# Appendix A

# Fort Halstead

## Transport Assessment Scoping Report

On behalf of

Project Ref: 41290/001 | Rev: - | Date: September 2018

Office Address: 33 Bowling Green Lane, London, EC1R 0BJ
T: +44 (0)203 824 6600  E: london@peterbrett.com

# Document Control Sheet

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|---|---|---|---|---|
| **Prepared by:** | MMNejad | Transport Planner | MMN | 15/08/2018 |
| **Reviewed by:** | Robert Parker | Director | RP | 15/08/2018 |
| **Approved by:** | Greg Callaghan | Partner | GC | 15/08/2018 |
| **For and on behalf of Peter Brett Associates LLP** | | | | |

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# 1 Introduction

## 1.1 Overview

1.1.1 Peter Brett Associates LLP (PBA) has been commissioned by Merseyside Pension Fund to provide transport planning and highways advice in support of a Hybrid Planning Application (HPA) for the redevelopment of Fort Halstead, with a total site area of circa 130 hectares (ha), in the District of Sevenoaks. This report sets out the proposed methodology and scope of work for a Transport Assessment (TA) that will be prepared to support this application.

## 1.2 Background Information

1.2.1 In December 2015 Sevenoaks District Council (SDC granted outline planning permission for a mixed-use development comprising a business area (Use Classes B1 and B2 with ancillary energetic material testing) of up to 27,000 sq m GEA, 450 residential units, a hotel of up to 80 beds, a village centre (Use Classes A1-A3, B1a, D1 and D2), This application has since been implemented by way of demolition, but no development has so far been built out or occupied pursuant to reserved matters application. The reference for the consented Outline Planning Application (OPA) is SE/15/00628/OUT.

1.2.2 The application sought detailed consent for upgrading the two existing points of access to the Site, with a new roundabout proposed at the A224/Polhill junction (Drawing 26582/001/005) and enhanced visibility splay at the Star Hill access (Drawing 26582/001/001). The access strategy was agreed with both the Highway Authority, Kent County Council (KCC) and with officers of the Planning Authority, SDC. Copies of these drawings are attached at Appendix A. However, at Committee, it was determined that only the main access onto Polhill should be available to general traffic and that the secondary access onto Star Hill should be restricted to use by pedestrians, cycles, buses and as an emergency access route.

1.2.3 Condition 14 to the consent set out details regarding access to the site. This covered two aspects, the proposed restriction to the use of the Star Hill access and the internal layout of the road to control access between the commercial and residential uses on site. The latter primarily reflected the potential inclusion of B2 uses that would potentially generate significant volumes of HGV vehicles. Condition 14 stated:

*No development shall take place until a scheme has been submitted to and approved in writing by the Local Planning Authority of:*

*a. The road junction(s) splitting the residential associated traffic from the commercial associated traffic within the site.*

*b. Details of proposed speed limits, visibility splays, surfacing and signage around the commercial part of the site.*

*c. Details of how the Star Hill access will be restricted and maintained for use only by buses, emergency vehicles, cyclists, pedestrians and horses.*

*d. A programme of implementation.*

*No development shall be carried out otherwise than in accordance with the approved plans and details.*

1.2.4 The Committee Minutes set out the required provisions within the Section 106 and included the following items:

- **Construction of a roundabout** – this relates to the proposed new site access junction onto Polhill

- **Provision of speed limits** – The Committee minutes do not provide any clarity as to the scope of this requirement. Condition 14 requires details of speeds around the commercial part of the site to be agreed whilst the TA proposed to provide traffic calming measures on Star Hill, which included the provision of a 40mph speed limit to a section of Star Hill between Knockholt Pound and south of the cottages on Star Hill. However, given the permission excluded the use of Star Hill as a general access to the site it does not seem logical that there would be a requirement to provide these traffic calming measures.

- **Provision and upgrading of pedestrian and cycle routes** – this included proposed on road cycle lanes on the A224 between the Polhill site access junction and the Shacklands Roundabout (Junction of A224 London Road/Old London Road/Shacklands Road / Shoreham Lane.

- Upgrading of Polhill to Twitton bridleway.

- Star Hill road junction improvements.

- **Provision of community bus –** the aim of the community bus was to provide a flexible bus service to meet the needs of the community. In particular, it was anticipated that the service would provide a link to at least one railway station, most likely Knockholt Station, to meet the needs of commuters at the start and finish of the working day, to provide a link to Halstead primary school, again at the start and finish of the school day and to provide a flexible service during the day to provide a link to key facilities such as the Tesco foodstore at Riverhead and the town centre facilities at Sevenoaks.

- **Payment for the re-routing of a bus service for a period of 5 years** – this related to the proposed diversion of the 402 bus service operated at the time by ARRIVA.

- Travel plan

## 1.3 Development Proposals

1.3.1 Updated development proposals for the site involve amendments to the consented scheme to reflect changes in both local and national policy, local needs and masterplanning work. The substantial changes are:

a. The removal of the proposed hotel;

b. An increase up to 750 residential units, 300 units above the approved scheme; and

c. The removal of B2 use from the proposals, this change reduces the potential for the site to generate substantial numbers of HGV vehicles. Accordingly, the previous indicative masterplan for the site is being reviewed.

1.3.2 Aside from the above, the proposals relating to the mix of uses in the village centre and scale of B-class employment uses on site remain broadly unchanged.

1.3.3 At this stage, it is envisaged that the total potential employment numbers on the site remain at 1,483 (1,322 full time equivalent (FTE)), as previously assumed. This includes 1,026 (923 FTE) jobs associated with new B1 use class employment areas and 250 (225 FTE) jobs associated with QinetiQ's retained and expanded operations. The remaining jobs will be associated with A1, A3 and D1 use classes.

1.3.4 It is proposed that the site will be accessed from the two existing points of access (Star Hill and Otford Lane), as assumed in the OPA TA.

1.3.5 Additionally, a sensitivity test will also be undertaken with a restricted Star Hill access, as per the OPA Consent set out in Paragraph 1.2.2.

## 1.4 Pre-application Consultation

1.4.1 A pre-application meeting with KCC Highways and SDC Highways was held on the 27th of June to provide details of the emerging proposals for the HPA and discuss the scope of required Transport works. The minutes of this meeting have been included in Appendix B. This Scoping Report reflects the discussions held at that meeting.

## 1.5 Scoping Report Structure

1.5.1 This Scoping Report sets out the proposed method and scope of work to be undertaken in the preparation the TA. It also provides a list of supporting documents that will be provided as part of the planning submission.

1.5.2 The remainder of this scoping report is structured as follows:

- Chapter 2 – Existing Site Context: sets out the background information of the site, its current use, access and public transport.
- Chapter 3 – Development Proposals: provides an overview of the development proposals related to transport;
- Chapter 4 – Scope of Works: our proposed content and structure for the Transport Assessment report;
- Chapter 5 – Sources of Data: identifies the available sources of data that will be used to inform the Transport Assessment;
- Chapter 6 – Proposed Trip Generation and Assignment: sets out the proposed method for determining the development vehicle trip rates and traffic assignment;
- Chapter 7 – Programme and Confirmation of Scope: sets out the programme for submission and concludes the Scoping Report.

# 2 Existing Site Context

## 2.1 Introduction

2.1.1 This chapter provides a brief review of the existing site uses, and, the local and strategic transport networks that provide access to the site. In doing so, it also identifies the effects of the development already approved at the Site.

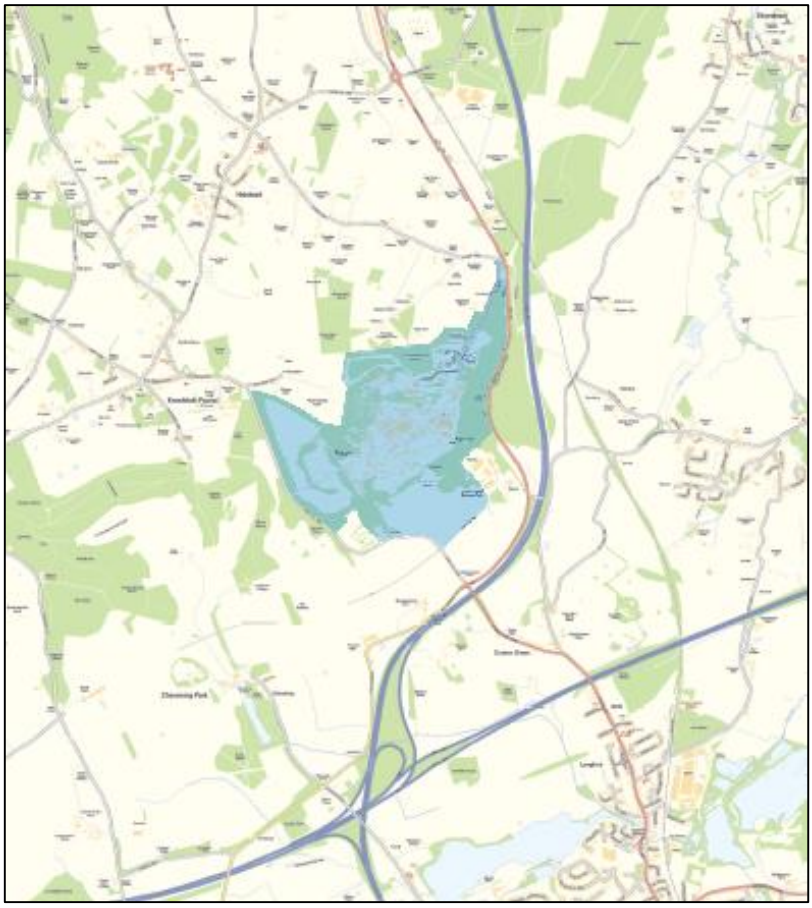
## 2.2 Existing Site Uses

2.2.1 The current land use of the site is predominantly research and development employment. This is distributed across the Fort Halstead site and has been identified by Merseyside Pension Fund for sustainable development. Figure 2.1 identifies the site location plan in context of the surrounding highway network.

2.2.2 The existing site uses, which comprise some 97,600sqm of defence-related research space (for which there is a Certificate of Lawfulness for an Existing Use and Development) plus 72 residential units (which are not within the applicant's ownership), already generate a demand on the existing transport networks. At the time of the OPA submission, it was understood that there were some 1,200 people on-site although this number has been quite variable, with a maximum of 4,000 reached in the 1970's and closer to 2,000 in the more recent past.

2.2.3 The approved development anticipates that total future employment levels on-site would be maintained at around 1,483 (1,322 Full-time Equivalent (FTE)) positions.

Figure 2.1: Site Location Plan



## 2.3 Pedestrian and Cycle Access

2.3.1 Existing pedestrian and cycle links to the Fort Halstead site are relatively poor. There are a number of footpath links and rights of way which provide a good network of leisure routes. However, these are generally unsurfaced and unlit, and, therefore not suitable as commuter/school access routes.

2.3.2 Existing pedestrian routes have been identified as follows:

- Access to Knockholt Pound is via Star Hill. This is a relatively narrow country lane with no dedicated footways or lighting;
- Access to Halstead is via Otford Lane. This is also a narrow and unlit country lane; and
- The A224 London Road, to the north of Otford Lane, has a footway on its east side and this provides a safe pedestrian access to the existing restaurant facilities that are located along that road and to the Polhill Garden Centre further to the north.

2.3.3 There are also relatively limited cycle facilities. Since the site is located on top of the chalk escarpment, there is a steep hill to negotiate in order to access the site from Sevenoaks. However, the cycle route to Knockholt Station, approximately a 4km ride, is relatively flat and there are existing advisory cycle lanes on the Old London Road, one of the few existing cycle facilities within the District. In addition, existing cycle parking facilities are available at Knockholt station.

2.3.4 As part of the OPA, it was agreed with KCC that cycle access to the north would be improved through the provision of on-road cycle lanes between the A224 Polhill site access junction and the Shacklands Roundabout. This scheme is shown in the various drawings under the drawing group number 26582/001/008, included within Appendix Q of the OPA TA.

## 2.4 Public Transport Access

2.4.1 Similar to the pedestrian and cycling accessibility, the site is currently poorly connected by public transport. The nearest railway stations are at Dunton Green to the south (approximately a 5 km drive from the site) and Knockholt to the north (approximately a 4km drive from the site). Both stations are on the Sevenoaks to London Charing Cross/Cannon Street line and are served with slow stopping services providing direct connections to London Bridge, Lewisham, Bromley and Orpington. There are a number of other stations within a 10km driving distance of the station which will potentially be attractive to people living or working on the site. These are:

- Shoreham (7km)
- Otford (6km)
- Bat and Ball (8km)
- Sevenoaks (7km)
- Chelsfield (7km)
- Eynsford (8km)
- Orpington (9km)

2.4.2 Currently, there are no bus stops within the site. However, DSTL run a private peak period shuttle bus between the site, and, Knockholt and Orpington Stations. There are three buses during the morning peak and three during the evening peak, with the service operated by Go Coach.

2.4.3 At the time of the application, the 402 bus service operated between Bromley and Tunbridge Wells via Sevenoaks. Since the application was approved, the 402 bus service has been withdrawn and the 431 bus service introduced which operates between Orpington to Sevenoaks via Star Hill Road and Knockholt Rail Station. It provides 3 - 4 services daily, Monday to Friday

2.4.4 The R5/R10 service is a circular bus service providing access to Orpington Station with the nearest stop to the Fort Halstead site being at Knockholt Pound. Additionally, there are various school services (542 and TW6) operating one return trip on schooldays only.

