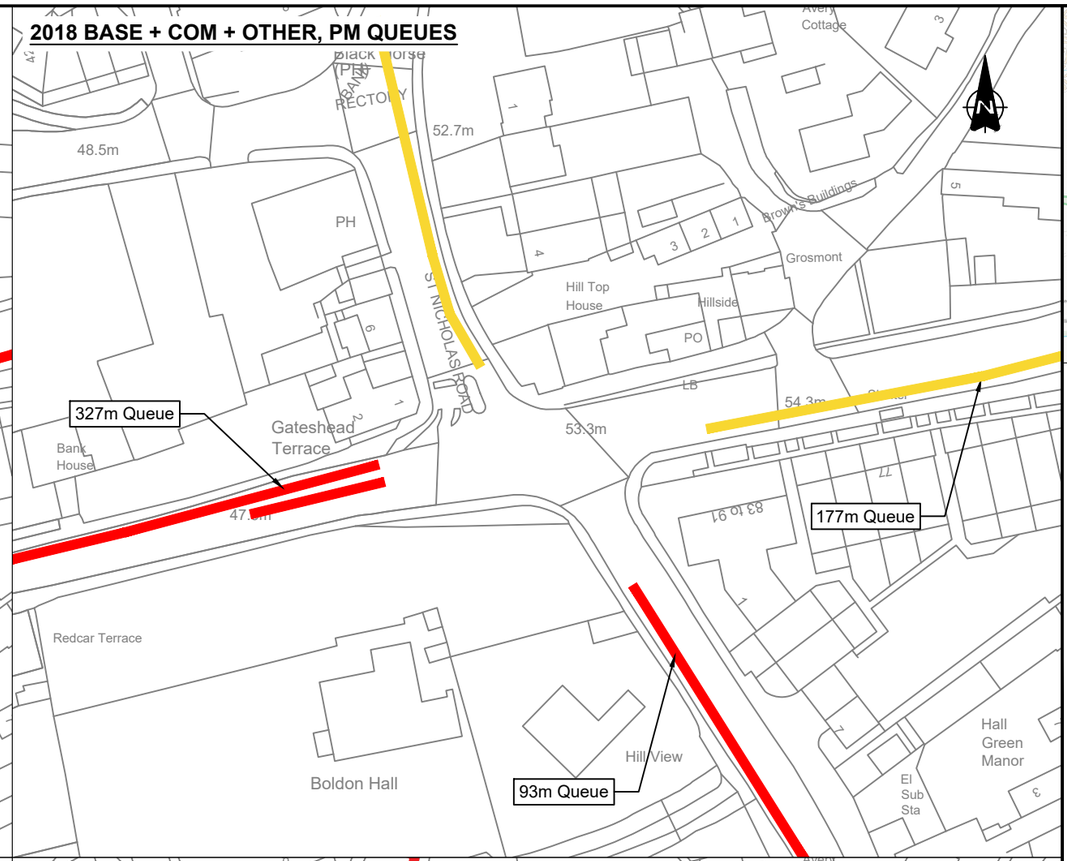


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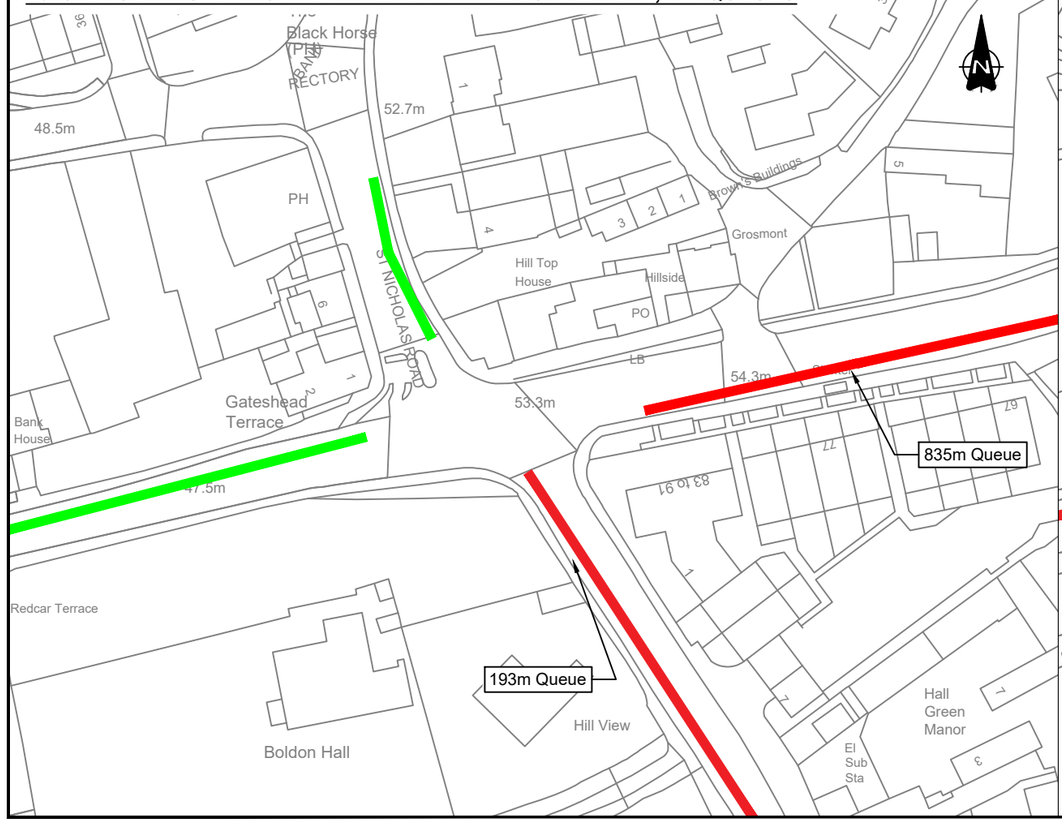
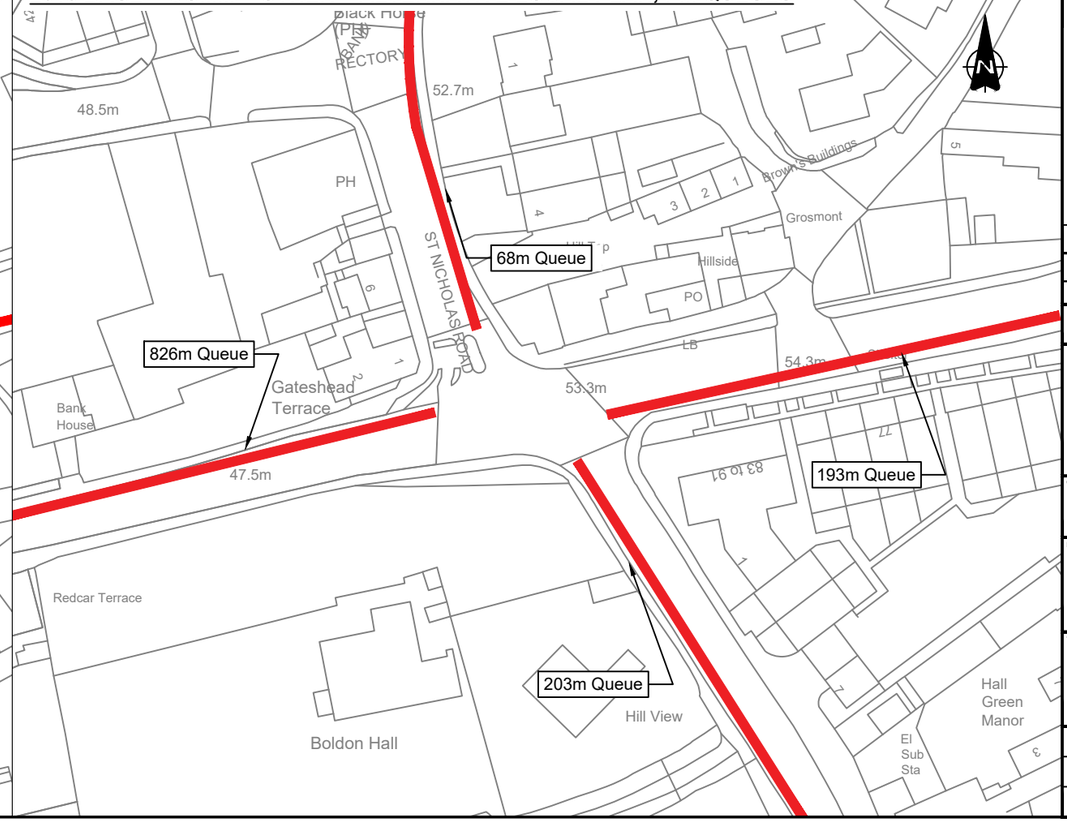



## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN, PM QUEUES



**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
| A | 06.12.21 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (NOVEMBER 2021) | JH | CC | JQ |

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Client: South Tyneside Council

Project: LOCAL PLAN ASSESSMENT

Title: A184 / HYLTON LANE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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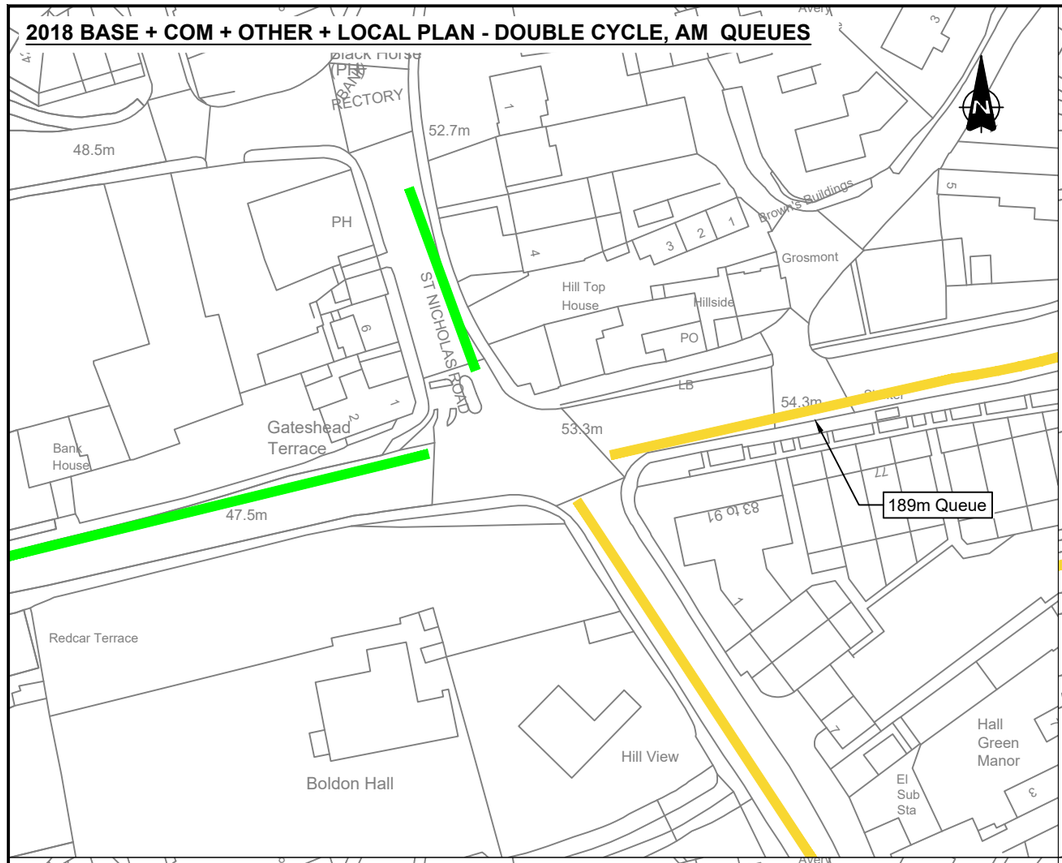
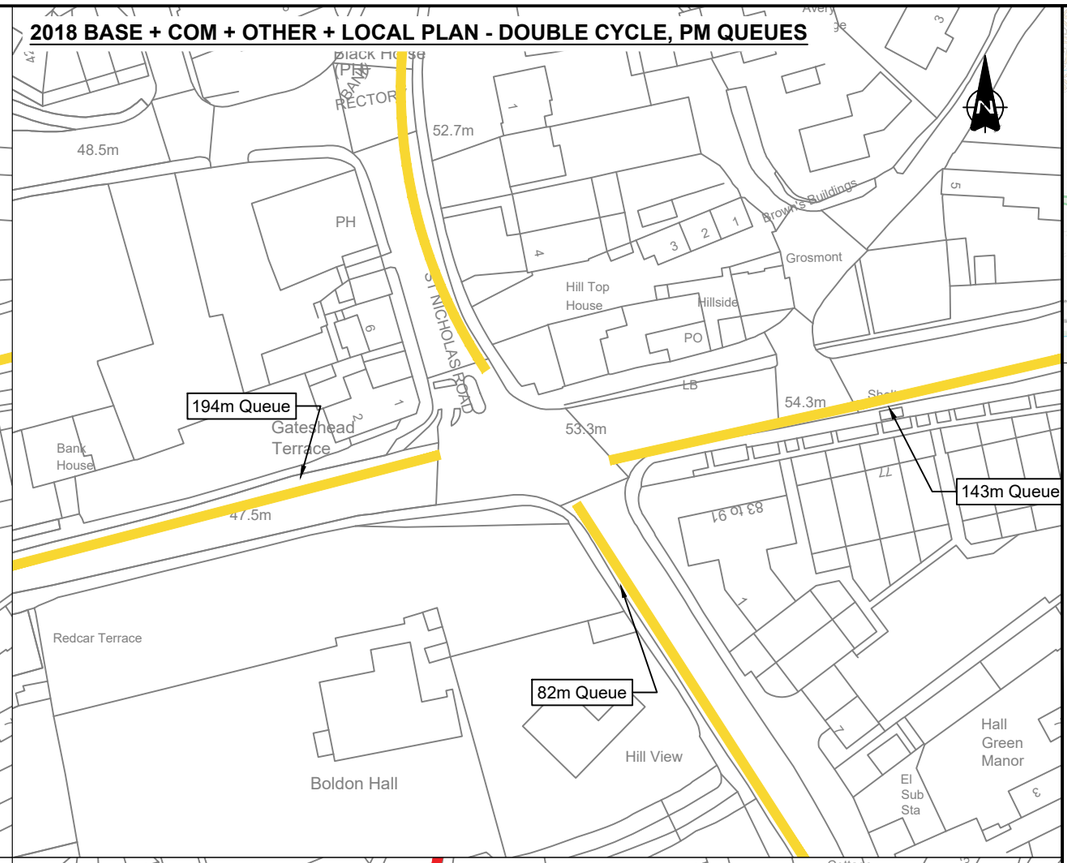
## 2018 BASE + COM + OTHER + LOCAL PLAN - DOUBLE CYCLE, AM QUEUES



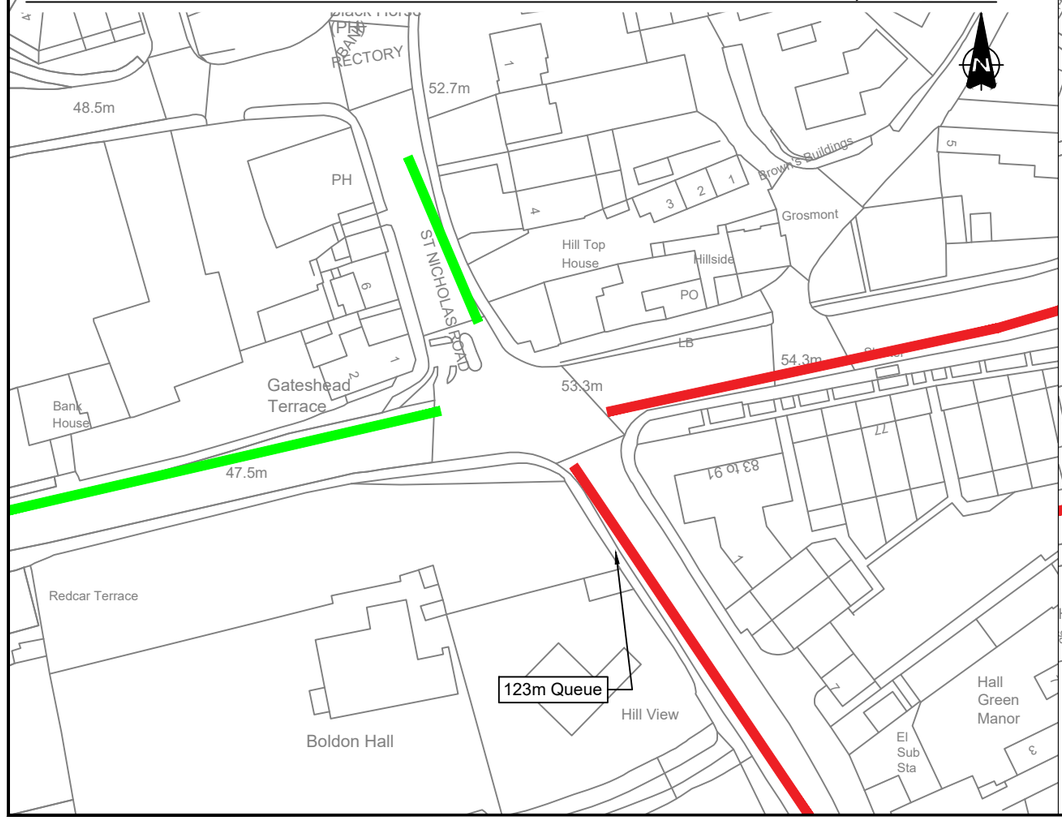

## 2018 BASE + COM + OTHER + LOCAL PLAN - DOUBLE CYCLE, PM QUEUES



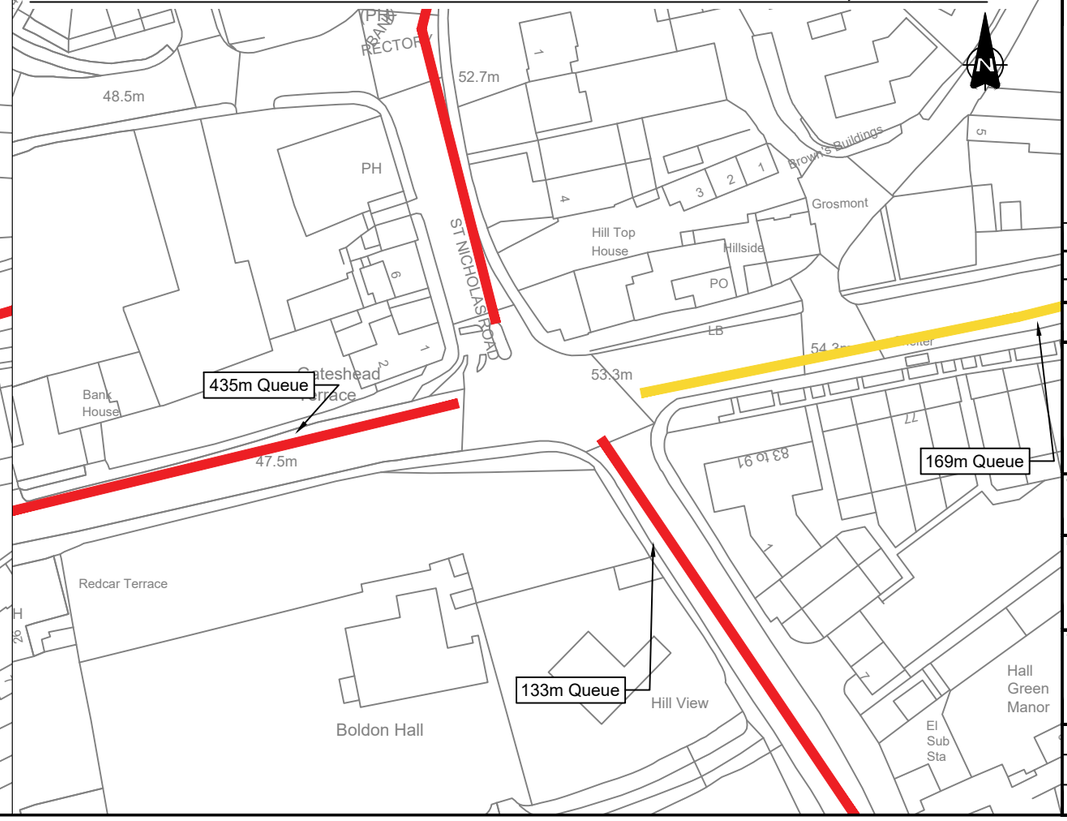
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN - DOUBLE CYCLE , AM QUEUES




## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN - DOUBLE CYCLE, PM QUEUES




| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
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Project
LOCAL PLAN ASSESSMENT

Title
A184 / HYLTON LANE
EXISTING LAYOUT QUEUES

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|---|---|---|
| JP | JQ | SP |
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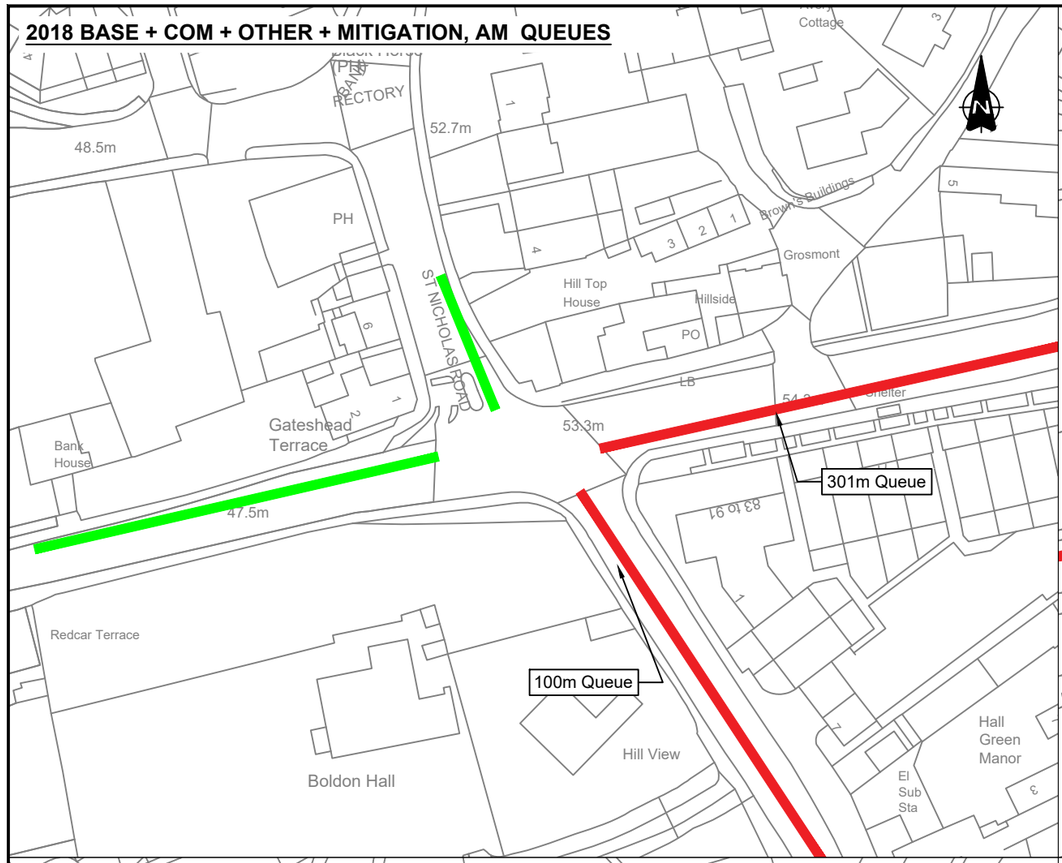
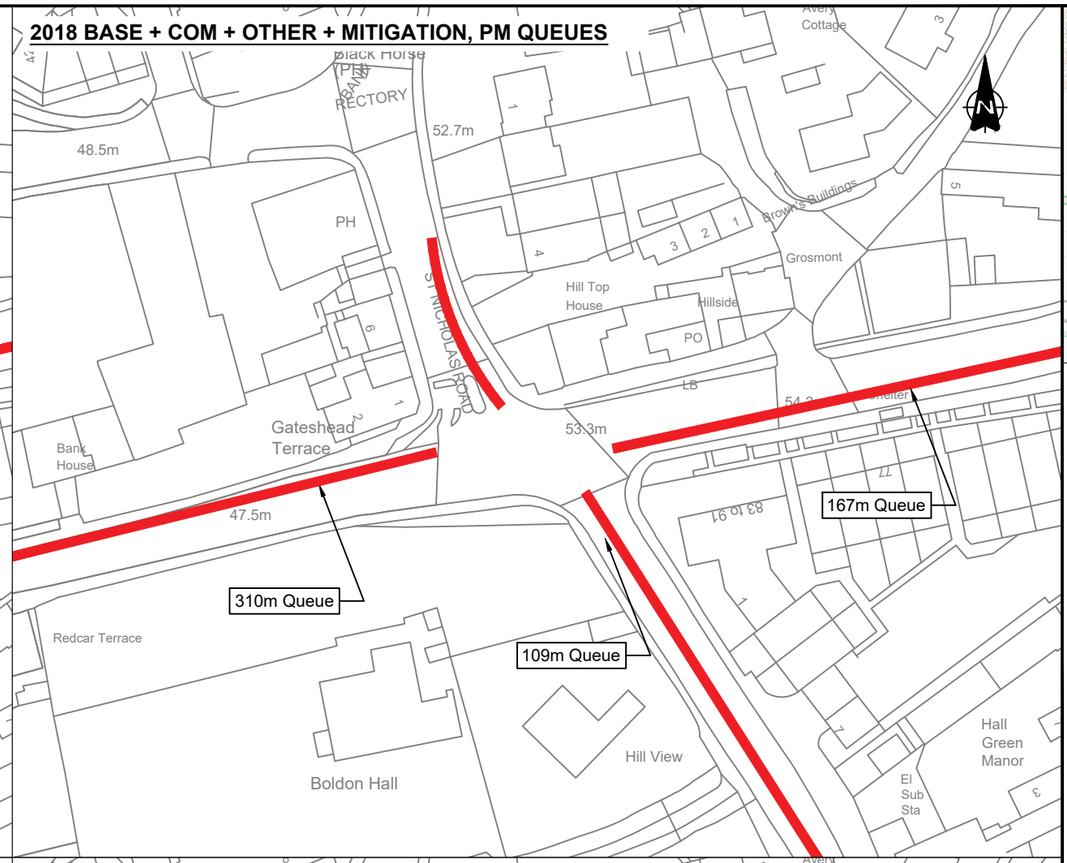
## 2018 BASE + COM + OTHER + MITIGATION, AM QUEUES



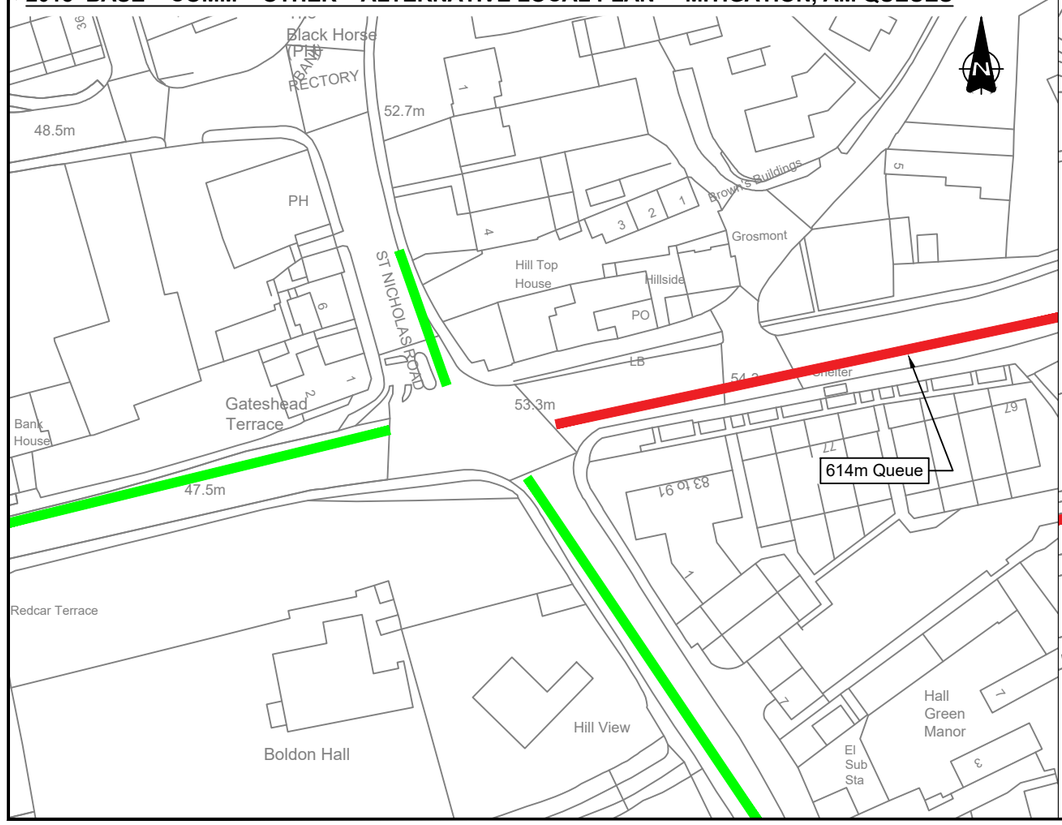

## 2018 BASE + COM + OTHER + MITIGATION, PM QUEUES



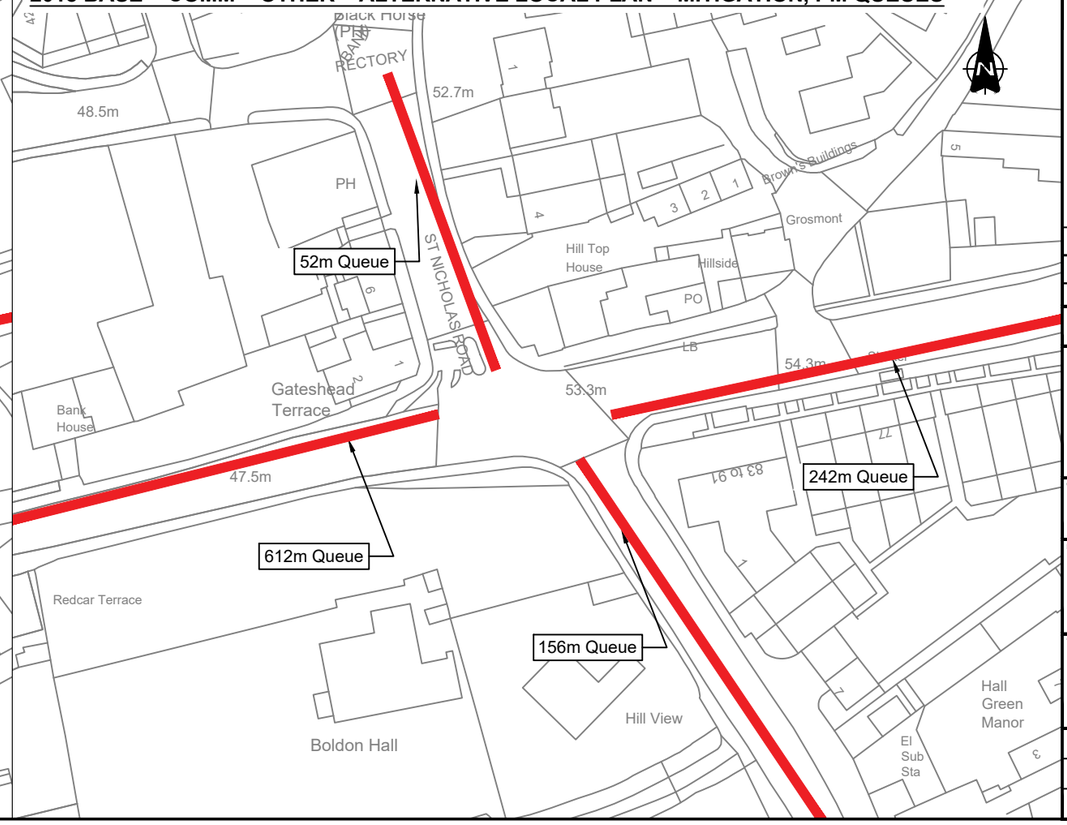
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN + MITIGATION, AM QUEUES




## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN + MITIGATION, PM QUEUES




| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
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Project
LOCAL PLAN ASSESSMENT

Title
A184 / HYLTON LANE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
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| JP | JQ | SP |
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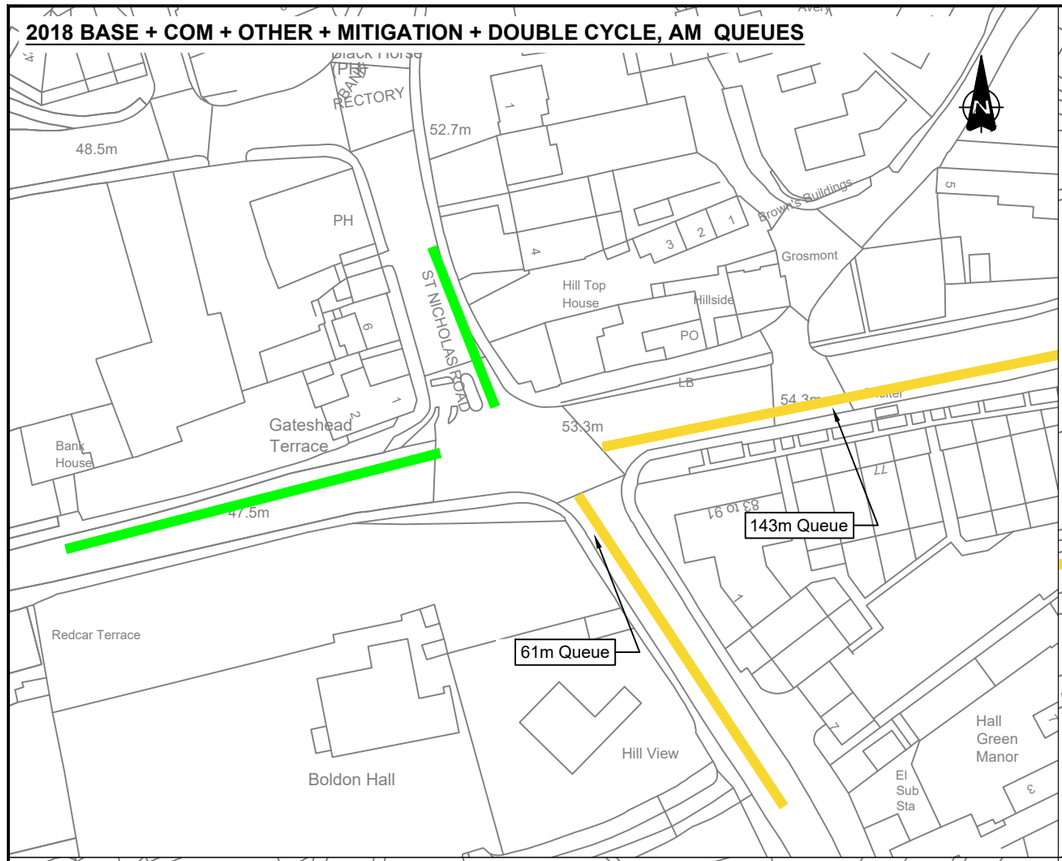
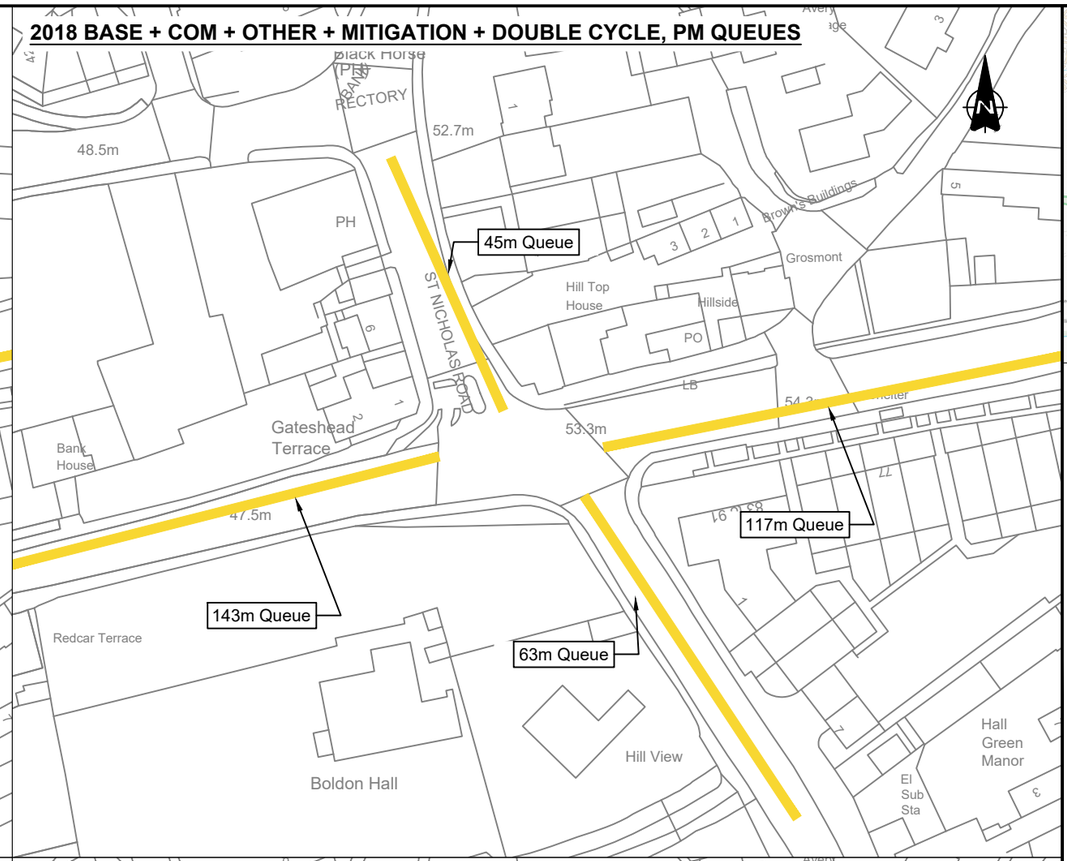
## 2018 BASE + COM + OTHER + MITIGATION + DOUBLE CYCLE, AM QUEUES



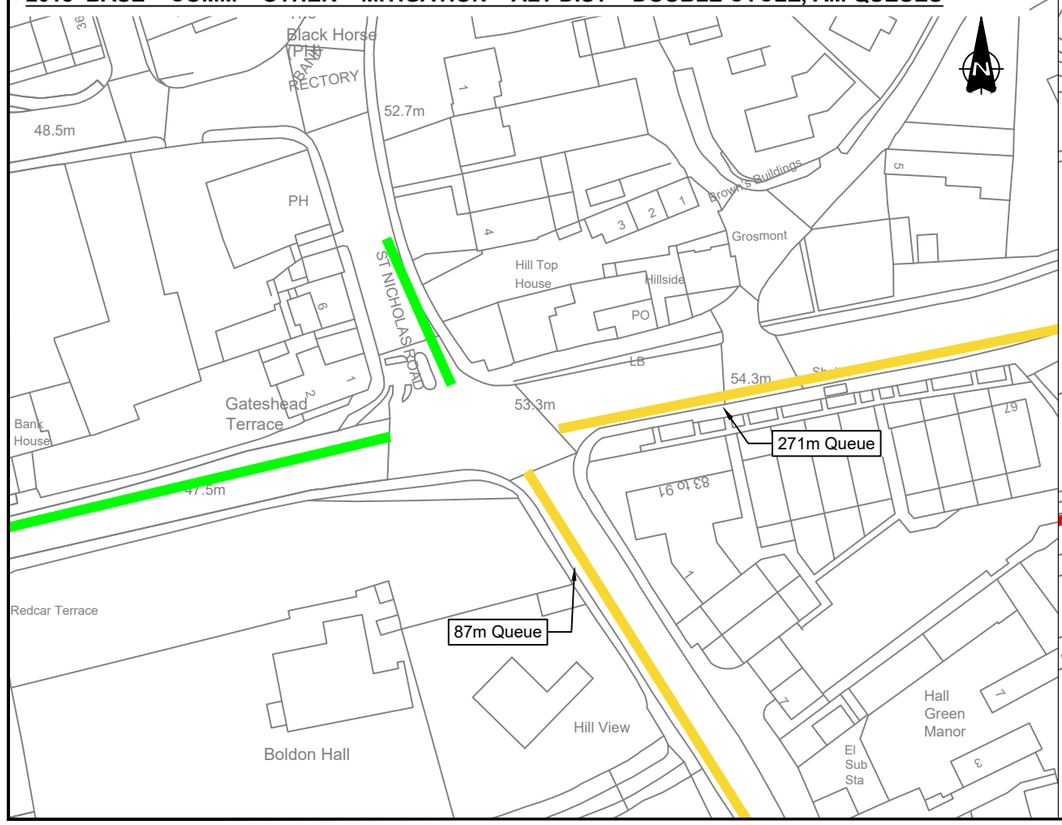

## 2018 BASE + COM + OTHER + MITIGATION + DOUBLE CYCLE, PM QUEUES



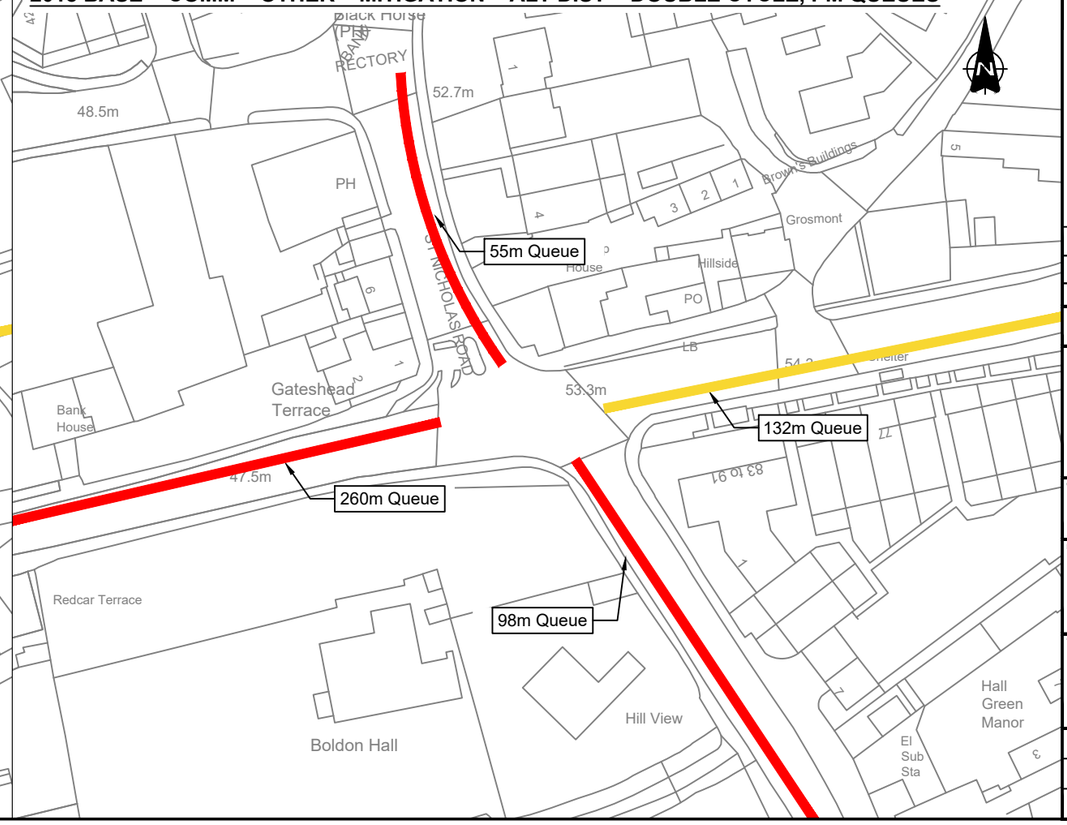
**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + MITIGATION + ALT DIST + DOUBLE CYCLE, AM QUEUES




## 2018 BASE + COMM + OTHER + MITIGATION + ALT DIST + DOUBLE CYCLE, PM QUEUES




| Rev. | Date | Revision details | Drawn | Checked | Approved |
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| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
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Project
LOCAL PLAN ASSESSMENT

Title
A184 / HYLTON LANE
EXISTING LAYOUT QUEUES

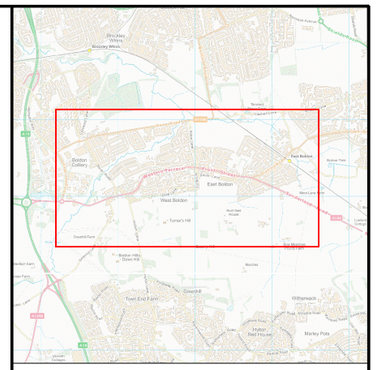
| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-20-006 | Rev. B |

## MITIGATION

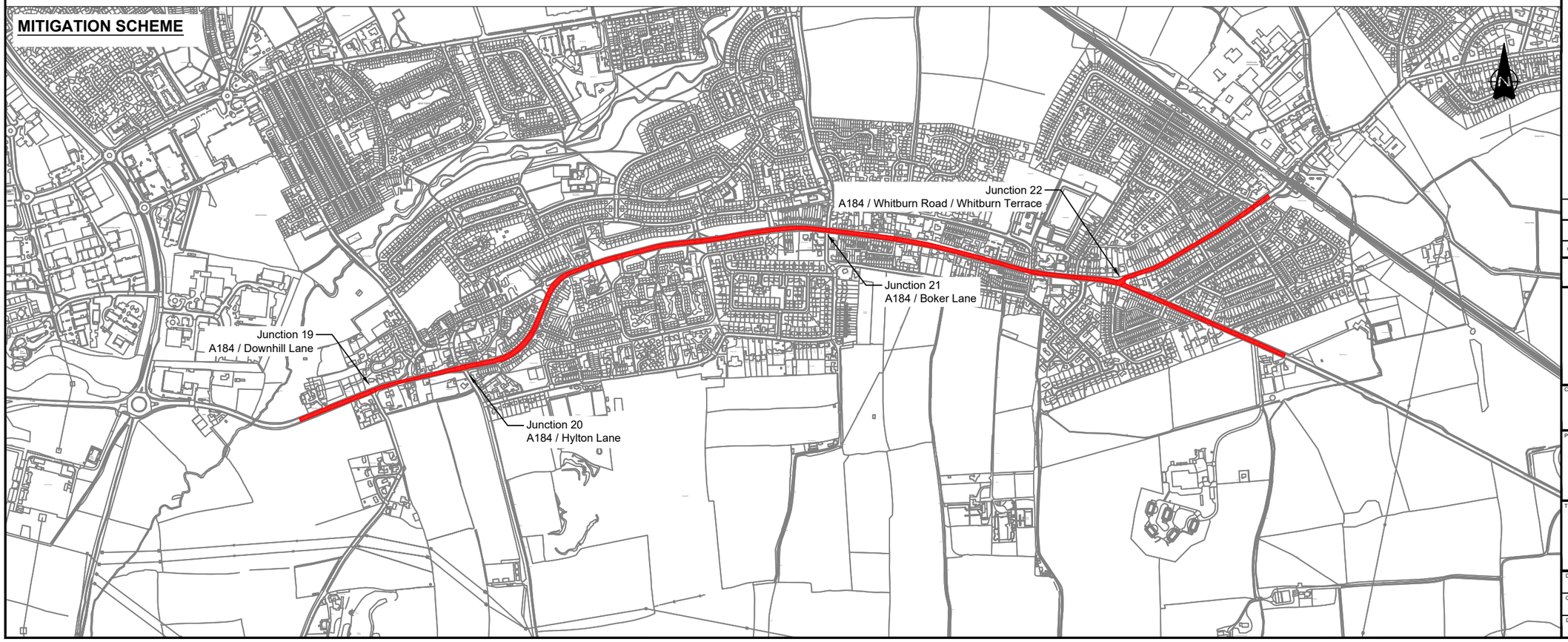
Mitigation is proposed to be a series of traffic management and sustainable transport measures that will address the A184 corridor (Junctions 19 to 22) as a whole. This could include the introduction of an area wide 20mph zone, public realm improvements, pedestrian crossing facilities and small or large scale sustainable transport improvements. These measures will discourage extaneous traffic from using the A184, encourage modal shift and break up the flow of traffic allowing for increased opportunities for vehicles to move to and from side arms.

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SFG072 | Land South of Fellgate | 46 | 49 |
| SBC084 | Former MoD Bunkers, medical stores + associated land | 32 | 35 |
| SBC087 | Land south of St. Johns Terrace and Natley Avenue | 15 | 16 |
| ED2.7 | Land bounded by Chaytor Street and Ellison Street | 9 | 7 |
| SBC102 | Land to the North of Town End Farm | 8 | 9 |
| | Remaining Developments | 38 | 37 |



## MITIGATION SCHEME




| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
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LOCAL PLAN ASSESSMENT

Title
A184 / HYLTON LANE
PROPOSED LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-20-004 | Rev. B |

## 3.21 Junction 21 – A184 / Boker Lane Signalised Junction

**2018 Base + Committed Development + Other Development**

3.21.1 The junction can be seen to be operating in excess of capacity in the evening peak with worst queuing on the A184 Western Terrace.

Table 67. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Boker Lane | 79.6 | 7.8 | 98.4 | 11.7 |
| A184 Front Street | 72.2 | 13.9 | 70.7 | 13.3 |
| Bridle Path | 33.2 | 2.5 | 47.7 | 2.9 |
| A184 Western Terrace | 78.2 | 14.7 | 103.2 | 46.9 |
| Junction Deg. Sat. (%) | 79.6 | | 103.2 | |
| Junction PRC All Lanes (%) | 13.1 | | -14.7 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.21.2 With the addition of Local Plan traffic at this junction, the morning peak operates close to its theoretical capacity and the evening peak operates in excess of capacity with exacerbated on the A184 Western Terrace.

Table 68. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Boker Lane | 85.4 | 9.1 | 108.9 | 20.1 |
| A184 Front Street | 77 | 15.8 | 74.9 | 15 |
| Bridle Path | 37.4 | 2.9 | 58 | 3.7 |
| A184 Western Terrace | 86.6 | 18 | 111 | 78.9 |
| Junction Deg. Sat. (%) | 86.6 | | 111 | |
| Junction PRC All Lanes (%) | 4 | | -23.3 | |

3.21.1 In reality the junction is anticipated to operate more favourably than that reported above. The test assumes that the pedestrian demand is called every traffic signal cycle. It is anticipated that the pedestrian demand being called every other cycle is more realistic. The result for this can be seen below.

Table 69. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Boker Lane | 73.9 | 8 | 92.2 | 10.8 |
| A184 Front Street | 68 | 13.7 | 65.5 | 14 |
| Bridle Path | 32.3 | 2.9 | 49.1 | 3.9 |
| A184 Western Terrace | 73.7 | 15.2 | 95.1 | 33.3 |
| Junction Deg. Sat. (%) | 73.9 | | 95.1 | |
| Junction PRC All Lanes (%) | 21.8 | | -5.7 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.21.2 Given the existing junction constraints, a standard junction enhancement scheme is not achievable. Measures such as re-phasing the traffic signals and the closure of side arms has also been investigated. It is therefore proposed to introduce measures that will discourage extraneous vehicles passing through the junction, supplemented by measures that will encourage modal shift to sustainable transport modes.

3.21.3 It is proposed that mitigation for this junction (and Junctions 19 - 20 and 22) should take the form of a package of measures which will aim to reduce traffic utilising the A184 through a combination of traffic management measures, sustainable transport improvements and travel planning. It is envisaged that this could result in a reduction in base, committed and other traffic of 5% and of Local Plan development traffic of 10%. In reality, these reductions could be greater should large strategic infrastructure projects come forward for example new metro stations. However testing a more modest reduction is considered to result in a robust assessment.

3.21.4 The following package of measures will be considered for implementation during the lifetime of the plan period.

3.21.5 Introduction of a series of traffic management measures for the A184 corridor as a whole. This could include a reduction in speed limit to form a 20mph zone with self-enforcement via engineering measures. Given the A184 is passing through the built up area of the Boldons, this could take the form of public realm improvement schemes incorporating features such as raised plateaus, build outs incorporating planting areas and widening footways. Such measures would have to be carefully implemented so as not to cause unnecessary difficulties and inconvenience to local buses and HGV traffic, which has no other realistic choice. The reduction in the speed of vehicles travelling along the mainline is considered to discourage extraneous vehicles passing through the corridor; encourage modal shift; but also to increase the visible and available gap for right turning vehicles.

3.21.6 This should be supported by the introduction of formalised pedestrian crossing facilities at several locations along the A184 corridor. This could take the form of zebra crossings, however puffin crossings are considered

to be more effective. These crossings will break up the mainline flow of vehicles along the A184 allowing for greater opportunities to move to and from side roads.

3.21.7 The further removal of extraneous traffic from the A184 will be supported by the continued upgrade of the Sunderland Strategic Transport Corridor. This scheme aims to provide a continuous high quality dual carriageway from Sunderland to the A19. This scheme will encourage trips from north Sunderland, which currently choose to use the A184 to access Testo's roundabout to instead use the A1231.

3.21.8 South Tyneside's Local Cycling and Walking Infrastructure Plan (LCWIP) was developed with the ambition of making cycling and walking the natural choice for shorter journeys, or as party of longer journeys. The strategy identifies numerous areas for improvement across the borough including along the A184 corridor.

3.21.9 A number of sustainable transport schemes are already committed which will benefit the local area and the borough as a whole. This includes the committed Metro Flow project which will see an existing freight line upgraded and electrified in South Tyneside, making it capable of carrying Metro services, boosting the capacity for an extra 24,000 passenger journeys every day. The benefits of the project include increasing the frequency of Metro trains to one every 10 minutes outside central areas; delivering capacity for an extra 24,000 passengers a day; improving reliability and allow quicker recovery from major disruptions; and will unlock the door to the expansion of the Metro system. This will be supported by the Metro fleet upgrades which will see new carriages designed and built specially, with world-class reliability and comfort, much greater energy-efficiency and modern carriage features and technology for passengers. The new trains will enter service in 2023 and will provide decades of effective service to Metro and its passengers. The investment now will secure the system's future and let us explore potential new routes. In addition, a partnership containing the local councils, commercial transport operators and Nexus has forged a path towards one of the biggest roll outs of smart technology in the UK. Every passenger now has the ability to access smart technology, with the ability to pre-load smartcards ahead of travel and avoiding the need to carry to cash, or use ticket machines. Integration is also key, with the smartcards being able to be used on Metro, the Shields Ferry and bus services. Nexus has also developed a new Pop app for phones allowing weekly tickets to be paid via mobile phone.

3.21.10 In addition there may still be requirements for local or wider sustainable transport improvements. This could include for example the extension to the existing Park and Ride car park at East Boldon.

3.21.11 The proposed allocations most likely to impact on the corridor will also be required to incorporate robust sustainable transport measures into their development proposals through the implementation of Travel Plans. Preparation of Travel Plans are particularly important at sensitive locations on the road network or where a development is likely to increase the risk of conflict with other road users. Measures will include ensuring home working is achievable through fast broadband connections and provision of offices within new build dwellings, restricting parking provision, providing cycle parking and ensuring developments encourage sustainable travel particularly to local facilities through their design.

3.21.12 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

Table 70. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 81 | 8 | 102.9 | 14.9 |
| A184 Addison Road East | 73.1 | 14.1 | 71 | 13.3 |
| Hylton Lane | 35.5 | 2.7 | 55.3 | 3.5 |
| A184 Addison Road West | 81.9 | 15.8 | 105.1 | 53.9 |
| Junction Deg. Sat. (%) | 81.9 | | 105.1 | |
| Junction PRC All Lanes (%) | 9.9 | | -16.8 | |

3.21.13 The proposed package of mitigation is considered to improve junction performance back to the base situation though queuing still occurs across the junction.

3.21.14 In reality the junction is anticipated to operate more favourably than that reported above. The test assumes that the pedestrian demand is called every traffic signal cycle. It is anticipated that the pedestrian demand being called every other cycle is more realistic. The result for this can be seen below.

Table 71. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| St Nicholas Road | 70 | 7.5 | 87 | 9.3 |
| A184 Addison Road East | 64.6 | 12.1 | 61.6 | 12.3 |
| Hylton Lane | 30.7 | 2.8 | 46.8 | 3.8 |
| A184 Addison Road West | 69.6 | 13.5 | 90.1 | 26.9 |
| Junction Deg. Sat. (%) | 69.6 | | 90.1 | |
| Junction PRC All Lanes (%) | 28.5 | | -0.1 | |

3.21.15 The proposed package of mitigation is considered to improve junction performance back to the base situation though queuing still occurs across the junction.

3.21.16 Nonetheless, if substantial queuing does occur along the A184 corridor, and resultant delay occurs, it is assumed that drivers will naturally alter their route choice and divert to an alternative route or change their travel patterns.

3.21.17 The capacity assessment is summarised on Drawing Ref 16L02-21-001, 16L02-21-002, 16L02-21-003, 16L02-21-005 and 16L02-21-06. The proposed mitigation scheme can be seen on Drawing Ref 16L02-21-004 overleaf.

**Cost of Mitigation**

3.21.18 The introduction of the proposed traffic management mitigation measures are anticipated to cost in the region of £750,000. The anticipated cost also covers proposed mitigation associated with Junctions 19 and 21 - 22.

3.21.19 It should be noted that this cost is for indicative use only and a more detailed cost will be required at detailed design stage.

3.21.20 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.21.21 For the purposes of this assessment, the traffic management scheme should be implemented incrementally to coincide with the roll out of developments within the Local Plan.

**Composition of Trips Through Junction**

3.21.22 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.21.23 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Former MOD bunkers with the majority of the trips being made up cumulatively by a number of developments.

Figure 41. Composition of traffic passing through junction at the end of the plan period – Morning Peak

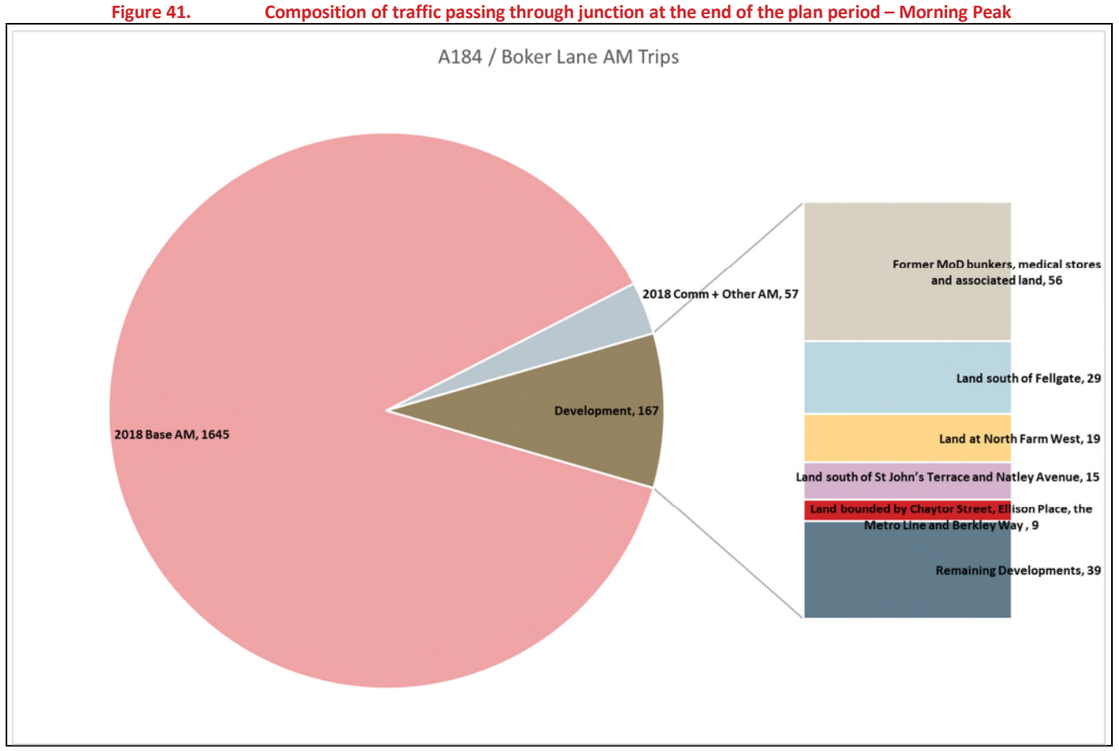
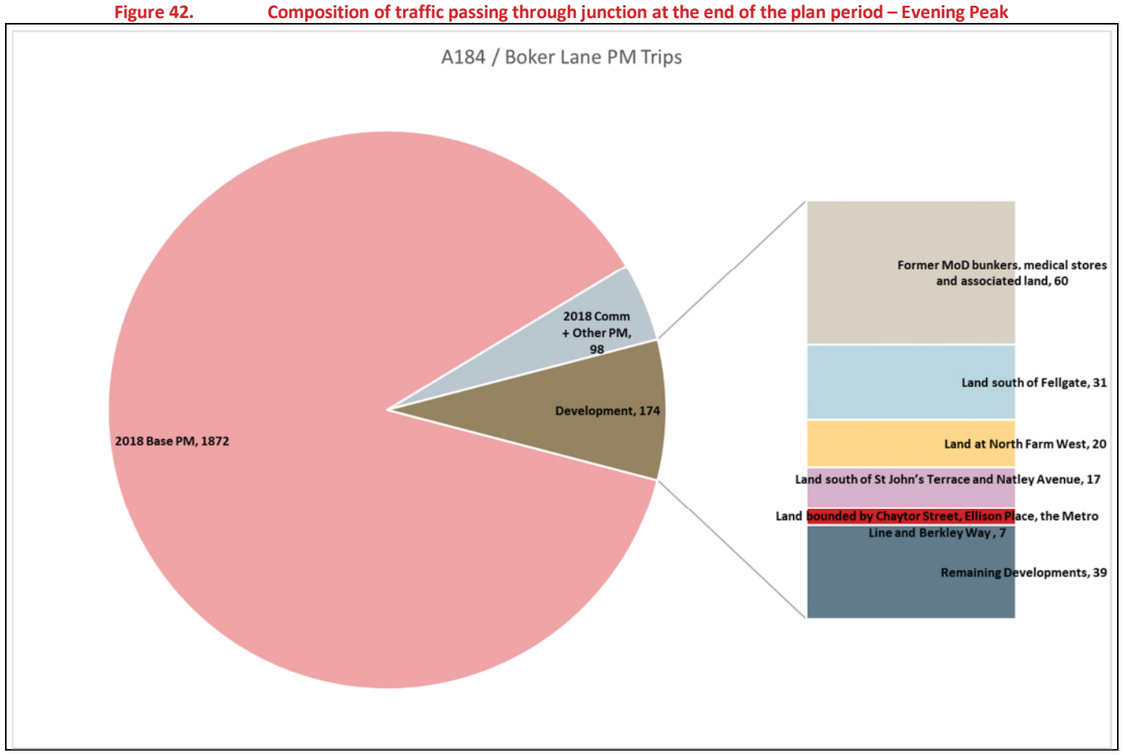


Figure 42. Composition of traffic passing through junction at the end of the plan period – Evening Peak




**2018 Base + Committed Development + Other Development + Local Plan Development (Alternative Distribution)**

3.21.24 As stated in Paragraph 1.2.5 the Council is undertaking studies to identify schemes, investigate deliverability and suitable funding streams, to delivery schemes to bridge the existing level crossing to the north of Boldon. This is in response to commentary from Network Rail around the need to provide full barriers at these level crossings. The provision of full barriers at these locations is anticipated to result in the effective closure of Tileshed Lane / New Road and Boldon Lane for 30 minutes within every hour that the Metro operates.

3.21.25 An additional sensitivity test has therefore been undertaken that assigns the Local Plan traffic anticipated to use Tileshed Lane / New Road (as in the above assessment) to the A184. It should be noted that base traffic or Committed & Other traffic has not been reassigned and for the purposes of this assessment will continue to use Tileshed Lane / New Road. In reality this is unlikely to be the case and therefore the modelling results are anticipated to be worse than presented.

3.21.26 When considering the sensitivity test, the junction can be seen to be over capacity in both morning and evening peaks.

Table 72. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution)

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Boker Lane | 101.8 | 16.7 | 117.4 | 28.7 |
| A184 Front Street | 79.2 | 16.6 | 80.3 | 17.6 |
| Bridle Path | 42.7 | 3 | 58 | 3.7 |
| A184 Western Terrace | 100.8 | 36.3 | 126.7 | 151 |
| Junction Deg. Sat. (%) | 101.8 | | 127 | |
| Junction PRC All Lanes (%) | -13.1 | | -40.7 | |

3.21.27 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

Table 73. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Boker Lane | 96.3 | 12.5 | 110.6 | 21.7 |
| A184 Front Street | 74.1 | 14.6 | 75.8 | 15.3 |
| Bridle Path | 40.5 | 2.9 | 55.3 | 3.5 |
| A184 Western Terrace | 94.4 | 24.5 | 119.3 | 116.7 |
| Junction Deg. Sat. (%) | 96.3 | | 119.3 | |
| Junction PRC All Lanes (%) | -7 | | -32.5 | |

**2018 Base + Committed Development + Other Development + Local Plan Development (Alternative Distribution) – Double Cycle**

3.21.28 When considering the sensitivity test under the double cycle scenario, the junction can be seen to be over capacity in both morning and evening peaks.

Table 74. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) – Double Cycle

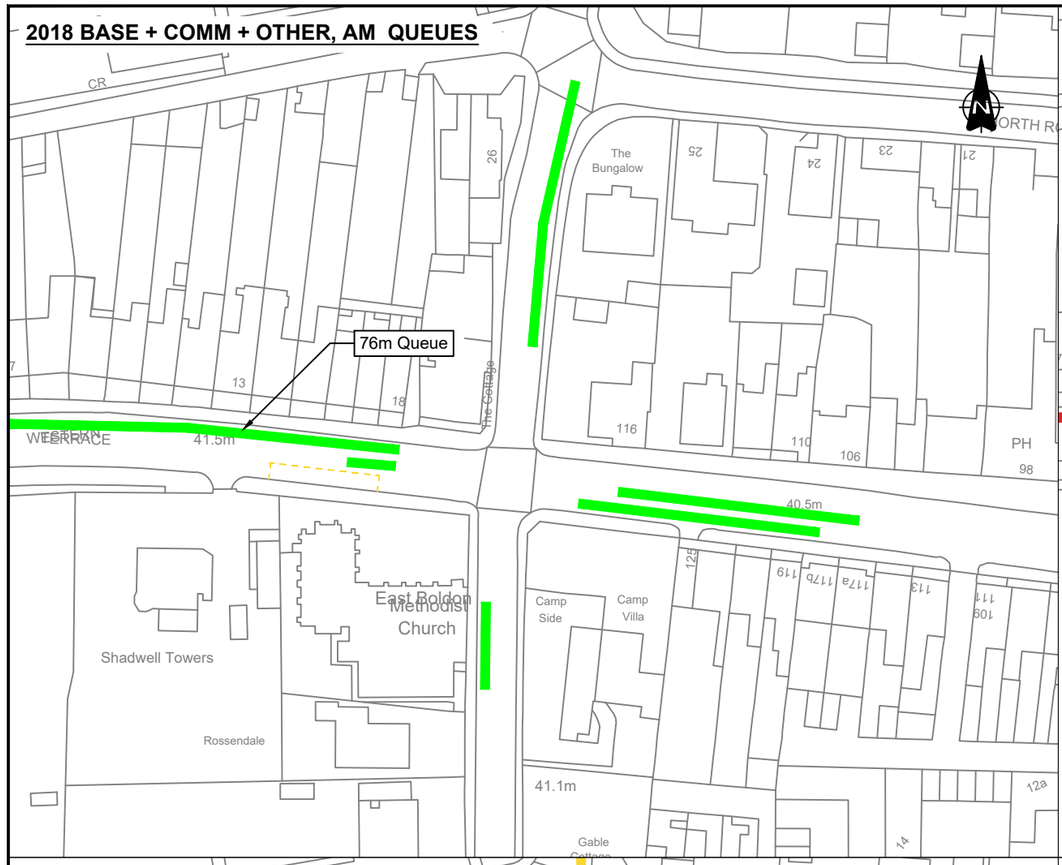
| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Boker Lane | 86.4 | 10.4 | 103.2 | 17.6 |
| A184 Front Street | 68.8 | 14.9 | 70.3 | 16.8 |
| Bridle Path | 36.2 | 3.2 | 51.1 | 3.9 |
| A184 Western Terrace | 86.4 | 22.2 | 107.4 | 78.4 |
| Junction Deg. Sat. (%) | 86.4 | | 107.4 | |
| Junction PRC All Lanes (%) | 4.2 | | -19.4 | |

3.21.29 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

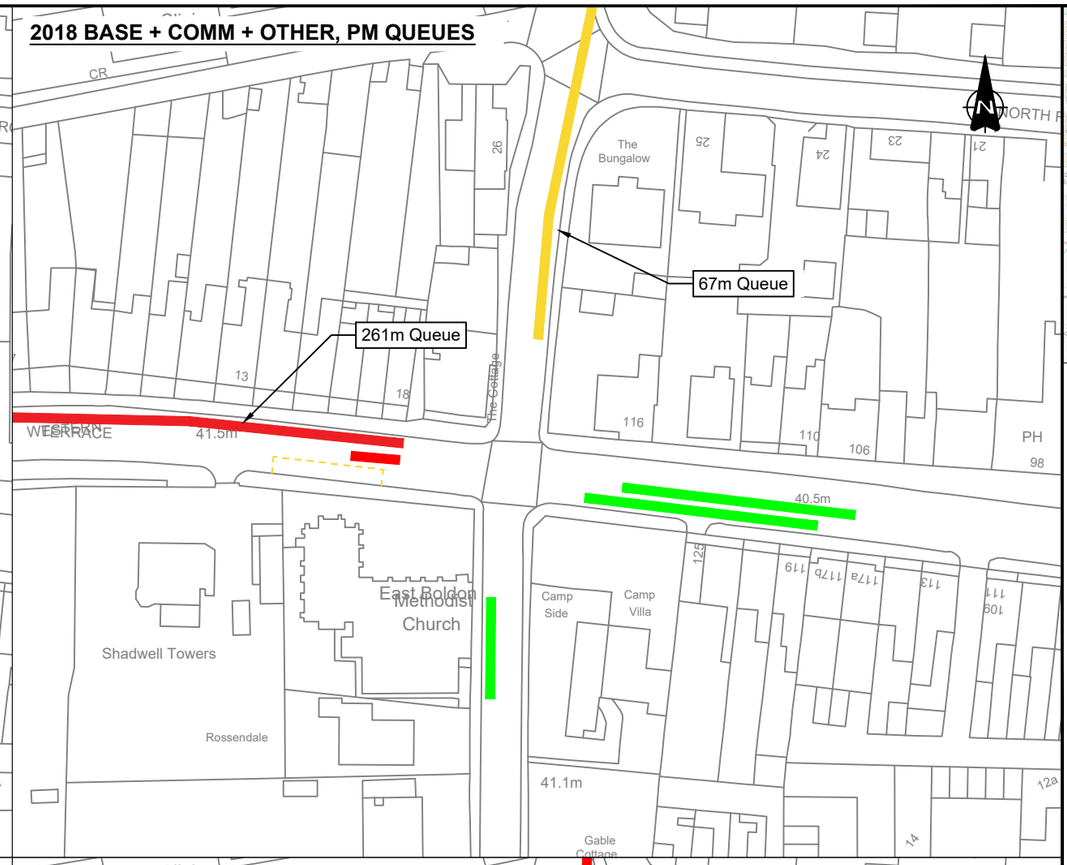
Table 75. A184 / Boker Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) + Mitigation – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| Boker Lane | 81.7 | 8.8 | 91.3 | 13.3 |
| A184 Front Street | 65.1 | 13.5 | 66.4 | 14.3 |
| Bridle Path | 34.4 | 2.9 | 48.7 | 3.9 |
| A184 Western Terrace | 80.9 | 19.2 | 101.2 | 49.7 |
| Junction Deg. Sat. (%) | 81.7 | | 101.2 | |
| Junction PRC All Lanes (%) | 10.2 | | -12.4 | |

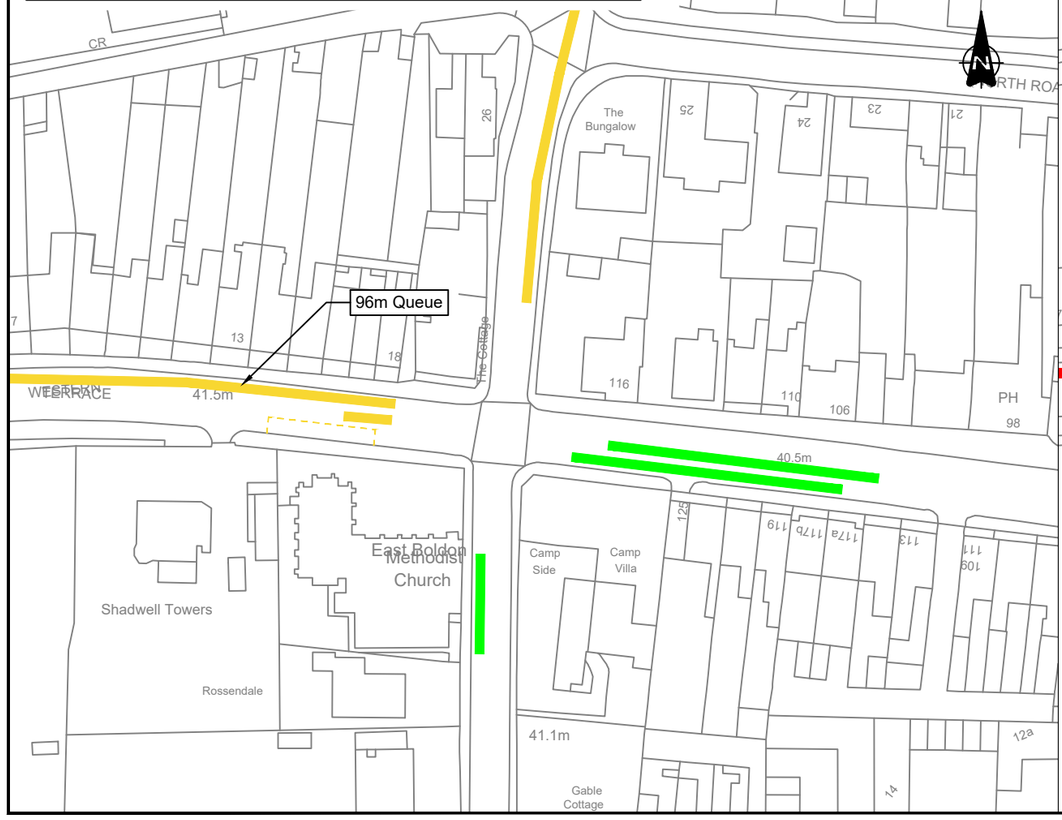
## 2018 BASE + COMM + OTHER, AM QUEUES



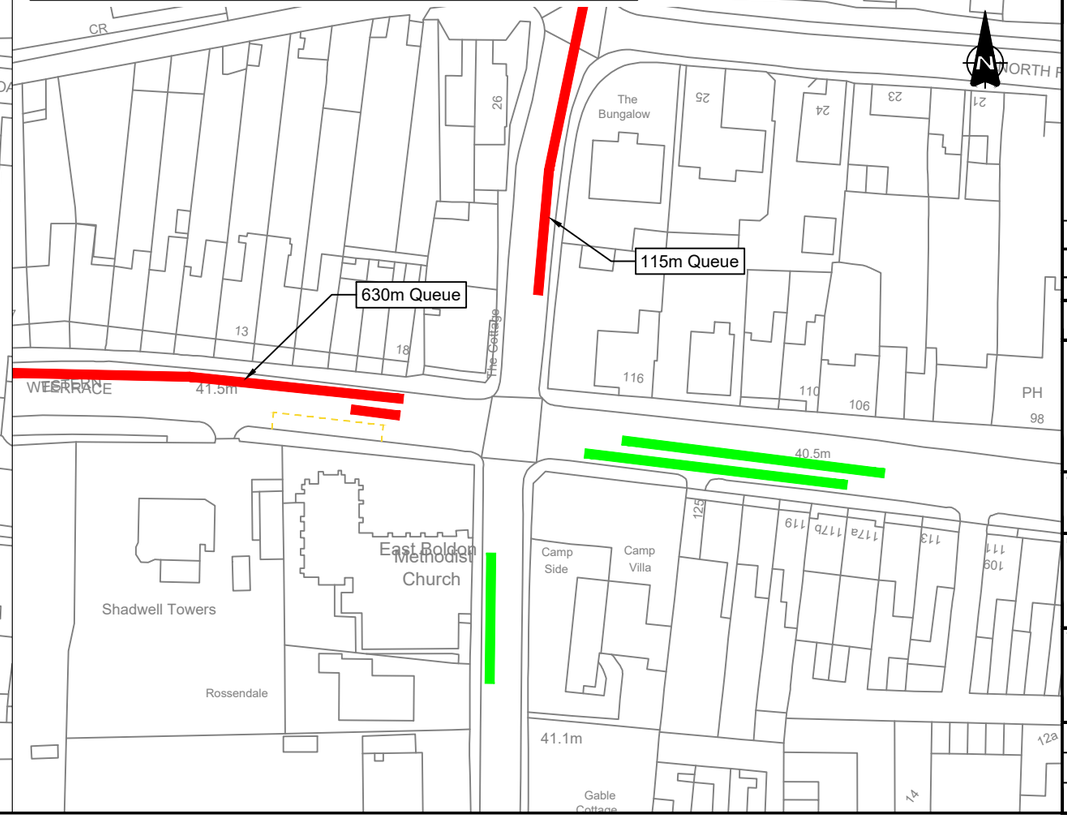

## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

- Queue Length (Within Capacity)
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| Rev. | Date | Revision details | Drawn | Checked | Approved |
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Project: LOCAL PLAN ASSESSMENT

Title: A184 / BOKER LANE
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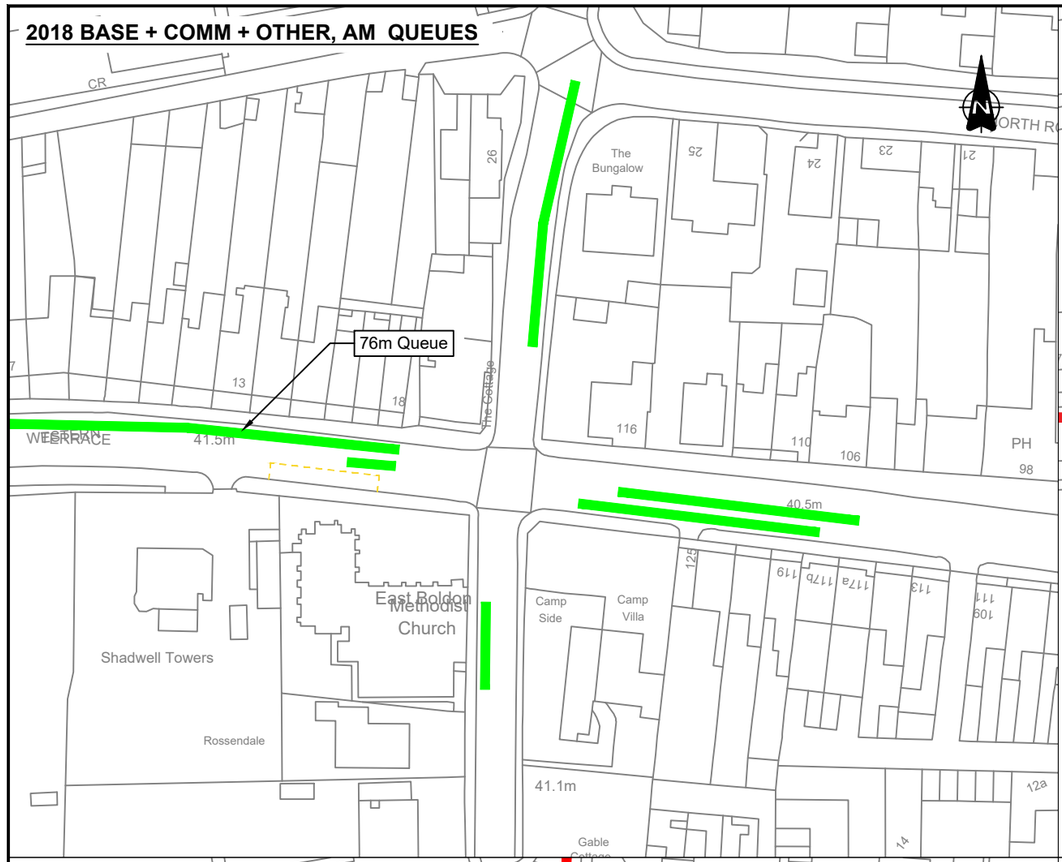


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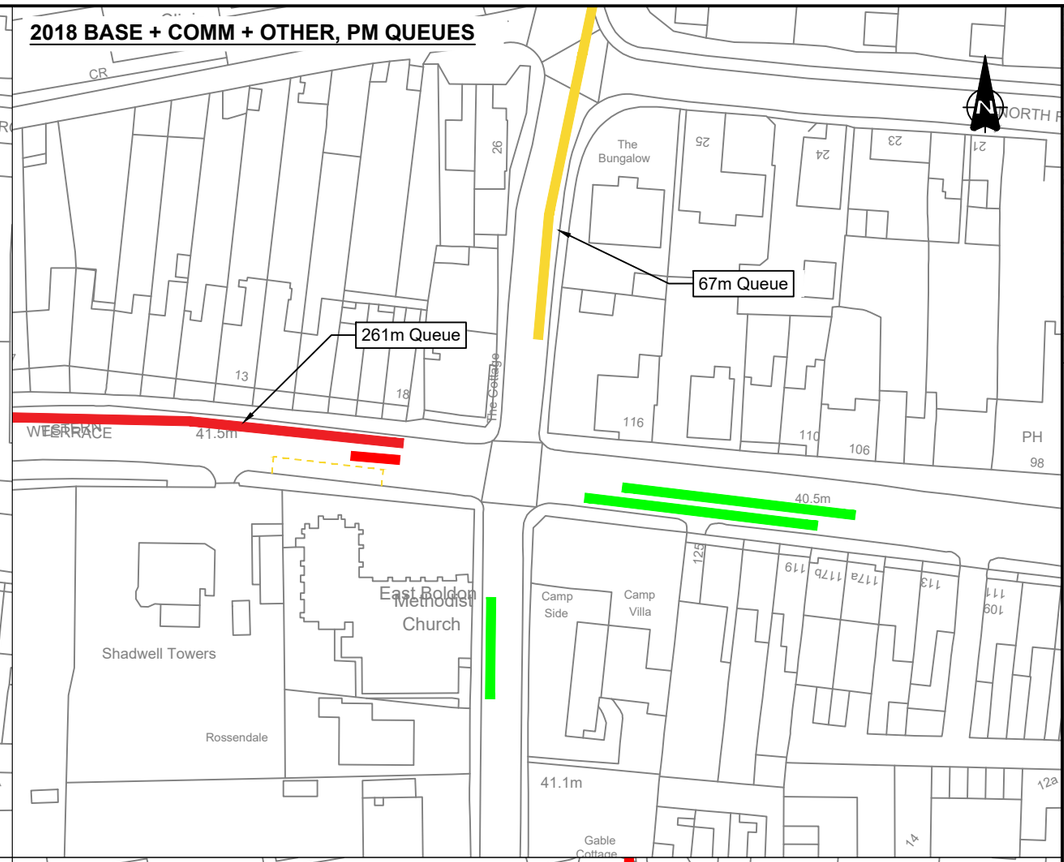


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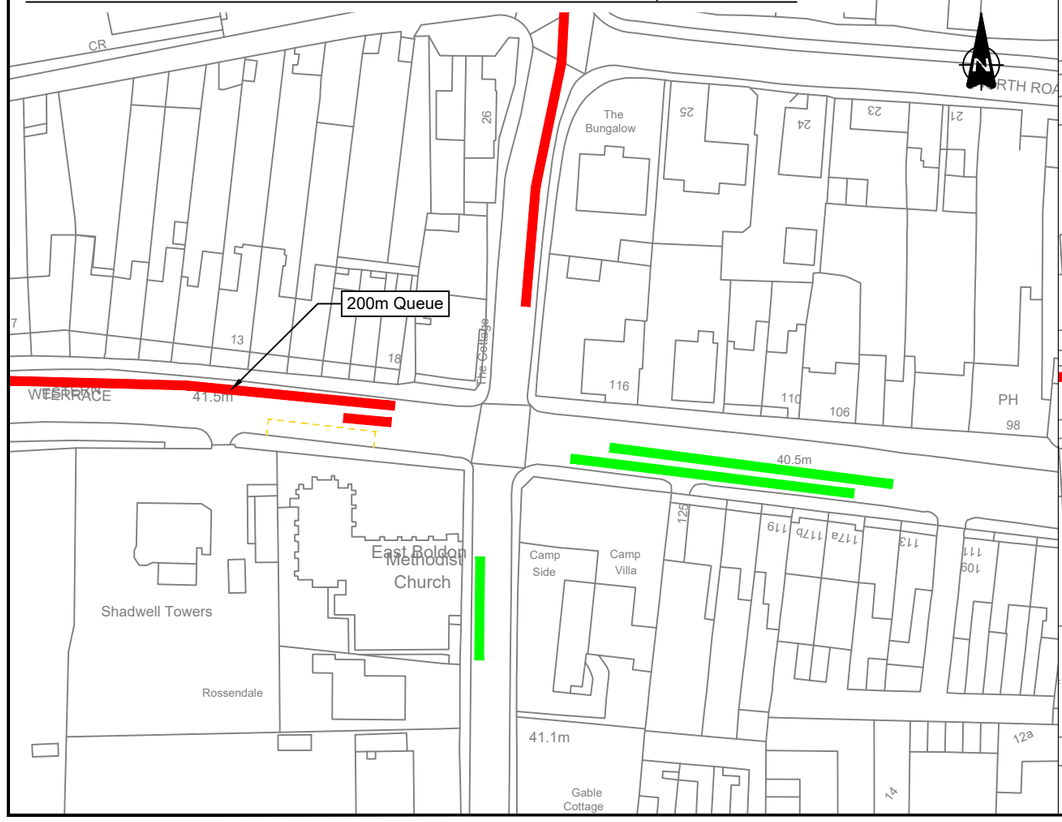