2.4.5 Within the existing villages surrounding Fort Halstead, the majority of those commuting by rail to central London drive to one of the local stations. The choice of station varies depending on personal preferences reflecting a variety of factors, including the ultimate destination within central London, price, and speed/frequency of service. There are existing rail car parks at all the relevant stations, all subject to a charge. Parking at Chelsfield is at a premium and at Knockholt the small station car park is supplemented by on-street parking for which there is also a daily charge. There is some spare capacity on street at Knockholt, at Otford Station and at the less attractive car parks at Sevenoaks. Orpington is also an attractive option as it provides frequent services to a variety of station and has substantial parking available.

2.4.6 As part of the previous OPA TA surveys were undertaken of parking usage at Knockholt station and these confirmed that there was sufficient capacity remaining to accommodate the likely increase in demand that would be generated by the proposed Fort Halstead development.

2.4.7 Shoreham Station has 10 spaces in its car park, Eynsford has 15 spaces and Bat and Ball 21 spaces, so it is unlikely that these stations could accommodate any more parking. In addition to this, these stations are all over 7km from the site and none provide fast, frequent services to London and so are unlikely to be attractive for day to day access, when other stations are more conveniently located.

2.4.8 The OPA development proposals included a strategy for improving public transport access to the site as follows:

- Diversion of the 402 bus service to the Site; and
- Provision of a new community bus service to provide links to Knockholt Station during the AM and PM peaks, to Halstead primary school at the start and finish of the day and to provide off peak links to Sevenoaks during the day.

2.4.9 Since the 402 bus service has now been replaced by a more limited 431 service and given the uplift in total housing numbers now proposed, it will be necessary to review the public transport options as part of the new TA and Travel Plan.

## 2.5 Highways Access

2.5.1 The site has two established points of highway access. The main access is from the A224 London Road via Otford Lane but there is also a secondary access from Star Hill Lane, used primarily during the peak periods. Since the defence uses are still present, site access remains strictly controlled with no unrestricted movement between these two access points. A visitor car park is provided outside of the security barrier, and is accessed from the A224. This means that employees of both DSTL and QinetiQ are able to use either access point to enter /

leave the site but that the small residential community and visitors to the site are restricted to use the main access onto Otford Lane / A224.

2.5.2 Figure 2.2 identifies the site locations in relation to the highway network where traffic data have been collected in June 2014. Section 5 provides further information regarding data sources and proposed new data collection.

2.5.3 From this background data it can be determined that the highway network has the following characteristics:

- The A224 is a single carriageway road which to the north provides access to: the M25 (junction 4; Orpington, via Badgers Mount; and; to Bromley via Old London Road and the A21. To the south it provides the main access route into Sevenoaks;
- Within the vicinity of the site, the A224 is subject to a 50mph speed limit. The road is unlit and has limited footway provision; to the north of the site there is a footway on the east side of the carriageway only; to the south along Polhill, there are no footways;
- The Star Hill access provides a convenient means of access to the local villages of Knockholt Pound and Pratts Bottom, and an alternative route towards Sevenoaks. It also gives access for the existing bus route. However, it is a relatively narrow rural lane with no footway or lighting; and
- Crow Drive provides access in to the site from Polhill via Otford Way; it has a speed limit of 30mph. From its junction with Otford Way, for approximately 100m the northbound carriageway has two lanes, one for each turning movement at the approaching Otford Way junction. Other than this, Crow Drive has a single lane in each direction.

2.5.4 The OPA transport strategy for the site envisaged the retention of the two existing site accesses with the Polhill site access to be upgraded through the provision of a new roundabout (Drawing 26582/001/005). The Star Hill access was also proposed to be improved with enhanced visibility splays to improve safety. A new 40 mph speed limit was proposed between the village of Knockholt Pound and to the south of the cottages on Star Hill. This strategy was agreed with KCC. However, as set out in Chapter One, SDC Planning Committee determined that the use of the Star Hill access should be restricted to use by pedestrians, cycles, buses and as an emergency access.

# 3 Development Proposals

## 3.1 Development Quantum

3.1.1 The development proposals are not final at this stage. However, it is envisaged that the application would allow for the following elements:

- Provision of up to 750 new residential units, which represents an increase of 300 over the consented OPA figure;
- The proposals relating to the village centre and scale of employment uses on site remain broadly unchanged with the exception that B2 use is no longer proposed. The total potential employment numbers on the site remain at 1,483 (1,322 full time equivalent (FTE)), as previously assumed in the OPA. This includes an assumed 1,026 (923 FTE) jobs associated with new B1 Use Class employment areas and 250 (225 FTE) jobs associated with the retention of existing QinetiQ facilities and jobs and future expansion. The remaining jobs will be associated with A1, A3 and D1 Use Classes; and
- The hotel is no longer proposed.

3.1.2 The proposed application will likely comprise a 'hybrid' application (i.e. part full/detailed and part outline). Therefore, the housing mix will not be secured in detail at this stage, but an indicative mix will be provided for the purposes of masterplan testing and to inform assumptions. The broad mix will be in accordance with SDC's emerging Housing Mix evidence base as set out in draft Policy 8 of the emerging Local Plan (Regulation 18, August 2018).

3.1.3 A new emerging masterplan is being produced in order to take account of the changes to the proposed development. Once available, a draft of the updated masterplan will be circulated to KCC for discussion.

## 3.2 Site Access

3.2.1 It is proposed that the site will be accessed form the two existing points of access (Star Hill and Otford Lane), as assumed in the OPA TA.

3.2.2 Additionally, a sensitivity test will be undertaken with a restricted Star Hill access, based on the arrangements associated with the OPA Consent, as set out in Paragraph 1.2.2.

## 3.3 Parking Provision

3.3.1 The level of on-site parking in connection to the proposed development will reflect the current parking standards, and, will be discussed and agreed with the relevant planning authority.

3.3.2 Kent and Medway Structure Plan 2006 provides the Supplementary Planning Guidance 4 – Vehicle Parking Standards dated July 2006 for a range of land uses. More up to date parking standards are contained in the Kent Design Review: Interim Guidance Note 3, Residential Parking, dated November 2009. These detail the parking standards for the corresponding land uses. In the context of the proposed development, there are two main land uses, Employment (land use B1), and Residential (land use C3).

3.3.3 As the designs for the proposed development are developed in terms of quantum, the parking standards will be reviewed and agreed with SDC and KCC.

## 3.4 Phasing

3.4.1 The anticipated phasing of the proposed development has not been finalised at this stage but will be identified and set out within the TA.

# 4 Scope of Work

## 4.1 Overview

4.1.1 The content and format of the TA has been set out below. Consideration has been given to the following:

- Introduction and Background;
- Existing Baseline Conditions;
- Traffic Growth and Committed Developments;
- Policy Review;
- Development Proposals;
- Trip Generation and Distribution;
- Transport Impact Assessment;
- Mitigation Strategy;
- Construction and Logistics Plan; and
- Summary and Conclusions.

4.1.2 The TA will be accompanied by a Framework Travel Plan. This separate Framework Travel Plan will account for both the residential and commercial elements of the development.

## 4.2 Existing Baseline Conditions

4.2.1 This chapter will describe the development site in its current condition. Highway, public transport, cycle and pedestrian facilities will be reviewed in detail. It will also identify key strategic issues that may impact on the development proposals.

4.2.2 A brief summary of this chapter has been provided in Section 2.

## 4.3 Traffic Growth and Committed Developments

4.3.1 This section will set out the background traffic growth and any committed developments that should be considered when calculating the potential impacts of the proposed development upon the transport networks in the future year assessments.

4.3.2 Whilst no direct allowance has been made for development proposals that are not yet committed, TEMPro factors will be applied in order to account for expected traffic growth including that associated with the emerging Local Plan. Additionally, the traffic associated with the Kent Cold Store will be taken into account manually, as agreed with KCC at the Highways pre-application meeting on 27th June.

4.3.3 The future year baseline (without development) assessments would also include the traffic flows associated with the consented OPA for the site. The consented OPA traffic based on the restricted Star Hill access has been set out in Technical Note: *Review of Highway Implications Arising from Restricted Use of Star Hill as a Vehicle Access* (21/09/2015).

## 4.4 Policy Review

4.4.1 This section will highlight the local, regional and national policies that are related to the development site. At this stage, the following polices have been identified as relevant for this development and site:

- National Planning Policy Framework (2018)
- National Planning Practice Guidance (2014)
- Kent County Council Local Transport Plan 4: 2016 – 2031 (2017)
- Kent Downs AONB Management Plan 2014 – 2019 (2014)
- Kent Design Guide Review: Interim Guidance Note 3 on Residential Parking (2008)
- Kent and Medway Structure Plan 2006: Mapping out the future – Supplementary Planning Guidance SPG4: Kent Vehicle Parking Standards (2006)
- The Sevenoaks District Core Strategy (2011)
- Sevenoaks District Council – Allocations and Development Management Plan (2015)
- Sevenoaks District Strategy for Transport, 2010

## 4.5 Development Proposals

4.5.1 The TA will include a detailed description of the development proposals with particular reference to transport.

4.5.2 This section would also include parking provision and access arrangements.

4.5.3 This section will also provide a background history of the transport impacts and how these have evolved from the earlier submissions to the development brief now being proposed.

## 4.6 Trip Generation and Distribution

4.6.1 This chapter will set out:

- the methodology and assumptions used in the trip generation and distribution assessments,
- the AM and PM peak hour trip generation; and
- the highway network trip distributions.

4.6.2 A brief summary of this chapter, which sets out the proposed trip generation methodology has been provided in Section 6 of this report.

## 4.7 Transport Impact Assessment

4.7.1 This section will include the methodology and outcomes of any potential highway impacts for the proposed development. The impact of the development will also be assessed on the public realm, public transport network, and, on the pedestrian and cycle routes.

4.7.2 At this stage, it is anticipated that the development will be completed and operational in 2029 and therefore, the impacts of the development would be assessed for the future forecast year of 2029. Alternatively, 2033 could be used as the assessment year in order to allow for anticipated background traffic growth over the full span of the emerging Local Plan; confirmation from KCC sought on this.

4.7.3 The net impacts of the development will be assessed by making comparisons between the 2029 (or 2033) Future Baseline (without development) and 2029 (or 2033) With Development scenarios. As stated in Section 4.3, the 2029 (or 2033) Future Baseline Scenario will include the traffic flows associated with the consented OPA. Therefore, whilst the 2029 (or 2033) With Development scenario will include the full trip generation associated with the new HPA, the TA would effectively only consider the net impacts arising from the uplift in residential units compared to the OPA and the removal of the previously proposed hotel.

## 4.8 Mitigation Strategy

4.8.1 The impact of the development on the transport network will be mitigated through measures which could include travel plans, improved bus service facilities and further design measures, such as enhanced pedestrian and cycle links within the site, and improved site vehicle access.

4.8.2 The mitigation measures proposed as part of the OPA would form the basis of the mitigation strategy. The TA would identify whether revised/ additional mitigation measures would be required as a result of the changes to the development proposals, the changes to public transport provision and any changes to baseline conditions.

4.8.3 The TA will also help to identify appropriate trigger levels for new/enhanced infrastructure, should they be required.

## 4.9 Outline Construction Management Plan

4.9.1 An Outline Construction Management Plan (CMP) will be prepared setting out the measures that will be adopted to minimise the impacts of the development during the demolition and construction phases. It is proposed that the previously submitted Outline CMP as part of the OPA is used and updated to incorporate the changes in the proposed development. A full CMP would be prepared once a contractor has been appointed.

## 4.10 Framework Travel Plan

4.10.1 As part of the OPA, a Framework Travel Plan was prepared in order to promote sustainable transport and to guide the development of full detailed Travel Plans once the proposals had been built out. As part of the HPA, it is proposed that the previously prepared Framework Travel Plan is updated to incorporate the changes to the development proposals.

4.10.2 The Framework Travel Plan will provide a set of measures aimed at encouraging sustainable travel tailored to the specific users of that particular land use. An action plan for implementation of these measures, and monitoring the impact the travel plan has on the travel behaviour of the site occupants, will also be included. It will be based on a combination of the DfTs Good Practice Guidelines for Travel Plans, reducing the need to travel and Kent County Council TP Guidance relating to more local area considerations. The Framework Travel Plan will be submitted to KCC for comment.

## 4.11 Summary and Conclusions

4.11.1 This section will provide a summary and conclude the TA.

# 5 Sources of Data

## 5.1 Introduction

5.1.1 This section details where the required data for the TA will be sourced from, including any existing data available from third parties.

## 5.2 Traffic Surveys

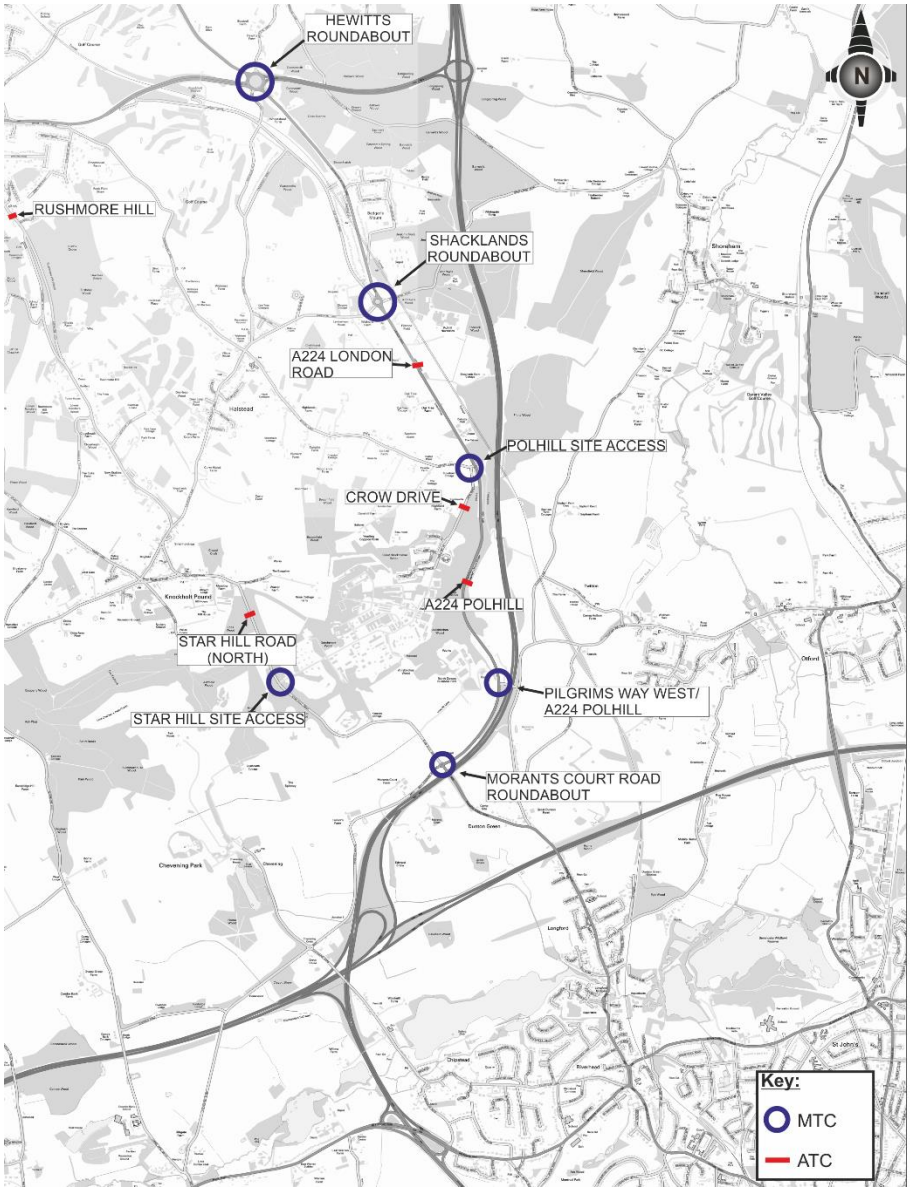
5.2.1 As part of the 2015 submissions and earlier work at the site, extensive traffic surveys have been undertaken between 2008 to 2017 at a number of key junctions and routes to the site. At the pre-application meeting with KCC Highways, KCC requested that surveys undertaken before 2014 should not be used.

5.2.2 In addition to the existing traffic data, new surveys are due to be undertaken in the week commencing 24th September at various locations. A summary of the existing traffic surveys undertaken post-2014 and the new proposed surveys are presented in Table 5.1. The new proposed traffic surveys are then shown in Figure 5.1 below.

Table 5.1: Summary of Existing and Proposed Traffic Surveys

| Location | Type | Survey year(s) |
|---|---|---|
| A21 (west of Hewitts roundabout) | ATC | 2014 |
| A224 Court Road | ATC | 2014 |
| Old London Road | ATC | 2017 |
| A224 Orpington By-Pass | ATC | 2014, 2017 |
| Crow Drive | ATC | **Proposed 2018** |
| A224 London Road | ATC | 2014 (Jun and Oct),2017 |
| A224 Polhill (south of Polhill Site access) | ATC | 2014,2017 |
| Otford High Street | ATC | 2014 |
| Star Hill Road (south of Site access) | ATC | 2014 (Jun and 2 locations in Oct), 2017 |
| Star Hill Road (north of Site access) | ATC | 2014, **Proposed 2018** |
| Rushmore Hill | ATC | 2014,2017, **Proposed 2018** |
| Knockholt Main Road | ATC | 2014 |
| A224 London Road (north of Station Road) | ATC | 2014, 2017 |
| A224 London Road (south of Aisher Way) | ATC | 2014 |
| A21/London Road | Junction count | 2014 |
| Hewitts roundabout | Junction count | 2014, **Proposed 2018** |
| Junction 4 on the M25 | Junction count | 2014 |
| Shacklands roundabout | Junction count | 2014, **Proposed 2018** |
| Otford Lane/A224 Site access | Junction count | 2014, **Proposed 2018** |
| Pilgrims Way West/A224 Polhill | Junction count | 2014, 2017, **Proposed 2018** |
| Morants Court Road roundabout | Junction count | 2014, **Proposed 2018** |
| Star Hill Site Access | Junction count | **Proposed 2018** |
| A25/Chevening Road | Junction count | 2014 |

Figure 5.1: Proposed Traffic Survey Locations




## 5.3 Other Sources of Data

5.3.1 The trip generation study, as shown in Section 6, will draw upon data from relevant sources including previous data sets, the TRICS database and Census data as appropriate. The OPA TA commercial use trip rates will be used to inform the commercial use trip generation.

5.3.2 For the trip distribution and assignment, the OPA TA strategic route assignment proportions, based on Navteq real time travel data will be used as set out in Section 6.

5.3.3 As discussed in section 4 above, TEMPro will be used to allow for background traffic growth up to the 2029 (or 2033), and the Kent Cold Store TA will provide the additional flows that will be added onto the future year highway network.

5.3.4 Accident data has been obtained from KCC, which covers a full five-year period up to September 2017.

# 6 Proposed Trip Generation and Distribution

## 6.1 Introduction

6.1.1 This chapter presents the proposed trip generation and distribution methodology for all land uses proposed at Fort Halstead.

## 6.2 Trip Generation Methodology

### Residential Trip Generation

6.2.1 The TRICS database has been used to provide trip rates for the residential component of the proposed development. With regard to the previous trip generation assessment undertaken as part of the OPA, it has been agreed with KCC that the TRICS surveys used are likely to be outdated and should be updated to include surveys undertaken up to five years ago.

6.2.2 The assessment of trip generation figures uses the industry standard TRICS database with sites selected because of similar trip generating characteristics; situated in a predominately out of town location, more than 200 privately owned houses and with access to a bus stop. The following criteria was used in the selection of sites;

- Land Use – Residential, privately owned houses;
- Categories - C3;
- Regions – England excluding Greater London;
- Survey type – Multi Modal;
- Range – 200 to 805;
- Survey Days – Monday to Friday.

6.2.3 A summary of the TRICS sites selected based on the criteria set out above has been shown in Table 6.1. The full TRICS outputs have been included in Appendix D.

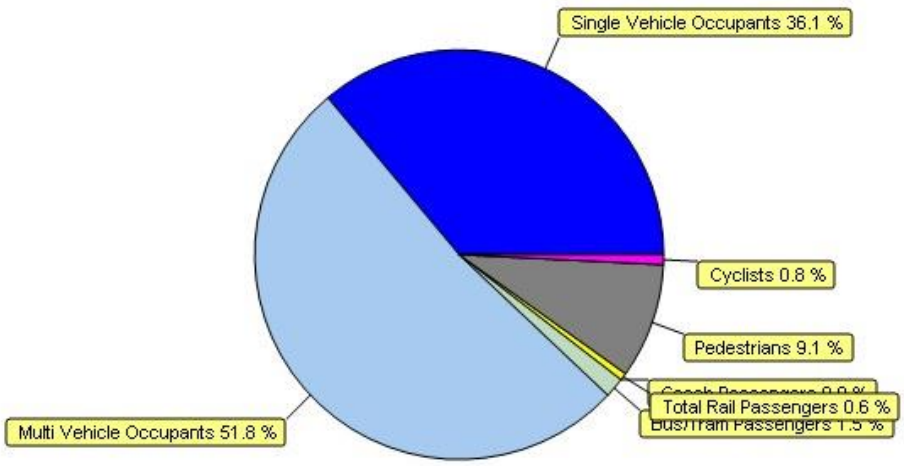
Table 6.1: Selected Residential Sites from TRICS (including two-way 12-hour trips)

| Site Reference | Borough | Units | Parking | Daily Person trips/ Unit | Similarities | Differences |
|---|---|---|---|---|---|---|
| ES-03-A-03 | East Sussex | 212 | 357 | 8.698 | Bus stop within 400m | 1/3 not privately owned |
| KC-03-A-06 | Kent | 363 | 789 | 7.419 | Bus stop within 400m | All private |
| KC-03-A-07 | Kent | 288 | 891 | 11.292 | Bus stop within 400m | All private |
| NE-03-A-02 | North East | 432 | 432 | 6.120 | Bus stop within 400m | All private |

| Site Reference | Borough | Units | Parking | Daily Person trips/ Unit | Similarities | Differences |
|---|---|---|---|---|---|---|
| ST-03-A-07 | Staffordshire | 148 | 881 | 6.804 | Bus stop within 400m | All private |
| WS-03-A-06 | West Horsham | 805 | 1726 | 4.993 | Bus stop within 400m | 19% not privately owned |

6.2.4 The modal split percentages from the multi-modal survey results are provided within Figure 6.1. As can be seen, motor vehicles are the dominant mode of transport making up 87.9% of journeys recorded. However, for a robust assessment of vehicle trip generation, it is proposed that the person trips rates from the TRICS sites are used along with the assumed mode shares to be applied (Table 6.3) in order to estimate residential vehicle trip generation. This methodology is in line with the OPA TA and ensures that non-vehicle trips are not over estimated.

Figure 6.1: Modal Split from Multi-Modal




6.2.5 The person trips based on the TRICS surveys listed in Table 6.1, have been set out in Table 6.2 along with the residential trip rates associated with the consented OPA TA for comparison. As can be seen, the updated trip rates are comparable to the trip rates associated with the consented OPA TA.

Table 6.2: Peak Hour Trip Rates minus OGV Trip Rates

| Time | Trip Rates (per unit) | | |
|---|---|---|---|
| | Arrive | Depart | 2-Way |
| **Updated TRICS Sites** | | | |
| 08:00 – 09:00 | 0.191 | 0.827 | 1.018 |
| 17:00 – 18:00 | 0.637 | 0.297 | 0.934 |

| Time | Trip Rates (per unit) | | |
|---|---|---|---|
| | Arrive | Depart | 2-Way |
| **OPA TA Residential Trip Rates** | | | |
| 08:00 – 09:00 | 0.241 | 0.845 | 1.086 |
| 17:00 – 18:00 | 0.622 | 0.389 | 1.011 |

### Commercial Development

6.2.6 At this stage, it is envisaged that the employment figures and hence, the commercial trip generation will remain unchanged compared to the consented OPA. As such, the TA for the proposed development will not assess commercial trips as they will be included as part of the consented OPA development trips in the Future Base and With Development scenarios.

6.2.7 If the employment figures were to change once the development proposals develop further, it is proposed that the commercial trip generation methodology associated with the consented OPA is adopted to account for any changes to the employment figures. The methodology and trip rates have been set out in detail in Appendix H of the OPA TA (2015).

### Removal of Hotel Proposals

6.2.8 As stated in Section 3, the hotel development associated with the consented OPA is no longer proposed. It is therefore proposed that the hotel trip generation, as set out in Appendix H of the OPA TA, is removed from the consented OPA development trips in the With Development scenarios.

6.2.9 The hotels trip that will be removed have been set out in Table 6.4.

## 6.3 Modal Split

6.3.1 For the residential element of the proposed development, it is proposed that the modal splits associated with the consented OPA are adopted. The OPA TA modal splits are based on a combination of 'journey to work' 2011 Census data, TRICS survey modal splits and knowledge of the local transport network characteristics. Particular consideration was given to the fact that the site has poor public transport connectivity and that vehicles are likely to be the dominant mode choice in the absence of a transport strategy or travel plan measures. It should be noted that the general level of public transport provision has remained similar compared to 2015.

6.3.2 The proposed modal split to be applied to the TRICS person trip generation has been presented in Table 6.3 below, and, the detailed methodology and assumptions are available in Appendix H of the OPA TA (2015).

Table 6.3: Proposed Mode Splits to be Applied to Residential Person Trips

| Mode | AM | | PM | |
|---|---|---|---|---|
| | In | Out | In | Out |
| Public transport (bus, coach and all rail) | 1% | 12% | 3% | 3% |
| Private car and taxis | 91% | 83% | 84% | 85% |
| Drivers (% of total mode split) | *59%* | *51%* | *66%* | *64%* |
| Passengers (% of total mode split) | *32%* | *32%* | *18%* | *21%* |
| Powered two-wheeler | 2% | 1% | 2% | 2% |
| Bicycle | 2% | 1% | 3% | 2% |
| Pedestrians (including 'others') | 4% | 3% | 8% | 8% |
| **Total** | **100%** | **100%** | **100%** | **100%** |

## 6.4 Summary Trip Generation

6.4.1 The peak hour net trip generation for the residential element and removal of the hotel proposals of the HPA development have been provided within Table 6.4 **below**.

## 6.5 Trip Distribution

6.5.1 It is proposed that the agreed vehicle trip distribution methodology associated with the consented OPA is adopted for the proposed development.