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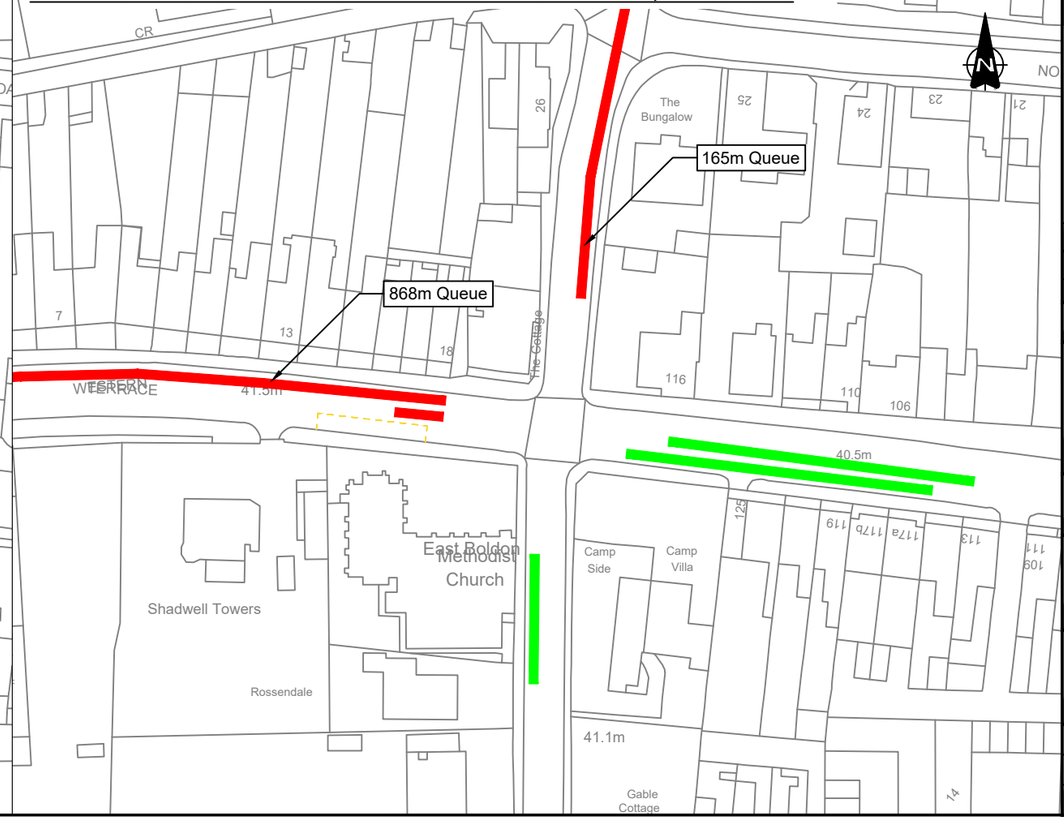

**KEY**

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Title: A184 / BOKER LANE
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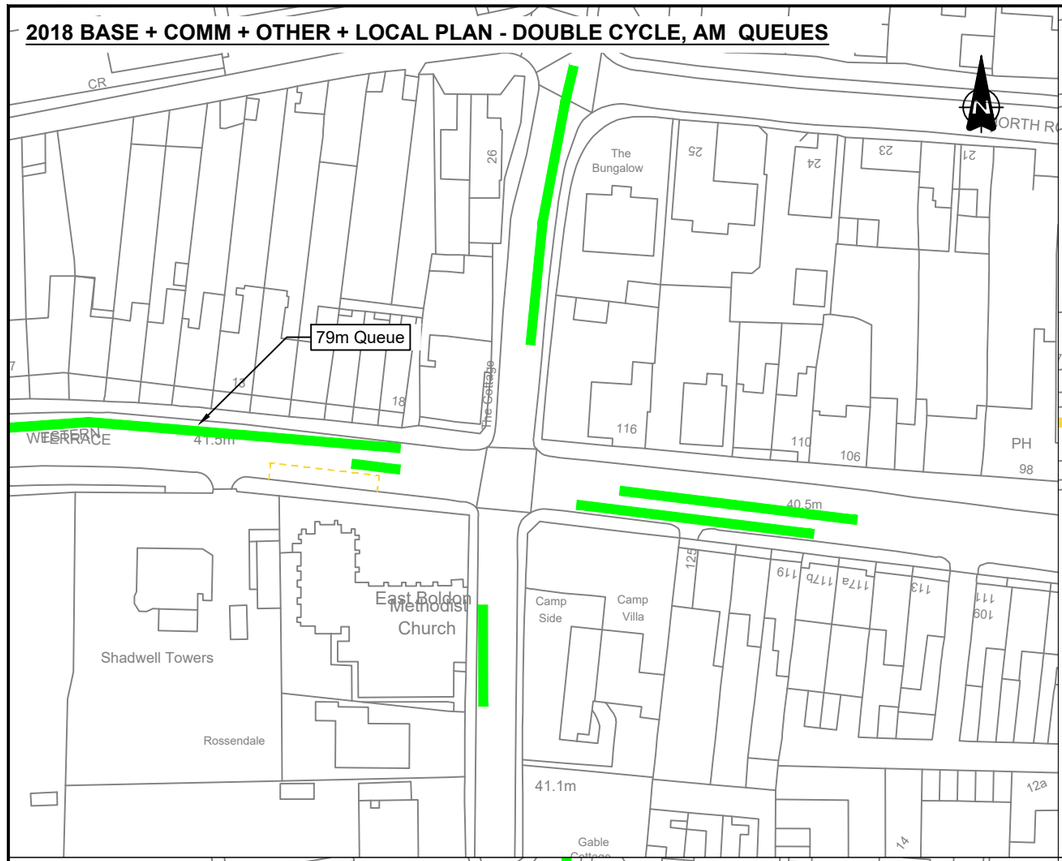
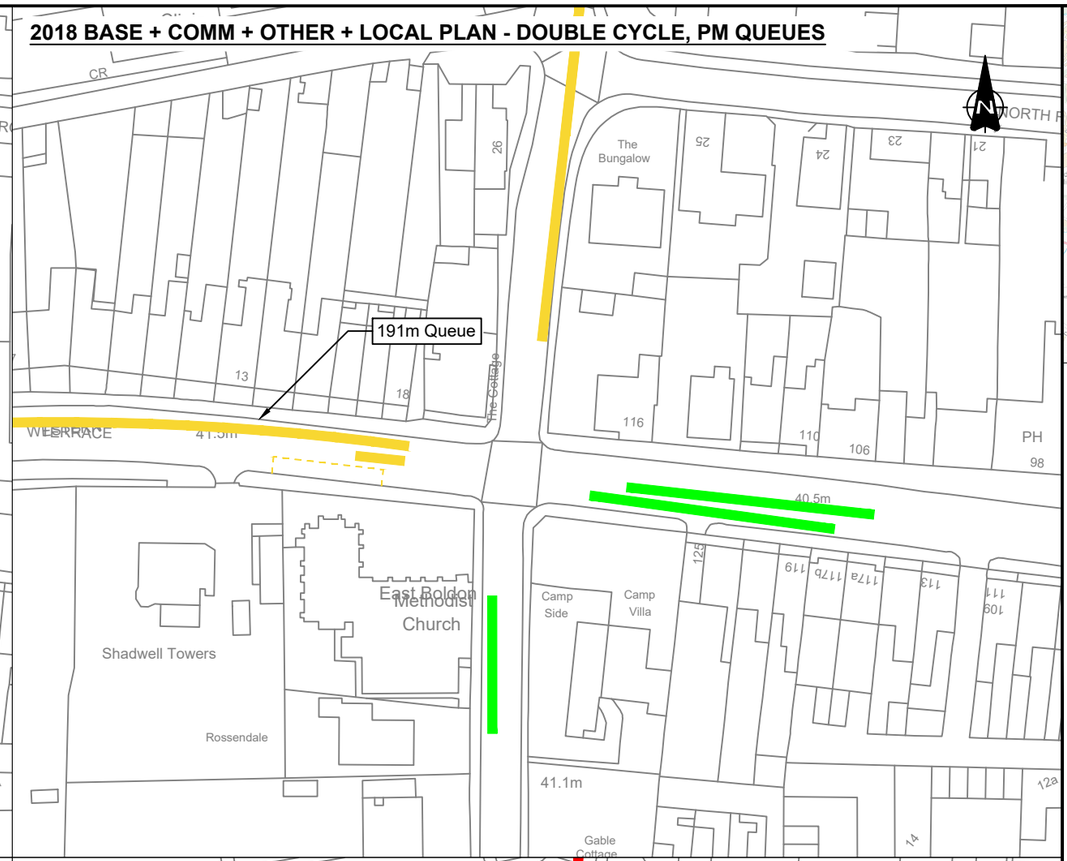
## 2018 BASE + COMM + OTHER + LOCAL PLAN - DOUBLE CYCLE, AM QUEUES

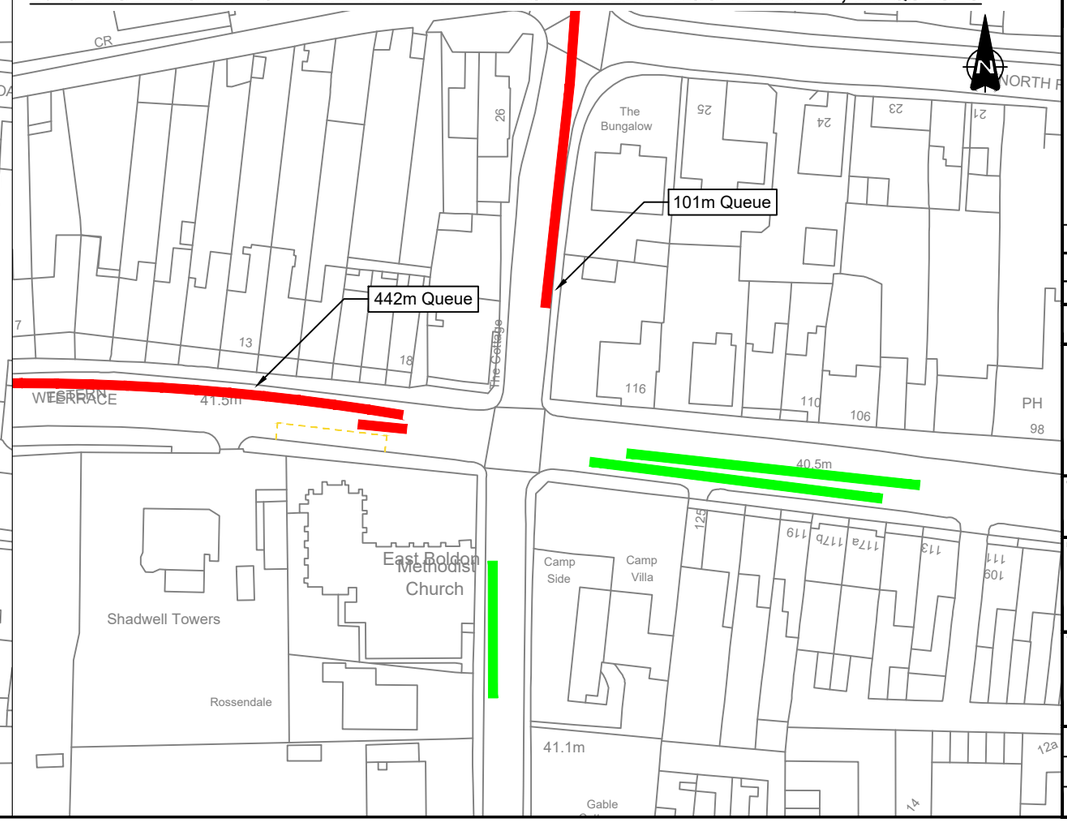



## 2018 BASE + COMM + OTHER + LOCAL PLAN - DOUBLE CYCLE, PM QUEUES




## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN - DOUBLE CYCLE, AM QUEUES

## 2018 BASE + COMM + OTHER + ALTERNATIVE LOCAL PLAN - DOUBLE CYCLE, PM QUEUES



**KEY**

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Title: A184 / BOKER LANE
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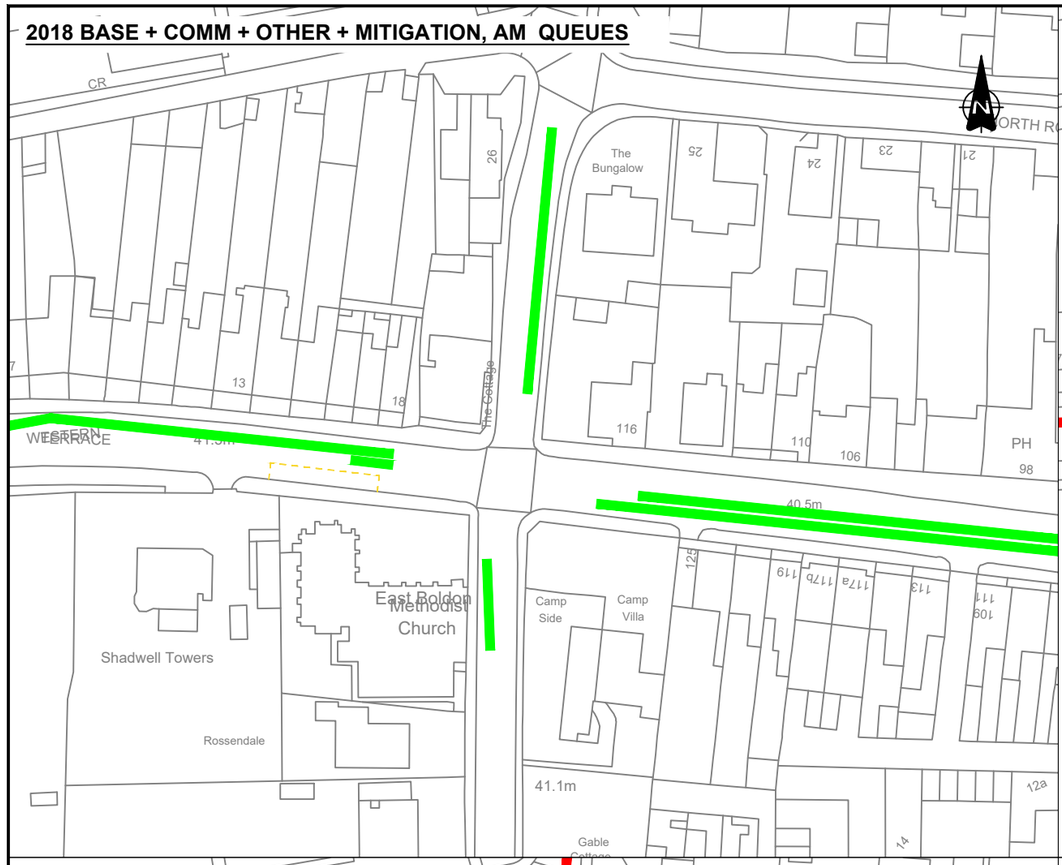
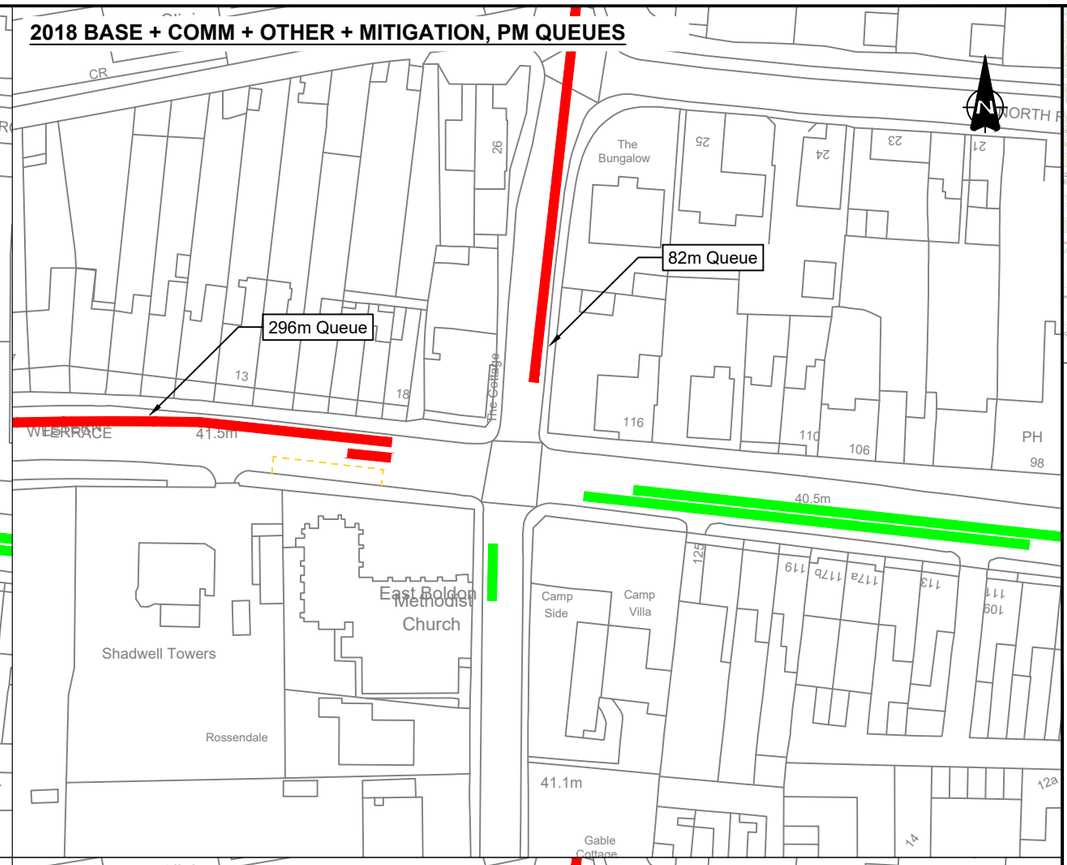
## 2018 BASE + COMM + OTHER + MITIGATION, AM QUEUES




## 2018 BASE + COMM + OTHER + MITIGATION, PM QUEUES

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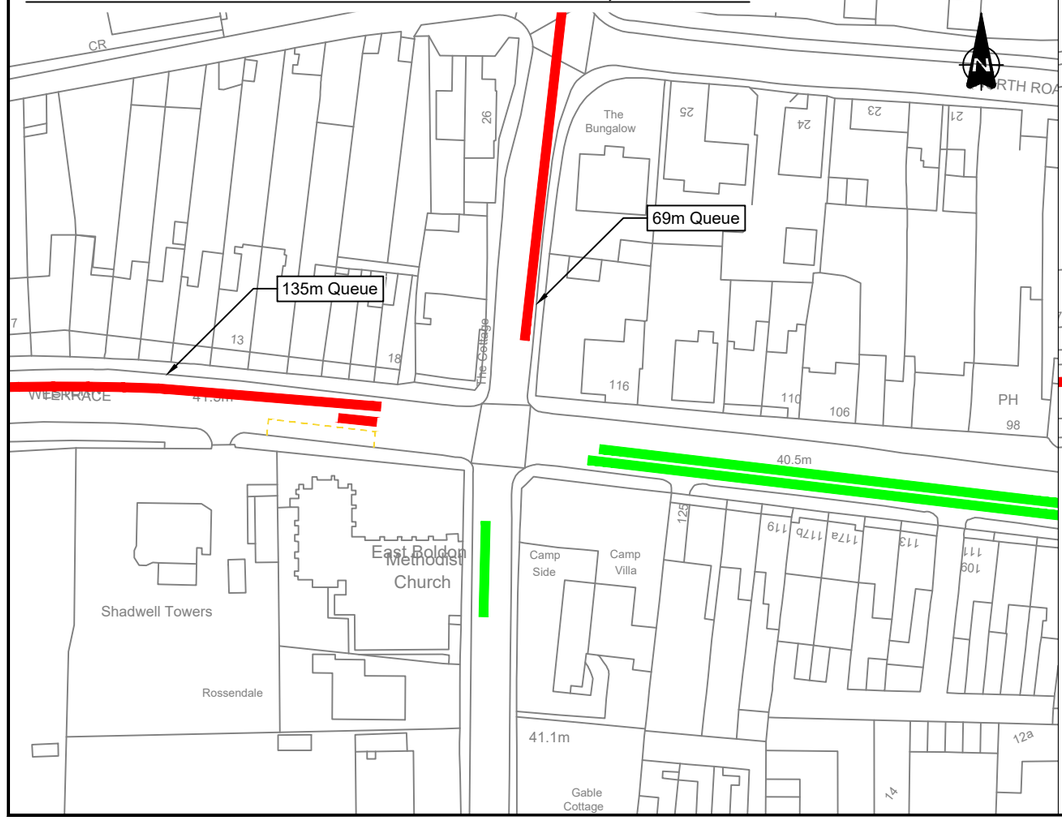


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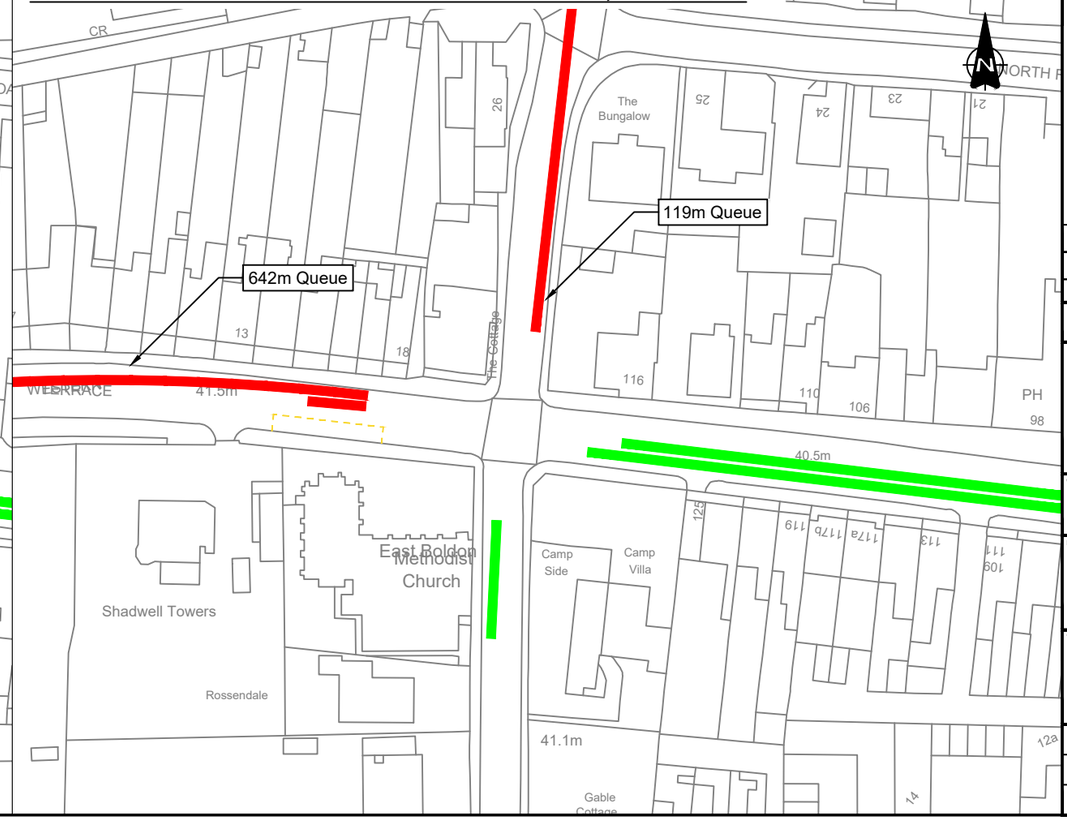

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Project
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Title
A184 / BOKER LANE
EXISTING LAYOUT QUEUES

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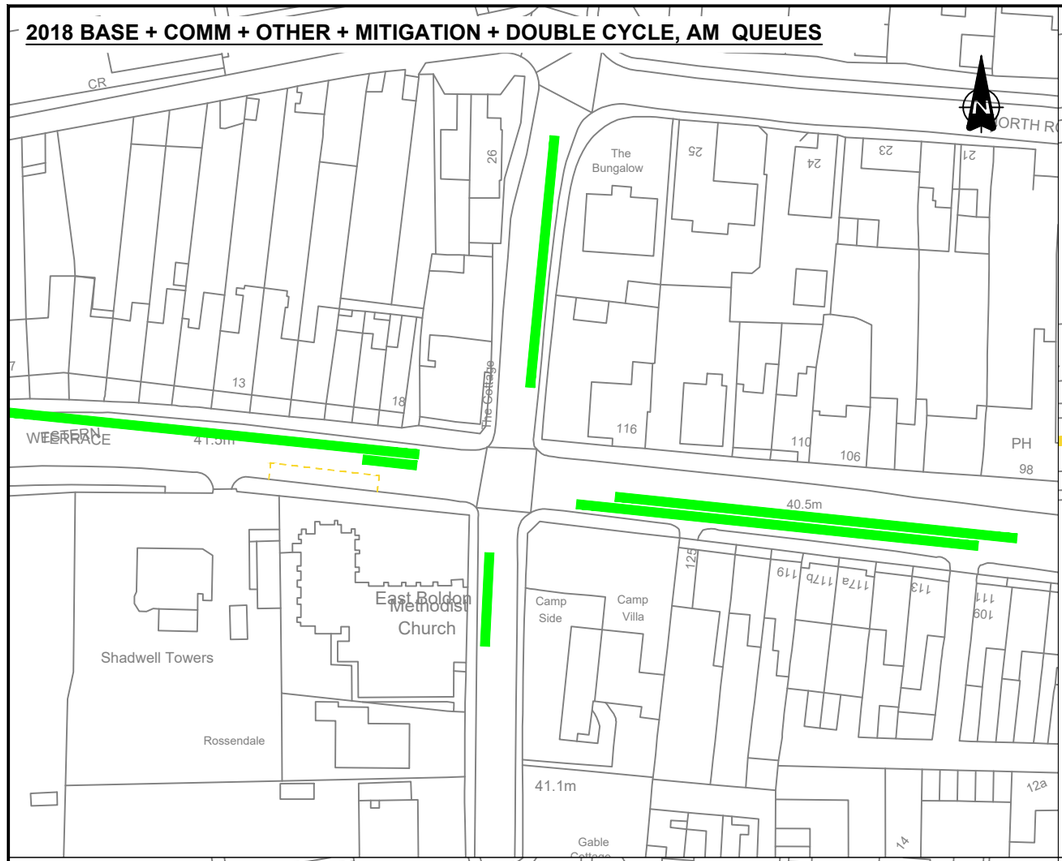
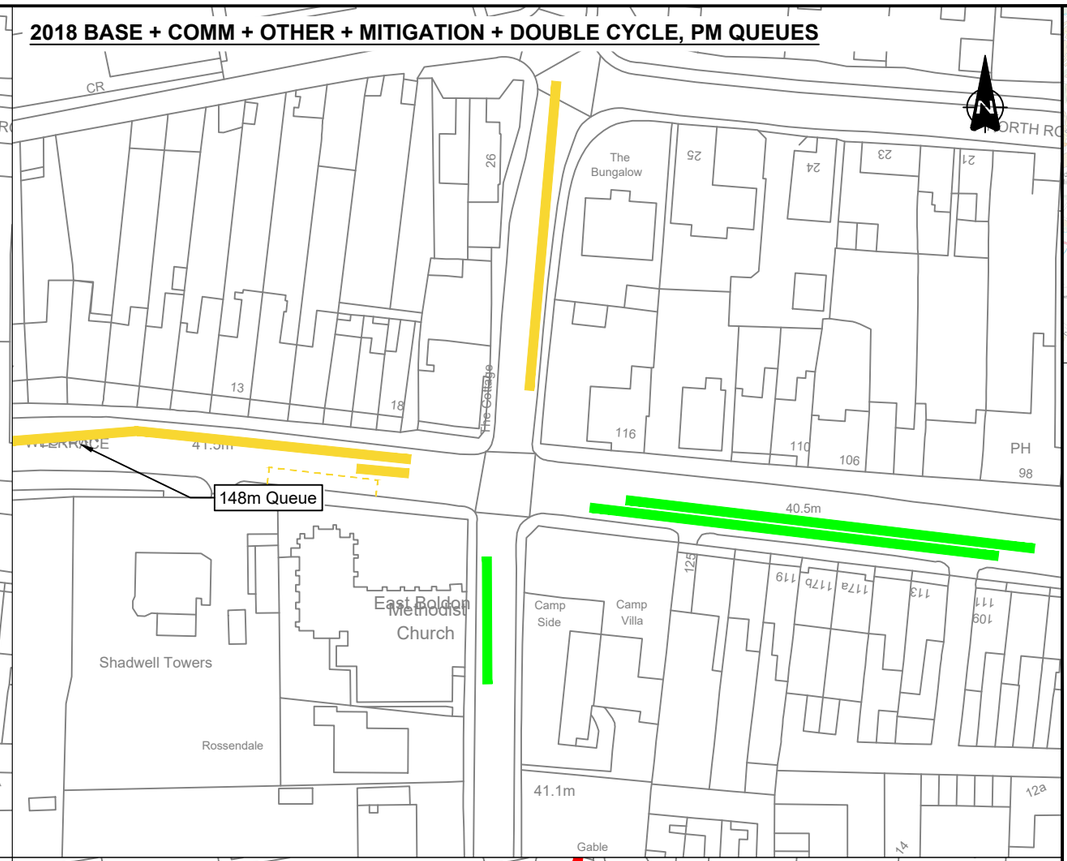
## 2018 BASE + COMM + OTHER + MITIGATION + DOUBLE CYCLE, AM QUEUES

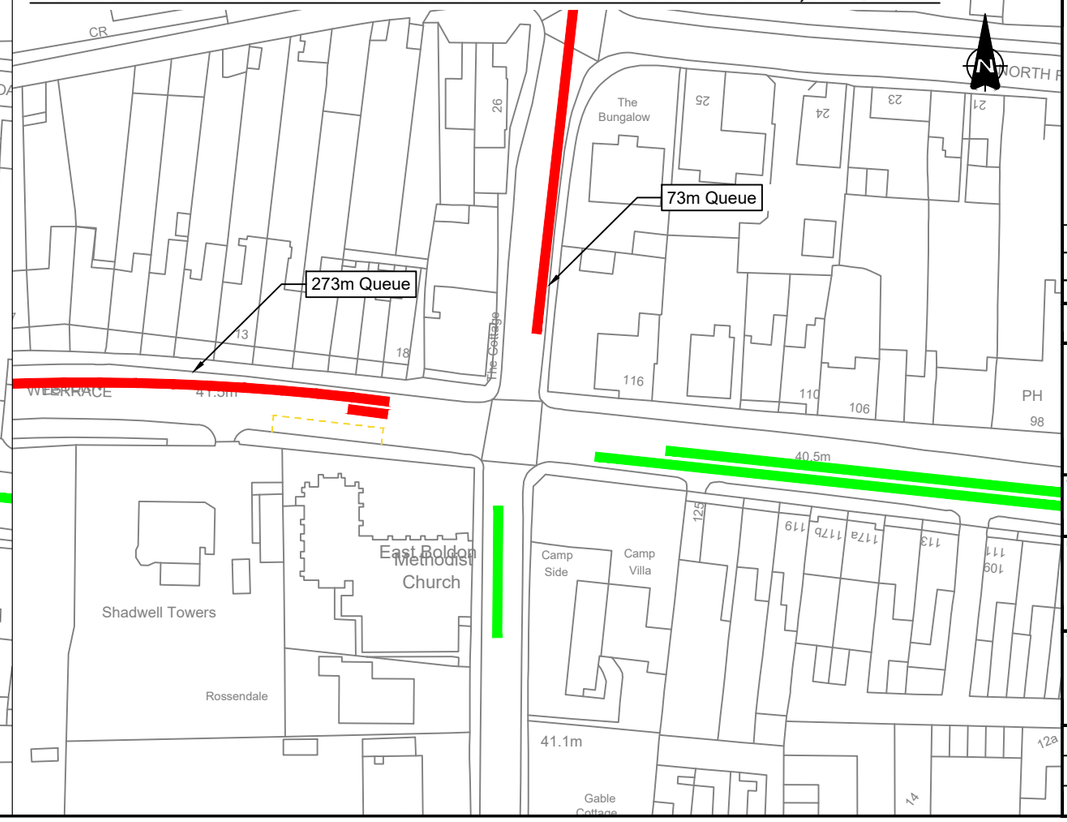



## 2018 BASE + COMM + OTHER + MITIGATION + DOUBLE CYCLE, PM QUEUES




## 2018 BASE + COMM + OTHER + MITIGATION + ALT DIST + DOUBLE CYCLE, AM QUEUES

## 2018 BASE + COMM + OTHER + MITIGATION + ALT DIST + DOUBLE CYCLE, PM QUEUES



**KEY**

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Title
A184 / BOKER LANE
EXISTING LAYOUT QUEUES

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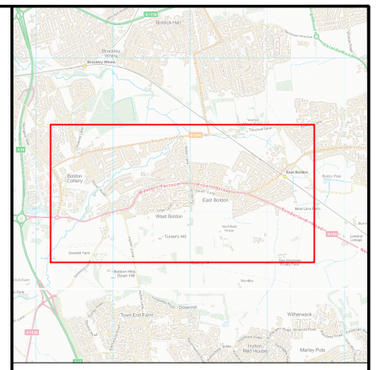
## MITIGATION

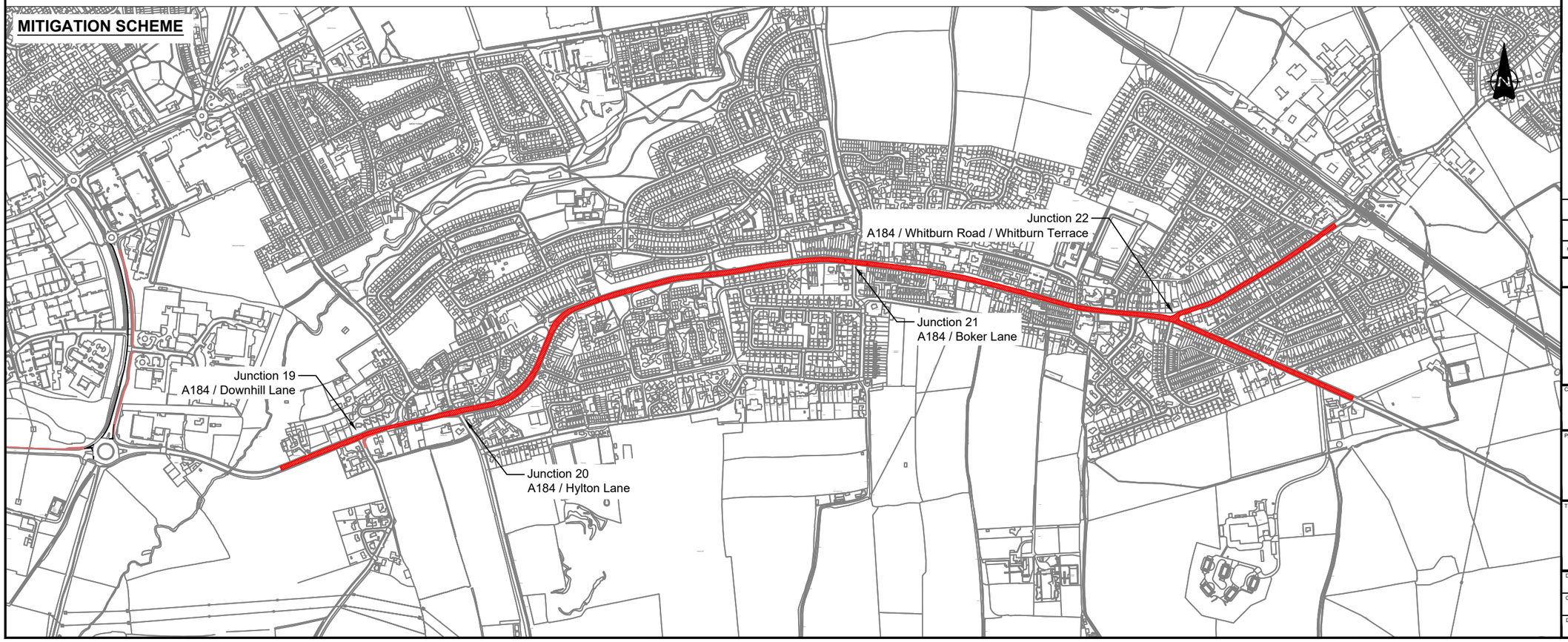
Mitigation is proposed to be a series of traffic management and sustainable transport measures that will address the A184 corridor (Junctions 19 to 22) as a whole. This could include the introduction of an area wide 20mph zone, public realm improvements, pedestrian crossing facilities and small or large scale sustainable transport improvements. These measures will discourage extaneous traffic from using the A184, encourage modal shift and break up the flow of traffic allowing for increased opportunities for vehicles to move to and from side arms.

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SBC084 | Former MoD Bunkers, medical stores and associated land | 56 | 60 |
| SFG072 | Land south of Fellgate | 29 | 31 |
| SBC030 | Land at North Farm (West) | 19 | 20 |
| SBC087 | Land south of St John's Terrace and Natley Avenue | 15 | 17 |
| ED2.7 | Land bounded by Chaytor Street and Ellison Place | 9 | 7 |
| | Reaming Developments | 39 | 39 |



## MITIGATION SCHEME

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Title
A184 / BOKER LANE
PROPOSED LAYOUT QUEUES

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| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
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## 3.22 Junction 22 – A184 / Whitburn Road / Whitburn Terrace Signalised Junction

**2018 Base + Committed Development + Other Development**

3.22.1 The junction can be seen to be approaching capacity in the morning peak and exceeding capacity in the evening peak.

Table 76. A184 / Whitburn Road– 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 91.1 | 10.9 | 107 | 16.9 |
| A184 Sunderland Road East | 79.9 | 13.9 | 77.4 | 14.8 |
| Whitburn Terrace | 8.8 | 0.4 | 12.6 | 0.5 |
| A184 Sunderland Road West | 90.1 | 18 | 112.9 | 78.7 |
| Junction Deg. Sat. (%) | 91.1 | | 112.9 | |
| Junction PRC All Lanes (%) | -1.2 | | -25.4 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.22.2 With the addition of Local Plan traffic at this junction, the morning peak operates close to capacity and the evening peak experiences exacerbated queuing with the worst case on the A184 West.

Table 77. A184 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 97.8 | 14.7 | 113.2 | 22.4 |
| A184 Sunderland Road East | 84.8 | 15.7 | 85.2 | 17.9 |
| Whitburn Terrace | 8.8 | 0.4 | 12.6 | 0.5 |
| A184 Sunderland Road West | 97.0 | 24.3 | 117.5 | 97.8 |
| Junction Deg. Sat. (%) | 97.8 | | 117.5 | |
| Junction PRC All Lanes (%) | -8.7 | | -30.6 | |

3.22.3 In reality the junction is anticipated to operate more favourably than that reported above. The test assumes that the pedestrian demand is called every traffic signal cycle. It is anticipated that the pedestrian demand being called every other cycle is more realistic. The result for this can be seen below.

Table 78. A184 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 82.4 | 9.9 | 98.4 | 13.4 |
| A184 Sunderland Road East | 74.1 | 13.9 | 73.3 | 16.4 |
| Whitburn Terrace | 8.8 | 0.4 | 12.6 | 0.6 |
| A184 Sunderland Road West | 83.6 | 17.5 | 100 | 40.6 |
| Junction Deg. Sat. (%) | 83.6 | | 100 | |
| Junction PRC All Lanes (%) | 7.7 | | -11.1 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.22.4 Given the existing junction constraints, a standard junction enhancement scheme is not achievable. Measures such as re-phasing the traffic signals and the closure of side arms has also been investigated. It is therefore proposed to introduce measures that will discourage extraneous vehicles passing through the junction, supplemented by measures that will encourage modal shift to sustainable transport modes.

3.22.5 It is proposed that mitigation for this junction (and Junctions 19 - 21)should take the form of a package of measures which will aim to reduce traffic utilising the A184 through a combination of traffic management measures, sustainable transport improvements and travel planning. It is envisaged that this could result in a reduction in base, committed and other traffic of 5% and of Local Plan development traffic of 10%. In reality, these reductions could be greater should large strategic infrastructure projects come forward for example new metro stations. However testing a more modest reduction is considered to result in a robust assessment.

3.22.6 The following package of measures will be considered for implementation during the lifetime of the plan period.

3.22.7 Introduction of a series of traffic management measures for the A184 corridor as a whole. This could include a reduction in speed limit to form a 20mph zone with self-enforcement via engineering measures. Given the A184 is passing through the built up area of the Boldons, this could take the form of public realm improvement schemes incorporating features such as raised plateaus, build outs incorporating planting areas and widening footways. Such measures would have to be carefully implemented so as not to cause unnecessary difficulties and inconvenience to local buses and HGV traffic, which has no other realistic choice. The reduction in the speed of vehicles travelling along the mainline is considered to discourage extraneous vehicles passing through the corridor; encourage modal shift; but also to increase the visible and available gap for right turning vehicles.

3.22.8 This should be supported by the introduction of formalised pedestrian crossing facilities at several locations along the A184 corridor. This could take the form of zebra crossings, however puffin crossings are considered

to be more effective. These crossings will break up the mainline flow of vehicles along the A184 allowing for greater opportunities to move to and from side roads.

3.22.9 The further removal of extraneous traffic from the A184 will be supported by the continued upgrade of the Sunderland Strategic Transport Corridor. This scheme aims to provide a continuous high quality dual carriageway from Sunderland to the A19. This scheme will encourage trips from north Sunderland, which currently choose to use the A184 to access Testo's roundabout to instead use the A1231.

3.22.10 South Tyneside's Local Cycling and Walking Infrastructure Plan (LCWIP) was developed with the ambition of making cycling and walking the natural choice for shorter journeys, or as party of longer journeys. The strategy identifies numerous areas for improvement across the borough including along the A184 corridor.

3.22.11 A number of sustainable transport schemes are already committed which will benefit the local area and the borough as a whole. This includes the committed Metro Flow project which will see an existing freight line upgraded and electrified in South Tyneside, making it capable of carrying Metro services, boosting the capacity for an extra 24,000 passenger journeys every day. The benefits of the project include increasing the frequency of Metro trains to one every 10 minutes outside central areas; delivering capacity for an extra 24,000 passengers a day; improving reliability and allow quicker recovery from major disruptions; and will unlock the door to the expansion of the Metro system. This will be supported by the Metro fleet upgrades which will see new carriages designed and built specially, with world-class reliability and comfort, much greater energy-efficiency and modern carriage features and technology for passengers. The new trains will enter service in 2023 and will provide decades of effective service to Metro and its passengers. The investment now will secure the system's future and let us explore potential new routes. In addition, a partnership containing the local councils, commercial transport operators and Nexus has forged a path towards one of the biggest roll outs of smart technology in the UK. Every passenger now has the ability to access smart technology, with the ability to pre-load smartcards ahead of travel and avoiding the need to carry to cash, or use ticket machines. Integration is also key, with the smartcards being able to be used on Metro, the Shields Ferry and bus services. Nexus has also developed a new Pop app for phones allowing weekly tickets to be paid via mobile phone.

3.22.12 In addition there may still be requirements for local or wider sustainable transport improvements. This could include for example the extension to the existing Park and Ride car park at East Boldon.

3.22.13 The proposed allocations most likely to impact on the corridor will also be required to incorporate robust sustainable transport measures into their development proposals through the implementation of Travel Plans. Preparation of Travel Plans are particularly important at sensitive locations on the road network or where a development is likely to increase the risk of conflict with other road users. Measures will include ensuring home working is achievable through fast broadband connections and provision of offices within new build dwellings, restricting parking provision, providing cycle parking and ensuring developments encourage sustainable travel particularly to local facilities through their design.