6.5.2 The detailed trip distribution methodology is available in Appendix J of the OPA TA and has been summarised in this report as follows:

- The origin/ destination of trips generated have been based on 2011 Census data residence and workplace locations.
- Only the car/van driver mode of travel to work has been used to account for the impact on the highway network. Most of the other modes have negligible numbers of trips according to the census with the notable exception of train, which is dominant for commuter trips to/from London. However, such trips will mainly occur outside the morning and evening peak hour periods.
- For the residential element, the proportions that apply are those referring to residents in Sevenoaks 008 who work elsewhere. The site boundary in relation to Sevenoaks 008 is presented in Figure 6.2. Whilst the site straddles two supper output areas, it was considered that MSOA 008 best represents the more rural nature of the site whereas 011 includes most of the Sevenoaks urban area.
- For the commercial development, the relevant proportions are those of workers in the Sevenoaks 008 MSOA living elsewhere.

Table 6.4: Peak Hour Residential Trip Generation Summary

| Land Use/ Trip Type | AM (08:00 – 09:00) | | PM (17:00 – 18:00) | |
|---|---|---|---|---|
| | Arr | Dep | Arr | Dep |
| **Residential Use (300 units –** additional to 450 consented) | | | | |
| Person trip rate per unit | 0.191 | 0.827 | 0.637 | 0.297 |
| Person trip Generation | 57 | 248 | 191 | 89 |
| Car Driver Share | 59% | 51% | 66% | 64% |
| Total Vehicle Trips | 34 | 127 | 126 | 57 |
| *HGV Trips** | *0* | *0.3* | *0.3* | *0.3* |
| **Removal of Hotel Proposals** | | | | |
| Net Person trips | - 17 | - 25 | - 24 | - 17 |
| Car trips | - 16 | - 19 | - 16 | - 12 |
| **Net Vehicle Trips** | | | | |
| Net Vehicle Trips | 18 | 108 | 110 | 45 |

** HGV Trips based on TRICS OGV Trip Rates*

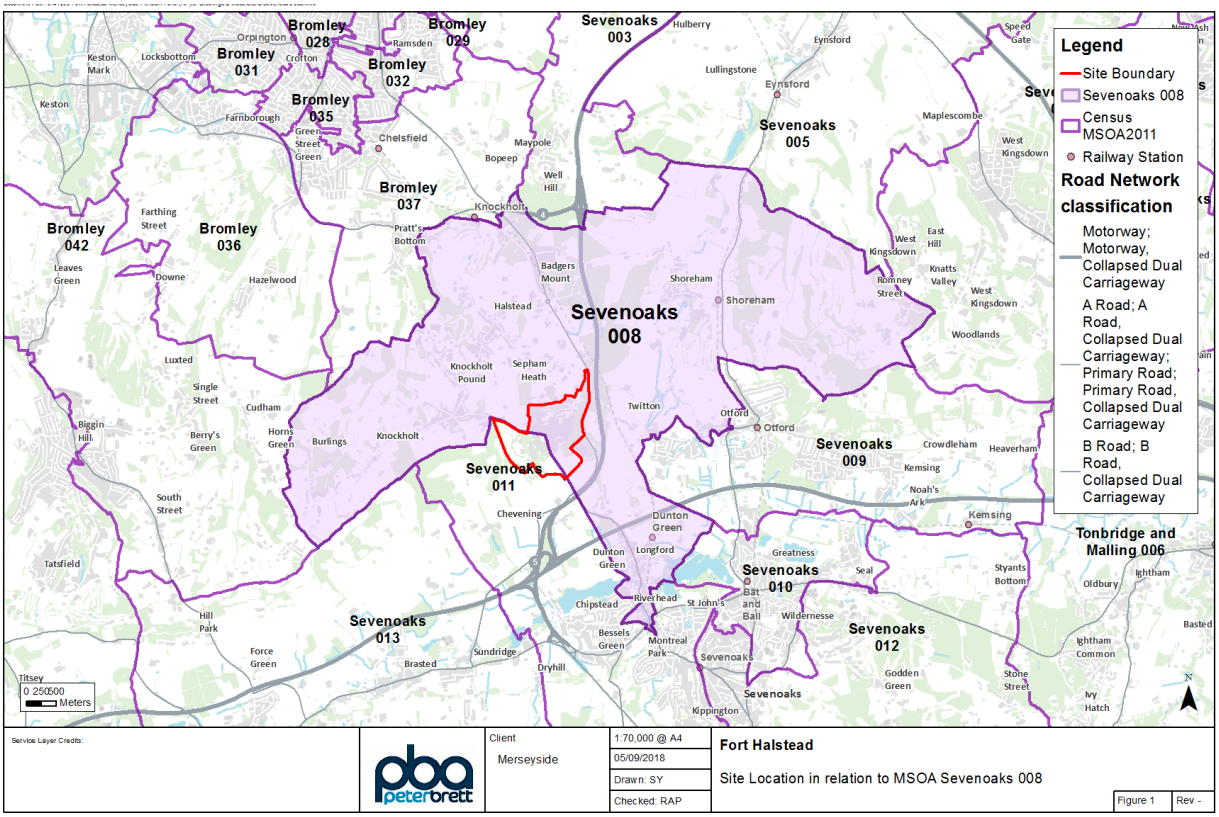



Figure 6.2: Site Location in relation to MSOA Sevenoaks 008

## 6.6 Traffic Assignment

6.6.1 The assignment of vehicle trips onto the local highway will vary according to the origin/destination of trips and the site access (Polhill/ Star Hill) used.

### Site Access Choice

6.6.2 The likely site access choice will primarily depend on the following factors:

- The trip end/start location within the defined site's internal zones and associated journey times;
- The trip end location outside the site (to the north or south) and associated journey times; and
- Restrictions/ measures to limit or restrict the use of a particular access.

6.6.3 As such, it is proposed that the site access choice will be determined once the design proposals for the internal site develop and will be based on the points set out in Paragraph 6.6.2 above. It has been recognised that it will be important to take account of the need to limit the attractiveness of the Star Hill access through the design of the new masterplan.

### Strategic Assignment

6.6.4 It is proposed that the agreed strategic routing associated with the consented OPA is adopted for the proposed residential trip generation. Overall, the methodology is based on a route catchment study, with additional inputs from knowledge of local conditions and most attractive routes, current travel patterns, and professional judgement.

6.6.5 The route catchment study is based on Navteq real time travel data for the morning and evening peak periods. Seventeen feed points to the highway network were defined and the percentage of trips feeding into each point from/ to each MSOA (informed by the Trip Distribution work) estimated.

6.6.6 The location of the feed points has been shown in Figure 6.3 and the proportion of residential trips to/from each feed point has been shown in Table 6.5.

6.6.7 Once the internal site design proposals develop and identify routes between the site access and internal site areas, it is proposed that the trips originating at each feed point are split among the two site access points.

6.6.8 Finally, the route between the feed points and each of the accesses will subsequently be defined according to the most reasonable routes and informed by knowledge of local conditions and professional judgement.

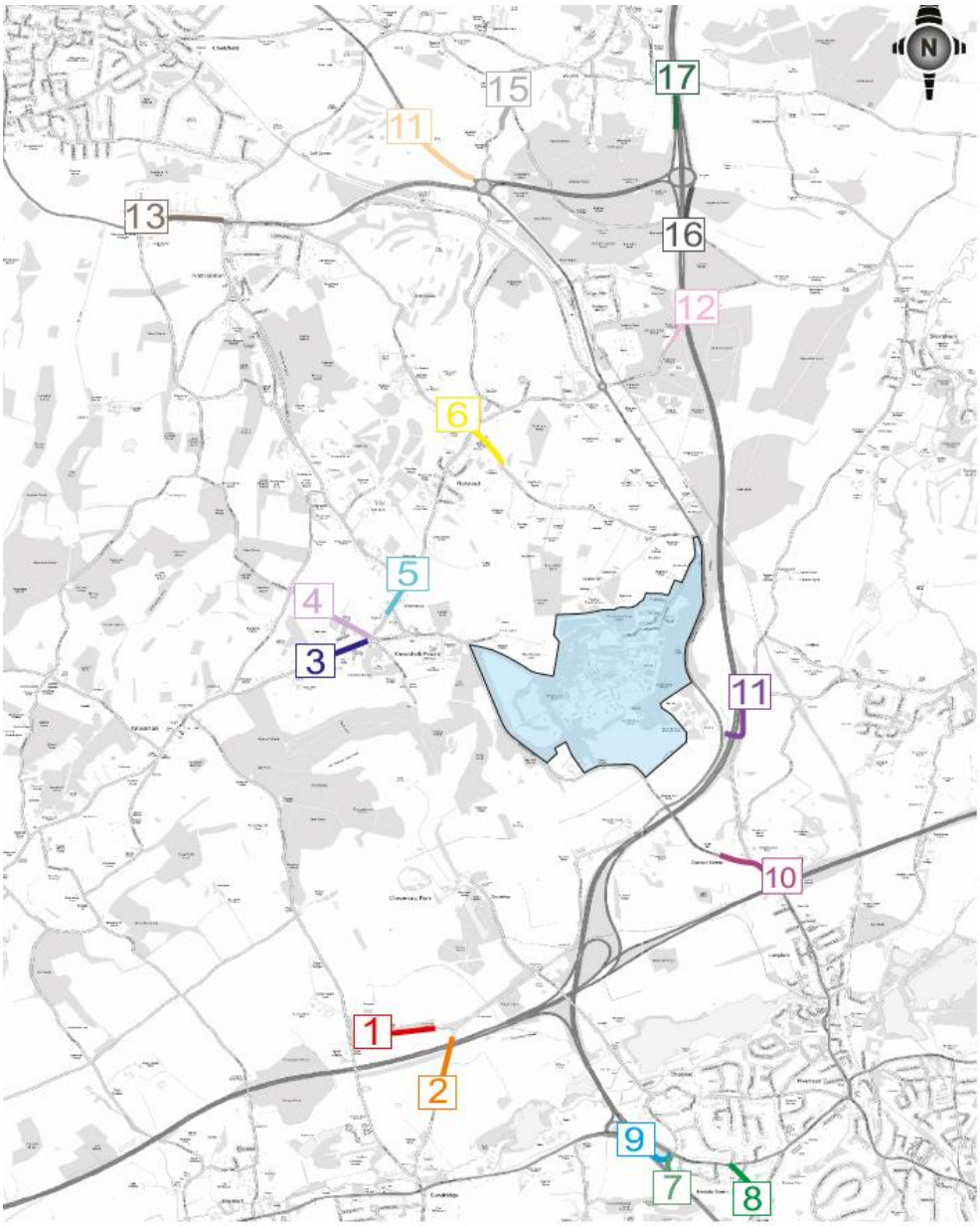



Figure 6.3: Location of Feed Points used for Traffic Assignment

Table 6.5: Proportion of Residential and Commercial Trips to/from Each Feed Point

| | RESIDENTIAL | | | |
|---|---|---|---|---|
| | AM peak | | PM peak | |
| Feeder | In | Out | In | Out |
| 1 | 2% | 2% | 2% | 2% |
| 2 | 6% | 6% | 6% | 6% |
| 3 | 2% | 2% | 2% | 2% |
| 4 | 1% | 1% | 1% | 1% |
| 5 | 2% | 2% | 2% | 2% |
| 6 | 1% | 1% | 1% | 1% |
| 7 | 15% | 15% | 15% | 15% |
| 8 | 2% | 2% | 2% | 2% |
| 9 | 8% | 8% | 8% | 8% |
| 10 | 9% | 9% | 9% | 9% |
| 11 | 8% | 8% | 8% | 8% |
| 12 | 1% | 1% | 1% | 1% |
| 13 | 5% | 5% | 5% | 5% |
| 14 | 9% | 9% | 9% | 9% |
| 15 | 1% | 1% | 1% | 1% |
| 16 | 0% | 0% | 0% | 0% |
| 17 | 27% | 27% | 27% | 27% |
| **Tot.** | **100%** | **100%** | **100%** | **100%** |

## 6.7 Assessment Scenarios

6.7.1 As discussed in Section 4.7, it is anticipated that the full development will be completed and operational in 2029. For the operational assessment of the highway network, it is proposed that the following scenarios would be assessed for the AM and PM peak hours:

- 2018 Baseline – This assessment establishes the existing operation of the assessed junctions/ links. Additionally, any local junction models will be validated in 2018 as the updated traffic surveys are to be undertaken during 2018.
- 2029 Future Base – This includes allowance for the impacts of committed development as well as background traffic growth. This would include the consented OPA development flows.
- 2029 With Development – As with the 2029 Future Base but with the addition on the traffic generated by the proposed development minus the previously proposed hotel development trips.
- 2029 With Development Sensitivity test – As with the 2029 With Development but with restricted Star Hill Access