3.22.14 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

Table 79. A184 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 92.7 | 11.6 | 107.5 | 17.4 |
| A184 Sunderland Road East | 80.2 | 14 | 80.5 | 16 |
| Whitburn Terrace | 8.8 | 0.4 | 11.9 | 0.5 |
| A184 Sunderland Road West | 92 | 19.3 | 111.7 | 73.9 |
| Junction Deg. Sat. (%) | 23.3 | | 81.3 | |
| Junction PRC All Lanes (%) | -3.0 | | -24.1 | |

3.22.15 The proposed package of mitigation is considered to improve junction performance back to the base situation though queuing still occurs across the junction.

3.22.16 In reality the junction is anticipated to operate more favourably than that reported above. The test assumes that the pedestrian demand is called every traffic signal cycle. It is anticipated that the pedestrian demand being called every other cycle is more realistic. The result for this can be seen below.

Table 80. A184 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 78 | 9.1 | 93.5 | 10.4 |
| A184 Sunderland Road East | 70 | 12.6 | 69.3 | 14.8 |
| Whitburn Terrace | 8.8 | 0.4 | 11.9 | 0.6 |
| A184 Sunderland Road West | 79.2 | 15.5 | 95 | 30.4 |
| Junction Deg. Sat. (%) | 15.1 | | 24.3 | |
| Junction PRC All Lanes (%) | 13.6 | | -5.5 | |

3.22.17 The proposed package of mitigation is considered to improve junction performance back to the base situation though queuing still occurs across the junction.

3.22.18 Nonetheless, if substantial queuing does occur along the A184 corridor, and resultant delay occurs, it is assumed that drivers will naturally alter their route choice and divert to an alternative route or change their travel patterns.

3.22.19 The capacity assessment is summarised on Drawing Ref 16L02-22-001, 16L02-22-002, 16L02-22-003, 16L02-22-005 and 16L02-22-06. The proposed mitigation scheme can be seen on Drawing Ref 16L02-22-004 overleaf.

**Cost of Mitigation**

3.22.20 The introduction of the proposed traffic management mitigation measures are anticipated to cost in the region of £750,000. The anticipated cost also covers proposed mitigation associated with Junctions 19 - 21.

3.22.21 It should be noted that this cost is for indicative use only and a more detailed cost will be required at detailed design stage.

3.22.22 Nonetheless, contributions to local or wider sustainable transport improvements may be necessary.

**Trigger Point Analysis**

3.22.23 For the purposes of this assessment, the traffic management scheme should be implemented incrementally to coincide with the roll out of developments within the Local Plan.

**Composition of Trips Through Junction**

3.22.24 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.22.25 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The increase in traffic is as a result of contributions from a number of developments with no one development generating a dominant level of trips through the junction.

Figure 43. Composition of traffic passing through junction at the end of the plan period – Morning Peak

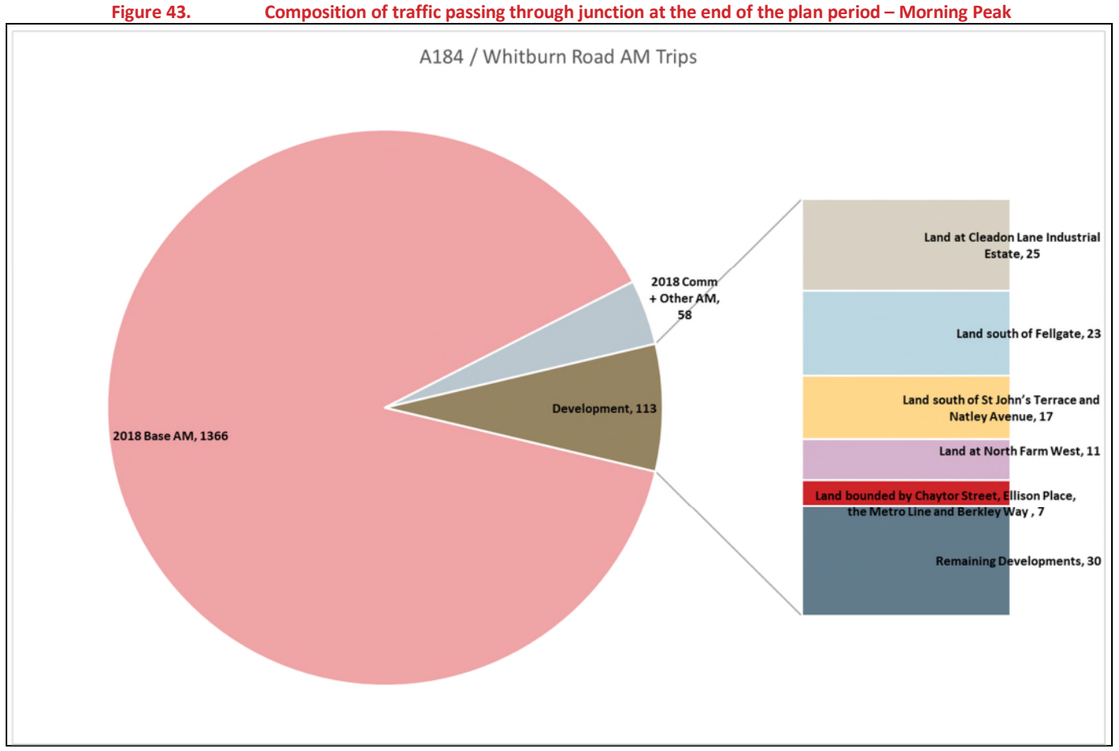
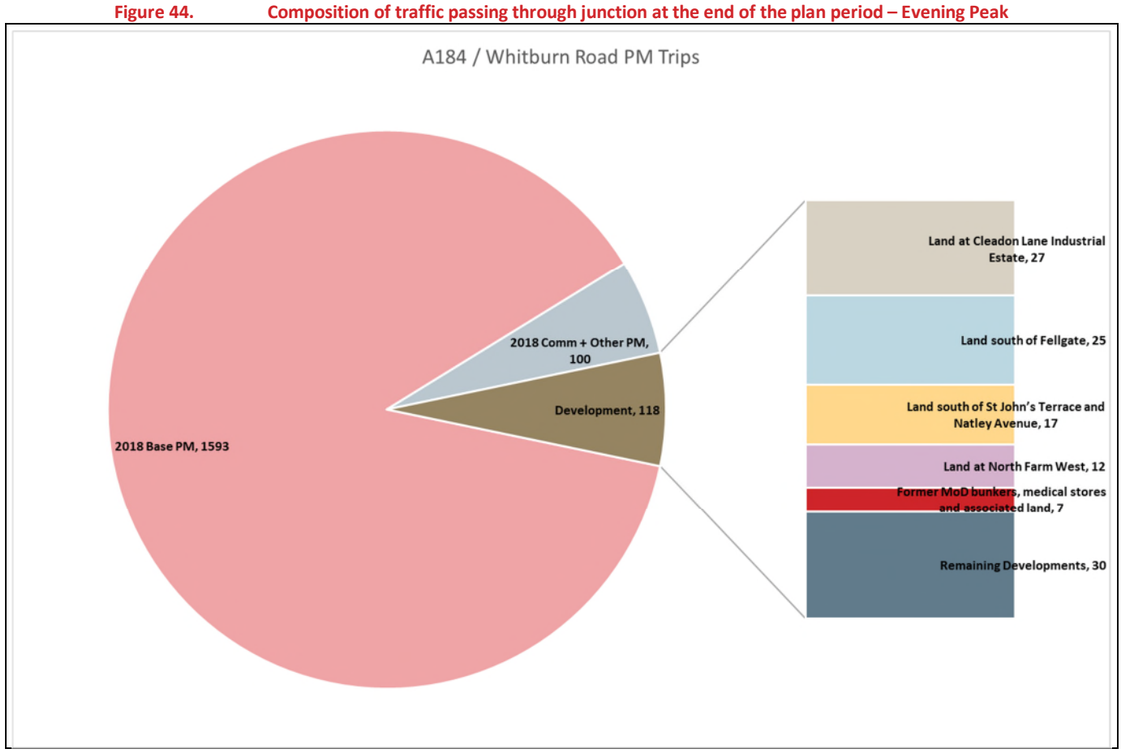


Figure 44. Composition of traffic passing through junction at the end of the plan period – Evening Peak




**2018 Base + Committed Development + Other Development + Local Plan Development (Alternative Distribution)**

3.22.26 As stated in Paragraph 1.2.5 the Council is undertaking studies to identify schemes, investigate deliverability and suitable funding streams, to delivery schemes to bridge the existing level crossing to the north of Boldon. This is in response to commentary from Network Rail around the need to provide full barriers at these level crossings. The provision of full barriers at these locations is anticipated to result in the effective closure of Tileshed Lane / New Road and Boldon Lane for 30 minutes within every hour that the Metro operates.

3.22.27 An additional sensitivity test has therefore been undertaken that assigns the Local Plan traffic anticipated to use Tileshed Lane / New Road (as in the above assessment) to the A184. It should be noted that base traffic or Committed & Other traffic has not been reassigned and for the purposes of this assessment will continue to use Tileshed Lane / New Road. In reality this is unlikely to be the case and therefore the modelling results are anticipated to be worse than presented.

3.22.28 When considering the sensitivity test, the junction can be seen to be over capacity in both morning and evening peaks.

Table 81. A184 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution)

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 113.8 | 40.9 | 131.1 | 43.8 |
| A184 Sunderland Road East | 93.9 | 19.5 | 87.6 | 18.9 |
| Whitburn Terrace | 8.8 | 0.4 | 12.6 | 0.5 |
| A184 Sunderland Road West | 113.8 | 63.5 | 135 | 166.1 |
| Junction Deg. Sat. (%) | 113.8 | | 135 | |
| Junction PRC All Lanes (%) | -26.5 | | -50 | |

3.22.29 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

Table 82. A184 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 106.2 | 27.6 | 123 | 34.9 |
| A184 Sunderland Road East | 88.8 | 16.2 | 82.8 | 16.5 |
| Whitburn Terrace | 8.8 | 0.4 | 11.9 | 0.5 |
| A184 Sunderland Road West | 107.5 | 45 | 127.4 | 134.9 |
| Junction Deg. Sat. (%) | 65.5 | | 160.3 | |
| Junction PRC All Lanes (%) | -19.5 | | -41.5 | |

**2018 Base + Committed Development + Other Development + Local Plan Development (Alternative Distribution) – Double Cycle**

3.22.30 When considering the sensitivity test under the double cycle scenario, the junction can be seen to be over capacity in both morning and evening peaks.

Table 83. A184 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) – Double Cycle

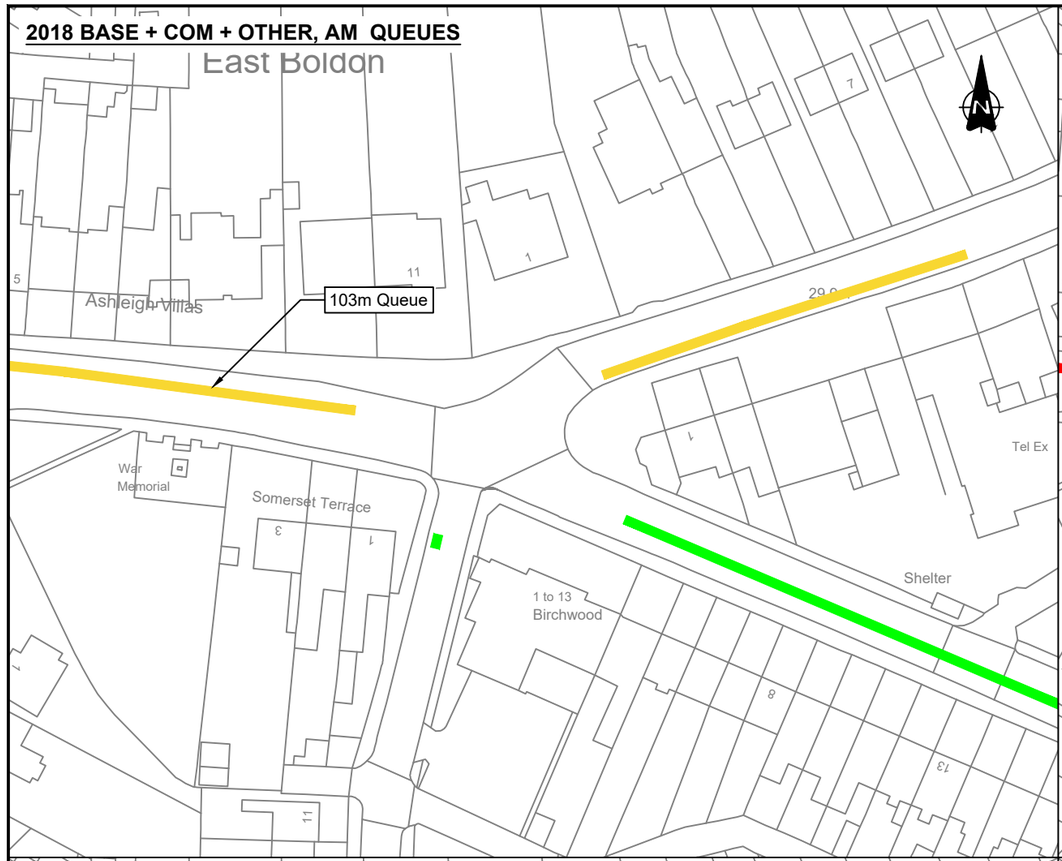
| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 96.1 | 18.8 | 115.3 | 32.3 |
| A184 Sunderland Road East | 82.2 | 15.7 | 75.1 | 17.8 |
| Whitburn Terrace | 8.8 | 0.4 | 12.6 | 0.5 |
| A184 Sunderland Road West | 98 | 27.6 | 114.4 | 104 |
| Junction Deg. Sat. (%) | 98 | | 114.4 | |
| Junction PRC All Lanes (%) | -8.9 | | -28.1 | |

3.22.31 Based on the assumed reductions as a result of the package of measures, the modelling assessment has been revisited.

Table 84. A184 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan (Alternative Distribution) + Mitigation – Double Cycle

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| B1299 Station Road | 91.7 | 15.8 | 108.3 | 22.9 |
| A184 Sunderland Road East | 76.5 | 13.6 | 70.9 | 15.7 |
| Whitburn Terrace | 8.8 | 0.4 | 11.9 | 0.5 |
| A184 Sunderland Road West | 91.2 | 20.1 | 107.9 | 71.2 |
| Junction Deg. Sat. (%) | 23.2 | | 78.3 | |
| Junction PRC All Lanes (%) | -1.9 | | -20.3 | |

## 2018 BASE + COM + OTHER, AM QUEUES

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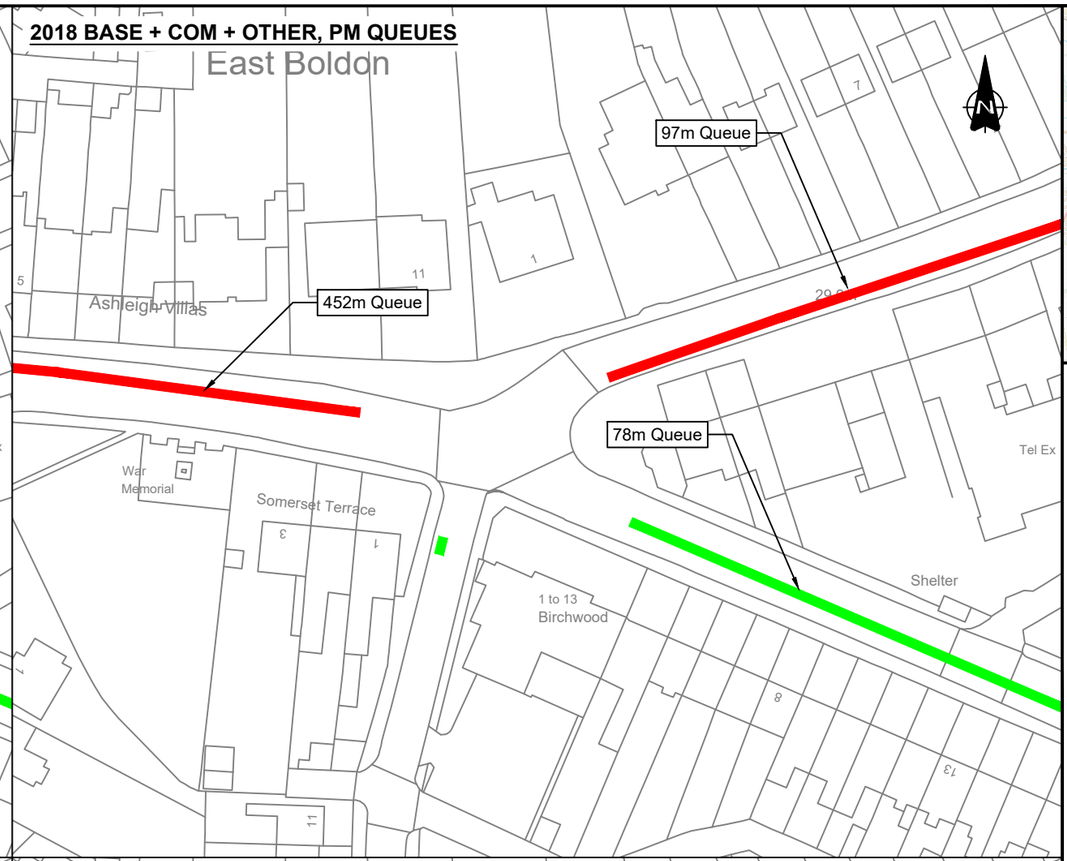


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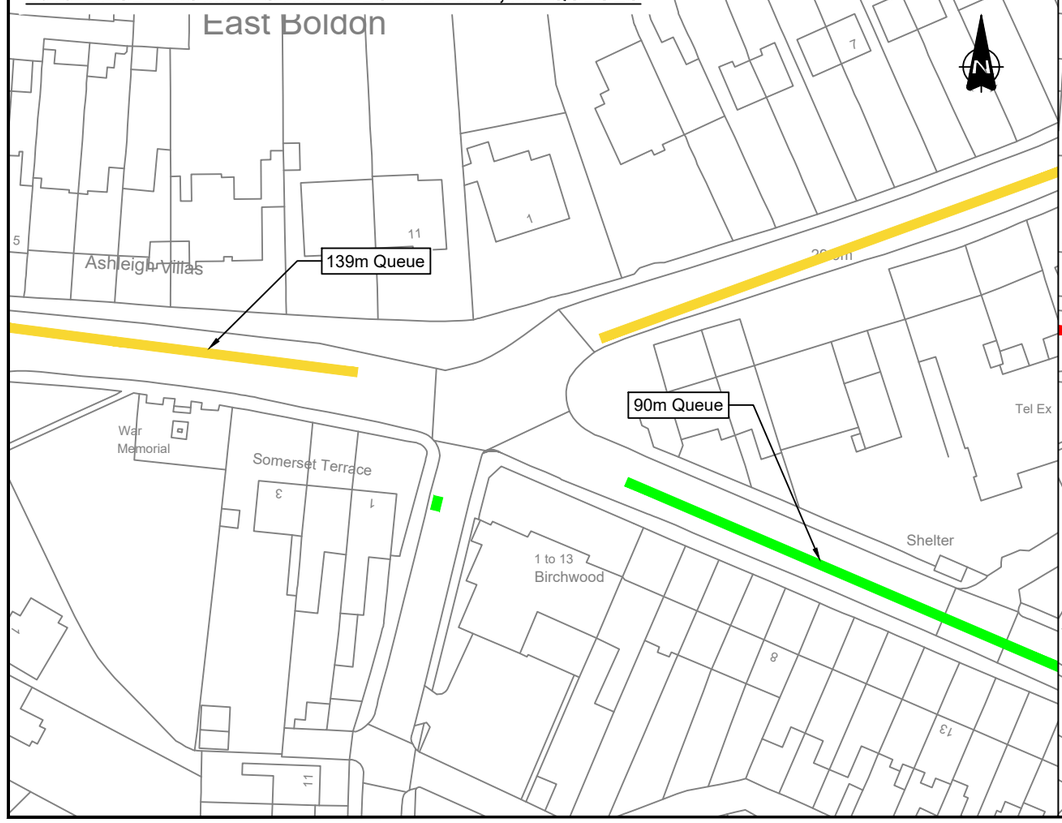


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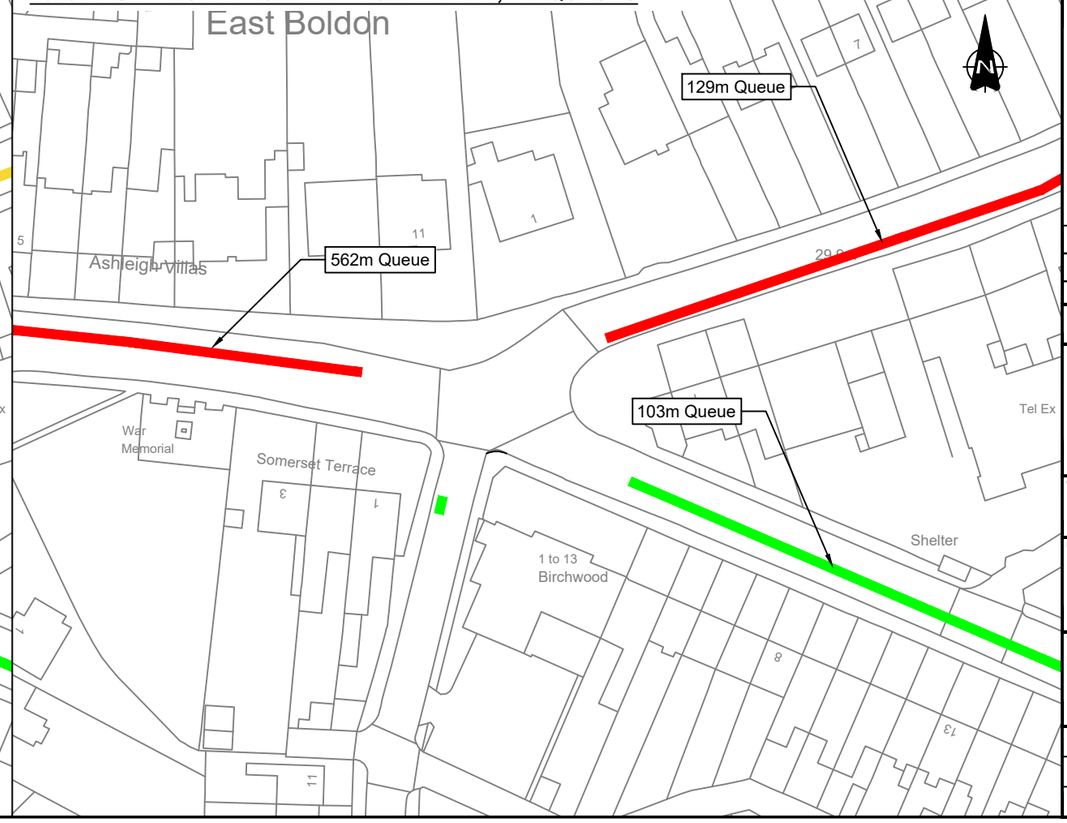

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| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
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Project: LOCAL PLAN ASSESSMENT

Title: A184 / WHITBURN ROAD EXISTING LAYOUT QUEUES

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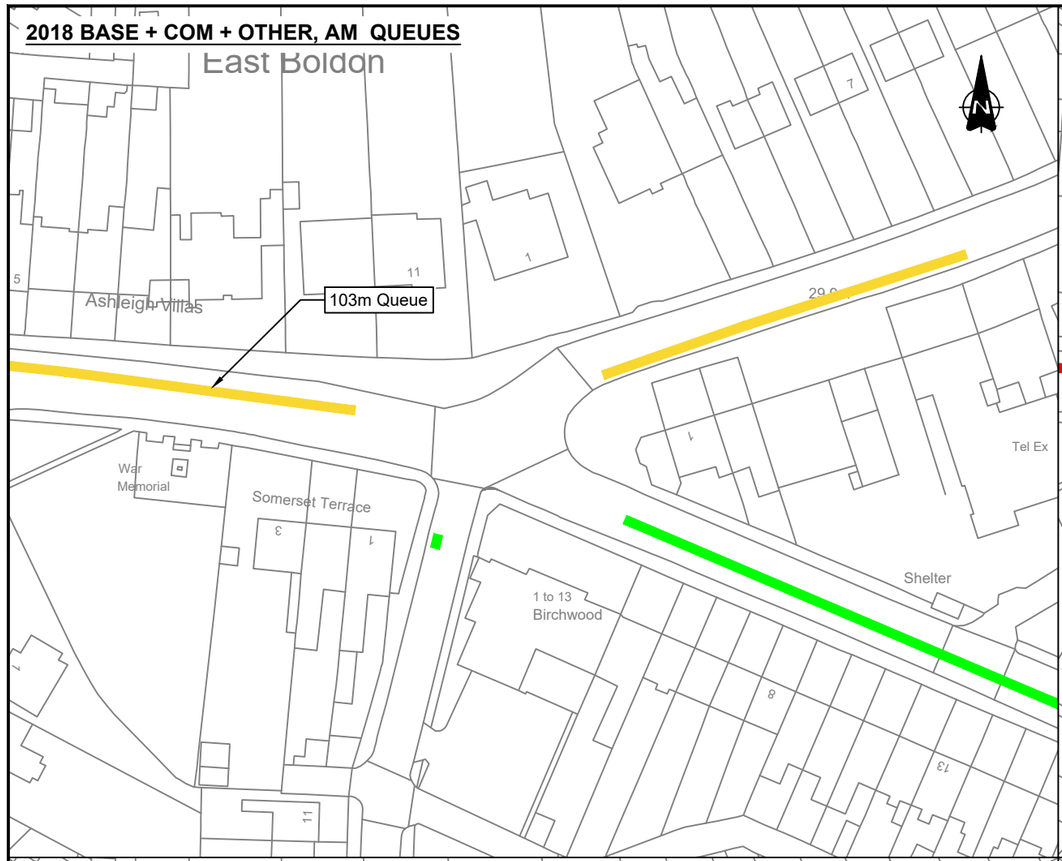


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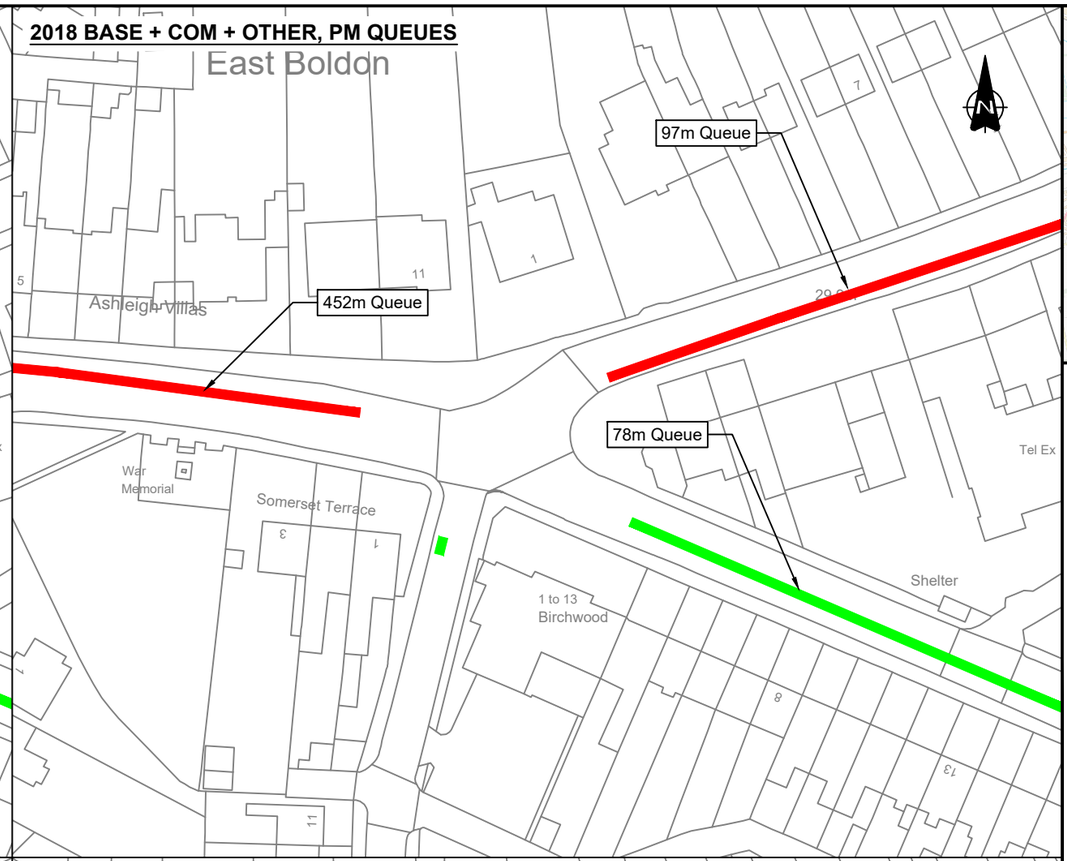


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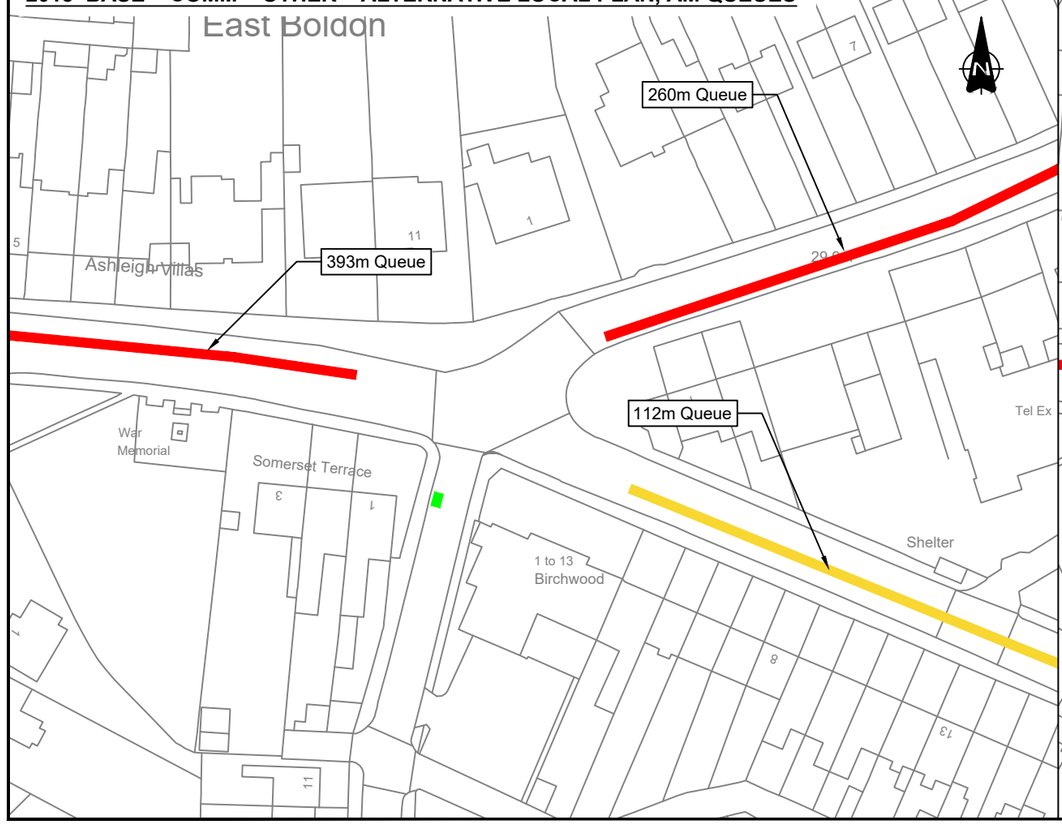


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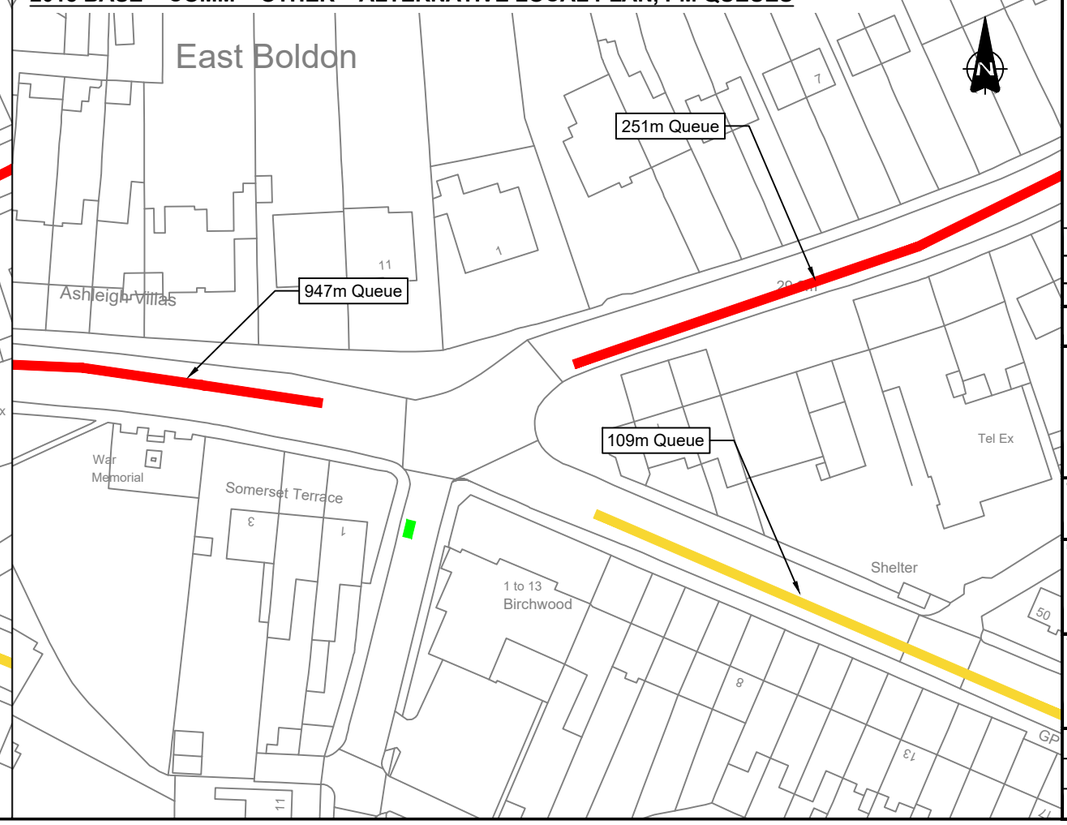

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Title: A184 / WHITBURN ROAD EXISTING LAYOUT QUEUES

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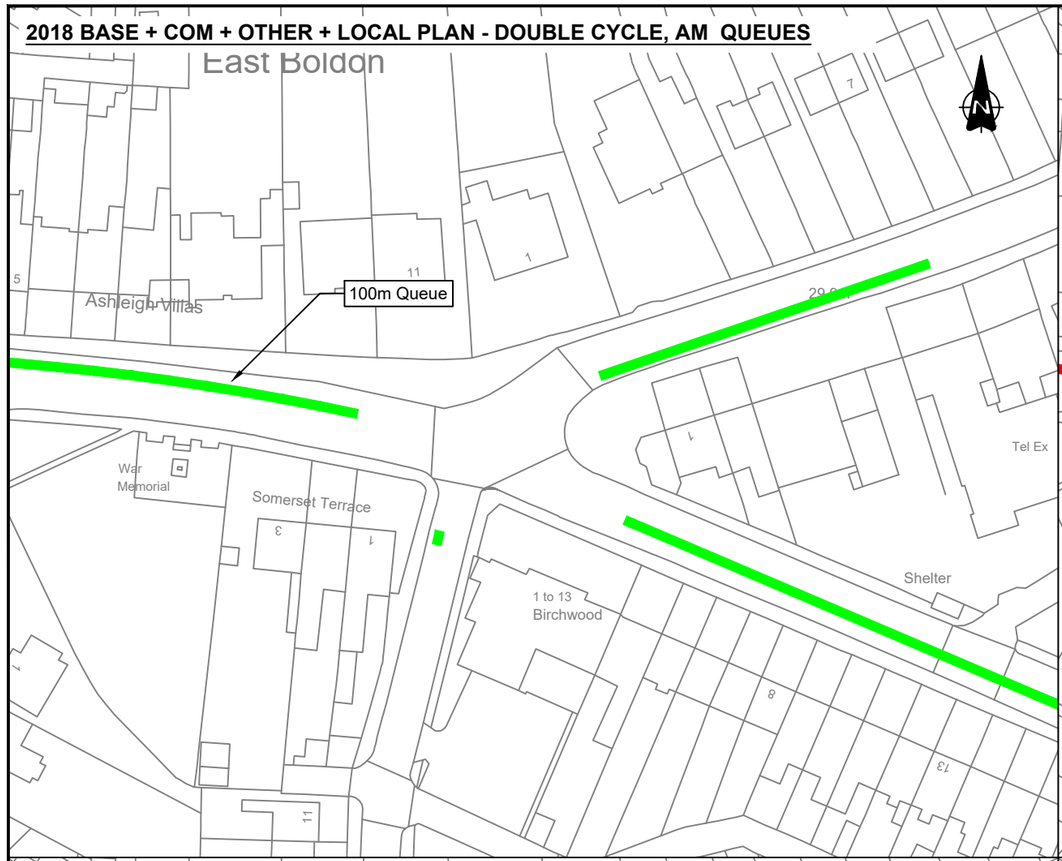


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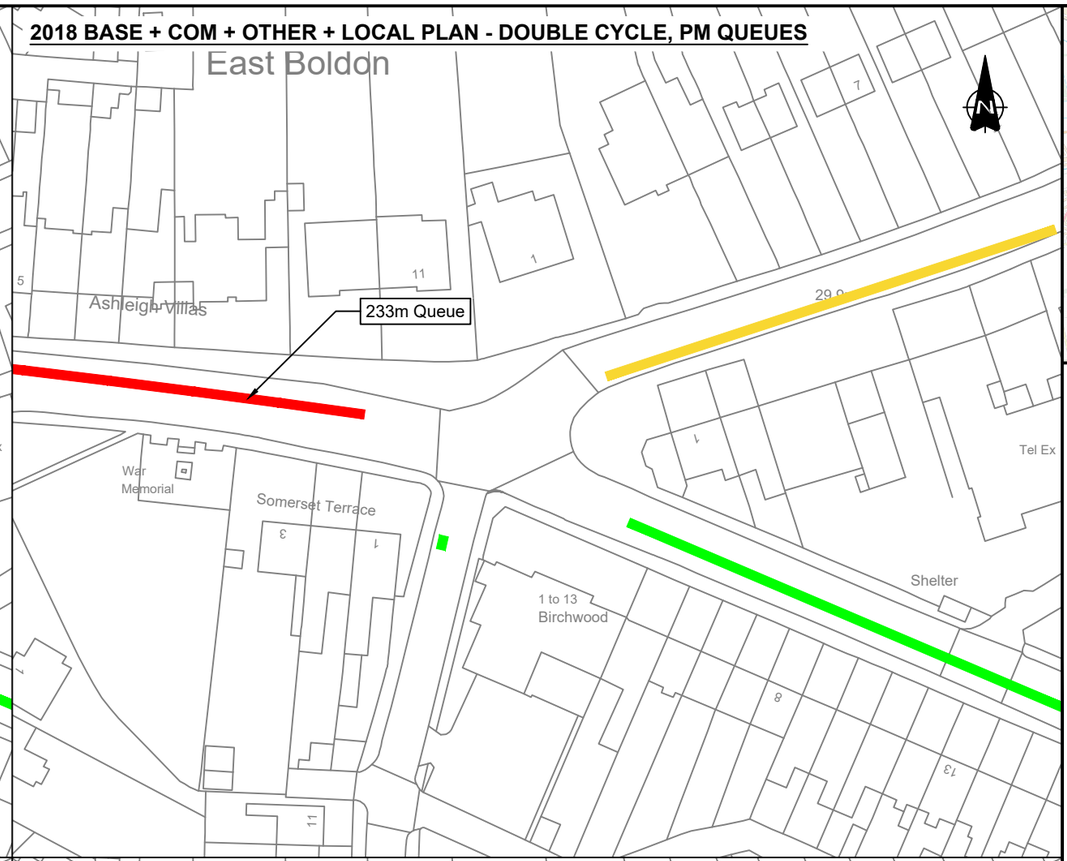

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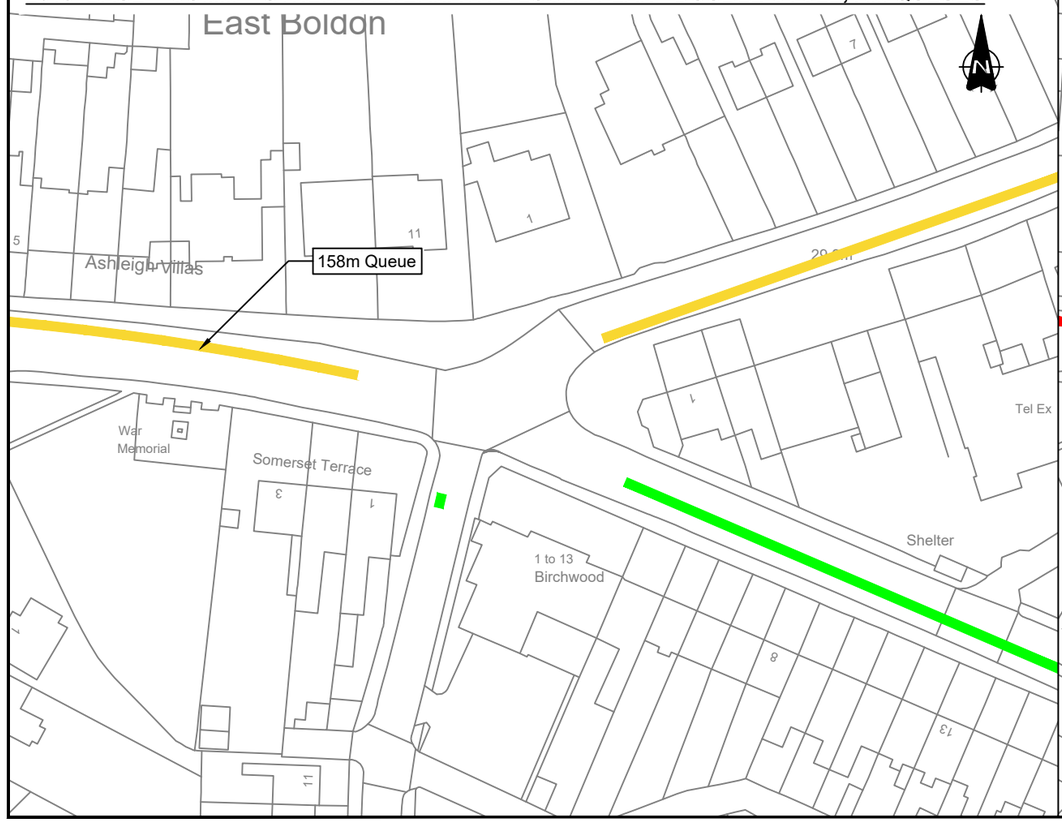


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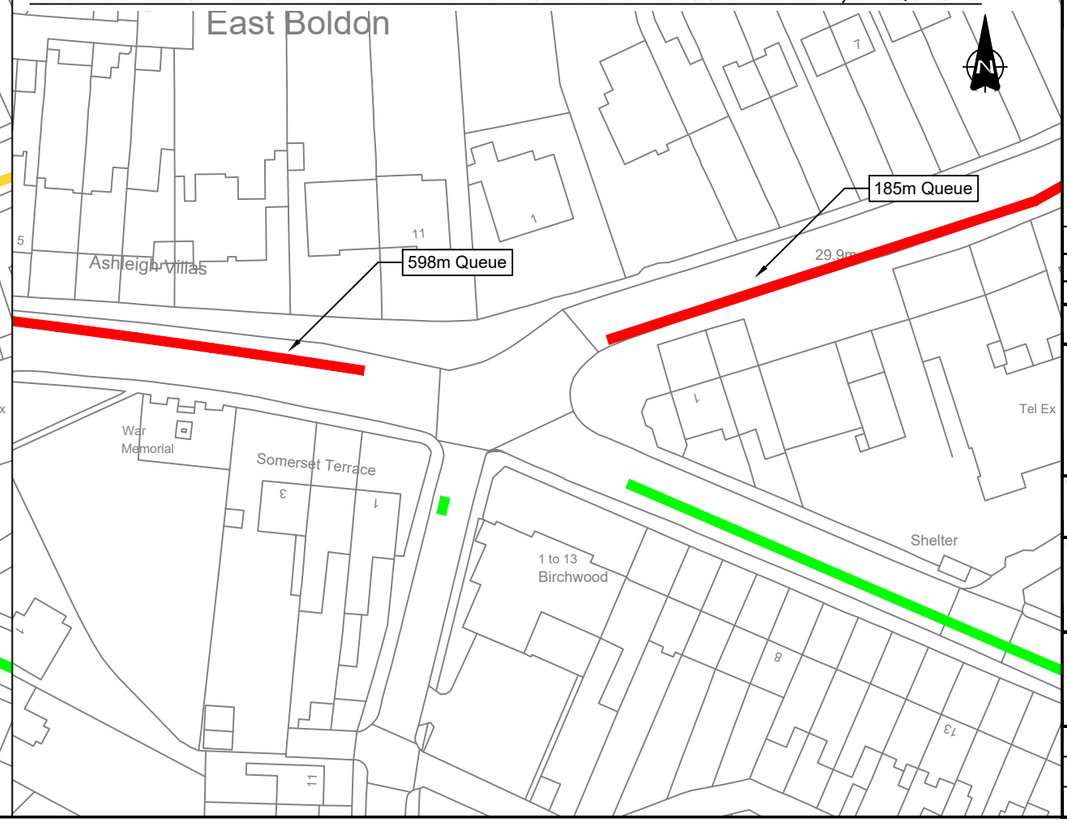


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Title: A184 / WHITBURN ROAD EXISTING LAYOUT QUEUES

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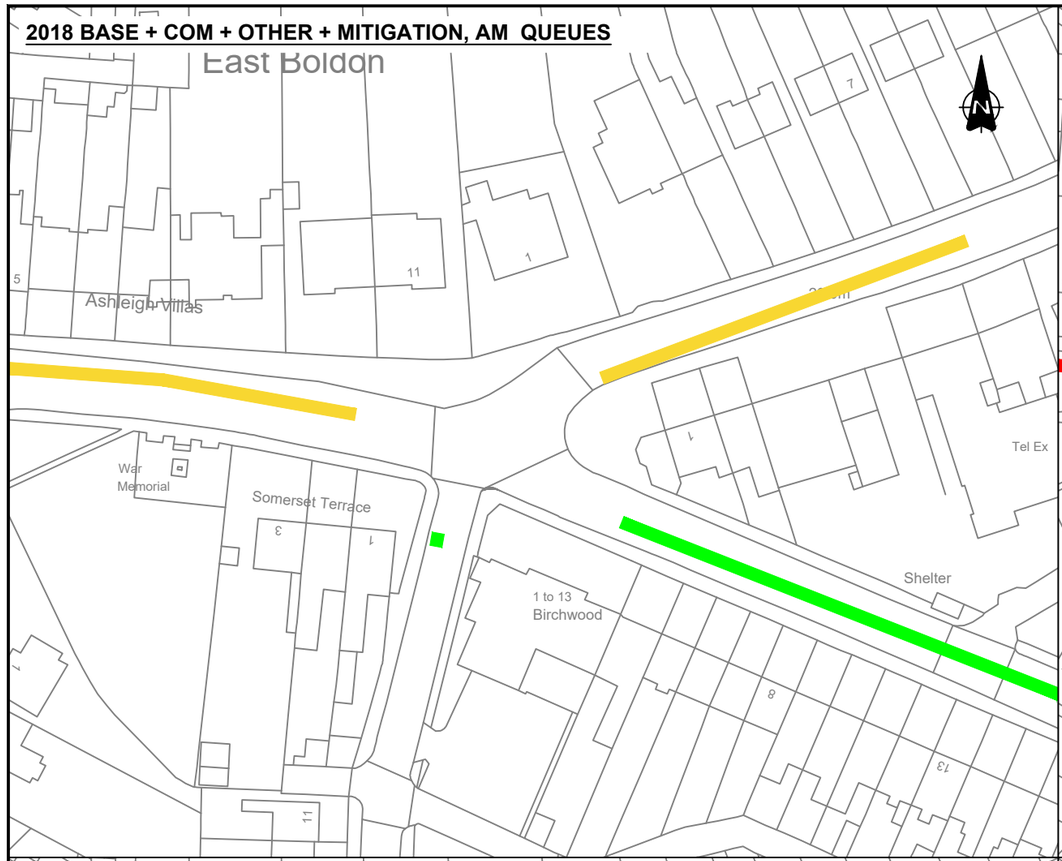
## 2018 BASE + COM + OTHER + MITIGATION, AM QUEUES

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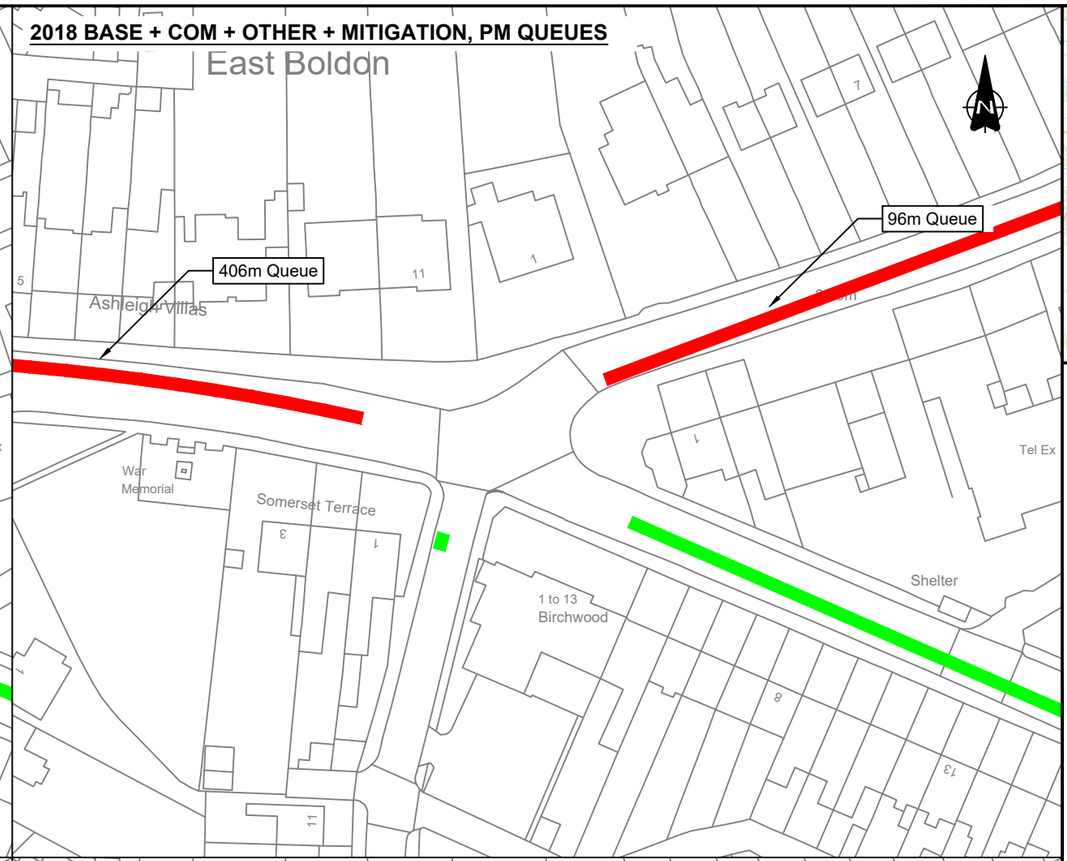


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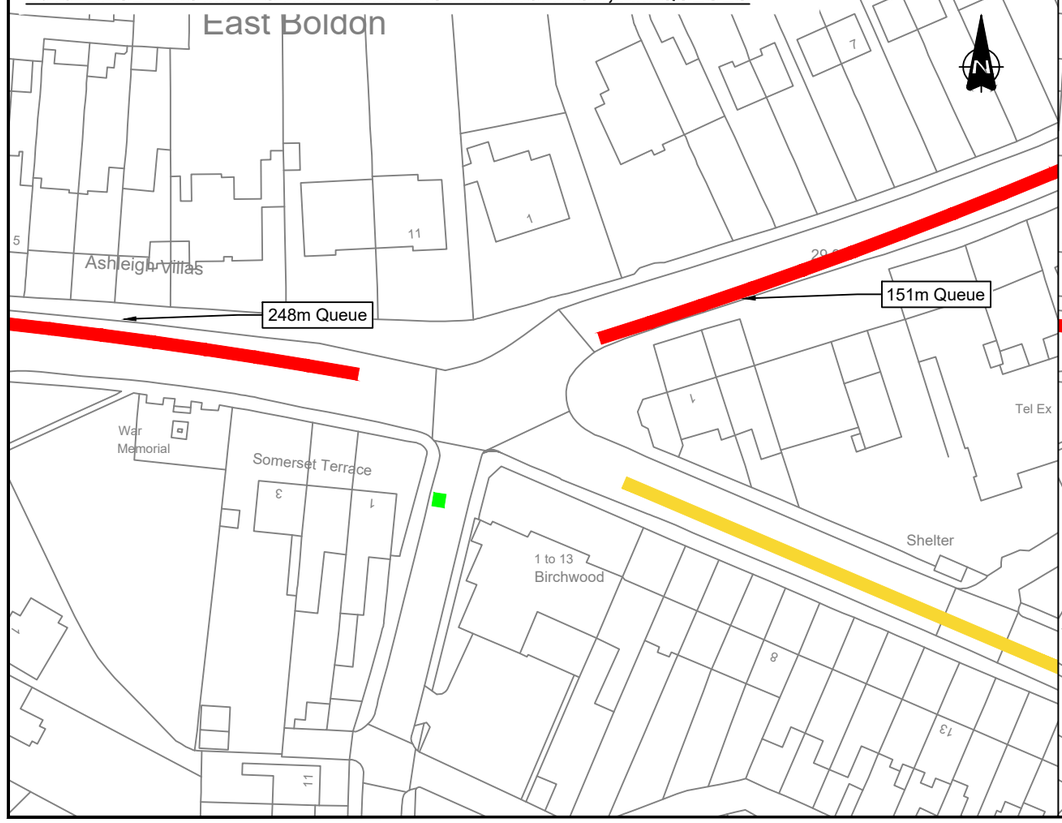


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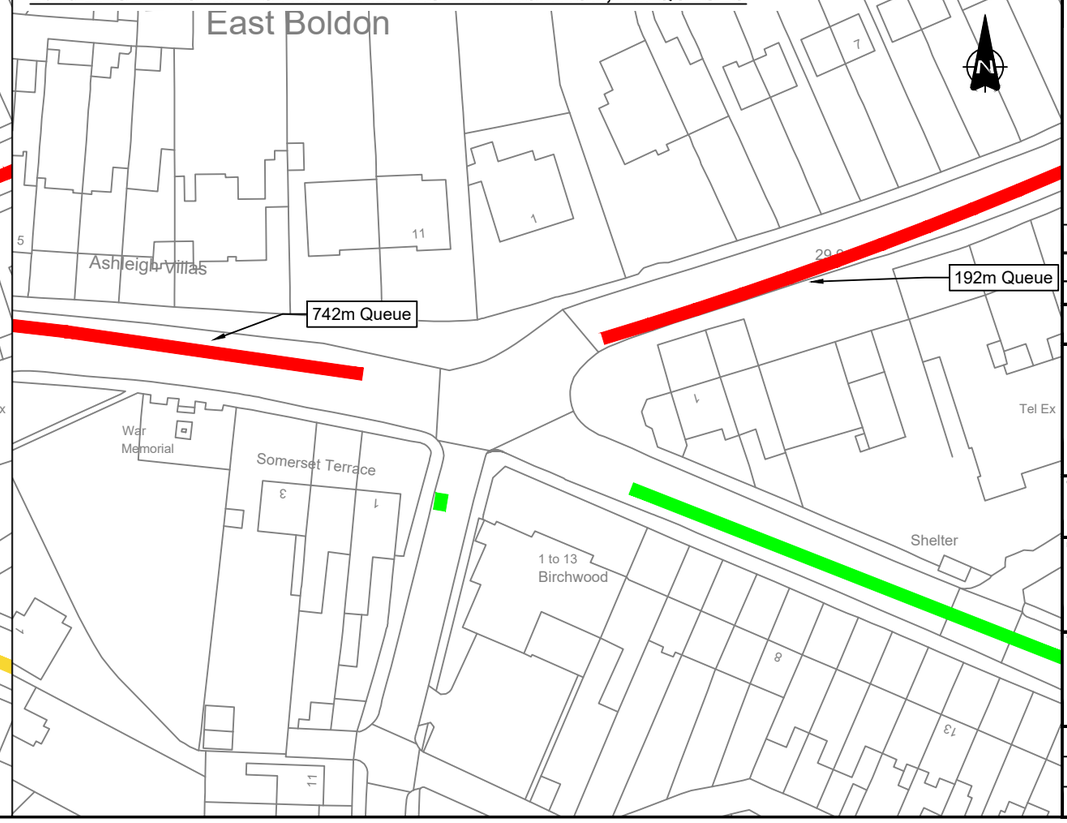

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Title
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EXISTING LAYOUT QUEUES

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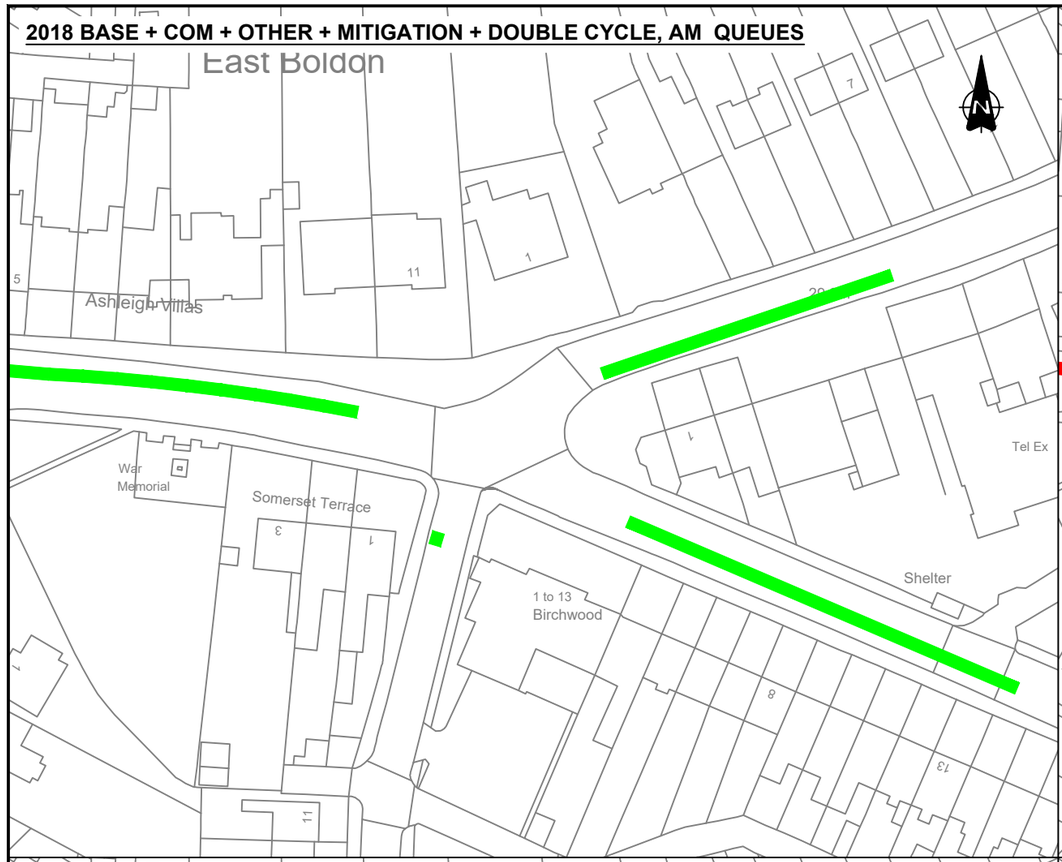


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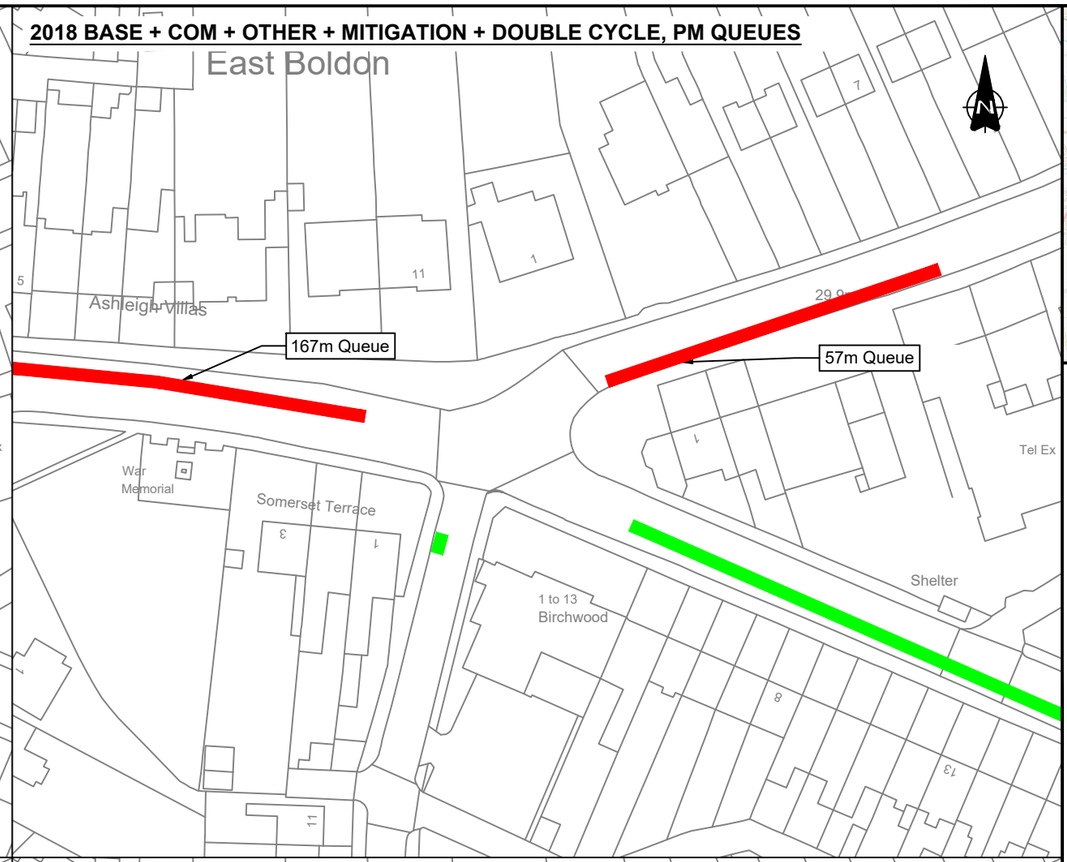

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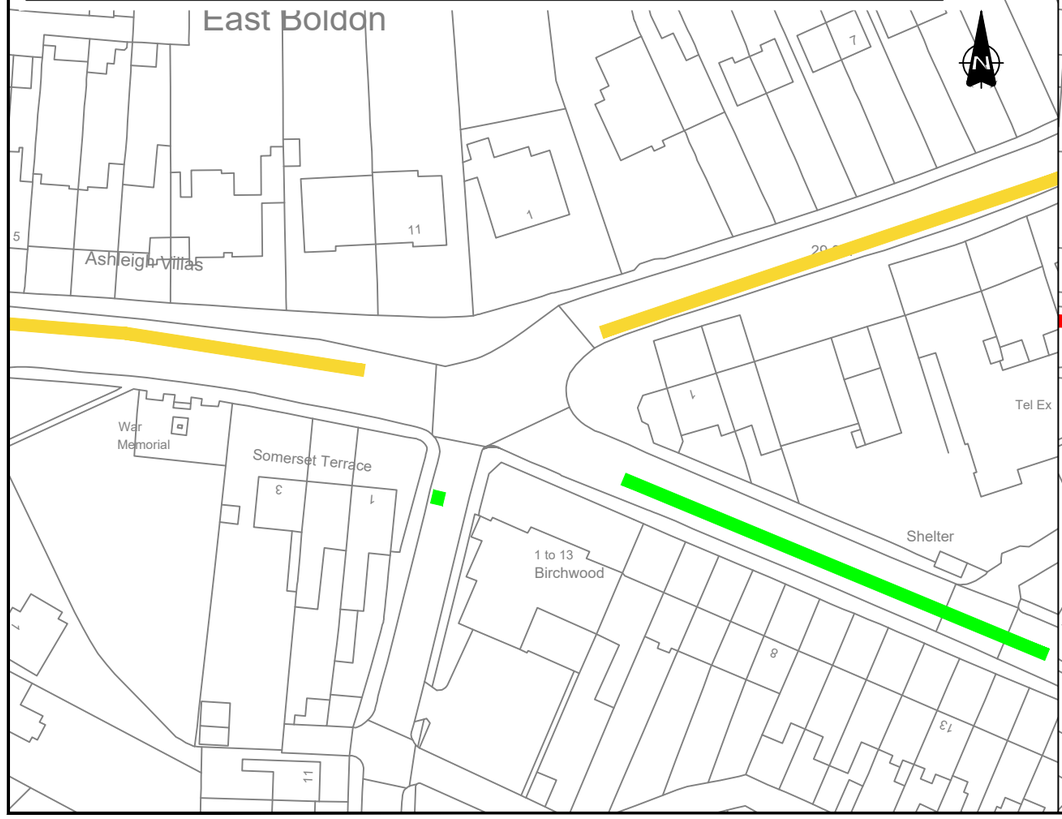
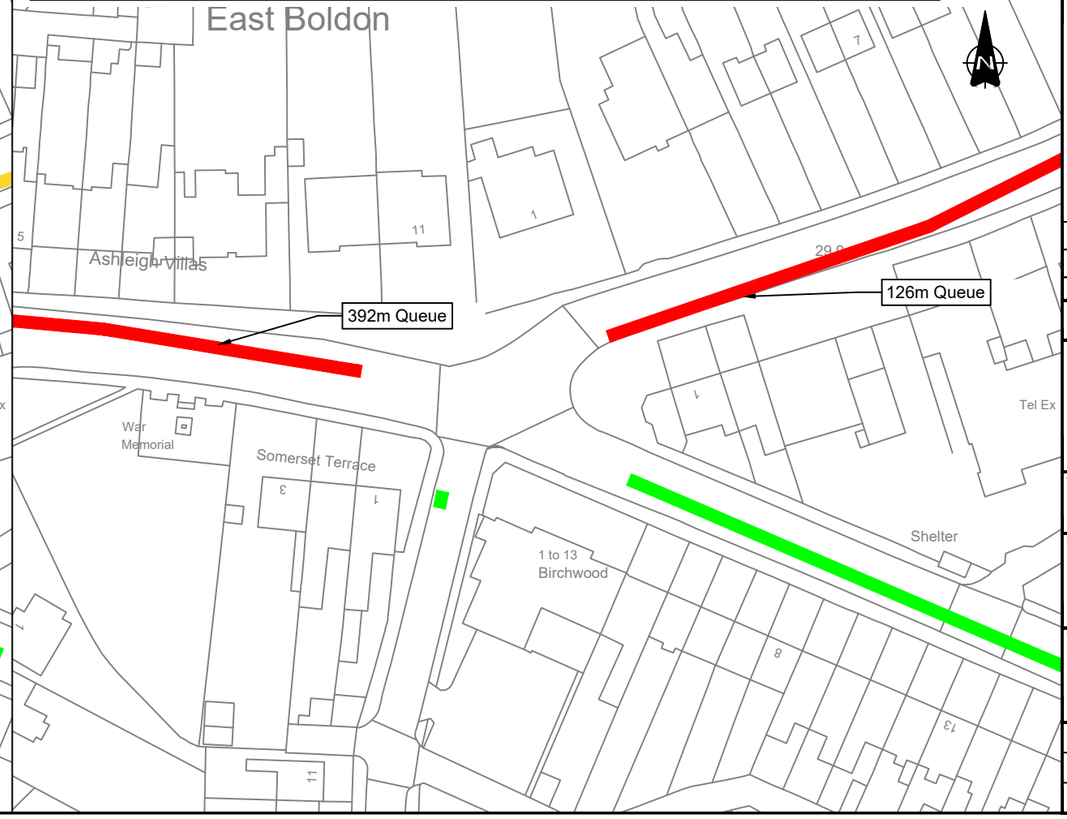
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + MITIGATION + ALT DIST + DOUBLE CYCLE, AM QUEUES




## 2018 BASE + COMM + OTHER + MITIGATION + ALT DIST + DOUBLE CYCLE, PM QUEUES




| Rev. | Date | Revision details | Drawn | Checked | Approved |
|---|---|---|---|---|---|
| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
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Client
South Tyneside Council

Project
LOCAL PLAN ASSESSMENT

Title
A184 / WHITBURN ROAD
EXISTING LAYOUT QUEUES

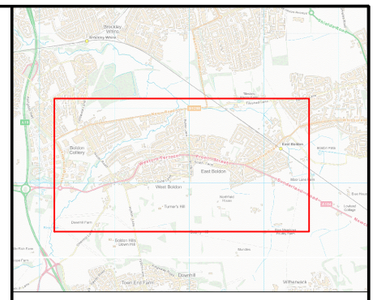
| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-22-006 | Rev.: B |

## MITIGATION

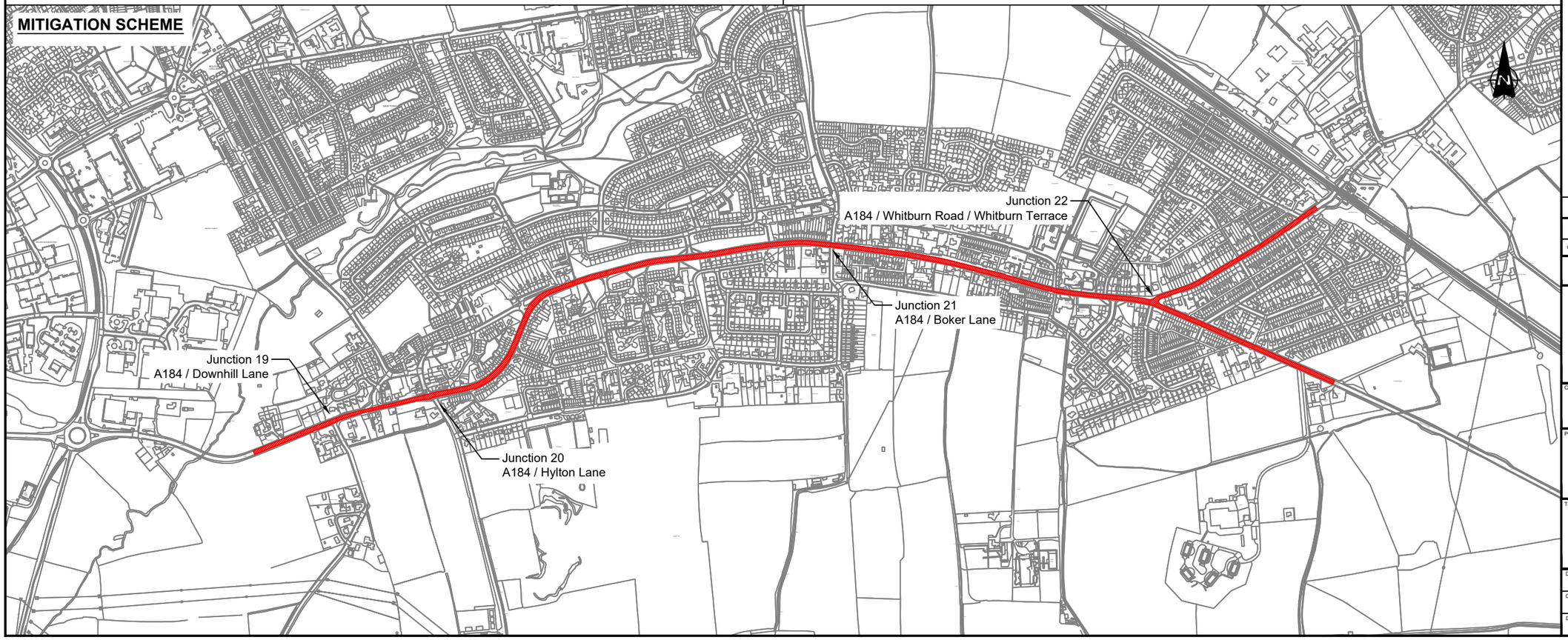
Mitigation is proposed to be a series of traffic management and sustainable transport measures that will address the A184 corridor (Junctions 19 to 22) as a whole. This could include the introduction of an area wide 20mph zone, public realm improvements, pedestrian crossing facilities and small or large scale sustainable transport improvements. These measures will discourage extraneous traffic from using the A184, encourage modal shift and break up the flow of traffic allowing for increased opportunities for vehicles to move to and from side arms.

## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SBC010 | Land at Cleadon Lane Industrial Estate | 25 | 27 |
| SBC072 | Land south of Fellgate | 23 | 25 |
| SBC087 | Land south of St. Johns Terrace and Natley Avenue | 17 | 17 |
| SBC030 | Land at North Farm (West) | 11 | 12 |
| ED2.7 | Land bounded by Chaytor Street and Ellison Place | 7 | 5 |
| | Remaining Developments | 30 | 30 |



## MITIGATION SCHEME




| Rev. | Date | Revision details | Drawn | Checked | Approved |
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| B | 24.03.22 | REGULATION 18 PRE-PUBLICATION LOCAL PLAN (MARCH 2022) | JH | CC | JQ |
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LOCAL PLAN ASSESSMENT

Title
A184 / WHITBURN ROAD
PROPOSED LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-22-004 | Rev.: B |

## 3.23 Junction 23 – A1018 / Cleadon Lane Priority Junction

**2018 Base + Committed Development + Other Development**

3.23.1 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such there are minimal queues on all arms of the junction.

Table 85. A1018 / Cleadon Lane – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Boldon Lane to A1018 North | 0.14 | 0.2 | 0.09 | 0.1 |
| Boldon Lane to A1018 South / Cleadon Lane | 0.54 | 1.1 | 0.48 | 0.9 |
| A1018 South to Cleadon Lane | 0.44 | 0.8 | 0.36 | 0.6 |
| Cleadon Lane to A1018 South | 0.54 | 1.1 | 0.73 | 2.5 |
| Cleadon Lane to Boldon Lane / A1018 North | 0.43 | 0.7 | 0.7 | 2.2 |
| A1018 North to A1018 South / Boldon Lane / Cleadon Lane | 0.1 | 0.1 | 0.18 | 0.2 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.23.2 With the addition of Local Plan traffic at this junction, two movements can be seen to be operating in excess of their theoretical capacity in the evening peak with a third operating close to its theoretical capacity. Whilst the queues do not appear to support the RFC, the delay at the junction, not represented in the table below, demonstrates substantial increases in delay on the movements from the side roads.

Table 86. A1018 / Cleadon Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Boldon Lane to A1018 North | 0.2 | 0.2 | 0.22 | 0.3 |
| Boldon Lane to A1018 South / Cleadon Lane | 0.79 | 3.2 | 1.02 | 3.8 |
| A1018 South to Cleadon Lane | 0.47 | 0.9 | 0.41 | 0.6 |
| Cleadon Lane to A1018 South | 0.6 | 1.5 | 0.90 | 4.6 |
| Cleadon Lane to Boldon Lane / A1018 North | 0.57 | 1.2 | 1.04 | 5.2 |
| A1018 North to A1018 South / Boldon Lane / Cleadon Lane | 0.19 | 0.2 | 0.25 | 0.5 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.23.3 A mitigation scheme is considered necessary to address the capacity problems identified at the junction.

3.23.4 The scheme involves the signalisation of the junctions to provide a staggered crossroads signalised junction.

3.23.5 It should be stressed that the identified mitigation scheme is for indicative purposes only. Developers would be required to undertake site specific assessments as part of their application.

3.23.6 The proposed mitigation scheme is considered to improve junction performance but the introduction of traffic signals will inherently result in queuing across the junction.

3.23.7 The capacity assessment is summarised on Drawing Ref 16L02-23-001 and 16L02-23-002 overleaf. The proposed mitigation scheme can be seen on Drawing Ref 16L02-23-003 overleaf.

3.23.8 In addition, this assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

Table 87. A1018 / Cleadon Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan + Mitigation

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A1018 North | 65.4 | 9.3 | 71 | 13.2 |
| Cleadon Lane | 88.2 | 6.6 | 84.6 | 7.7 |
| A1018 South | 72.2 | 10.2 | 76.2 | 14.9 |
| Boldon Lane | 95.9 | 9.2 | 70 | 4.4 |
| A1018 Mid South | 74.2 | 11.8 | 71.4 | 6.9 |
| A1018 Mid South Left | 19.7 | 1.8 | 17.9 | 2.4 |
| A1018 Mid North | 83.9 | 11.2 | 82.8 | 18.6 |
| A1018 Mid North Left | 7.9 | 0 | 7.7 | 0 |
| Junction Deg. Sat. (%) | 95.9 | | 84.6 | |
| Junction PRC All Lanes (%) | -6.6 | | 6.4 | |

**Cost of Mitigation**

3.23.9 The junction is located in a built up area with buildings located adjacent to the highway envelope. There are no substantial level changes from the edge of carriageway.

3.23.10 The proposed scheme has been designed to remain within the highway boundary, negating the requirement for purchasing third party land.

3.23.11 Utilities are anticipated to be present at the junction but the location of these is unknown at this time. Evidence of the presence of utilities can be seen by the presence of utility covers and street lighting located in close proximity to where the minor widening to allow two entry lanes is to be undertaken.

3.23.12 The introduction of the proposed mitigation is anticipated to cost in the region of £500,000. It should be noted that this cost is for indicative use only and a more detailed cost will be required during a formal design stage.

3.23.13 Nonetheless, contributions to local or wider sustainable transport improvements.

**Trigger Point Analysis**

3.23.1 The Local Plan development traffic has been incrementally added to the base model to determine a point when the operation of the junction is considered to 'tip over' and a mitigation scheme is required.

3.23.2 For the purposes of this assessment, the junction is considered to require a mitigation scheme to be delivered in advance of 70% of the Local Plan development coming forward. This is anticipated to be in 11 -15 years of the Local Plan period.

**Composition of Trips Through Junction**

3.23.3 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.23.4 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land at West Hall Farm, Land at Wellands Farm and Land West of Sunniside Farm.

Figure 45. Composition of traffic passing through junction at the end of the plan period – Morning Peak

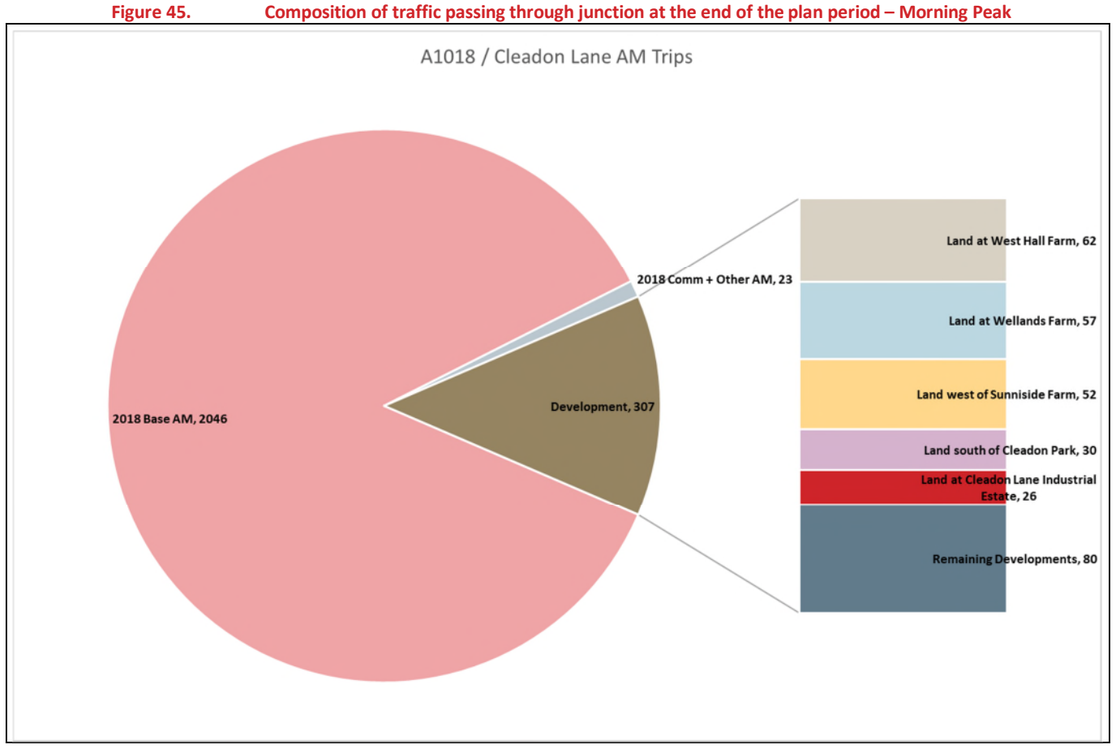
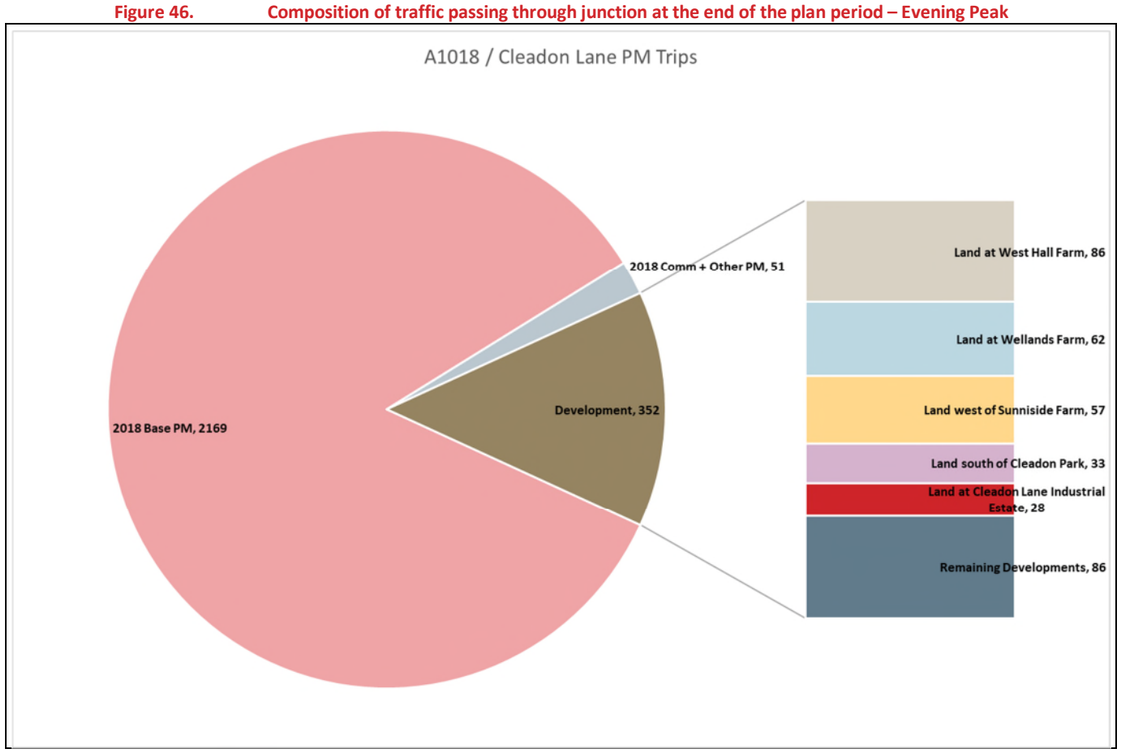
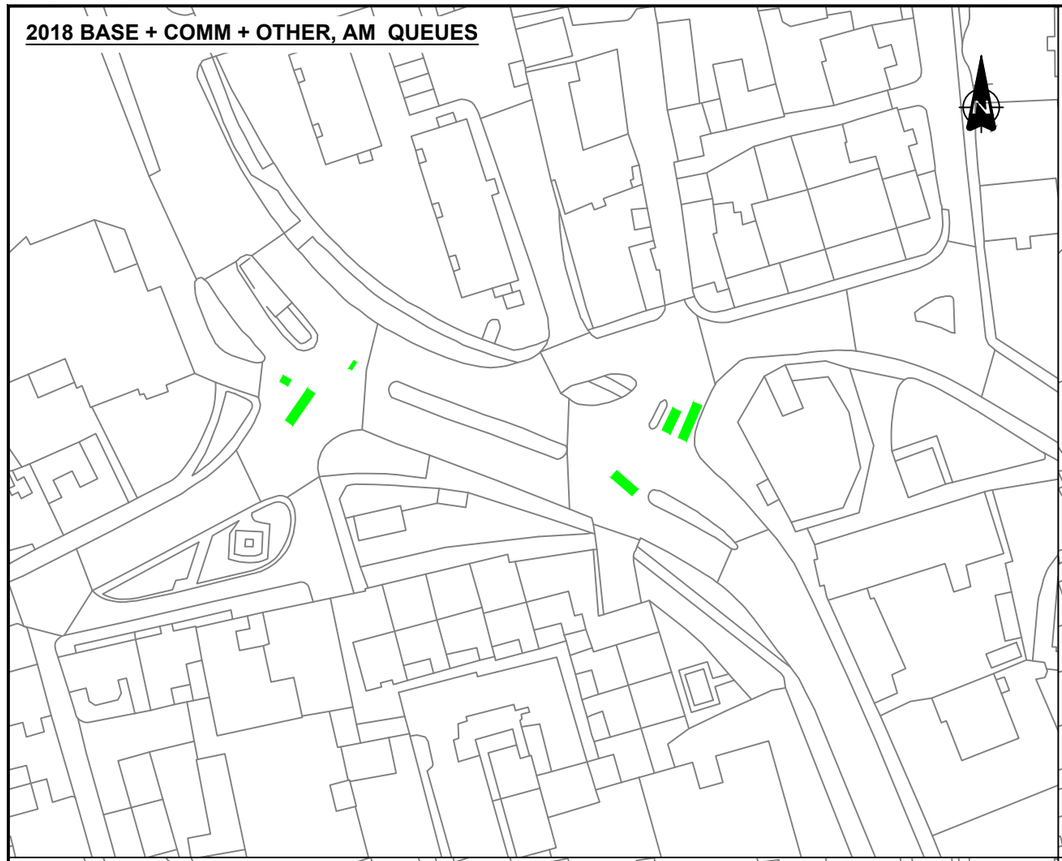