# 7 Programme and Confirmation of Scope

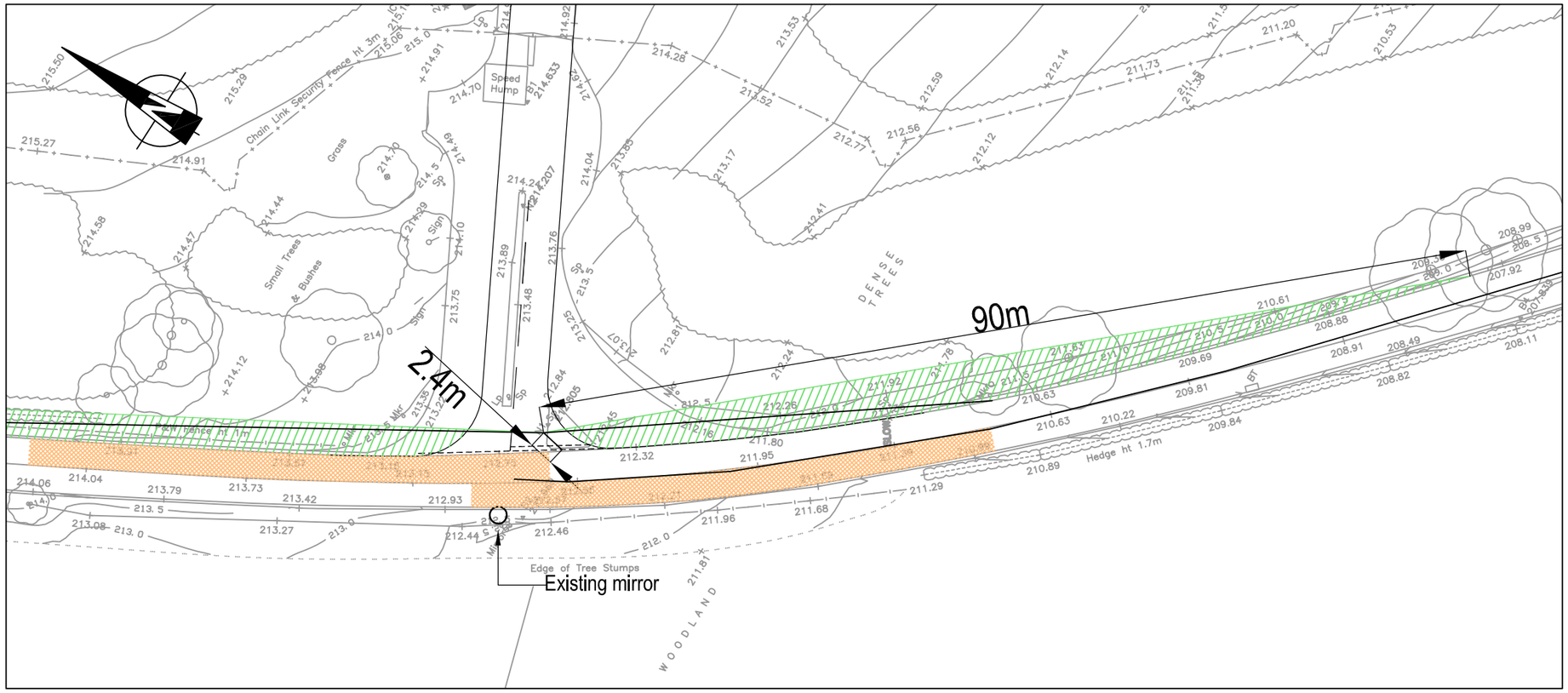
## 7.1 Programme

7.1.1 It is currently anticipated that the HPA will be submitted in March 2019.

## 7.2 Next Steps

7.2.1 This report has been prepared to agree the scope of the transport works and the trip generation methodology with KCC and SDC.

# Appendix A OPA Figures




NOTES:

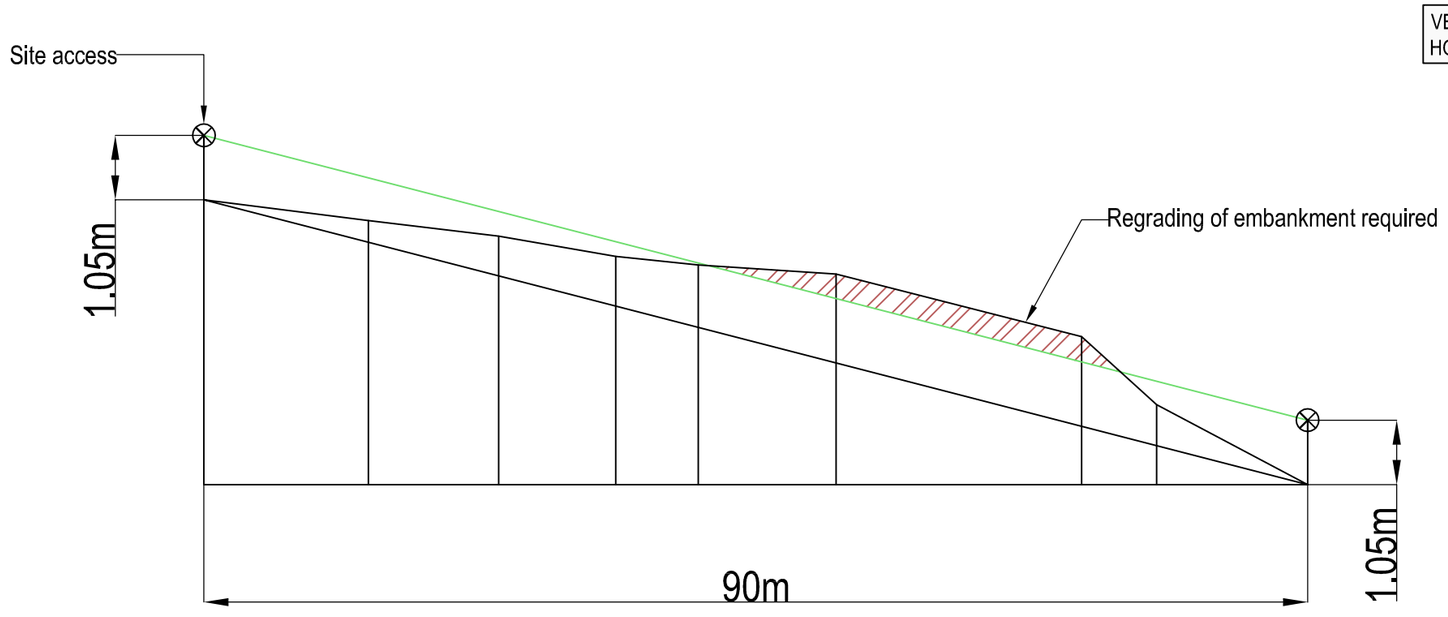
A STOPPING SIGHT DISTANCE OF 90M HAS BEEN USED. THE 90M SSD HAS BEEN TAKEN FROM DMRB HIGHWAY LINK DESIGN VOLUME 6 SECTION 1 PART 1 TD 9/93. THE DESIRABLE MINIMUM IS SPECIFIED AS 120M FOR A 40MPH ROAD, HOWEVER IT DOES SPECIFY 90M AS ONE STEP BELOW DESIRABLE MINIMUM.

STREET LIGHTING WILL NEED TO BE INCLUDED.

KEY:

REQUIRED AREA OF LAND TO BE CLEARED OF VEGETATION.

HIGH FRICTION SURFACING (50m MINIMUM)




| Mark | Revision | Drawn | Date | Chkd |
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SCALING NOTE: Do not scale from this drawing. If in doubt, ask.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status

FOR INFORMATION

# FORT HALSTEAD, SEVENOAKS
# VISIBILITY SPLAY

## STAR HILL ROAD ACCESS - 90M SSD

Client

ARMSTRONG (KENT) LLP

| Date of 1st Issue | Drawn by |
|---|---|
| 06/02/15 | CR |
| A3 Scale | Checked by |
| 1:500 | RP |
| Drawing Number | Revision |
| 26582/001/001 | - |


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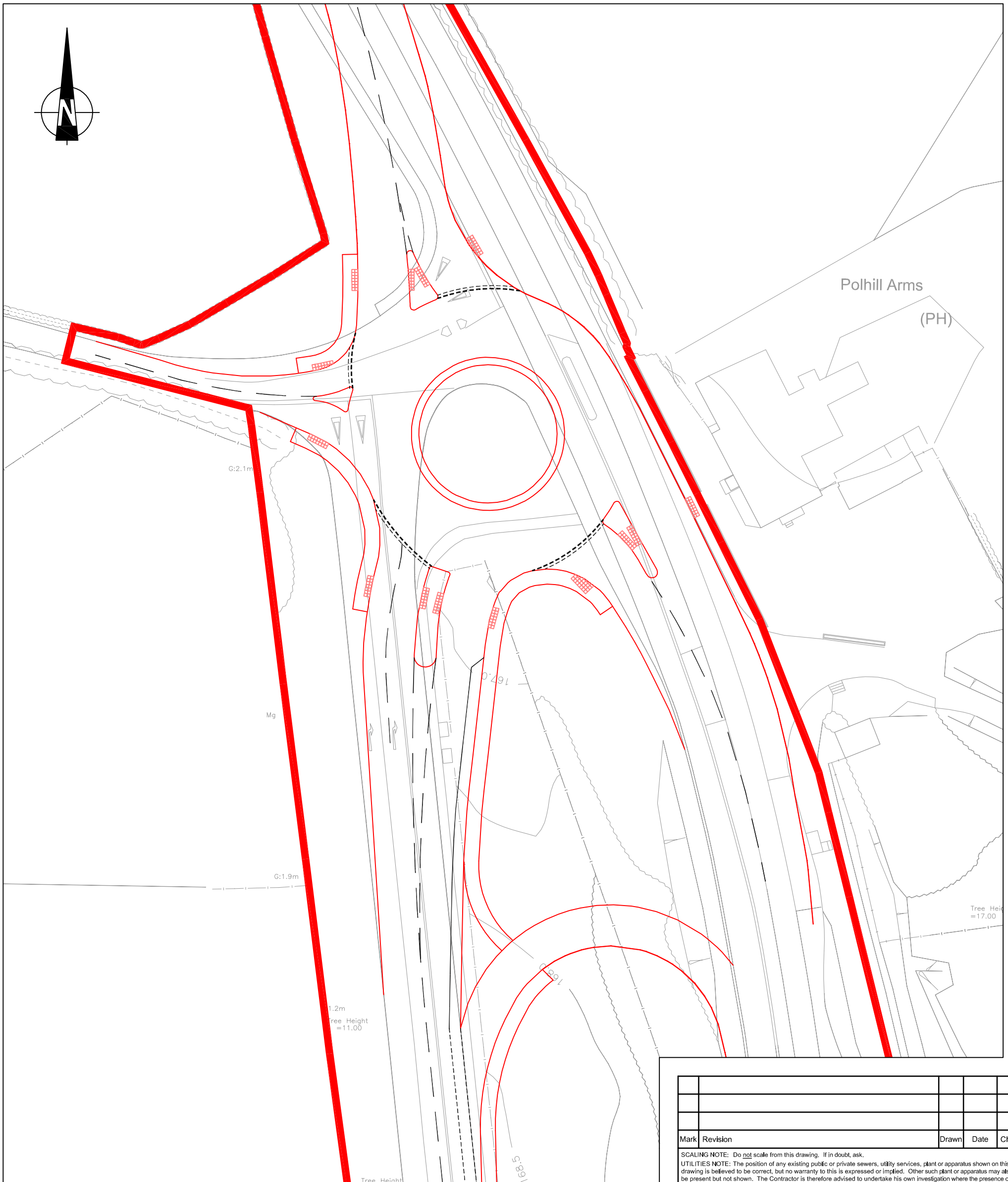


| Mark | Revision | Drawn | Date | Chkd |
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UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status

FOR INFORMATION

# FORT HALSTEAD, SEVENOAKS
# A224 POLHILL / OTFORD LANE JUNCTION
# POTENTIAL ROUNDABOUT LAYOUT
# OPTION 3

Client

ARMSTRONG (KENT) LLP

| | |
|---|---|
| Date of 1st Issue: 06/02/15 | Drawn by: CR |
| A3 Scale: 1:500 | Checked by: RP |
| Drawing Number: 26582/001/005 | Revision: - |

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# Appendix B Highways Pre-Application Meeting Notes