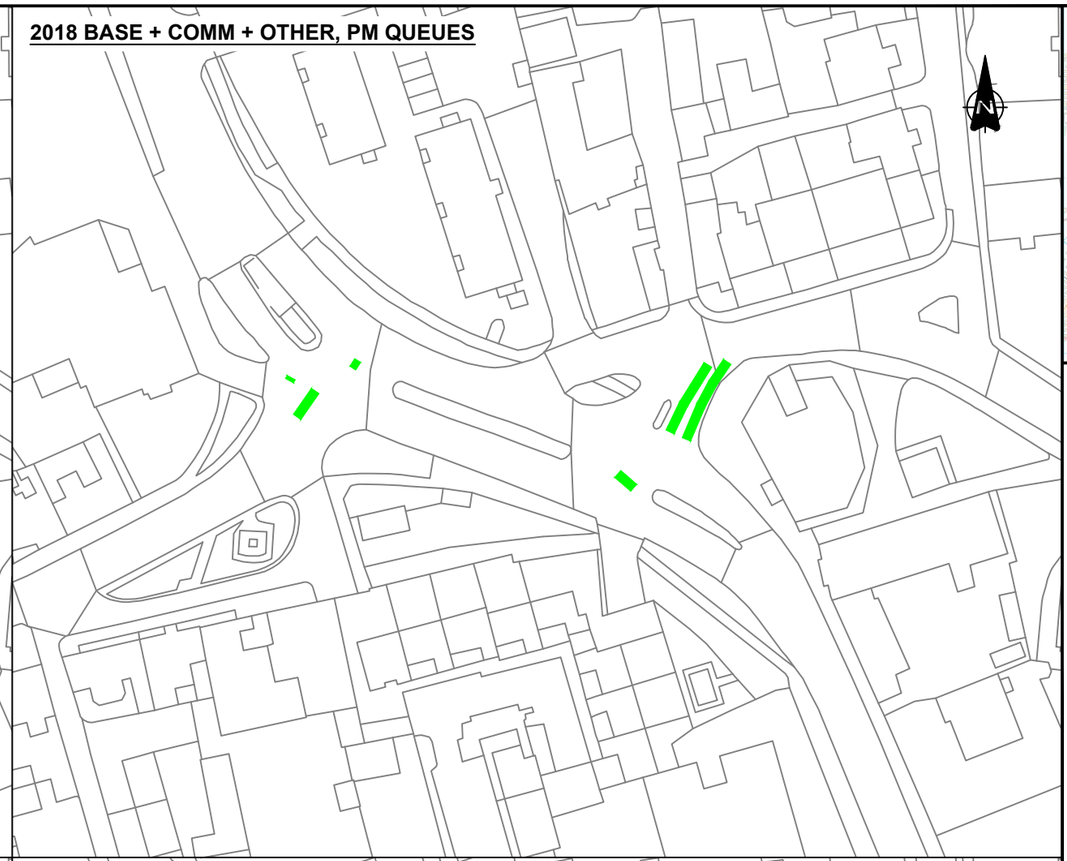
Figure 46. Composition of traffic passing through junction at the end of the plan period – Evening Peak



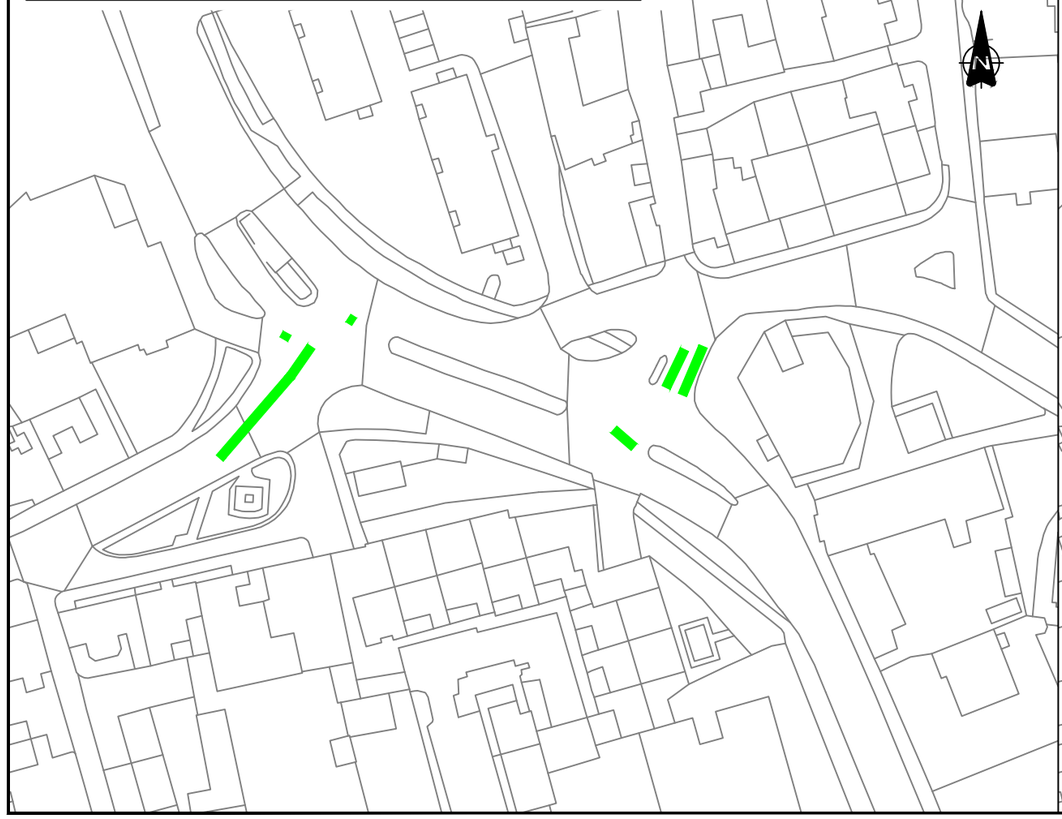
## 2018 BASE + COMM + OTHER, AM QUEUES



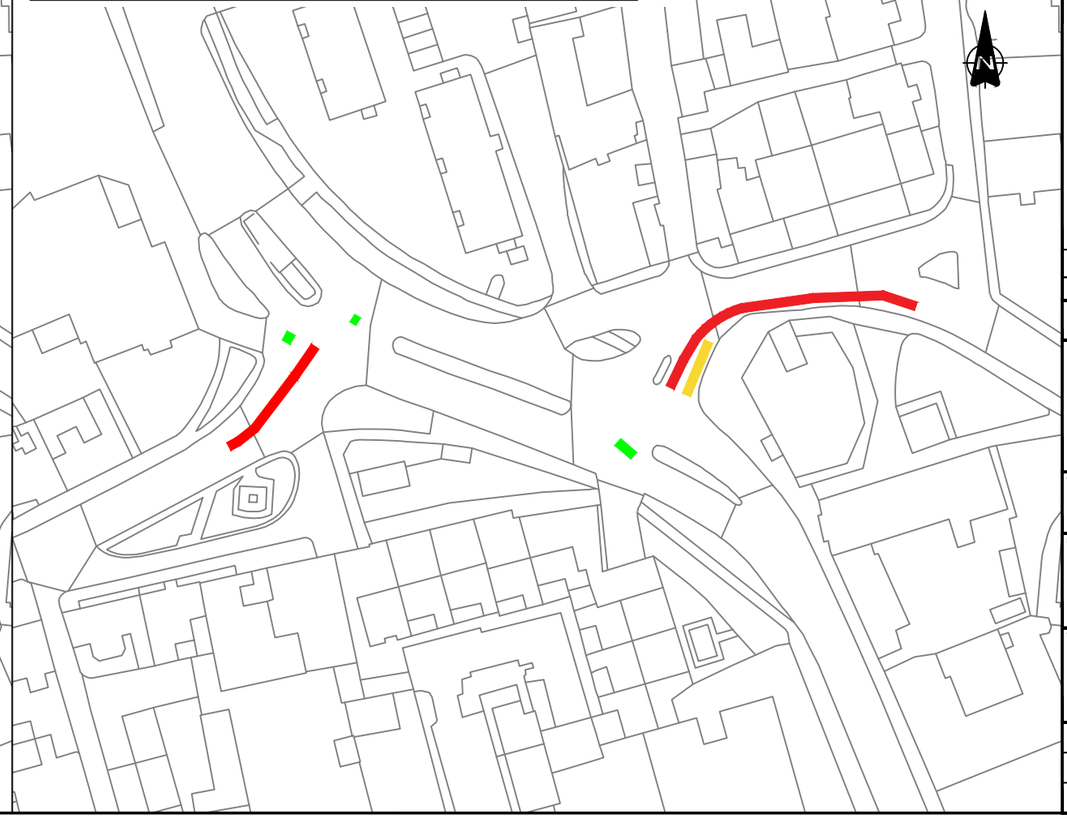
## 2018 BASE + COMM + OTHER, PM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

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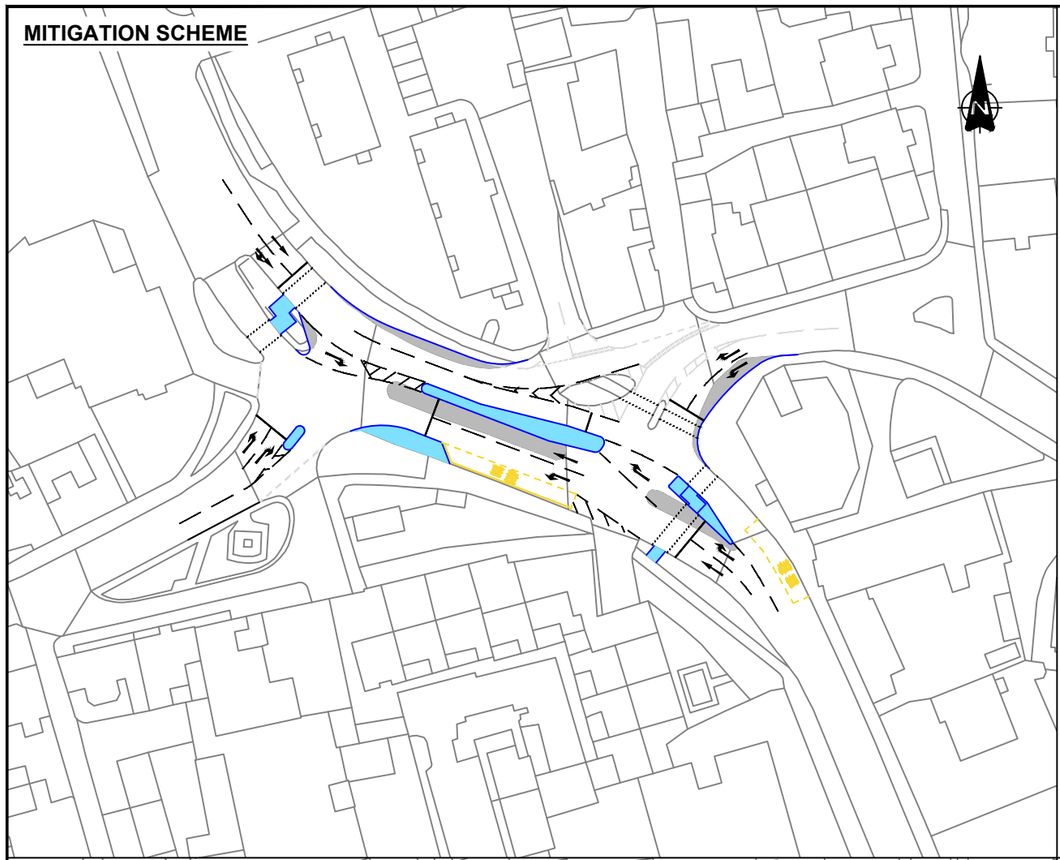
Project
LOCAL PLAN ASSESSMENT

Title
A1018 / BOLDON LANE / CLEADON LANE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-23-001 | Rev.: - |

## MITIGATION SCHEME



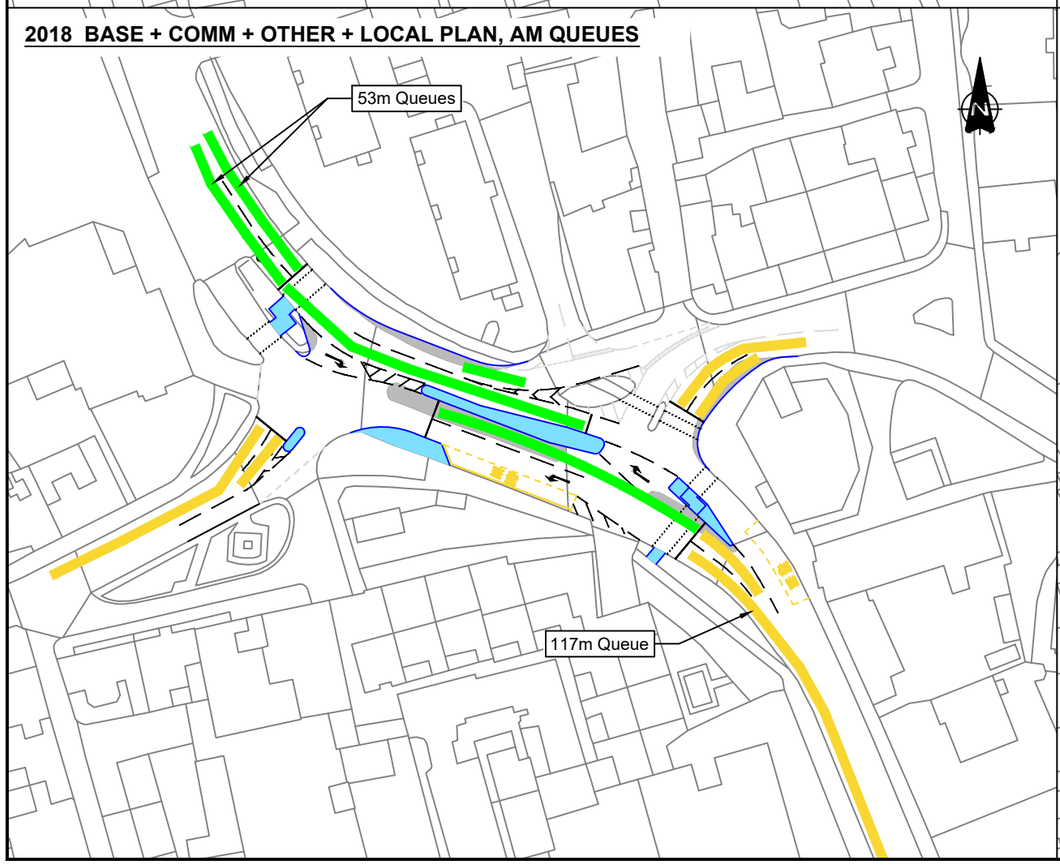
## DEVELOPMENT TRIPS THROUGH JUNCTION

| SITE REF | SITE NAME | AM TRIPS | PM TRIPS |
|---|---|---|---|
| SBC051 | Land at West Hall Farm | 62 | 86 |
| SWH009 | Land at Wellands Farm | 57 | 62 |
| SBC101 | Land west of Sunniside Farm | 52 | 57 |
| SBC100 | Land South of Cleadon Park | 30 | 33 |
| SBC010 | Land at Cleadon Lane Industrial Estate | 26 | 28 |
| | Remaining Developments | 80 | 86 |

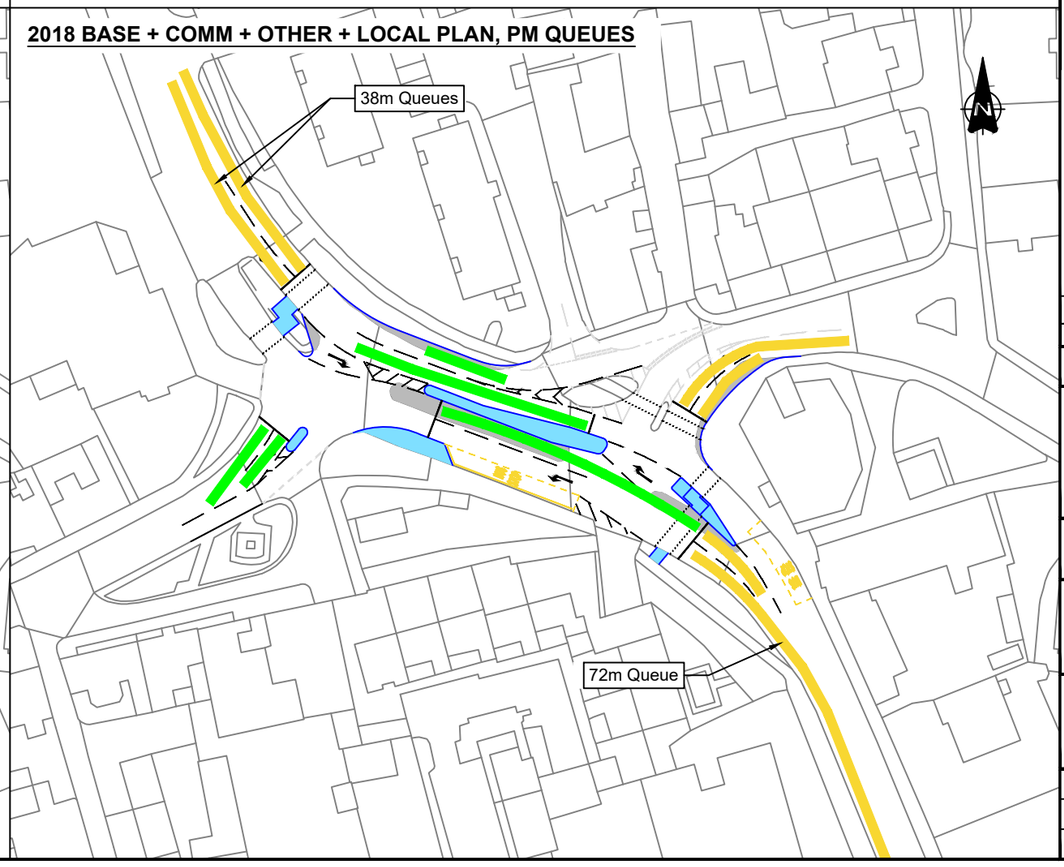
## KEY

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES

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LOCAL PLAN ASSESSMENT

Title
A1018 / BOLDON LANE / CLEANDON LANE
PROPOSED LAYOUT QUEUES

| Drawn | Checked | Approved |
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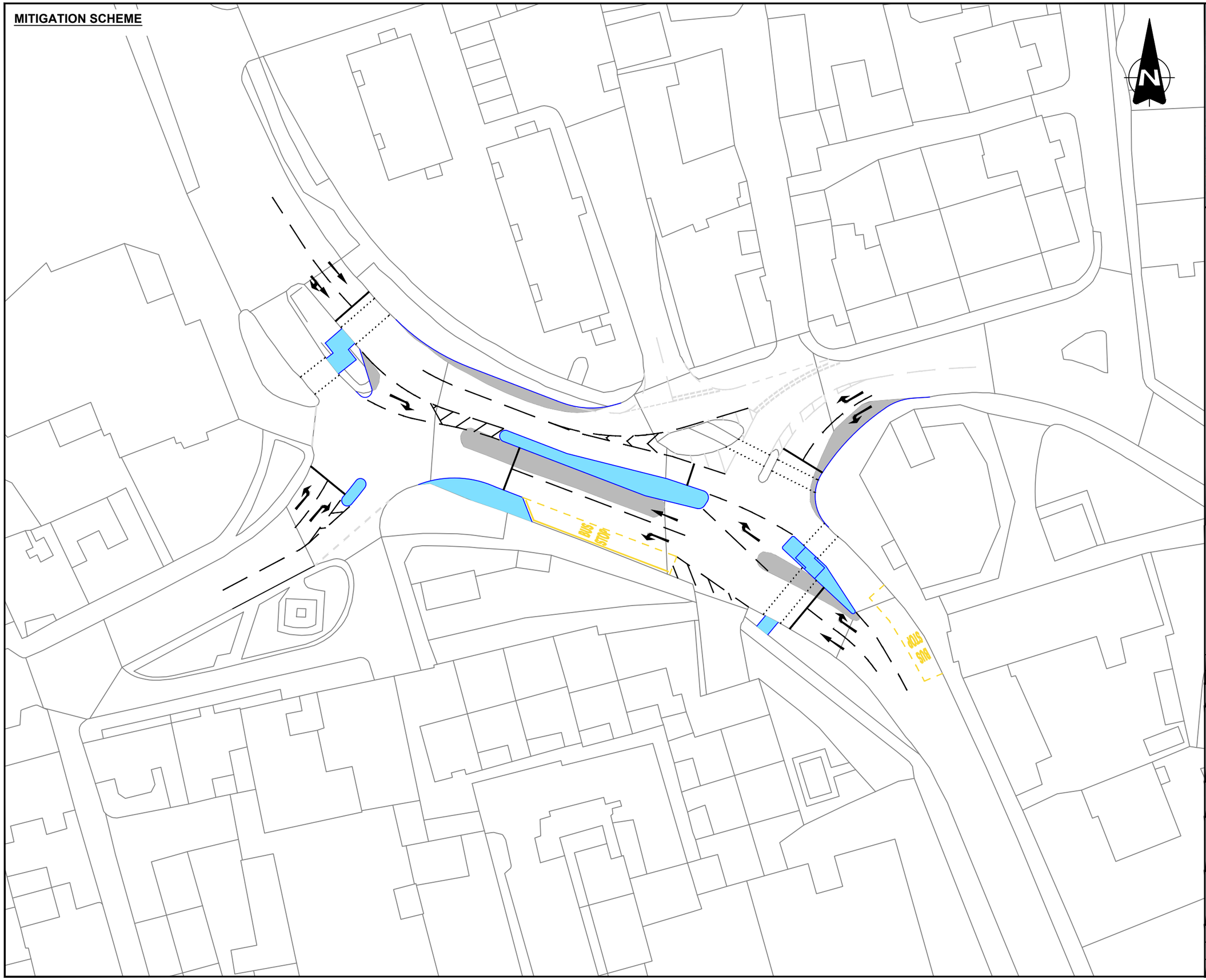
## MITIGATION SCHEME



### NOTES

1. Do not scale from this drawing.
2. This drawing is based on OS Mastermap Topographical layer.
3. All dimensions in metres unless otherwise stated.
4. This drawing is for planning purposes only.

### KEY

- Proposed Kerbline
- Proposed Footway
- Area of Carriageway Widening
- Proposed Road Markings

| Rev. | Date | Revision details | Drawn | Checked | Approved |
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LOCAL PLAN ASSESSMENT

Title
A1018 / BOLDON LANE / CLEADON LANE
MITIGATION SCHEME

| Drawn | Checked | Approved |
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| Drawing Status: PRELIMINARY | Drawing Number: 16L02-23-003 | Rev.: - |

## 3.24 Junction 24 – A1018 / Whitburn Road Priority Junction

**2018 Base + Committed Development + Other Development**

3.24.1 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such there are minimal queues on all arms of the junction.

Table 88. A1018 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Whitburn Road to A1018 South / A1018 North | 0.62 | 1.7 | 0.65 | 1.8 |
| A1018 North to Whitburn Road | 0.23 | 0.3 | 0.26 | 0.3 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.24.2 With the addition of Local Plan traffic the operation of the junction is worsened, however it continues to work within its theoretical capacity.

Table 89. A1018 / Whitburn Road – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Whitburn Road to A1018 South / A1018 North | 0.84 | 4.6 | 0.81 | 3.7 |
| A1018 North to Whitburn Road | 0.28 | 0.4 | 0.32 | 0.5 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.24.1 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme with the junction continuing to work within its theoretical capacity.

3.24.2 The capacity assessment is summarised on Drawing Ref 16L02-24-001 overleaf.

3.24.3 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

**Cost of Mitigation**

3.24.4 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.24.5 Nonetheless, contributions to local or wider sustainable transport improvements.

**Trigger Point Analysis**

3.24.6 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not require a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.24.7 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.24.8 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land at West Hall Farm and Land at Wellands Farm with the majority of the trips being made up cumulatively by a number of developments.

Figure 47. Composition of traffic passing through junction at the end of the plan period – Morning Peak

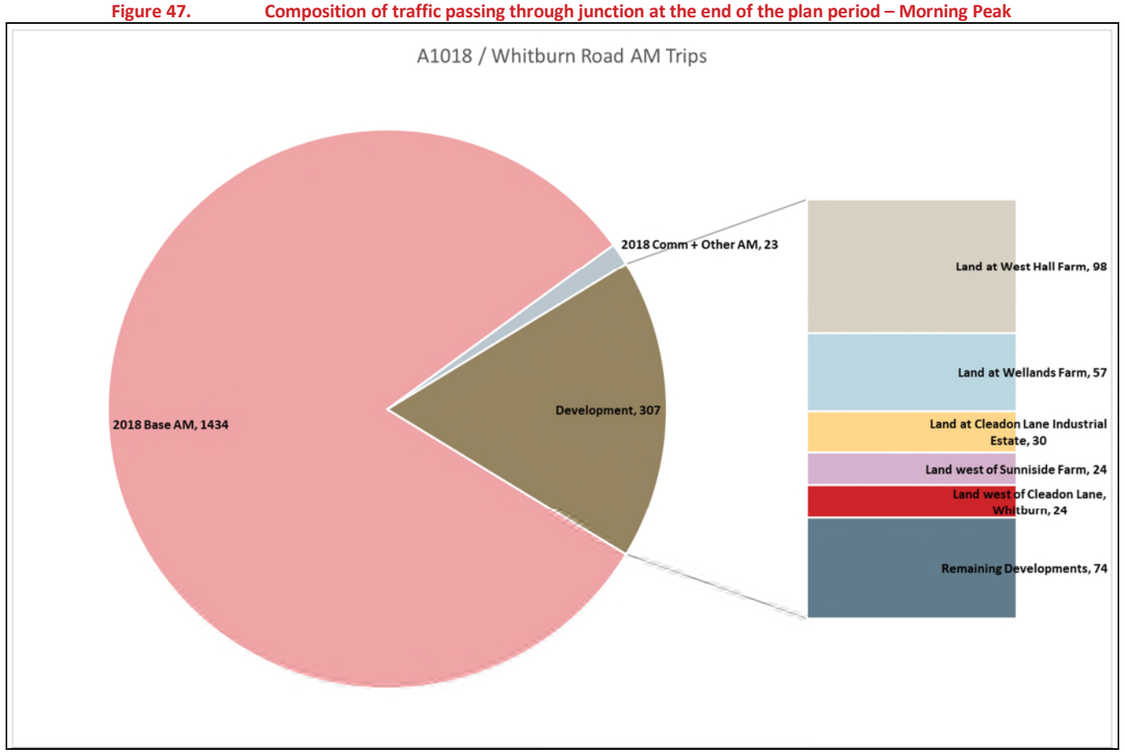
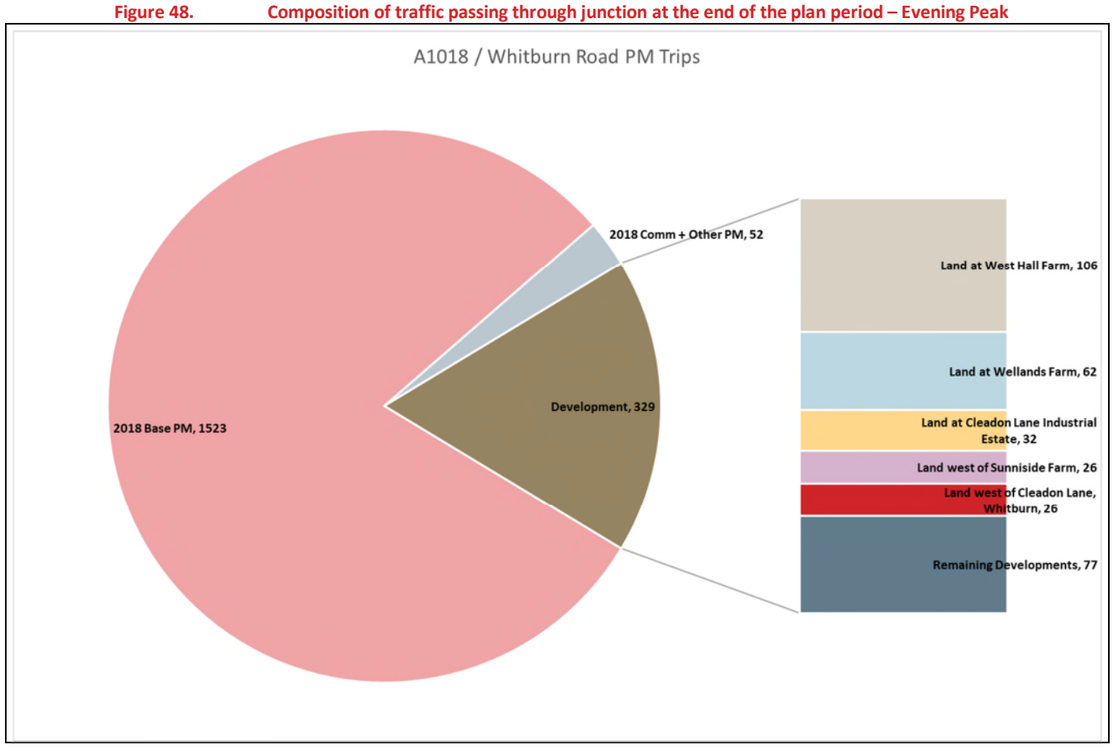
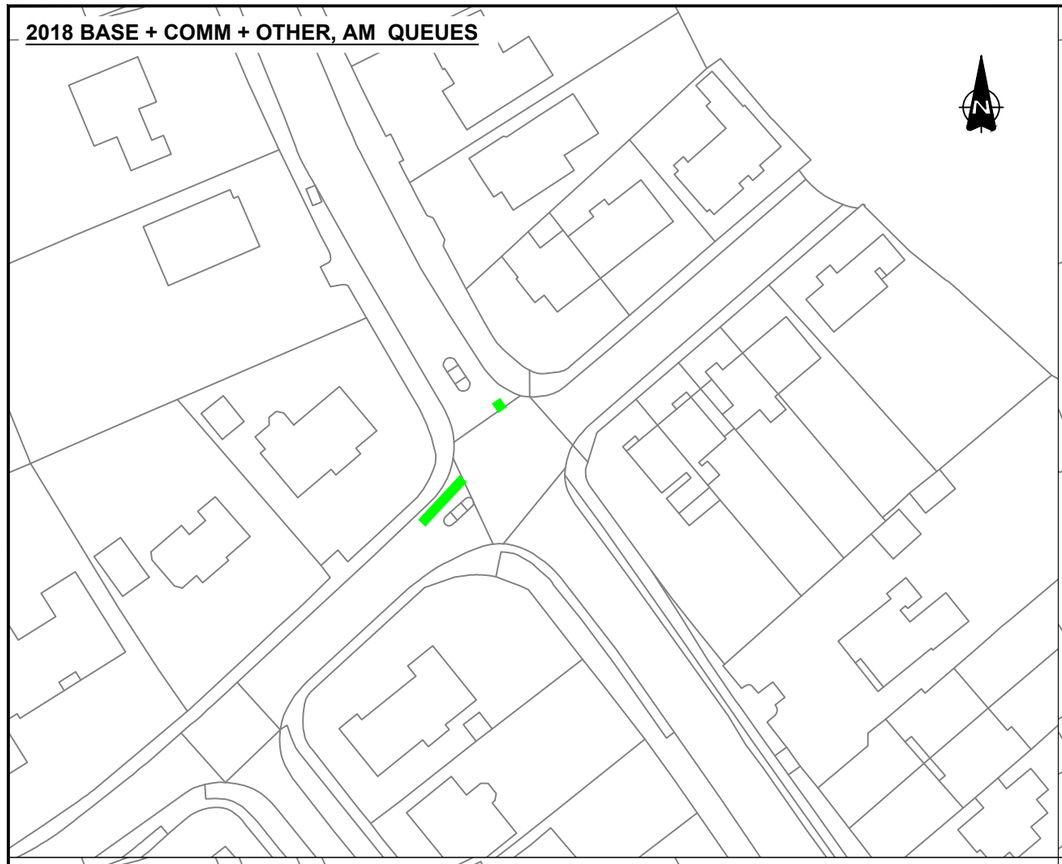


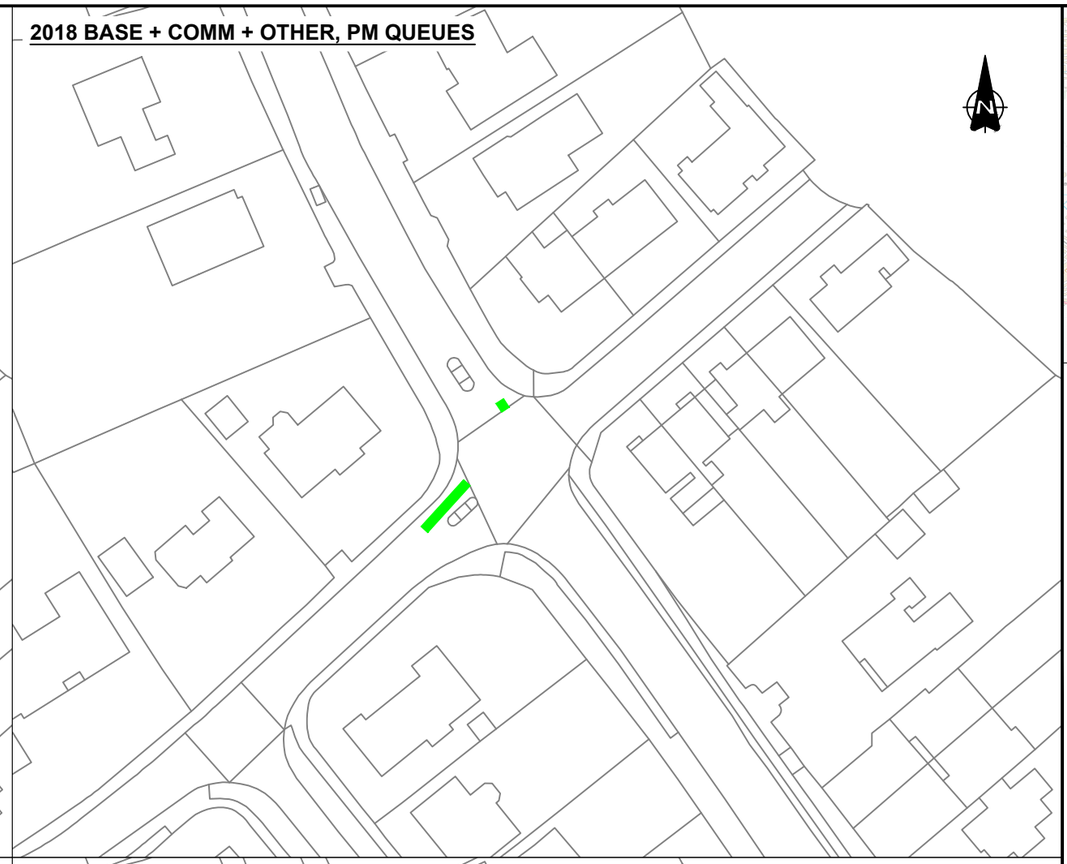
Figure 48. Composition of traffic passing through junction at the end of the plan period – Evening Peak



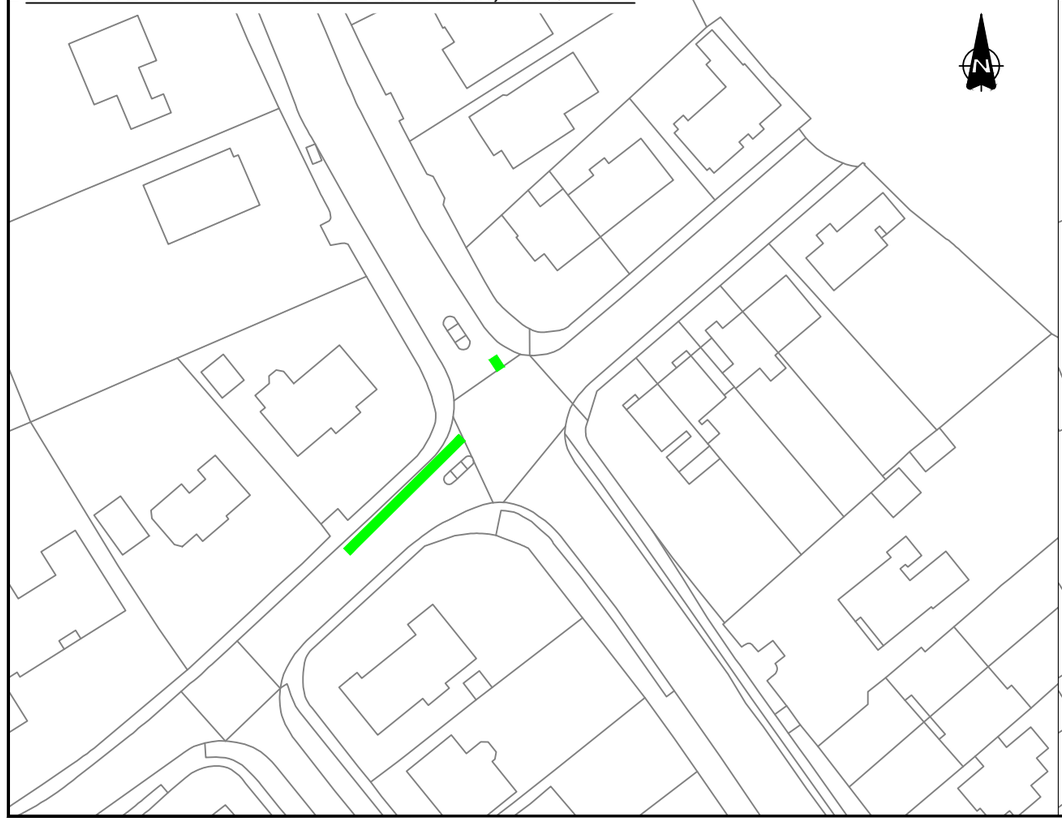
## 2018 BASE + COMM + OTHER, AM QUEUES



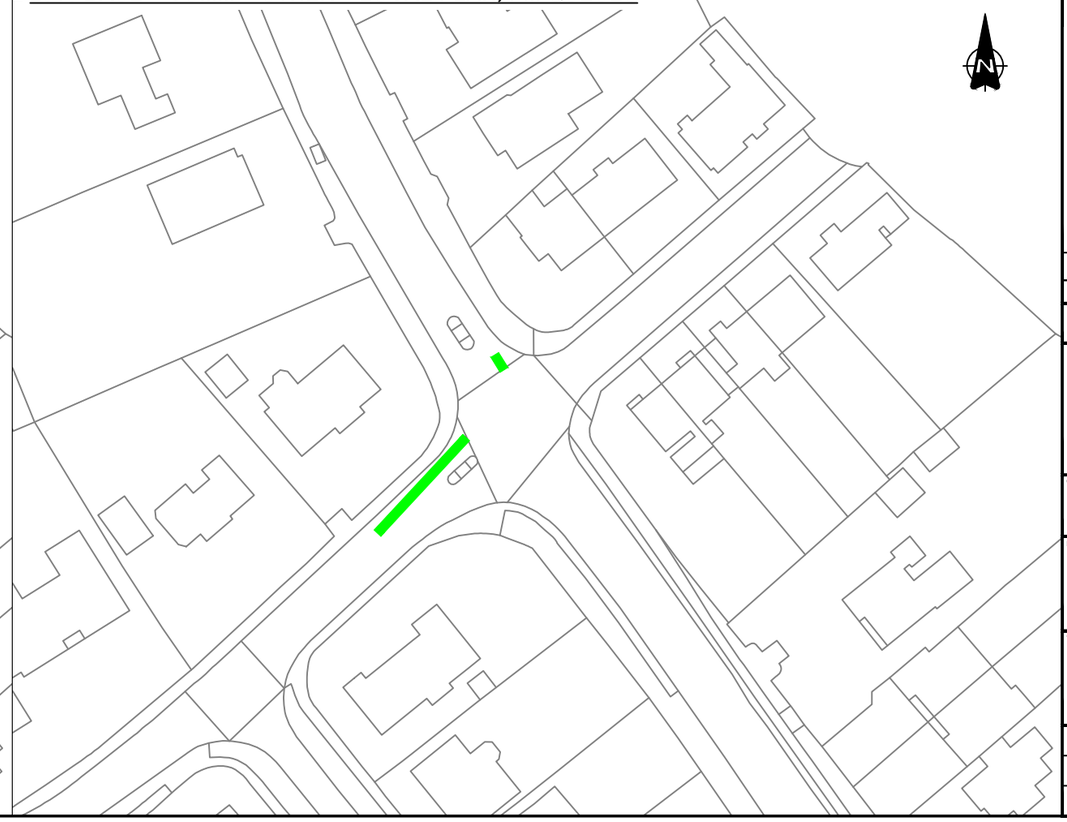
## 2018 BASE + COMM + OTHER, PM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES



## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



**KEY**

- Queue Length (Within Capacity)
- Queue Length (Approaching Capacity)
- Queue Length (Above Capacity)

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Project
LOCAL PLAN ASSESSMENT

Title
A1018 / WHITBURN ROAD
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
| JP | JQ | SP |
| Original drg. size: A3 | Date: 12.11.20 | Scale: 1:1000 |
| Drawing Status: PRELIMINARY | Drawing Number: 16L02-24-001 | Rev.: - |

## 3.25 Junction 25 – A1018 / B1299 Moor Lane Priority Junction

**2018 Base + Committed Development + Other Development**

3.25.1 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such there are minimal queues on all arms of the junction.

Table 90. A1018 / B1299 Moor Lane – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Moor Lane East to A1018 South | 0.22 | 0.3 | 0.17 | 0.2 |
| Moor Lane East to A1018 North / Moor Lane West | 0.24 | 0.3 | 0.26 | 0.3 |
| A1018 North to Moor Lane West | 0.01 | 0 | 0.05 | 0.1 |
| Moor Lane West to A1018 North | 0.04 | 0 | 0.04 | 0 |
| Moor Lane West to Moor Lane East / A1018 South | 0.29 | 0.4 | 0.36 | 0.5 |
| A1018 South to Moor Lane East | 0.13 | 0.1 | 0.2 | 0.2 |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.25.2 With the addition of Local Plan traffic the junction continues to operate well within its theoretical capacity.

Table 91. A1018 / B1299 Moor Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | RFC | Queue (PCU) | RFC | Queue (PCU) |
| Moor Lane East to A1018 South | 0.3 | 0.4 | 0.22 | 0.3 |
| Moor Lane East to A1018 North / Moor Lane West | 0.53 | 1.1 | 0.47 | 0.9 |
| A1018 North to Moor Lane West | 0.02 | 0 | 0.06 | 0.1 |
| Moor Lane West to A1018 North | 0.04 | 0 | 0.05 | 0 |
| Moor Lane West to Moor Lane East / A1018 South | 0.34 | 0.5 | 0.44 | 0.8 |
| A1018 South to Moor Lane East | 0.14 | 0.2 | 0.22 | 0.3 |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.25.3 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme with the junction continuing to work within its theoretical capacity.