CBRE Limited
Henrietta House
Henrietta Place
London W1G 0NB

# Minutes of Meeting

**Project:** Fort Halstead

**Meeting:** Pre-application meeting with Kent County Council Highways Department

**Date:** 27 June 2018

**Present**:
David Barton (DB) – Kent County Council (KCC)
Louise Rowlands (LR) – Kent County Council
Alison Salter (AS) – Sevenoaks District Council (SDC)
Phoebe Juggins (PJ) – CBRE
Kate Goldie (KG) – CBRE
Robert Parker (RP) – PBA
MMNejad (MN) – PBA

| Reference | | Action |
|---|---|---|
| **1.0** | **Review of Consented Scheme and Revised Proposals** | |
| 1.1 | Following introductions, PJ ran through the broad parameters of the consented Outline Planning Permission (OPP) (ref: SE/15/00628/OUT) for the site and highlighted that the consent allows for 450 residential homes to be delivered. | |
| 1.2 | Following the grant of planning permission on 30th December 2015, the site was purchased by its new owners, Merseyside Pension Fund (MPF). Their aspiration is to increase the number of residential units to be provided on the site, and as such MPF are seeking to submit a new Hybrid Planning Application (HPA) to enable this. | |
| 1.3 | PJ outlined that CBRE have been working with SDC to increase the housing allocation for the site through SDC's emerging Local Plan. A submission was therefore made as part of SDC's 'Call for Sites' on the 31st May 2018 which stated there is potential capacity on the site to accommodate up to 750 new homes. Subsequently, the draft version of the new Local Plan, featuring the potential allocation of Fort Halstead to deliver up to 750 new homes, was approved at SDC's Planning Advisory Committee on the 19th June 2018. | |
| 1.5 | The 'up to 750 unit' figure has been determined on the basis of a masterplanning feasibility exercise CBRE has been coordinating to establish the optimum uplift in residential numbers, whilst ensuring the employment aspirations for the site remain deliverable. | |

| Reference | | Action |
|---|---|---|
| 1.6 | However, PJ noted that the new masterplan scheme to be submitted as part of the HPA would in reality seek consent for 650 – 700 units, with no intention of going beyond the 750 unit figure. | |
| 1.7 | In relation to the timeline for progressing the new HPA, PJ stated that the intention is to work with SDC so the HPA is not submitted ahead of the Local Plan timetable. However, the HPA will be submitted before the Local Plan is adopted, likely in early 2019. | |
| **2.0** | **Star Hill Access Restriction** | |
| 2.1 | In terms of the key highways considerations in relation to the extant OPP, PJ noted the main consideration is the Star Hill access restriction imposed via condition no.14. All acknowledged that this condition was added as the result of a last minute decision by Members on the night of the OPP Planning Committee. DB further stressed that KCC had never requested this access restriction and were not supportive of the condition. | |
| 2.2 | PJ outlined that the project team consider there is no merit in attempting to remove this restriction via a s.73 application given that a new HPA is being pursued. Instead, this issue can be addressed through the preparation of the new HPA. | |
| 2.3 | LR stated that the HPA will result in a fresh decision notice being issued, with new conditions meaning that condition no.14 will no longer apply. LR stressed that KCC have a requirement for two full access points for the site, rather than having Star Hill only open for emergency access. | |
| 2.4 | DB added that KCC would object to a new HPA if only one access point is proposed as any site with more than 300 units needs more than one. KCC need to be consistent in terms of their requirements for access points across all sites. LR further added that adopted Kent Design Policy requires two access points for sites of this size and that it would be difficult to justify why this site should deviate from policy. | |
| 2.5 | RP stressed that whilst it is acknowledged it would be preferable to have two access points. However, the site can still function adequately from a capacity perspective with a main access onto A224 and with Star Hill as an emergency / bus / cycle / pedestrian access. Therefore development should not be prevented should two full access points not be consented. In the event of road works The Star Hill access could be used on a temporary basis to access the site. | |
| 2.6 | DB responded that for the new HPA, the key thing is for the project team to focus on the messaging to Members so they are satisfied that having Star Hill open does not create congestion or safety issues, and is instead the optimal access strategy for the site. A review of the minutes from the OPP Planning Committee should be conducted to ensure the new HPA and its supporting Transport Assessment (TA) will robustly address Members concerns in relation to Star Hill. | |

| Reference | | Action |
|---|---|---|
| 2.7 | LR enquired as to whether it is possible to make Star Hill appear an unappealing access point to allay concerns regarding congestion i.e. using cattle railings etc. RP responded that the internal road layout for the OPP was already designed so Star Hill was only attractive for a limited number of homes situated towards this portion of the site. | |
| 2.8 | AS added that careful consideration should also be made as to how the TA and other supporting highways information is presented for public consultation. This should make clear the journey times and use less technical jargon so it is obvious that the impact of Star Hill remaining open will not cause any severe traffic congestion implications for local residents. LR noted that it will be key to clearly explain the methodology for calculating traffic distribution, as will need to provide evidence to minimise concerns about village trip generating to Star Hill. DB pointed out that google may be a useful tool for showing the trip sensitivity for different times of the day. | |
| 2.9 | PJ stated that it may be worthwhile preparing a joint position statement with KCC setting out the key transport and access considerations for the site. This should stress that we are in agreement that two access points are needed for a site of this size, and will not give way to negative highways and congestion implications at Star Hill. This position statement could be used for both the HPA and as part of representations and input into SDC's new Local Plan in order to progress the site allocation for up to 750 new homes. | |
| 2.10 | DB asked whether it is possible to add a condition that a secondary access point must be provided. AS responded that this needs to be more specific and there is a need to plan for Members actions on the night, by considering exceptional circumstances and incorporating the access requirements into the proposed conditions and Section 106. | |
| 2.11 | PJ outlined that the new TA will test both options i.e. having Star Hill both open and closed, with the preference being to have Star Hill remain open. | |
| **3.0** | **Broke Hill Golf Course** | |
| 3.1 | LR raised that the TA should model the impact of Broke Hill Golf Course, which has been put forward under the emerging Local Plan for c.800 new homes. | |
| 3.2 | PJ responded that this site is not even a draft allocation yet, and that the TA cannot model for every site in the draft plan. Given Broke Hill is only at the initial pre-application stage and is yet to be formally submitted we will continue to monitor the status of this site, however it will not be tested as part of the TA unless it is formally submitted imminently. | |
| **4.0** | **TA Assumptions** | |

| Reference | | Action |
|---|---|---|
| 4.1 | RP ran through the TA briefing note he had prepared in advance of the meeting. The starting point for the TA will be to assess the additional net impacts arising from the uplift in residential units as there is already an extant OPP so whilst the full traffic associated with the HPA will be assessed, the net impacts will just be related to the uplift. | |
| 4.2 | The TA will also update the TRICS trip rates, show two access points, as well as sensitivity testing a single access. TEMPro will be used to account for traffic growth except for traffic associated with the Kent Cold Store which will be taken into account manually. | |
| 4.3 | LR flagged that by the time the new HPA is submitted in early 2019 the data for the original TA will be more than three years old, and that new surveys will be required if using data from 2014 or before. The TA will therefore need to robustly justify the position for using up to 5-year old survey data, using ATC data, if this is pursued. | |
| 4.4 | In relation to Star Hill, DB noted that the net increase will need to remodelled for robustness given condition no.14. | |
| 4.5 | RP stated that a formal scoping note will be submitted to KCC setting out the surveys intended to be carried out. The forecast for the OPP was 2026 so the intention is to do up to 2029 this year. DB pointed out that the emerging Local Plan now runs to 2035, and they have asked elsewhere for the Local Plan period to be considered. This could be done as a sensitivity test. | PB to issue scoping note |
| **5.0** | **Other Matters** | |
| 5.1 | In relation to the internal roundabout consented as part of the road layout for the OPP, RP stated that it is likely this will be reconsidered as part of the HPA in light of there being no proposed Class B2 use within the Employment Zone. The reason for the roundabout initially was to split the commercial and residential traffic, however given it is likely no HGV's etc will access the site, there is no longer a need to split the traffic and hence create a roundabout. This position will however be monitored throughout the design process in case the uplift in residential unit numbers requires the inclusion of a roundabout. | AS to liaise with CBRE on LB Bromley LP |
| 5.2 | DB queried why the upgraded access onto the A224 was a roundabout rather than traffic lights that might be considered better for cycle safety. RP stated that the original design proposed a signals but there was considerable local opposition to signals and a roundabout was considered more appropriate and in keeping with design of junctions elsewhere locally. The needs of cycles had been taken into account in the design. | |
| 5.3 | DB queried about whether the duty to cooperate with LB Bromley is relevant here. PJ responded that they will take the lead from Sevenoaks on this. AS to provide an update on this and their unmet housing need. CBRE to continue to monitor Bromley's Local Plan position. | |

| Reference | | Action |
|---|---|---|
| 5.4 | In relation to the Travel Plan to be submitted to support the HPA, RP stated more thought will be given to public transport in this. DB advised to speak to local bus service as the uplift in unit numbers may justify a service to operate here. DB also advised that cycling provision should be addressed in the Travel Plan, perhaps via a voucher scheme to encourage uptake of this mode of travel. | |
| 5.5 | Lastly, DB asked whether Highways England were consulted as part of the OPP. RP responded that they were not, to which AS advised it would be helpful to monitor Highways England input into the emerging Local Plan and that it may be beneficial to liaise with them through pre-application discussions. | |

# Appendix C TRICS Outputs

Calculation Reference: AUDIT-706701-180816-0807

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

*Selected regions and areas:*

| | | | |
|---|---|---|---|
| 02 | SOUTH EAST | | |
| | ES | EAST SUSSEX | 1 days |
| | KC | KENT | 2 days |
| | WS | WEST SUSSEX | 1 days |
| 06 | WEST MIDLANDS | | |
| | ST | STAFFORDSHIRE | 1 days |
| 07 | YORKSHIRE & NORTH LINCOLNSHIRE | | |
| | NE | NORTH EAST LINCOLNSHIRE | 1 days |

*This section displays the number of survey days per TRICS® sub-region in the selected set*

Secondary Filtering selection:

*This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: Number of dwellings
Actual Range: 212 to 805 (units: )
Range Selected by User: 200 to 805 (units: )

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/11/13 to 22/11/17

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*

*Selected survey days:*

| | |
|---|---|
| Monday | 2 days |
| Wednesday | 3 days |
| Thursday | 1 days |

*This data displays the number of selected surveys by day of the week.*

*Selected survey types:*

| | |
|---|---|
| Manual count | 6 days |
| Directional ATC Count | 0 days |

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.*

*Selected Locations:*

| | |
|---|---|
| Suburban Area (PPS6 Out of Centre) | 1 |
| Edge of Town | 5 |

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*

*Selected Location Sub Categories:*

| | |
|---|---|
| Residential Zone | 5 |
| No Sub Category | 1 |

*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.*

Secondary Filtering selection:

*Use Class:*

| | |
|---|---|
| C3 | 6 days |

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*

Secondary Filtering selection (Cont.):

*Population within 1 mile:*

| | |
|---|---|
| 5,001 to 10,000 | 2 days |
| 10,001 to 15,000 | 3 days |
| 20,001 to 25,000 | 1 days |

*This data displays the number of selected surveys within stated 1-mile radii of population.*

*Population within 5 miles:*

| | |
|---|---|
| 50,001 to 75,000 | 3 days |
| 75,001 to 100,000 | 2 days |
| 125,001 to 250,000 | 1 days |

*This data displays the number of selected surveys within stated 5-mile radii of population.*

*Car ownership within 5 miles:*

| | |
|---|---|
| 0.6 to 1.0 | 1 days |
| 1.1 to 1.5 | 5 days |

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

*Travel Plan:*

| | |
|---|---|
| Yes | 1 days |
| No | 5 days |

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

*PTAL Rating:*

| | |
|---|---|
| No PTAL Present | 6 days |

*This data displays the number of selected surveys with PTAL Ratings.*

*LIST OF SITES relevant to selection parameters*

1 ES-03-A-03 MIXED HOUSES & FLATS EAST SUSSEX
SHEPHAM LANE
POLEGATE

Edge of Town
Residential Zone
Total Number of dwellings: 212
*Survey date: MONDAY* *11/07/16* *Survey Type: MANUAL*

2 KC-03-A-06 MIXED HOUSES & FLATS KENT
MARGATE ROAD
HERNE BAY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 363
*Survey date: WEDNESDAY* *27/09/17* *Survey Type: MANUAL*

3 KC-03-A-07 MIXED HOUSES KENT
RECULVER ROAD
HERNE BAY

Edge of Town
Residential Zone
Total Number of dwellings: 288
*Survey date: WEDNESDAY* *27/09/17* *Survey Type: MANUAL*

4 NE-03-A-02 SEMI DETACHED & DETACHED NORTH EAST LINCOLNSHIRE
HANOVER WALK
SCUNTHORPE

Edge of Town
No Sub Category
Total Number of dwellings: 432
*Survey date: MONDAY* *12/05/14* *Survey Type: MANUAL*

5 ST-03-A-07 DETACHED & SEMI-DETACHED STAFFORDSHIRE
BEACONSIDE
STAFFORD
MARSTON GATE
Edge of Town
Residential Zone
Total Number of dwellings: 248
*Survey date: WEDNESDAY* *22/11/17* *Survey Type: MANUAL*

6 WS-03-A-06 MIXED HOUSES WEST SUSSEX
ELLIS ROAD
WEST HORSHAM
S BROADBRIDGE HEATH
Edge of Town
Residential Zone
Total Number of dwellings: 805
*Survey date: THURSDAY* *02/03/17* *Survey Type: MANUAL*

*This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.090 | 6 | 391 | 0.307 | 6 | 391 | 0.397 |
| 08:00 - 09:00 | 6 | 391 | 0.138 | 6 | 391 | 0.412 | 6 | 391 | 0.550 |
| 09:00 - 10:00 | 6 | 391 | 0.146 | 6 | 391 | 0.160 | 6 | 391 | 0.306 |
| 10:00 - 11:00 | 6 | 391 | 0.116 | 6 | 391 | 0.147 | 6 | 391 | 0.263 |
| 11:00 - 12:00 | 6 | 391 | 0.133 | 6 | 391 | 0.154 | 6 | 391 | 0.287 |
| 12:00 - 13:00 | 6 | 391 | 0.156 | 6 | 391 | 0.152 | 6 | 391 | 0.308 |
| 13:00 - 14:00 | 6 | 391 | 0.153 | 6 | 391 | 0.151 | 6 | 391 | 0.304 |
| 14:00 - 15:00 | 6 | 391 | 0.174 | 6 | 391 | 0.184 | 6 | 391 | 0.358 |
| 15:00 - 16:00 | 6 | 391 | 0.268 | 6 | 391 | 0.182 | 6 | 391 | 0.450 |
| 16:00 - 17:00 | 6 | 391 | 0.290 | 6 | 391 | 0.180 | 6 | 391 | 0.470 |
| 17:00 - 18:00 | 6 | 391 | 0.358 | 6 | 391 | 0.169 | 6 | 391 | 0.527 |
| 18:00 - 19:00 | 6 | 391 | 0.338 | 6 | 391 | 0.207 | 6 | 391 | 0.545 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 2.360 | | | 2.405 | | | 4.765 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

| | |
|---|---|
| Trip rate parameter range selected: | 212 - 805 (units: ) |
| Survey date date range: | 01/11/13 - 22/11/17 |
| Number of weekdays (Monday-Friday): | 6 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys automatically removed from selection: | 0 |
| Surveys manually removed from selection: | 0 |