3.25.4 The capacity assessment is summarised on Drawing Ref 16L02-25-001 overleaf.

3.25.5 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

**Cost of Mitigation**

3.25.6 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.25.7 Nonetheless, contributions to local or wider sustainable transport improvements.

**Trigger Point Analysis**

3.25.8 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not require a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.25.9 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.25.10 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributors to the increase in traffic is as a result of Land at Wellands Farm and Land at West Hall Farm with smaller contributions from a number of developments.

Figure 49. Composition of traffic passing through junction at the end of the plan period – Morning Peak

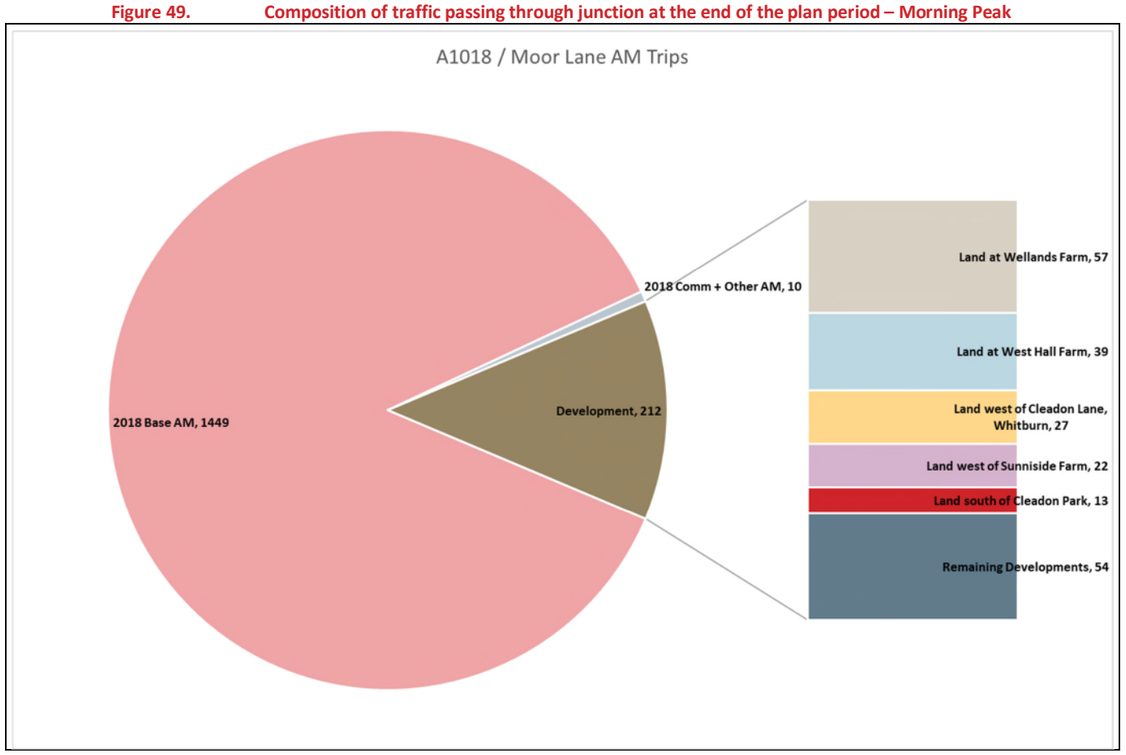
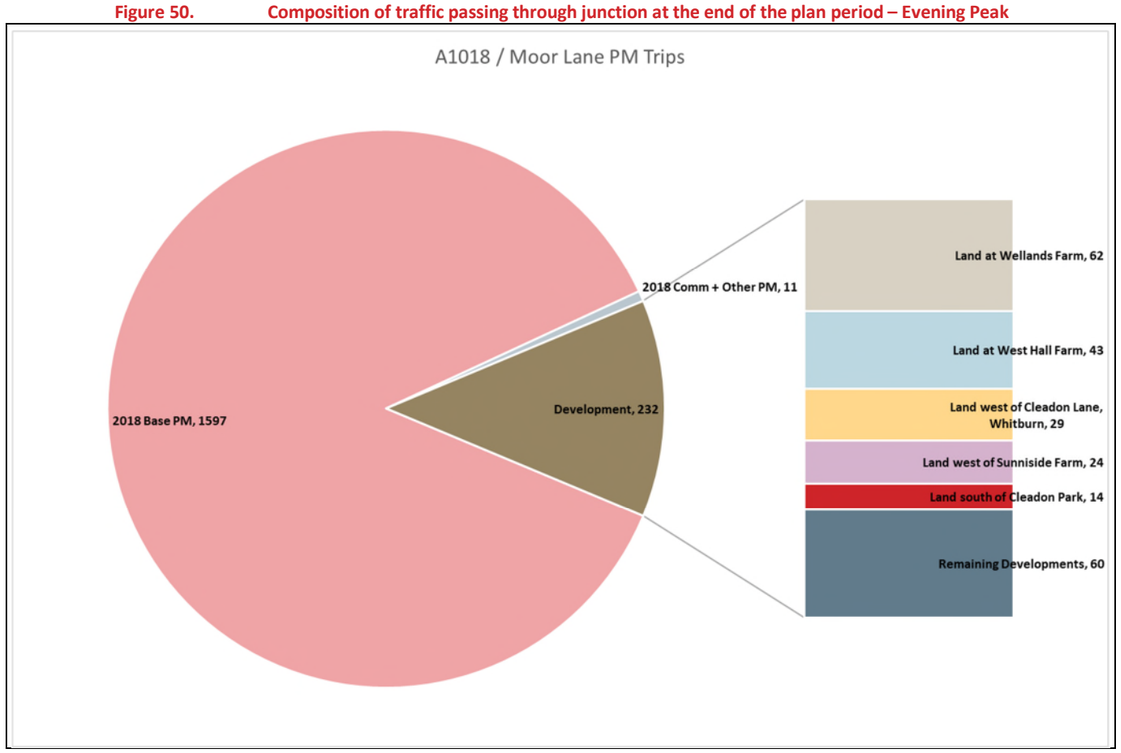
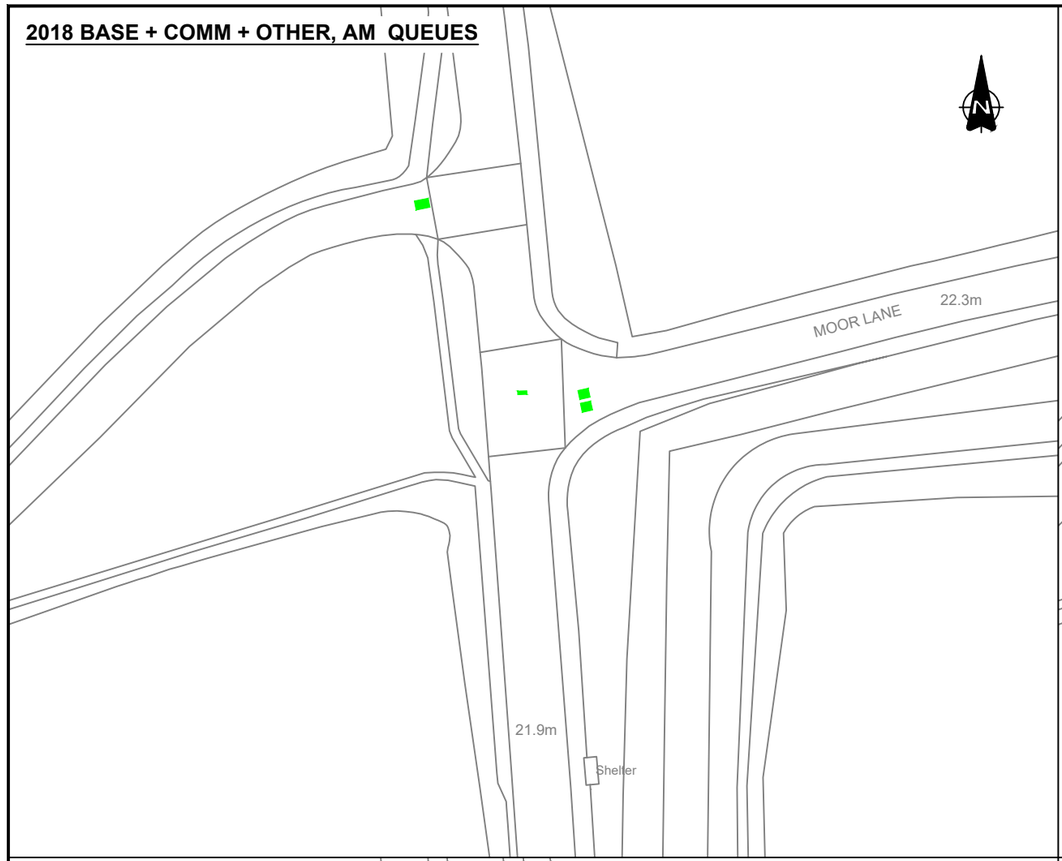


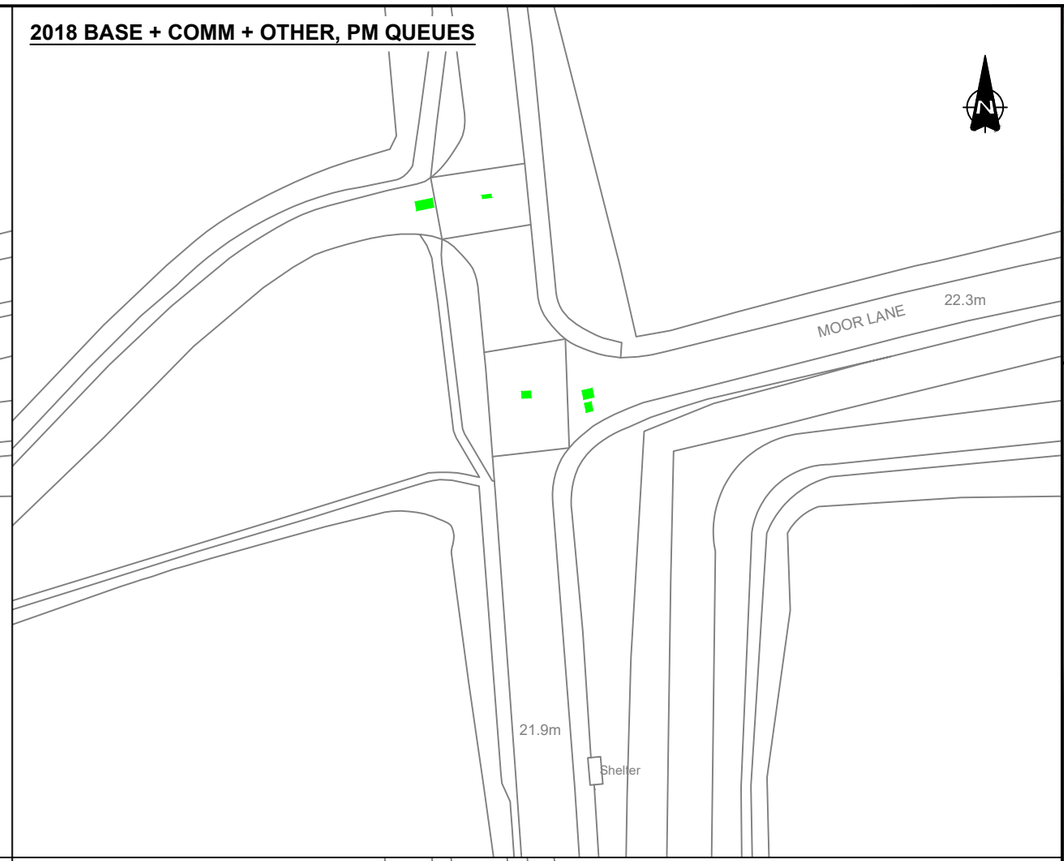

Figure 50. Composition of traffic passing through junction at the end of the plan period – Evening Peak



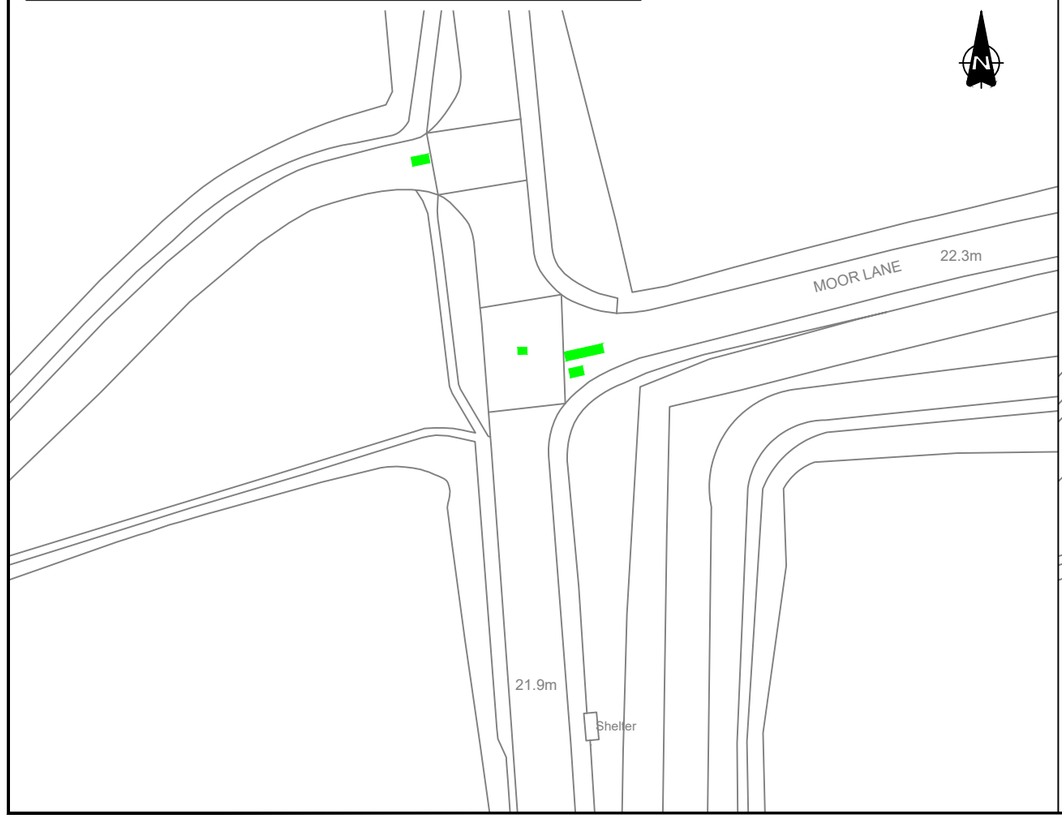
## 2018 BASE + COMM + OTHER, AM QUEUES



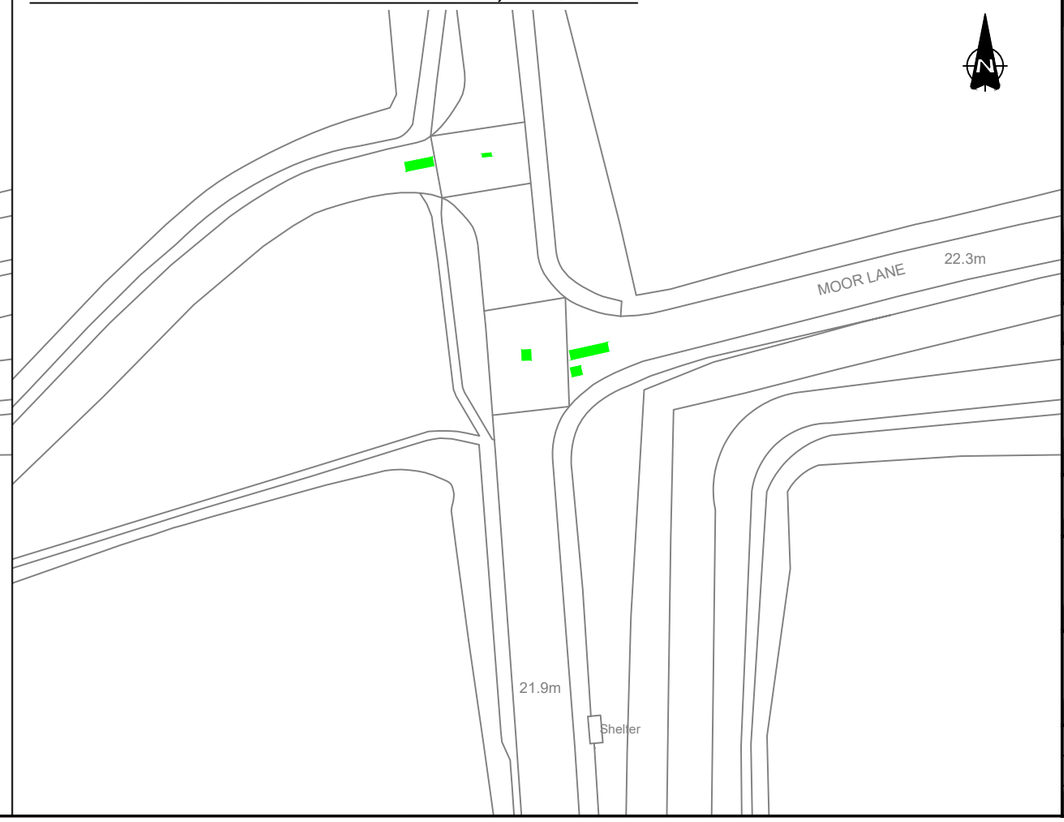

## 2018 BASE + COMM + OTHER, PM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, AM QUEUES




## 2018 BASE + COMM + OTHER + LOCAL PLAN, PM QUEUES



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Client
South Tyneside Council

Project
LOCAL PLAN ASSESSMENT

Title
A1018 / MOOR LANE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
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## 3.26 Junction 26 – A183 / B1299 Moor Lane Signalised Junction

**2018 Base + Committed Development + Other Development**

3.26.1 The junction can be seen to be working well within its theoretical capacity during the assessment period.

Table 92. A183 / B1299 Moor Lane – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A183 East Street North | 65 | 9 | 66.9 | 10 |
| A183 East Street South | 52.8 | 7.5 | 70 | 12.4 |
| B1299 Moor Lane | 63.7 | 9.8 | 67.2 | 8.9 |
| Junction Deg. Sat. (%) | 65 | | 70 | |
| Junction PRC All Lanes (%) | 38.4 | | 28.7 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.26.2 With the addition of Local Plan traffic the junction continues to operate well within its theoretical capacity.

Table 93. A183 / B1299 Moor Lane – 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A183 East Street North | 75.5 | 11.8 | 75 | 11.8 |
| A183 East Street South | 53.4 | 7.9 | 74.3 | 14.1 |
| B1299 Moor Lane | 73.1 | 11.4 | 76.5 | 10.6 |
| Junction Deg. Sat. (%) | 75.5 | | 76.5 | |
| Junction PRC All Lanes (%) | 19.2 | | 17.7 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.26.3 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme with the junction continuing to work within its theoretical capacity.

3.26.4 The capacity assessment is summarised on Drawing Ref 16L02-26-001 overleaf.

3.26.5 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

**Cost of Mitigation**

3.26.6 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.26.7 Nonetheless, contributions to local or wider sustainable transport improvements.

**Trigger Point Analysis**

3.26.8 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not require a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.26.9 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.26.10 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Land at Wellands Farm with smaller contributions from a number of developments.

Figure 51. Composition of traffic passing through junction at the end of the plan period – Morning Peak

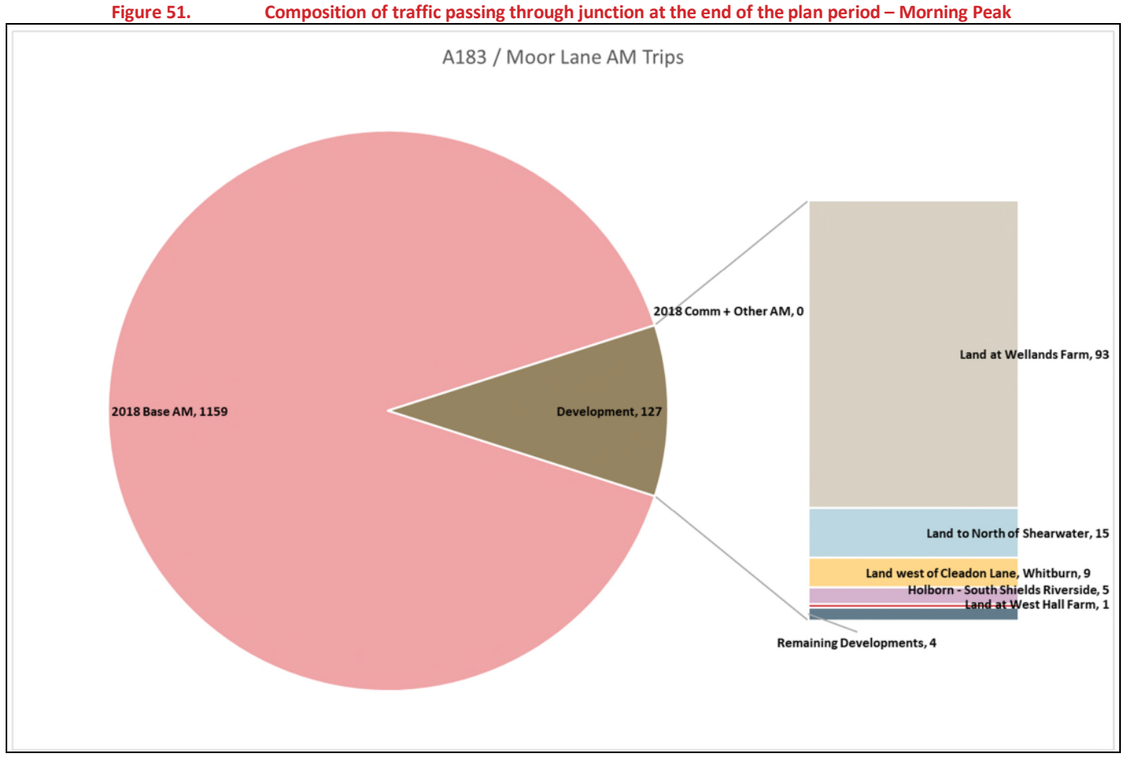
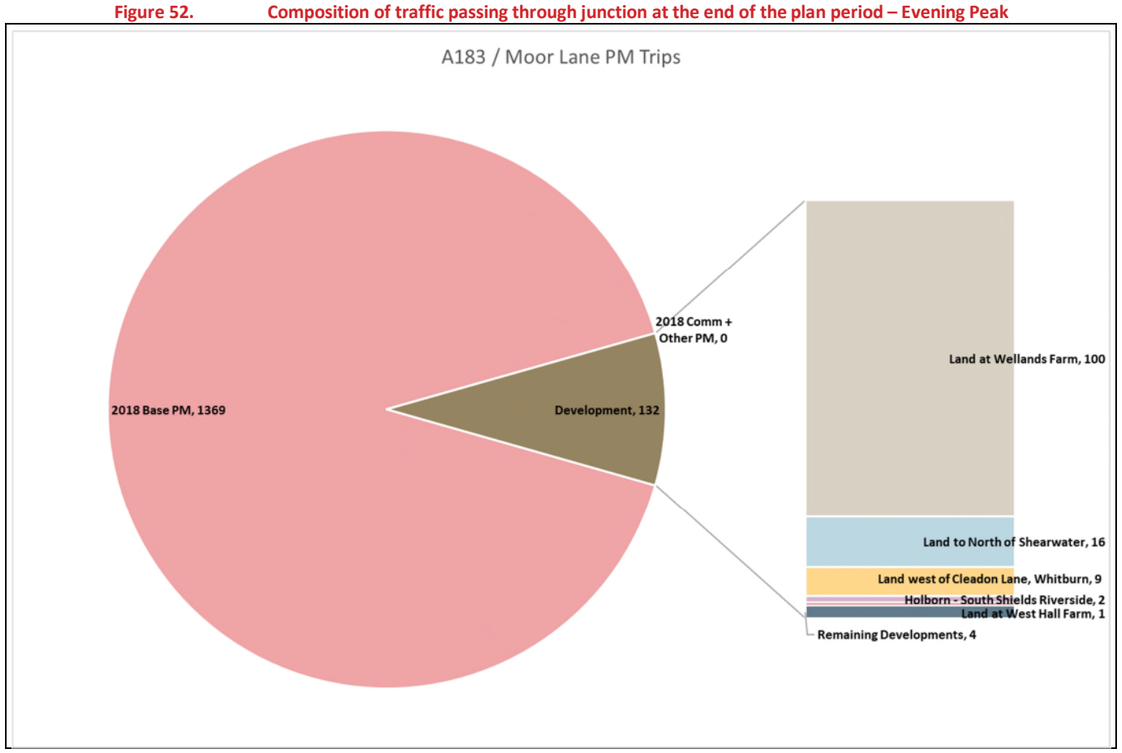
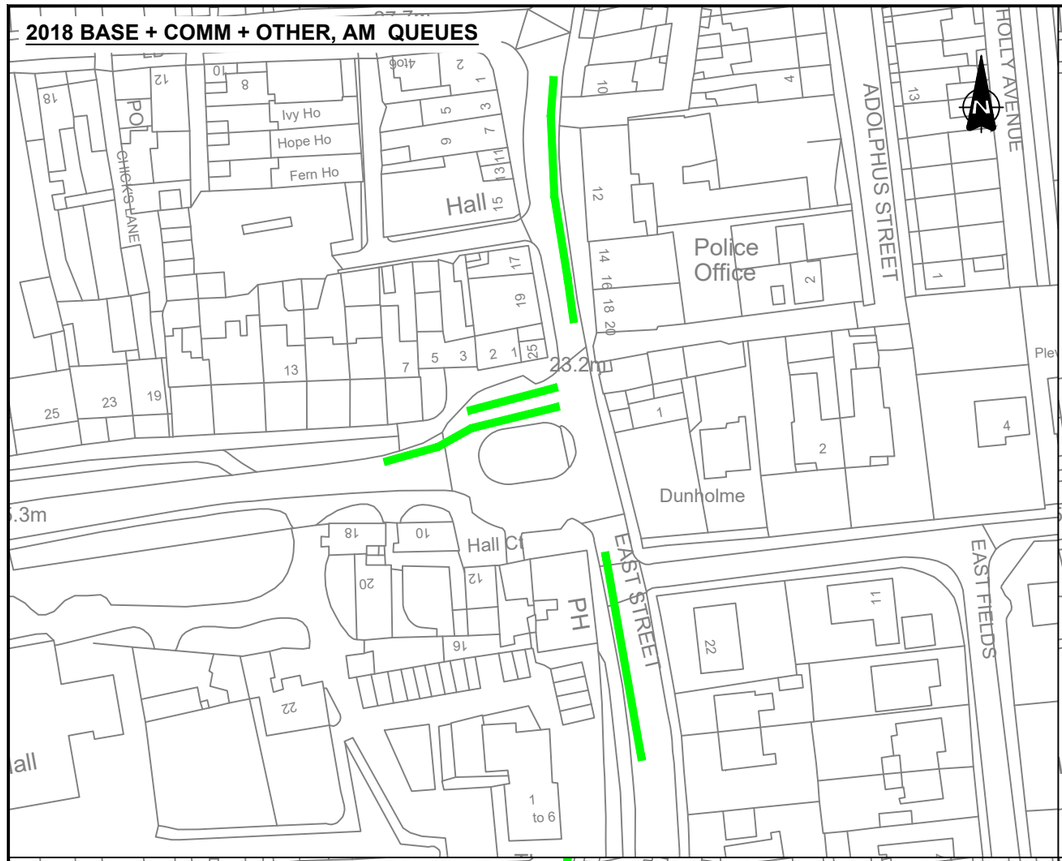
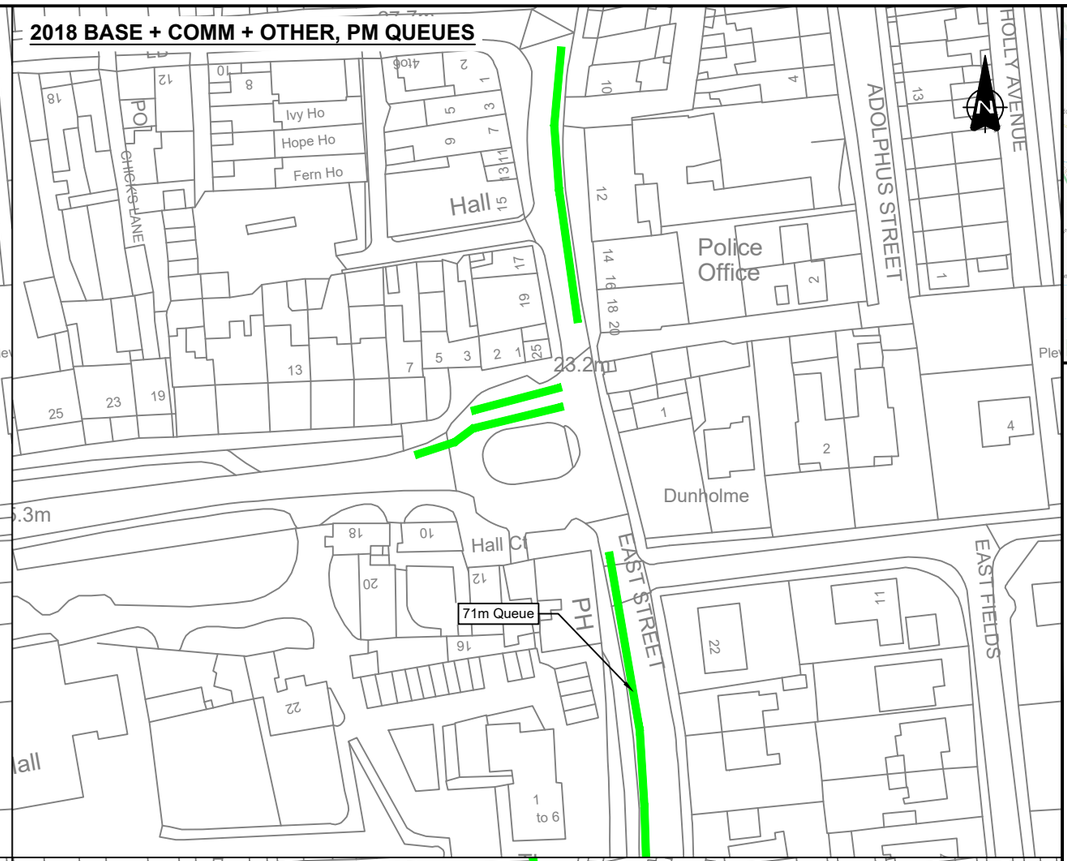
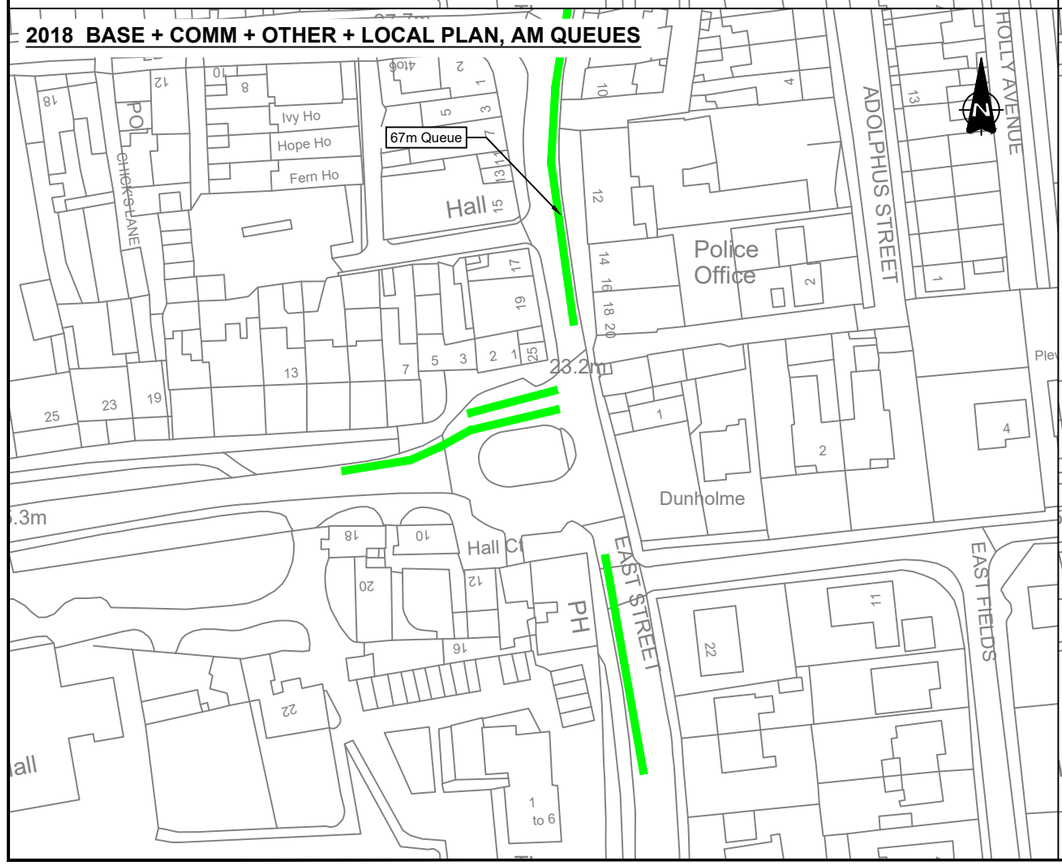


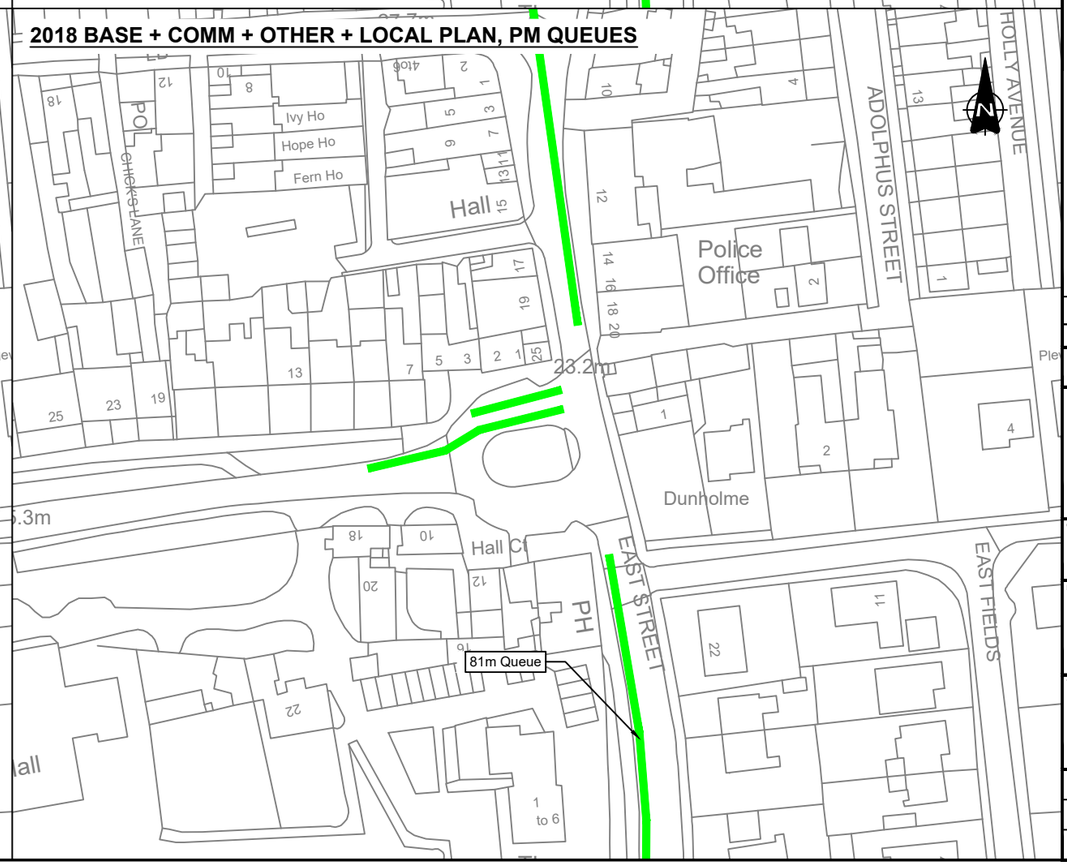
Figure 52. Composition of traffic passing through junction at the end of the plan period – Evening Peak





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Client: South Tyneside Council

Project: LOCAL PLAN ASSESSMENT

Title: A183 / MOOR LANE
EXISTING LAYOUT QUEUES

| Drawn | Checked | Approved |
|---|---|---|
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## 3.27 Junction 27 – A183 / North Guards Signalised Junction

**2018 Base + Committed Development + Other Development**

3.27.1 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such no queues were identified on the side roads.

Table 94. A183 / North Guards – 2018 Base + Com. Dev. + Other Dev.

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A183 East Street (North) | 30.3 | 2.5 | 35.4 | 3.3 |
| A183 East Street (South) | 44.9 | 4.8 | 72.7 | 9.7 |
| Junction Deg. Sat. (%) | 44.9 | | 72.7 | |
| Junction PRC All Lanes (%) | 100.4 | | 23.7 | |

**2018 Base + Committed Development + Other Development + Local Plan Development**

3.27.2 The junction can be seen to be working well within its theoretical capacity during the assessment period. As such no queues were identified on the side roads.

Table 95. A183 / North Guards– 2018 Base + Com. Dev. + Other Dev. + Full Local Plan

| JUNCTION ARM | MORNING PEAK | | EVENING PEAK | |
|---|---|---|---|---|
| | Deg. Sat. (%) | Queue (PCU) | Deg. Sat. (%) | Queue (PCU) |
| A183 East Street (North) | 37.6 | 3.6 | 39.5 | 3.9 |
| A183 East Street (South) | 48.5 | 5.3 | 81.6 | 12.2 |
| Junction Deg. Sat. (%) | 48.5 | | 81.6 | |
| Junction PRC All Lanes (%) | 85.7 | | 10.3 | |

**2018 Base + Committed Development + Other Development + Local Plan Mitigation Results**

3.27.3 For the purposes of this assessment, the impact of the Local Plan traffic upon this junction is not considered to justify a mitigation scheme with the junction continuing to work within its theoretical capacity.

3.27.4 The capacity assessment is summarised on Drawing Ref 16L02-27-001 overleaf.

3.27.5 The assessment considers junction capacity in isolation and there may still be requirements for local or wider sustainable transport improvements.

**Cost of Mitigation**

3.27.6 The capacity assessment suggests that no mitigation is considered necessary to improve capacity at the junction.

3.27.7 Nonetheless, contributions to local or wider sustainable transport improvements.

**Trigger Point Analysis**

3.27.8 The assessment demonstrates that the impact of Local Plan traffic on the performance of the junction does not require a mitigation scheme, even with full build out, and therefore no trigger point has been identified.

**Composition of Trips Through Junction**

3.27.9 An illustration of the composition of traffic flows passing through the junction at the end of the plan period during the morning and evening peak scenarios can be seen on the following charts. These identify the base traffic, committed and other traffic, and the traffic as a result of the Local Plan.

3.27.10 The expanded bar chart identifies the largest contributing developments to the traffic generated by the Local Plan. The main contributor to the increase in traffic is as a result of Land at Wellands Farm with smaller contributions from a number of developments.