*This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.001 | 6 | 391 | 0.001 | 6 | 391 | 0.002 |
| 08:00 - 09:00 | 6 | 391 | 0.002 | 6 | 391 | 0.001 | 6 | 391 | 0.003 |
| 09:00 - 10:00 | 6 | 391 | 0.002 | 6 | 391 | 0.000 | 6 | 391 | 0.002 |
| 10:00 - 11:00 | 6 | 391 | 0.002 | 6 | 391 | 0.003 | 6 | 391 | 0.005 |
| 11:00 - 12:00 | 6 | 391 | 0.001 | 6 | 391 | 0.002 | 6 | 391 | 0.003 |
| 12:00 - 13:00 | 6 | 391 | 0.001 | 6 | 391 | 0.001 | 6 | 391 | 0.002 |
| 13:00 - 14:00 | 6 | 391 | 0.001 | 6 | 391 | 0.000 | 6 | 391 | 0.001 |
| 14:00 - 15:00 | 6 | 391 | 0.003 | 6 | 391 | 0.003 | 6 | 391 | 0.006 |
| 15:00 - 16:00 | 6 | 391 | 0.003 | 6 | 391 | 0.003 | 6 | 391 | 0.006 |
| 16:00 - 17:00 | 6 | 391 | 0.003 | 6 | 391 | 0.003 | 6 | 391 | 0.006 |
| 17:00 - 18:00 | 6 | 391 | 0.001 | 6 | 391 | 0.000 | 6 | 391 | 0.001 |
| 18:00 - 19:00 | 6 | 391 | 0.001 | 6 | 391 | 0.001 | 6 | 391 | 0.002 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.021 | | | 0.018 | | | 0.039 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 08:00 - 09:00 | 6 | 391 | 0.000 | 6 | 391 | 0.001 | 6 | 391 | 0.001 |
| 09:00 - 10:00 | 6 | 391 | 0.003 | 6 | 391 | 0.001 | 6 | 391 | 0.004 |
| 10:00 - 11:00 | 6 | 391 | 0.003 | 6 | 391 | 0.004 | 6 | 391 | 0.007 |
| 11:00 - 12:00 | 6 | 391 | 0.002 | 6 | 391 | 0.002 | 6 | 391 | 0.004 |
| 12:00 - 13:00 | 6 | 391 | 0.002 | 6 | 391 | 0.003 | 6 | 391 | 0.005 |
| 13:00 - 14:00 | 6 | 391 | 0.002 | 6 | 391 | 0.001 | 6 | 391 | 0.003 |
| 14:00 - 15:00 | 6 | 391 | 0.001 | 6 | 391 | 0.002 | 6 | 391 | 0.003 |
| 15:00 - 16:00 | 6 | 391 | 0.001 | 6 | 391 | 0.001 | 6 | 391 | 0.002 |
| 16:00 - 17:00 | 6 | 391 | 0.003 | 6 | 391 | 0.001 | 6 | 391 | 0.004 |
| 17:00 - 18:00 | 6 | 391 | 0.001 | 6 | 391 | 0.001 | 6 | 391 | 0.002 |
| 18:00 - 19:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.018 | | | 0.017 | | | 0.035 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 08:00 - 09:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 09:00 - 10:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 10:00 - 11:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 11:00 - 12:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 12:00 - 13:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 13:00 - 14:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 14:00 - 15:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 15:00 - 16:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 16:00 - 17:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 17:00 - 18:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 18:00 - 19:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.000 | | | 0.000 | | | 0.000 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.002 | 6 | 391 | 0.006 | 6 | 391 | 0.008 |
| 08:00 - 09:00 | 6 | 391 | 0.000 | 6 | 391 | 0.005 | 6 | 391 | 0.005 |
| 09:00 - 10:00 | 6 | 391 | 0.000 | 6 | 391 | 0.001 | 6 | 391 | 0.001 |
| 10:00 - 11:00 | 6 | 391 | 0.000 | 6 | 391 | 0.001 | 6 | 391 | 0.001 |
| 11:00 - 12:00 | 6 | 391 | 0.002 | 6 | 391 | 0.001 | 6 | 391 | 0.003 |
| 12:00 - 13:00 | 6 | 391 | 0.002 | 6 | 391 | 0.002 | 6 | 391 | 0.004 |
| 13:00 - 14:00 | 6 | 391 | 0.002 | 6 | 391 | 0.003 | 6 | 391 | 0.005 |
| 14:00 - 15:00 | 6 | 391 | 0.001 | 6 | 391 | 0.001 | 6 | 391 | 0.002 |
| 15:00 - 16:00 | 6 | 391 | 0.002 | 6 | 391 | 0.003 | 6 | 391 | 0.005 |
| 16:00 - 17:00 | 6 | 391 | 0.006 | 6 | 391 | 0.006 | 6 | 391 | 0.012 |
| 17:00 - 18:00 | 6 | 391 | 0.007 | 6 | 391 | 0.007 | 6 | 391 | 0.014 |
| 18:00 - 19:00 | 6 | 391 | 0.004 | 6 | 391 | 0.003 | 6 | 391 | 0.007 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.028 | | | 0.039 | | | 0.067 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.118 | 6 | 391 | 0.460 | 6 | 391 | 0.578 |
| 08:00 - 09:00 | 6 | 391 | 0.178 | 6 | 391 | 0.724 | 6 | 391 | 0.902 |
| 09:00 - 10:00 | 6 | 391 | 0.189 | 6 | 391 | 0.232 | 6 | 391 | 0.421 |
| 10:00 - 11:00 | 6 | 391 | 0.154 | 6 | 391 | 0.203 | 6 | 391 | 0.357 |
| 11:00 - 12:00 | 6 | 391 | 0.176 | 6 | 391 | 0.227 | 6 | 391 | 0.403 |
| 12:00 - 13:00 | 6 | 391 | 0.213 | 6 | 391 | 0.216 | 6 | 391 | 0.429 |
| 13:00 - 14:00 | 6 | 391 | 0.215 | 6 | 391 | 0.214 | 6 | 391 | 0.429 |
| 14:00 - 15:00 | 6 | 391 | 0.248 | 6 | 391 | 0.259 | 6 | 391 | 0.507 |
| 15:00 - 16:00 | 6 | 391 | 0.466 | 6 | 391 | 0.258 | 6 | 391 | 0.724 |
| 16:00 - 17:00 | 6 | 391 | 0.491 | 6 | 391 | 0.270 | 6 | 391 | 0.761 |
| 17:00 - 18:00 | 6 | 391 | 0.564 | 6 | 391 | 0.255 | 6 | 391 | 0.819 |
| 18:00 - 19:00 | 6 | 391 | 0.503 | 6 | 391 | 0.322 | 6 | 391 | 0.825 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 3.515 | | | 3.640 | | | 7.155 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.010 | 6 | 391 | 0.021 | 6 | 391 | 0.031 |
| 08:00 - 09:00 | 6 | 391 | 0.012 | 6 | 391 | 0.077 | 6 | 391 | 0.089 |
| 09:00 - 10:00 | 6 | 391 | 0.026 | 6 | 391 | 0.026 | 6 | 391 | 0.052 |
| 10:00 - 11:00 | 6 | 391 | 0.021 | 6 | 391 | 0.023 | 6 | 391 | 0.044 |
| 11:00 - 12:00 | 6 | 391 | 0.020 | 6 | 391 | 0.016 | 6 | 391 | 0.036 |
| 12:00 - 13:00 | 6 | 391 | 0.020 | 6 | 391 | 0.021 | 6 | 391 | 0.041 |
| 13:00 - 14:00 | 6 | 391 | 0.024 | 6 | 391 | 0.019 | 6 | 391 | 0.043 |
| 14:00 - 15:00 | 6 | 391 | 0.028 | 6 | 391 | 0.038 | 6 | 391 | 0.066 |
| 15:00 - 16:00 | 6 | 391 | 0.090 | 6 | 391 | 0.030 | 6 | 391 | 0.120 |
| 16:00 - 17:00 | 6 | 391 | 0.053 | 6 | 391 | 0.022 | 6 | 391 | 0.075 |
| 17:00 - 18:00 | 6 | 391 | 0.046 | 6 | 391 | 0.032 | 6 | 391 | 0.078 |
| 18:00 - 19:00 | 6 | 391 | 0.027 | 6 | 391 | 0.036 | 6 | 391 | 0.063 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.377 | | | 0.361 | | | 0.738 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.000 | 6 | 391 | 0.009 | 6 | 391 | 0.009 |
| 08:00 - 09:00 | 6 | 391 | 0.000 | 6 | 391 | 0.014 | 6 | 391 | 0.014 |
| 09:00 - 10:00 | 6 | 391 | 0.001 | 6 | 391 | 0.008 | 6 | 391 | 0.009 |
| 10:00 - 11:00 | 6 | 391 | 0.002 | 6 | 391 | 0.002 | 6 | 391 | 0.004 |
| 11:00 - 12:00 | 6 | 391 | 0.001 | 6 | 391 | 0.003 | 6 | 391 | 0.004 |
| 12:00 - 13:00 | 6 | 391 | 0.002 | 6 | 391 | 0.001 | 6 | 391 | 0.003 |
| 13:00 - 14:00 | 6 | 391 | 0.005 | 6 | 391 | 0.004 | 6 | 391 | 0.009 |
| 14:00 - 15:00 | 6 | 391 | 0.003 | 6 | 391 | 0.003 | 6 | 391 | 0.006 |
| 15:00 - 16:00 | 6 | 391 | 0.011 | 6 | 391 | 0.004 | 6 | 391 | 0.015 |
| 16:00 - 17:00 | 6 | 391 | 0.014 | 6 | 391 | 0.004 | 6 | 391 | 0.018 |
| 17:00 - 18:00 | 6 | 391 | 0.012 | 6 | 391 | 0.002 | 6 | 391 | 0.014 |
| 18:00 - 19:00 | 6 | 391 | 0.012 | 6 | 391 | 0.006 | 6 | 391 | 0.018 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.063 | | | 0.060 | | | 0.123 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.000 | 6 | 391 | 0.006 | 6 | 391 | 0.006 |
| 08:00 - 09:00 | 6 | 391 | 0.000 | 6 | 391 | 0.007 | 6 | 391 | 0.007 |
| 09:00 - 10:00 | 6 | 391 | 0.000 | 6 | 391 | 0.003 | 6 | 391 | 0.003 |
| 10:00 - 11:00 | 6 | 391 | 0.000 | 6 | 391 | 0.003 | 6 | 391 | 0.003 |
| 11:00 - 12:00 | 6 | 391 | 0.000 | 6 | 391 | 0.002 | 6 | 391 | 0.002 |
| 12:00 - 13:00 | 6 | 391 | 0.000 | 6 | 391 | 0.001 | 6 | 391 | 0.001 |
| 13:00 - 14:00 | 6 | 391 | 0.001 | 6 | 391 | 0.000 | 6 | 391 | 0.001 |
| 14:00 - 15:00 | 6 | 391 | 0.001 | 6 | 391 | 0.000 | 6 | 391 | 0.001 |
| 15:00 - 16:00 | 6 | 391 | 0.005 | 6 | 391 | 0.001 | 6 | 391 | 0.006 |
| 16:00 - 17:00 | 6 | 391 | 0.003 | 6 | 391 | 0.000 | 6 | 391 | 0.003 |
| 17:00 - 18:00 | 6 | 391 | 0.008 | 6 | 391 | 0.000 | 6 | 391 | 0.008 |
| 18:00 - 19:00 | 6 | 391 | 0.005 | 6 | 391 | 0.001 | 6 | 391 | 0.006 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.023 | | | 0.024 | | | 0.047 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL COACH PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 08:00 - 09:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 09:00 - 10:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 10:00 - 11:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 11:00 - 12:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 12:00 - 13:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 13:00 - 14:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 14:00 - 15:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 15:00 - 16:00 | 6 | 391 | 0.001 | 6 | 391 | 0.000 | 6 | 391 | 0.001 |
| 16:00 - 17:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 17:00 - 18:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 18:00 - 19:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.001 | | | 0.000 | | | 0.001 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.000 | 6 | 391 | 0.015 | 6 | 391 | 0.015 |
| 08:00 - 09:00 | 6 | 391 | 0.000 | 6 | 391 | 0.022 | 6 | 391 | 0.022 |
| 09:00 - 10:00 | 6 | 391 | 0.001 | 6 | 391 | 0.011 | 6 | 391 | 0.012 |
| 10:00 - 11:00 | 6 | 391 | 0.002 | 6 | 391 | 0.005 | 6 | 391 | 0.007 |
| 11:00 - 12:00 | 6 | 391 | 0.001 | 6 | 391 | 0.005 | 6 | 391 | 0.006 |
| 12:00 - 13:00 | 6 | 391 | 0.002 | 6 | 391 | 0.002 | 6 | 391 | 0.004 |
| 13:00 - 14:00 | 6 | 391 | 0.006 | 6 | 391 | 0.004 | 6 | 391 | 0.010 |
| 14:00 - 15:00 | 6 | 391 | 0.003 | 6 | 391 | 0.003 | 6 | 391 | 0.006 |
| 15:00 - 16:00 | 6 | 391 | 0.017 | 6 | 391 | 0.006 | 6 | 391 | 0.023 |
| 16:00 - 17:00 | 6 | 391 | 0.017 | 6 | 391 | 0.005 | 6 | 391 | 0.022 |
| 17:00 - 18:00 | 6 | 391 | 0.020 | 6 | 391 | 0.002 | 6 | 391 | 0.022 |
| 18:00 - 19:00 | 6 | 391 | 0.017 | 6 | 391 | 0.006 | 6 | 391 | 0.023 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.086 | | | 0.086 | | | 0.172 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.131 | 6 | 391 | 0.503 | 6 | 391 | 0.634 |
| 08:00 - 09:00 | 6 | 391 | 0.191 | 6 | 391 | 0.827 | 6 | 391 | 1.018 |
| 09:00 - 10:00 | 6 | 391 | 0.216 | 6 | 391 | 0.270 | 6 | 391 | 0.486 |
| 10:00 - 11:00 | 6 | 391 | 0.177 | 6 | 391 | 0.231 | 6 | 391 | 0.408 |
| 11:00 - 12:00 | 6 | 391 | 0.198 | 6 | 391 | 0.248 | 6 | 391 | 0.446 |
| 12:00 - 13:00 | 6 | 391 | 0.236 | 6 | 391 | 0.241 | 6 | 391 | 0.477 |
| 13:00 - 14:00 | 6 | 391 | 0.247 | 6 | 391 | 0.241 | 6 | 391 | 0.488 |
| 14:00 - 15:00 | 6 | 391 | 0.281 | 6 | 391 | 0.302 | 6 | 391 | 0.583 |
| 15:00 - 16:00 | 6 | 391 | 0.575 | 6 | 391 | 0.296 | 6 | 391 | 0.871 |
| 16:00 - 17:00 | 6 | 391 | 0.567 | 6 | 391 | 0.302 | 6 | 391 | 0.869 |
| 17:00 - 18:00 | 6 | 391 | 0.637 | 6 | 391 | 0.297 | 6 | 391 | 0.934 |
| 18:00 - 19:00 | 6 | 391 | 0.552 | 6 | 391 | 0.367 | 6 | 391 | 0.919 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 4.008 | | | 4.125 | | | 8.133 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL CARS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.062 | 6 | 391 | 0.241 | 6 | 391 | 0.303 |
| 08:00 - 09:00 | 6 | 391 | 0.106 | 6 | 391 | 0.322 | 6 | 391 | 0.428 |
| 09:00 - 10:00 | 6 | 391 | 0.098 | 6 | 391 | 0.119 | 6 | 391 | 0.217 |
| 10:00 - 11:00 | 6 | 391 | 0.078 | 6 | 391 | 0.098 | 6 | 391 | 0.176 |
| 11:00 - 12:00 | 6 | 391 | 0.093 | 6 | 391 | 0.108 | 6 | 391 | 0.201 |
| 12:00 - 13:00 | 6 | 391 | 0.108 | 6 | 391 | 0.103 | 6 | 391 | 0.211 |
| 13:00 - 14:00 | 6 | 391 | 0.111 | 6 | 391 | 0.103 | 6 | 391 | 0.214 |
| 14:00 - 15:00 | 6 | 391 | 0.121 | 6 | 391 | 0.124 | 6 | 391 | 0.245 |
| 15:00 - 16:00 | 6 | 391 | 0.194 | 6 | 391 | 0.117 | 6 | 391 | 0.311 |
| 16:00 - 17:00 | 6 | 391 | 0.214 | 6 | 391 | 0.128 | 6 | 391 | 0.342 |
| 17:00 - 18:00 | 6 | 391 | 0.283 | 6 | 391 | 0.126 | 6 | 391 | 0.409 |
| 18:00 - 19:00 | 6 | 391 | 0.271 | 6 | 391 | 0.158 | 6 | 391 | 0.429 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 1.739 | | | 1.747 | | | 3.486 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL LGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.020 | 6 | 391 | 0.030 | 6 | 391 | 0.050 |
| 08:00 - 09:00 | 6 | 391 | 0.018 | 6 | 391 | 0.023 | 6 | 391 | 0.041 |
| 09:00 - 10:00 | 6 | 391 | 0.023 | 6 | 391 | 0.020 | 6 | 391 | 0.043 |
| 10:00 - 11:00 | 6 | 391 | 0.016 | 6 | 391 | 0.018 | 6 | 391 | 0.034 |
| 11:00 - 12:00 | 6 | 391 | 0.019 | 6 | 391 | 0.023 | 6 | 391 | 0.042 |
| 12:00 - 13:00 | 6 | 391 | 0.019 | 6 | 391 | 0.020 | 6 | 391 | 0.039 |
| 13:00 - 14:00 | 6 | 391 | 0.020 | 6 | 391 | 0.025 | 6 | 391 | 0.045 |
| 14:00 - 15:00 | 6 | 391 | 0.021 | 6 | 391 | 0.024 | 6 | 391 | 0.045 |
| 15:00 - 16:00 | 6 | 391 | 0.022 | 6 | 391 | 0.024 | 6 | 391 | 0.046 |
| 16:00 - 17:00 | 6 | 391 | 0.020 | 6 | 391 | 0.017 | 6 | 391 | 0.037 |
| 17:00 - 18:00 | 6 | 391 | 0.029 | 6 | 391 | 0.013 | 6 | 391 | 0.042 |
| 18:00 - 19:00 | 6 | 391 | 0.018 | 6 | 391 | 0.014 | 6 | 391 | 0.032 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.245 | | | 0.251 | | | 0.496 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 6 | 391 | 0.000 | 6 | 391 | 0.002 | 6 | 391 | 0.002 |
| 08:00 - 09:00 | 6 | 391 | 0.000 | 6 | 391 | 0.002 | 6 | 391 | 0.002 |
| 09:00 - 10:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 10:00 - 11:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 11:00 - 12:00 | 6 | 391 | 0.000 | 6 | 391 | 0.001 | 6 | 391 | 0.001 |
| 12:00 - 13:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 13:00 - 14:00 | 6 | 391 | 0.000 | 6 | 391 | 0.000 | 6 | 391 | 0.000 |
| 14:00 - 15:00 | 6 | 391 | 0.001 | 6 | 391 | 0.000 | 6 | 391 | 0.001 |
| 15:00 - 16:00 | 6 | 391 | 0.001 | 6 | 391 | 0.000 | 6 | 391 | 0.001 |
| 16:00 - 17:00 | 6 | 391 | 0.001 | 6 | 391 | 0.000 | 6 | 391 | 0.001 |
| 17:00 - 18:00 | 6 | 391 | 0.003 | 6 | 391 | 0.001 | 6 | 391 | 0.004 |
| 18:00 - 19:00 | 6 | 391 | 0.000 | 6 | 391 | 0.001 | 6 | 391 | 0.001 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.006 | | | 0.007 | | | 0.013 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