Figure 53. Composition of traffic passing through junction at the end of the plan period – Morning Peak

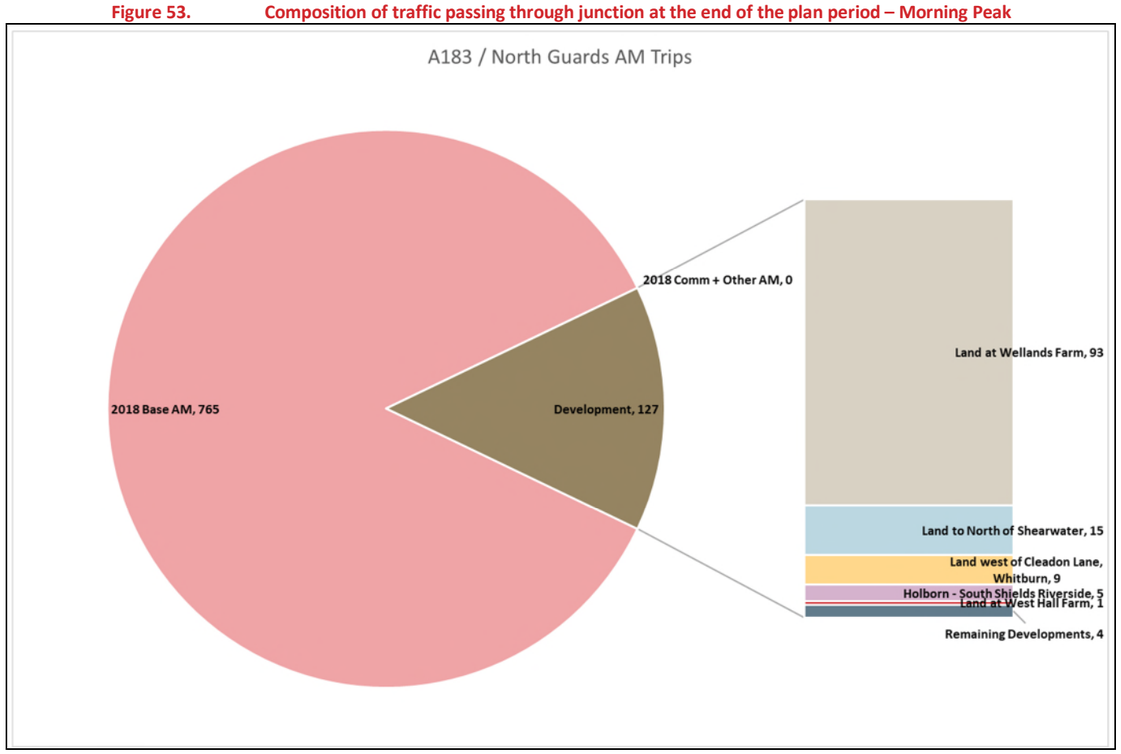
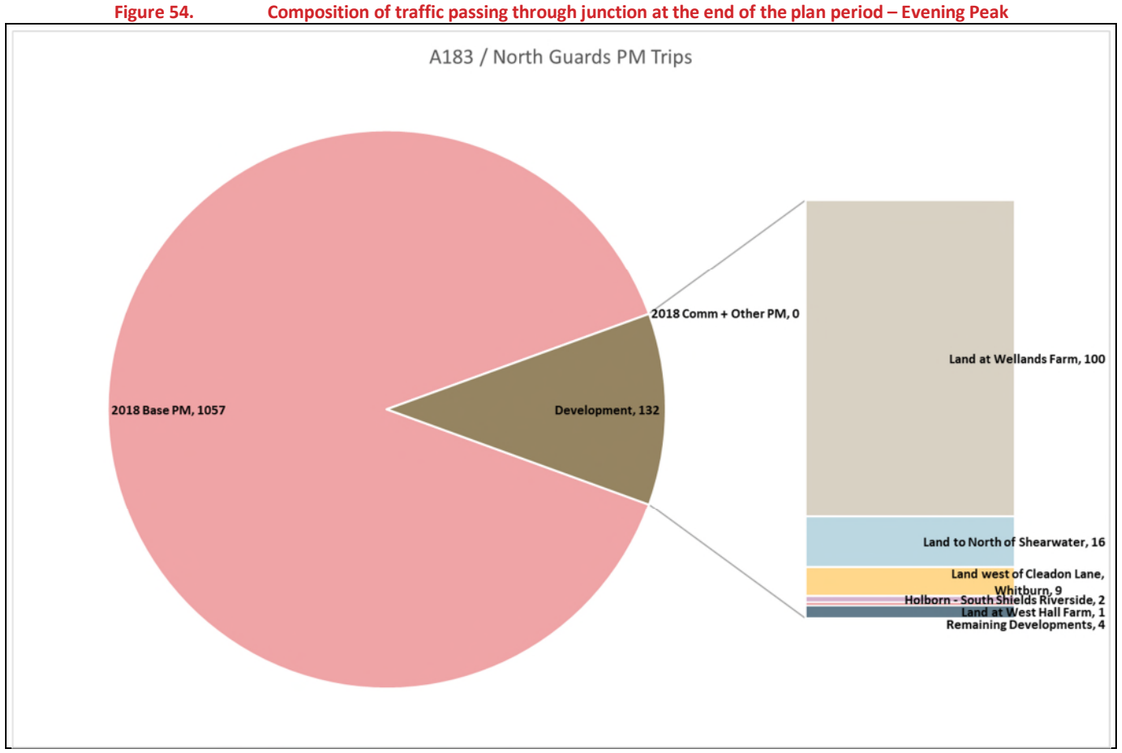
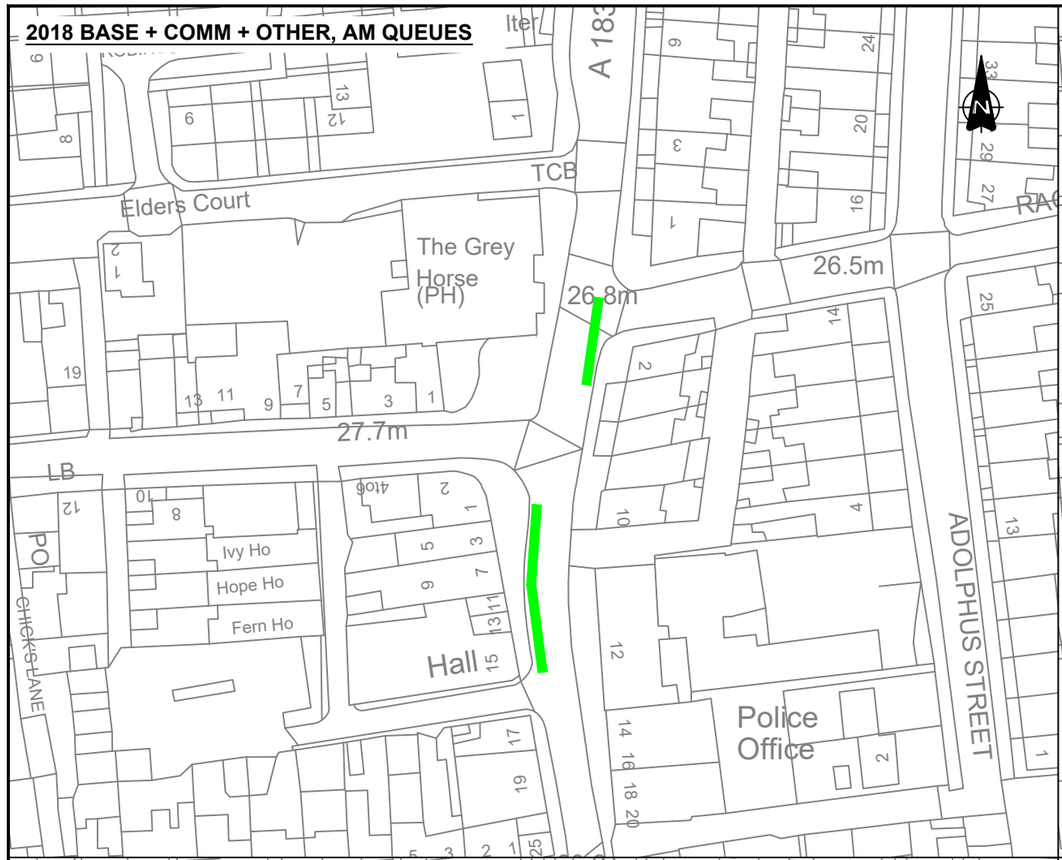
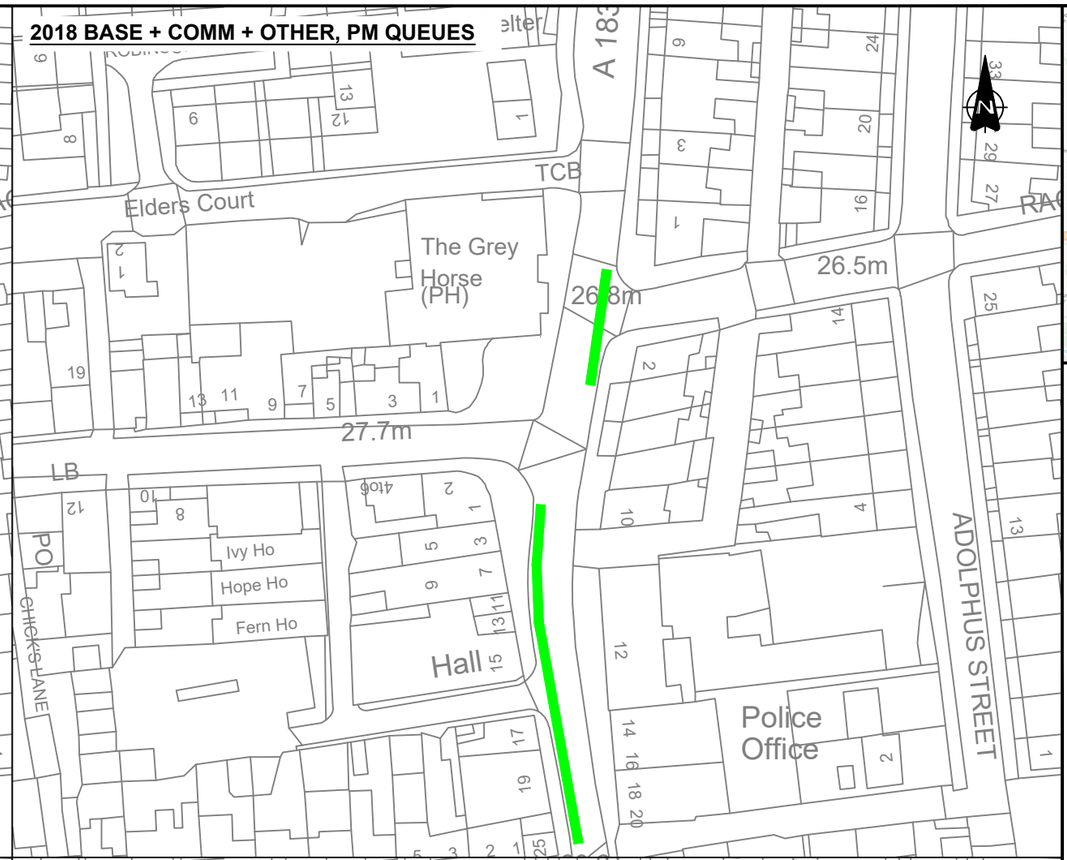
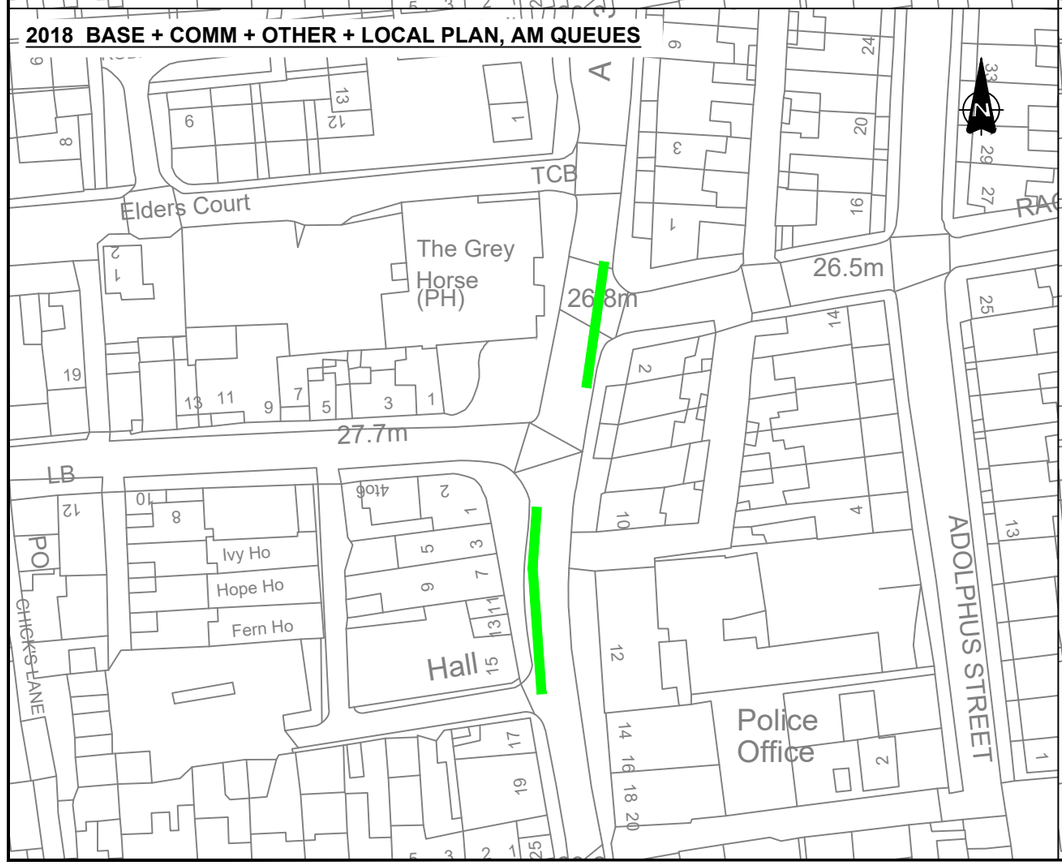


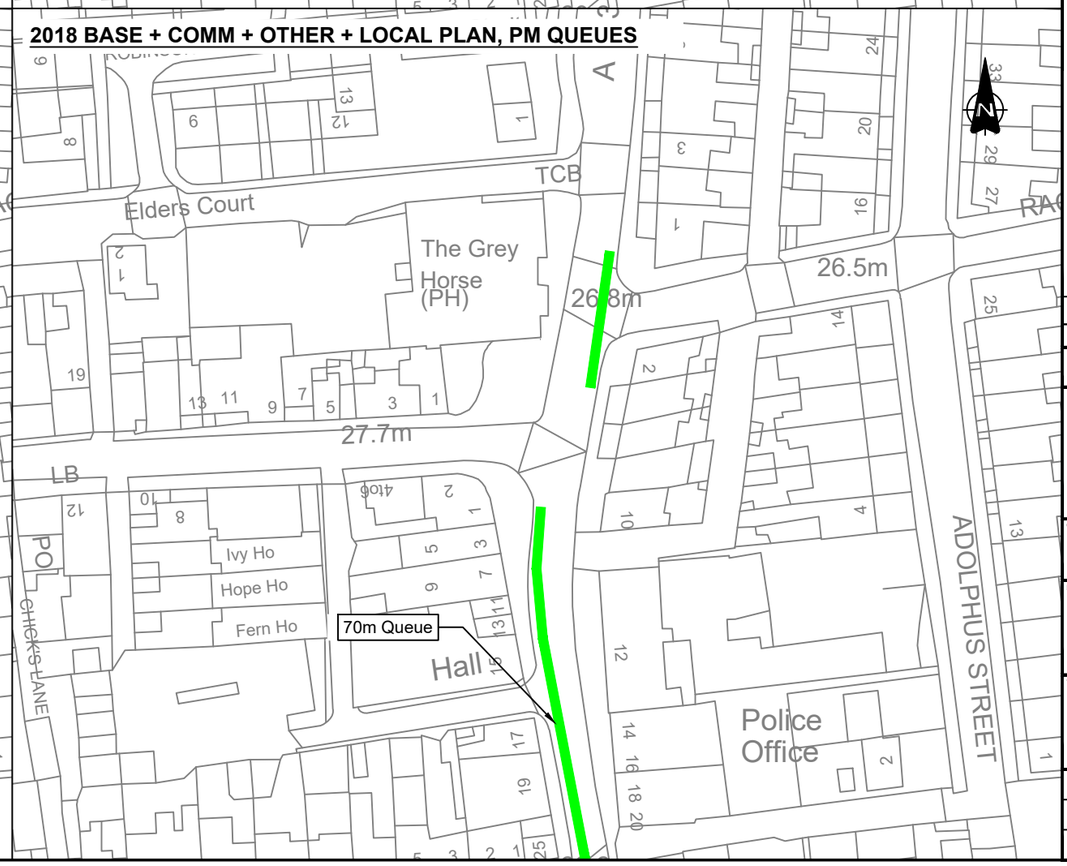
Figure 54. Composition of traffic passing through junction at the end of the plan period – Evening Peak

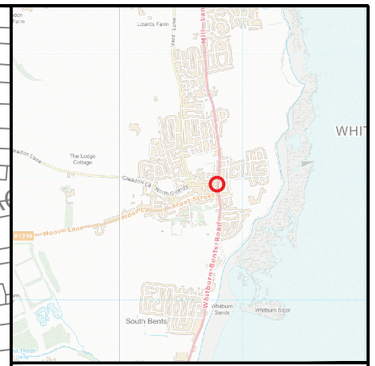




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Client: South Tyneside Council

Project: LOCAL PLAN ASSESSMENT

Title: A183 / NORTH GAURDS EXISTING LAYOUT QUEUES

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# 4. SUMMARY

4.1.1 SYSTRA Ltd has been commissioned by South Tyneside Council to assess how the growth planned as part of the South Tyneside Local Plan will impact on the local and strategic road network across the borough.

4.1.2 The junctions included within the study area as follows:

- Junction 1 – A194 / Laygate roundabout;
- Junction 2 – A194 / West Way roundabout;
- Junction 3 – A194 / B1302 / Port of Tyne roundabout;
- Junction 4 – Monkton Lane / Mill Lane mini roundabout;
- Junction 5 – A185 / Mill Lane signalised junction;
- Junction 6 – A185 / Hall Road / B1297 signalised junction;
- Junction 7 – A185 / Campbell Park Road roundabout;
- Junction 8 – A185 / Park Road / Hill Street signalised junction;
- Junction 9 – A185 / B1297 Ellison Street roundabout;
- Junction 10 – A185 / Monkton Terrace roundabout;
- Junction 11 – B1297 Ellison Street / Western Road roundabout;
- Junction 12 – Priory Road / Church Bank priority junction;
- Junction 13 – A1300 / B1298 / Whiteleas Way roundabout;
- Junction 14 – A1300 / A1018 / Temple Park Road roundabout;
- Junction 15 – B1298 Abingdon Way / Brooklands Way roundabout;
- Junction 16 – New Road / ASDA roundabout;
- Junction 17 – Hubert Street / North Road signalised junction;
- Junction 18 – A184 / B1298 Abingdon Way roundabout;
- Junction 19 – A184 / Downhill Lane priority junction;
- Junction 20 – A184 / Hylton Lane signalised junction;
- Junction 21 – A184 / Boker Lane signalised junction;
- Junction 22 – A184 / Whitburn Road / Whitburn Terrace signalised junction;
- Junction 23 – A1018 / Cleadon Lane priority junction;
- Junction 24 – A1018 / Whitburn Road priority junction;
- Junction 25 – A1018 / B1299 Moor Lane priority junction;
- Junction 26 – A183 / B1299 Moor Lane signalised junction; and
- Junction 27 – A183 / North Guards signalised junction.

4.1.3 Following capacity assessments, indicative mitigation measures have been assessed for a number of junctions as outlined in Table 82. It should be noted that a number of potential mitigation schemes could be identified for the junctions. These have been assigned an indicative cost.

Table 96. Junction Assessment and Mitigation Summary

| JUNCTION | CAPACITY SUMMARY | PROPOSED MITIGATION | INDICATIVE COST | INDICATIVE DELIVERY TIMESCALE |
|---|---|---|---|---|
| Junction 1 – A194 / Laygate roundabout | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |
| Junction 2 – A194 / West Way roundabout | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |
| Junction 3 – A194 / B1302 / Port of Tyne roundabout | The B1302 arm operates above capacity in the Base + Committed Development + Other Developments + Local Plan evening peak scenario. | Widening on the B1302 approach to provide an extended two lane approach | £250,000 | 11 – 15 Years |
| Junction 4 – Monkton Lane / Mill Lane mini roundabout | The Mill Lane Northern arm operates above capacity in the Base + Committed Development + Other developments scenarios which is further exacerbated with the addition of Local Plan generated traffic. | Signalisation of the junction. | £250,000 | Next 5 Years |
| Junction 5 – A185 / Mill Lane signalised junction | The Mill Lane and A185 South arms operate above capacity in the Base + Committed Development + Other developments scenarios which is further exacerbated with the addition of Local Plan generated traffic. | Carriageway widening to provide two lane approaches and reconfiguration of signal timings. | £400,000 | Next 5 Years |
| Junction 6 – A185 / Hall Road / B1297 signalised junction | The B1297 and A185 East arms operate above capacity in the Base + Committed Development + Other developments evening peak scenario which is further exacerbated with the addition of Local Plan generated traffic. | Closure of Hall Road at the junction. | £50,000 | Next 5 Years |

| JUNCTION | CAPACITY SUMMARY | PROPOSED MITIGATION | INDICATIVE COST | INDICATIVE DELIVERY TIMESCALE |
|---|---|---|---|---|
| Junction 7 – A185 / Campbell Park Road roundabout | The A185 arms operate above capacity in the Base + Committed Development + Other Developments + Local Plan evening peak scenario. | Carriageway widening of the A185 arms. | £100,000 | 11 – 15 Years |
| Junction 8 – A185 / Park Road / Hill Street signalised junction | The A185 East arm operates above capacity in the Base + Committed Development + Other Developments + Local Plan evening peak scenario. | No entry from Hill Street to the junction. | £50,000 | 11 – 15 Years |
| Junction 9 – A185 / B1297 Ellison Street roundabout | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |
| Junction 10 – A185 / Monkton Terrace roundabout | The A185 arms operate above capacity in the Base + Committed Development + Other Developments + Local Plan scenarios. | Minor widening to the A185 arms to provide two lane approaches. | £100,000 | 11 – 15 Years |
| Junction 11 – B1297 Ellison Street / Western Road roundabout | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |
| Junction 12 – Priory Road / Church Bank priority junction | The Church Bank to Priory Road North movement operates above capacity in the Base + Committed Development + Other Developments morning scenario. | Signalisation of the junction | £300,000 | Next 5 Years |
| Junction 13 – A1300 / B1298 / Whiteleas Way roundabout | Capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | Minor widening to the B1298 arms to provide extended two lane approach. | £150,000 | 11 – 15 Years |
| Junction 14 – A1300 / A1018 / Temple Park Road roundabout | The A1018 South arm operates above capacity in the Base + Committed Development + Other Developments morning peak scenario. | Carriageway widening on the A1300 West, A1018 South and A1300 East arms. | £300,000 | 6 to 10 years |

| JUNCTION | CAPACITY SUMMARY | PROPOSED MITIGATION | INDICATIVE COST | INDICATIVE DELIVERY TIMESCALE |
|---|---|---|---|---|
| Junction 15 – B1298 Abingdon Way / Brooklands Way roundabout | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |
| Junction 16 – New Road / ASDA roundabout | The Henley Way arm operates above capacity in the Base + Committed Development + Other Developments + Local Plan evening peak scenario. | Signalisation of New Road / ASDA junction with combined operation with adjacent Hubert Street / North Road junction. | £500,000 (to cover Junctions 16 – 17) | Next 5 Years |
| Junction 17 – Hubert Street / North Road signalised junction | Junction operates over capacity in the Base + Committed Development + Other Developments + Local Plan scenarios. | Signalisation of New Road / ASDA junction with combined operation with adjacent Hubert Street / North Road junction. | £500,000 (to cover Junctions 16 – 17) | Next 5 Years |
| Junction 18 – A184 / B1298 Abingdon Way roundabout | Junction operates over capacity in the Base + Committed Development + Other Developments + Local Plan scenarios. | Provision of left filter lane from A184 to Abingdon Way | £500,000 | 6 to 10 years |
| Junction 19 – A184 / Downhill Lane priority junction | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | Sustainable Travel and Traffic Management measures along the A184 corridor | £750,000 (to cover Junctions 19 – 22) | Next 5 Years |
| Junction 20 – A184 / Hylton Lane signalised junction | The Downhill Lane arm operates above capacity in the Base + Committed Development + Other Developments evening scenario. | Sustainable Travel and Traffic Management measures along the A184 corridor | £750,000 (to cover Junctions 19 – 22) | Next 5 Years |

| JUNCTION | CAPACITY SUMMARY | PROPOSED MITIGATION | INDICATIVE COST | INDICATIVE DELIVERY TIMESCALE |
|---|---|---|---|---|
| Junction 21 – A184 / Boker Lane signalised junction | All arms operate close to or above capacity in the Base + Committed Development + Other Developments scenarios. | Sustainable Travel and Traffic Management measures along the A184 corridor | £750,000 (to cover Junctions 19 – 22) | Next 5 Years |
| Junction 22 – A184 / Whitburn Road / Whitburn Terrace signalised junction | The Boker Lane and A184 Western Terrace arms operate above capacity in the Base + Committed Development + Other Developments + Local Plan evening peak scenario. | Sustainable Travel and Traffic Management measures along the A184 corridor | £750,000 (to cover Junctions 19 – 22) | Next 5 Years |
| Junction 23 – A1018 / Cleadon Lane priority junction | The Station Road and A184 West arms operate above capacity in the Base + Committed Development + Other Developments evening peak scenario. | Signalisation of the junction | £500,000 | 11 to 15 Years |
| Junction 24 – A1018 / Whitburn Road priority junction | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |
| Junction 25 – A1018 / B1299 Moor Lane priority junction | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |
| Junction 26 – A183 / B1299 Moor Lane signalised junction | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |
| Junction 27 – A183 / North Guards signalised junction | No capacity issues were identified in the Base + Committed Development + Other Developments + Local Plan scenarios. | N/A | N/A | N/A |

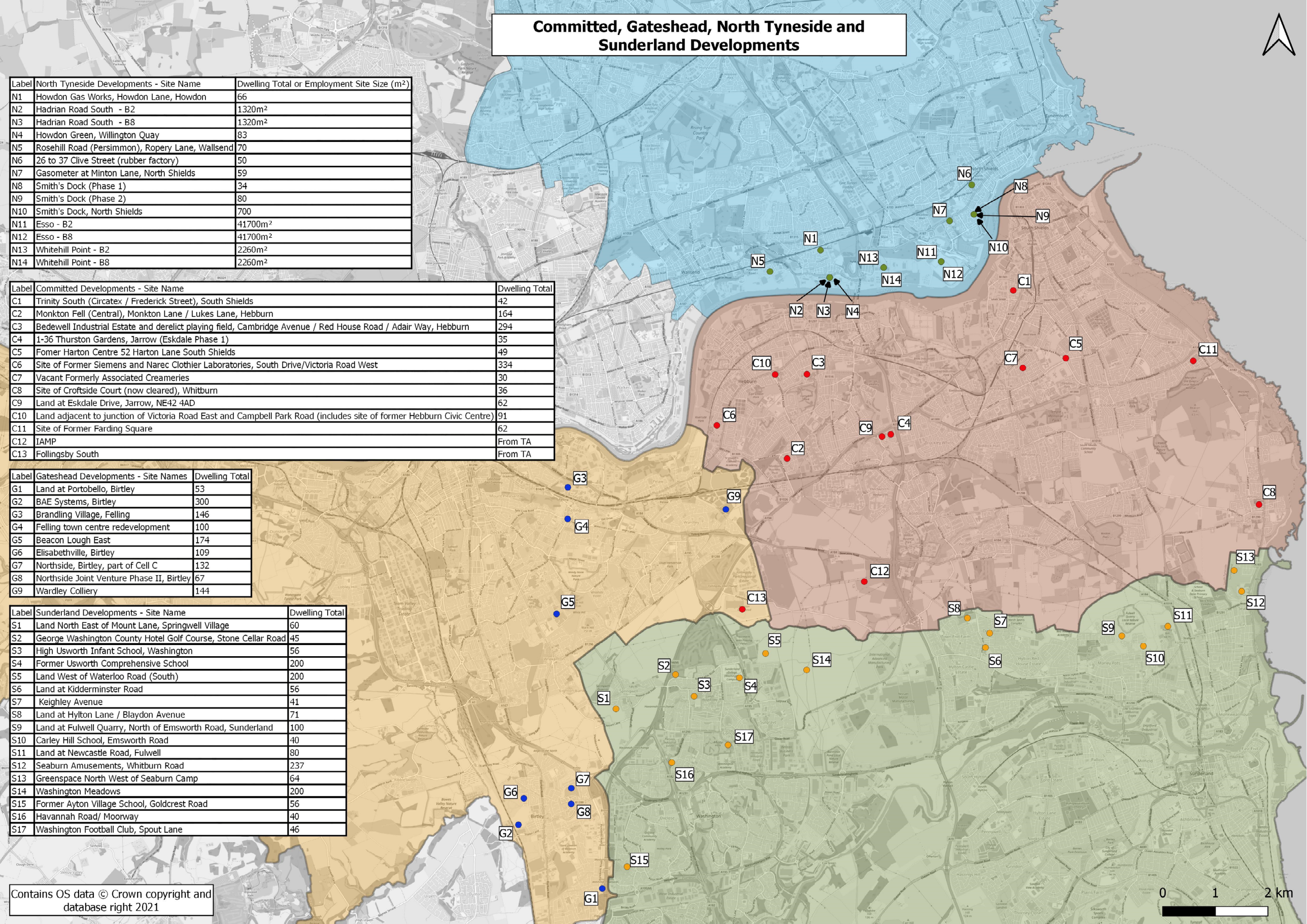
4.1.4 From the assessments undertaken it can be clearly identified that the traffic impact of the Local Plan developments can be mitigated through a combination of highway mitigation schemes supported by sustainable transport improvements.

4.1.5 The design of the final mitigation schemes will need to be progressed and agreed with the respective highway authorities. However, this assessment clearly indicates the general nature and scale of the mitigations required to be introduced to accommodate the predicted traffic impact of the proposed Local Plan allocations. Further discussions with the highway authority will be undertaken to establish the final mitigation schemes, the timing for delivery of these schemes and more detail on the apportionment of cost from the funding sources.

4.1.6 Although the cost of the indicative mitigation has been estimated, final costs for the improvements will need to be determined through the detailed design process and include detailed information on statutory undertakers equipment, ground conditions etc.

4.1.7 Such mitigation is deliverable through available funding sources including developer contributions, the Local Transport Plan Capital Funding Allocation; devolved major scheme funding via the Local Enterprise Partnership, CIL; and partnership working with external organisations such as the National Highways.

# Committed, Gateshead, North Tyneside and Sunderland Developments




| Label | North Tyneside Developments - Site Name | Dwelling Total or Employment Site Size (m²) |
|---|---|---|
| N1 | Howdon Gas Works, Howdon Lane, Howdon | 66 |
| N2 | Hadrian Road South - B2 | 1320m² |
| N3 | Hadrian Road South - B8 | 1320m² |
| N4 | Howdon Green, Willington Quay | 83 |
| N5 | Rosehill Road (Persimmon), Ropery Lane, Wallsend | 70 |
| N6 | 26 to 37 Clive Street (rubber factory) | 50 |
| N7 | Gasometer at Minton Lane, North Shields | 59 |
| N8 | Smith's Dock (Phase 1) | 34 |
| N9 | Smith's Dock (Phase 2) | 80 |
| N10 | Smith's Dock, North Shields | 700 |
| N11 | Esso - B2 | 41700m² |
| N12 | Esso - B8 | 41700m² |
| N13 | Whitehill Point - B2 | 2260m² |
| N14 | Whitehill Point - B8 | 2260m² |

| Label | Committed Developments - Site Name | Dwelling Total |
|---|---|---|
| C1 | Trinity South (Circatex / Frederick Street), South Shields | 42 |
| C2 | Monkton Fell (Central), Monkton Lane / Lukes Lane, Hebburn | 164 |
| C3 | Bedewell Industrial Estate and derelict playing field, Cambridge Avenue / Red House Road / Adair Way, Hebburn | 294 |
| C4 | 1-36 Thurston Gardens, Jarrow (Eskdale Phase 1) | 35 |
| C5 | Fomer Harton Centre 52 Harton Lane South Shields | 49 |
| C6 | Site of Former Siemens and Narec Clothier Laboratories, South Drive/Victoria Road West | 334 |
| C7 | Vacant Formerly Associated Creameries | 30 |
| C8 | Site of Croftside Court (now cleared), Whitburn | 36 |
| C9 | Land at Eskdale Drive, Jarrow, NE42 4AD | 62 |
| C10 | Land adjacent to junction of Victoria Road East and Campbell Park Road (includes site of former Hebburn Civic Centre) | 91 |
| C11 | Site of Former Farding Square | 62 |
| C12 | IAMP | From TA |
| C13 | Follingsby South | From TA |

| Label | Gateshead Developments - Site Names | Dwelling Total |
|---|---|---|
| G1 | Land at Portobello, Birtley | 53 |
| G2 | BAE Systems, Birtley | 300 |
| G3 | Brandling Village, Felling | 146 |
| G4 | Felling town centre redevelopment | 100 |
| G5 | Beacon Lough East | 174 |
| G6 | Elisabethville, Birtley | 109 |
| G7 | Northside, Birtley, part of Cell C | 132 |
| G8 | Northside Joint Venture Phase II, Birtley | 67 |
| G9 | Wardley Colliery | 144 |

| Label | Sunderland Developments - Site Name | Dwelling Total |
|---|---|---|
| S1 | Land North East of Mount Lane, Springwell Village | 60 |
| S2 | George Washington County Hotel Golf Course, Stone Cellar Road | 45 |
| S3 | High Usworth Infant School, Washington | 56 |
| S4 | Former Usworth Comprehensive School | 200 |
| S5 | Land West of Waterloo Road (South) | 200 |
| S6 | Land at Kidderminster Road | 56 |
| S7 | Keighley Avenue | 41 |
| S8 | Land at Hylton Lane / Blaydon Avenue | 71 |
| S9 | Land at Fulwell Quarry, North of Emsworth Road, Sunderland | 100 |
| S10 | Carley Hill School, Emsworth Road | 40 |
| S11 | Land at Newcastle Road, Fulwell | 80 |
| S12 | Seaburn Amusements, Whitburn Road | 237 |
| S13 | Greenspace North West of Seaburn Camp | 64 |
| S14 | Washington Meadows | 200 |
| S15 | Former Ayton Village School, Goldcrest Road | 56 |
| S16 | Havannah Road/ Moorway | 40 |
| S17 | Washington Football Club, Spout Lane | 46 |

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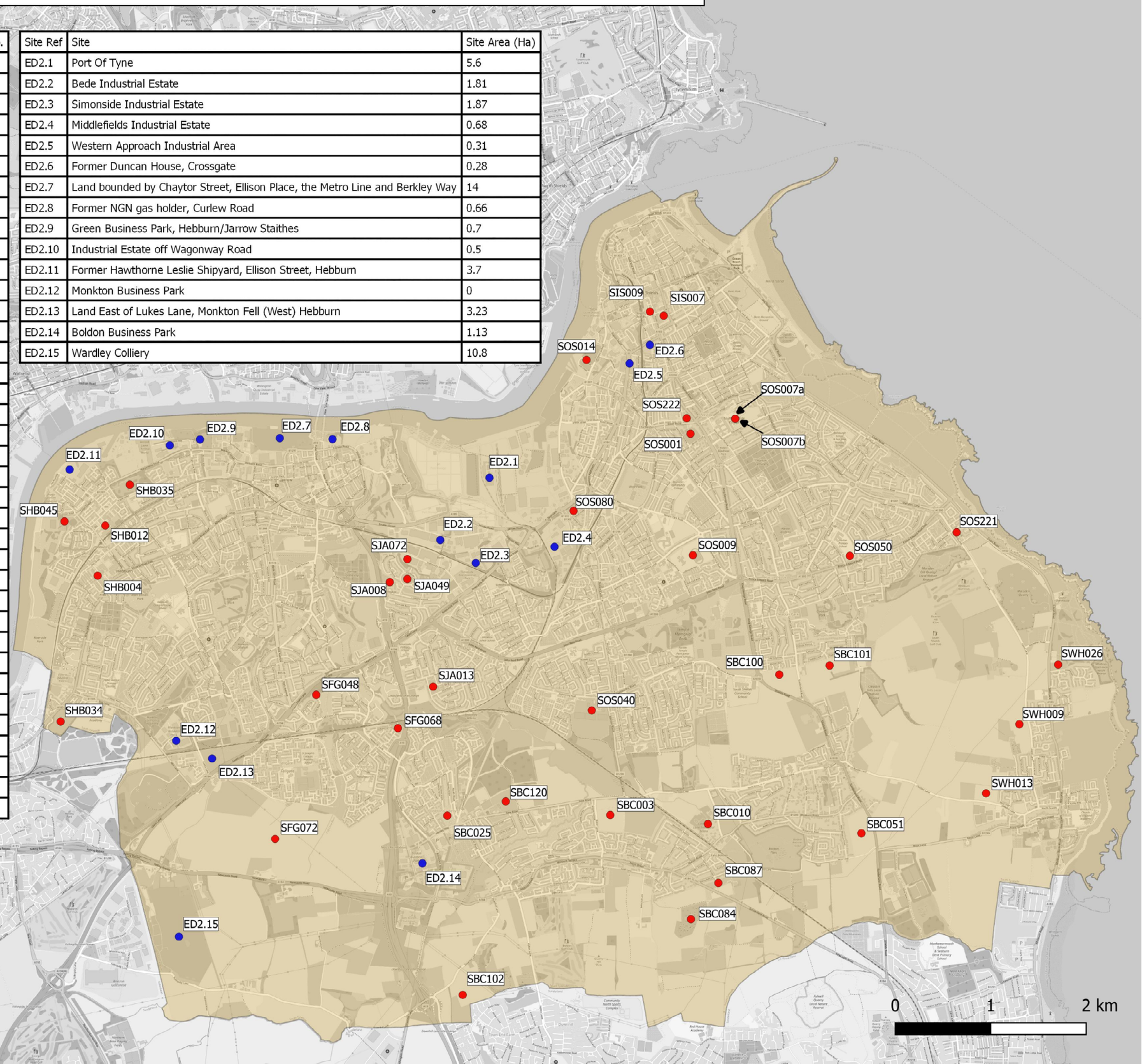
# Local Plan Developments in South Tyneside

| SHLAA Ref | Site | Dwelling No. |
|---|---|---|
| SBC003 | Land at North Farm (West) | 263 |
| SBC010 | Land at Cleadon Lane Industrial Estate | 245 |
| SBC025 | The Disco Field, Henley Way | 45 |
| SBC051 | Land at West Hall Farm | 259 |
| SBC084 | Former MoD bunkers, medical stores and associated land on Green Lane | 120 |
| SBC087 | Land south of St John's Terrace and Natley Avenue | 63 |
| SBC100 | Land south of Cleadon Park | 90 |
| SBC101 | Land west of Sunniside Farm | 156 |
| SBC102 | Land to North of Town End Farm | 400 |
| SBC120 | Land to the North of New Road | 120 |
| SFG048 | Land at Calf Close Walk | 33 |
| SFG068 | Land to North and East of Holland Park Drive | 35 |
| SFG072 | Land South of Fellgate | 1250 |
| SHB004 | Hebburn Town Cetre | 161 |
| SHB012 | Ashworth Frazer Ind Estate and Hebburn Community centre | 100 |
| SHB034 | South Tyneside College, Hebburn Campus - playing fields | 115 |
| SHB035 | Argyle Street housing-led Regeneration Site | 75 |
| SHB045 | Land south-west of Prince Consort Road | 46 |
| SIS007 | Winchester Street housing-led Regeneration Site | 48 |
| SIS009 | Beautiful Homes Site | 44 |
| SJA008 | Land at Salcombe Avenue | 36 |
| SJA013 | Perth Green Youth Centre | 44 |
| SJA049 | Land at Falmouth Drive | 40 |
| SJA072 | Land at Shaftesbury Avenue | 69 |
| SOS001 | South Shields and Westoe Sports Club and playing fields | 79 |
| SOS007a | South Tyneside College (South Shields Campus Playing Fields) | 79 |
| SOS007b | Site of former South Tyneside College (South Shields Campus) | 220 |
| SOS009 | Former Brinkburn Comprehensive School | 272 |
| SOS014 | Holburn - South Shields Riverside | 348 |
| SOS040 | Land at Chuter Ede Education Centre (excluding Brydon Court) | 308 |
| SOS050 | Land at Bradley Avenue | 45 |
| SOS080 | Tyne Dock Regeneration Scheme | 65 |
| SOS221 | Lizard Lane shops/flats | 30 |
| SOS222 | Land at Dean Road | 62 |
| SWH009 | Land at Wellands Farm | 250 |
| SWH013 | Land west of Cleadon Lane, Whitburn | 75 |
| SWH026 | Land to North of Shearwater | 41 |

| Site Ref | Site | Site Area (Ha) |
|---|---|---|
| ED2.1 | Port Of Tyne | 5.6 |
| ED2.2 | Bede Industrial Estate | 1.81 |
| ED2.3 | Simonside Industrial Estate | 1.87 |
| ED2.4 | Middlefields Industrial Estate | 0.68 |
| ED2.5 | Western Approach Industrial Area | 0.31 |
| ED2.6 | Former Duncan House, Crossgate | 0.28 |
| ED2.7 | Land bounded by Chaytor Street, Ellison Place, the Metro Line and Berkley Way | 14 |
| ED2.8 | Former NGN gas holder, Curlew Road | 0.66 |
| ED2.9 | Green Business Park, Hebburn/Jarrow Staithes | 0.7 |
| ED2.10 | Industrial Estate off Wagonway Road | 0.5 |
| ED2.11 | Former Hawthorne Leslie Shipyard, Ellison Street, Hebburn | 3.7 |
| ED2.12 | Monkton Business Park | 0 |
| ED2.13 | Land East of Lukes Lane, Monkton Fell (West) Hebburn | 3.23 |
| ED2.14 | Boldon Business Park | 1.13 |
| ED2.15 | Wardley Colliery | 10.8 |

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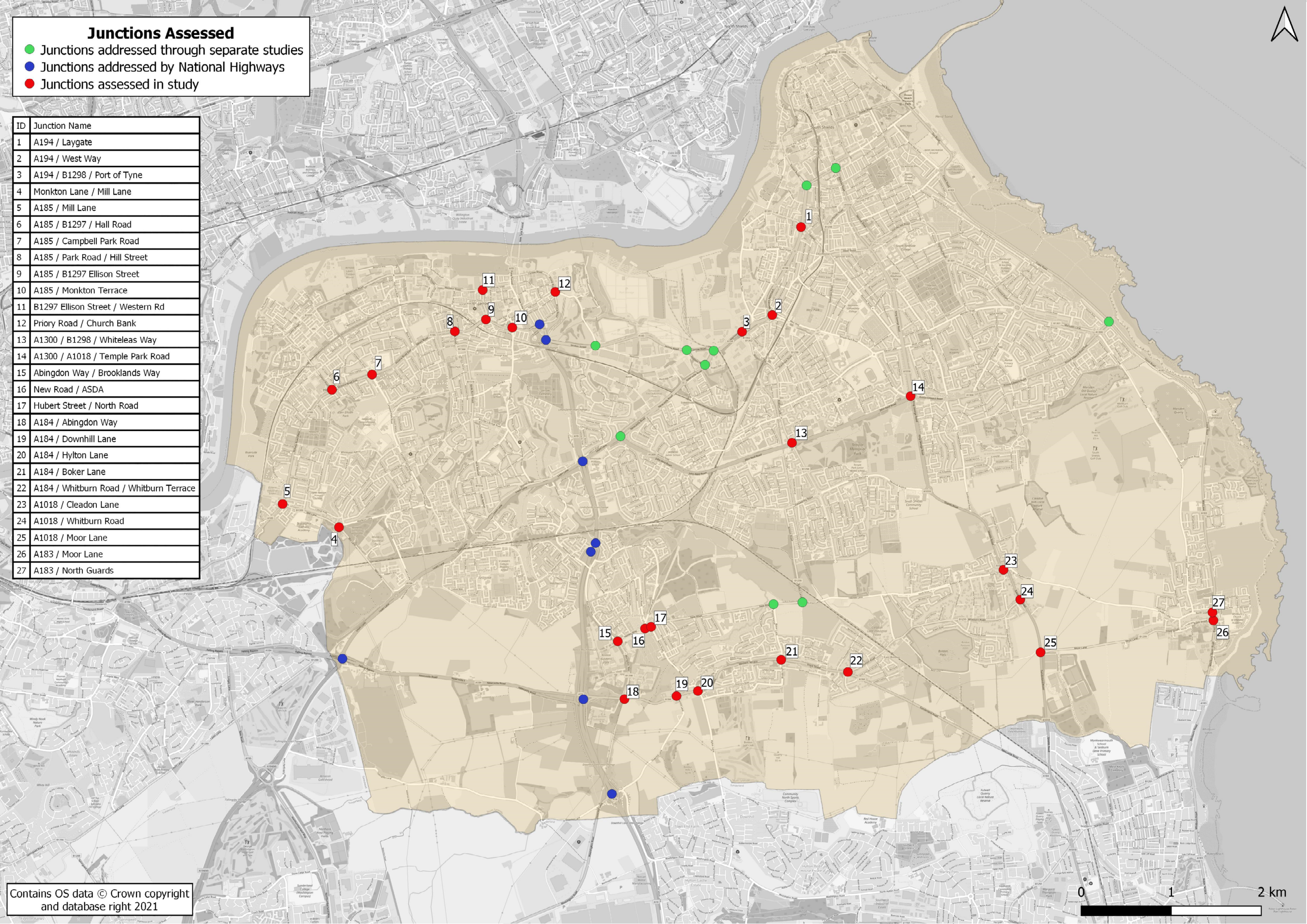


| ID | Junction Name |
|---|---|
| 1 | A194 / Laygate |
| 2 | A194 / West Way |
| 3 | A194 / B1298 / Port of Tyne |
| 4 | Monkton Lane / Mill Lane |
| 5 | A185 / Mill Lane |
| 6 | A185 / B1297 / Hall Road |
| 7 | A185 / Campbell Park Road |
| 8 | A185 / Park Road / Hill Street |
| 9 | A185 / B1297 Ellison Street |
| 10 | A185 / Monkton Terrace |
| 11 | B1297 Ellison Street / Western Rd |
| 12 | Priory Road / Church Bank |
| 13 | A1300 / B1298 / Whiteleas Way |
| 14 | A1300 / A1018 / Temple Park Road |
| 15 | Abingdon Way / Brooklands Way |
| 16 | New Road / ASDA |
| 17 | Hubert Street / North Road |
| 18 | A184 / Abingdon Way |
| 19 | A184 / Downhill Lane |
| 20 | A184 / Hylton Lane |
| 21 | A184 / Boker Lane |
| 22 | A184 / Whitburn Road / Whitburn Terrace |
| 23 | A1018 / Cleadon Lane |
| 24 | A1018 / Whitburn Road |
| 25 | A1018 / Moor Lane |
| 26 | A183 / Moor Lane |
| 27 | A183 / North Guards |

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