# MINUTES

**Meeting Title:** Fort Halstead KCC/SDC Highways Meeting

**Attendees:** Alison Salter (AS) - (SDC), Louise Rowlands (LR) - (KCC), Phoebe Juggins (PJ) - (CBRE), Robert Parker (RP) - (PBA), MMNejad (MN) - (PBA)

**Apologies:**

**cc: Alison Tero (CBRE), Kate Goldie (CBRE), Greg Callaghan (PBA), David Barton (KCC)**

**Date of Meeting:** 18th October 2018

**Job Number:** 41290

| Item | Subject | Actions |
|---|---|---|
| 1. | **Progress and Programme**<br>PJ provided a summary of the current progress and outlined the updated programme<br><br>- Meeting with QinetiQ on 31/10/18<br>- Public consultation delayed until January 2019<br>- Submission Q1/Q2 2019 | |
| 2. | **Emerging Design Proposals**<br>RP ran through the emerging design proposals highlighting that the design is currently in its early stages and that the focus is on retaining as much of the existing infrastructure with regard to the road network and services. PJ highlighted that this approach has both practical and design advantages.<br><br>In relation to restricting the amount of traffic on the Star Hill access, RP mentioned possibly having a gate near QinetiQ that would allow buses through whilst restricting other traffic. LR stressed the issues and difficulties of having bus gates (camera enforcement ruled out and so “sump busters” favoured) and the queried whether the layout could be designed in such a way to allow for buses to get through but not HGVs. Similarly, LR mentioned that it would be preferable for the road design and layout to control speeds as opposed to traffic calming measures, although appreciated that this was previously agreed.<br><br>LR queried how a repeat scenario of Members rejecting the two access proposals could be avoided. AS responded that the planning performance agreement is being negotiated of which one part will be about making sure we have an invitation to members to give a briefing and more information before committee. Prior this, SDC will try to engage with some of the local members to talk them through the scheme. AS mentioned that highlighting capacity issues resulting from a single access arrangement could be helpful for members. RP stated that potential capacity issues and highway improvements resulting from a single access are being looked at. This will be done as a sensitivity test as part of the TA. | |
| 3. | **Public Transport**<br>RP ran through the level of bus provision agreed as part of the old TA. PBA to send the previously agreed timetable for the school/ | |

| | | |
|---|---|---|
| | community bus, which could be refreshed if necessary, to form the baseline provision. This could then be monitored through the travel plan and altered as required. LR also requested that potential enhancements to the replacement 431 service should be looked into and how it could potentially access the site.<br><br>LR requested for the following factors to be considered in assessing options for bus provision:<br>- Demand to/from train stations<br>- Compatibility of bus and train timetables and train frequencies<br>- Capacity at train stations<br>- Car and cycle parking at the station.<br><br>PBA to provide a note on the above along with the Go Coach route engagement regarding secondary schools and existing route connectivity. KCC to then share with public transport team. | PBA Action<br><br>PBA Action |
| 4. | **Road Adoption**<br>PJ explained the preference in not having the road adopted given the existing infrastructure. PBA/ CBRE to provide note to KCC adoptions team (Jamie Hare and Steve Stickels) justifying why not to adopt. | PBA/CBRE Action |
| 5. | **Cycle Route**<br>RP ran through potential cycle routes and options. LR highlighted preference for segregated cycle routes on the main access route where possible.<br><br>Generally, shared use would be sufficient within the site. For shared use, there is a normal minimum requirement for 3m of on one side of the road. Potential cycle route solutions, considering pinch points, to be explored and agreed with KCC and SDC. | |
| 6. | **Polhill Roundabout**<br>RP highlighted that safety audits were undertaken for the two access junctions as part of the previous TA. Post-TA, a 3-D design was undertaken for the proposed Polhill roundabout and that work was progressed beyond Stage 1.<br><br>LR suggested that, given the age of the previous audits it would be preferable to undertake new Stage One audits. PBA to undertake an updated Stage 1 safety audit on the proposed Polhill roundabout. | PBA Action |
| 7. | **Star Hill Visibility Splays**<br>RP confirmed that speed surveys were undertaken as part of the previous TA and that the visibility splays were based on these.<br><br>PBA to send a digital copy of the appendices and the confirm what speed percentile the visibility splays were based on. KCC to review internal response. | PBA/ KCC Action |
| 8. | **Scoping**<br>Future Year – Assessment changed to 2035 to align with local plan.<br><br>Accident Data – Five-year data required<br><br>Committed Developments – AS mentioned that the draft Local Plan will be published in November. LR and AS suggested that given the programme for the Local Plan, Broke Hill should be taken into consideration and potentially included as a sensitivity test given that it is a large neighbouring site. | |

# MINUTES

**Meeting Title:** Fort Halstead KCC/SDC Highways Meeting

**Attendees:** Claire Shearing (SDC), Louise Rowlands (KCC), Dave Barton (KCC), Alison Tero (CBRE), Phoebe Juggins (CBRE), Kate Goldie (CBRE), Robert Parker (PBA), MMNejad (PBA),

**cc: Alison Salter (SDC), Greg Callaghan (PBA)**

**Date of Meeting:** 22nd January 2019

**Job Number:** 41290

| Item | Subject | Actions |
|---|---|---|
| 1. | **Feedback from Public Consultation**<br>PJ and RP provided the following comments<br>- Main concern with regards to highways was in relation to the Star Hill access point remaining open to function as a secondary access point, although this was strongly supported by the existing residents of Crow Drive who objected to only having one access point from Polhill.<br>- Some local residents concerned with speed and safety issues on Star Hill, and worry about the impact of more traffic using this. However, did welcome the proposed traffic calming measures for Star Hill in order to respond to highways safety concerns.<br>- Public transport proposals, especially related to the provision of a community bus, were welcomed. | |
| 2. | **Public Transport**<br>Regarding the public transport proposals, RP explained that discussions with GoCoach on the re-routing of the 431 bus service and the provision of a new community bus have been positive. PBA would consult the KCC public transport team once costings have been provided by Go Coach. | PBA to engage with KCC Public Transport team (Steve Pay/ Dan Bruce) |
| 3. | **Star Hill/ Trip Distribution**<br>RP confirmed that the Star Hill highway improvements as part of the consented 2015 Outline Planning Application (OPA) will be carried forward for the proposed development. Regarding traffic calming on Star Hill, the approach will be based on soft measures such as signage and advisory speed limits on bends (in addition to the proposed 40mph speed limit).<br><br>RP provided a brief summary of the collision analysis for Star Hill. There are small clusters of accidents on the bends to the north and south of the site access. Accident numbers have reduced since the last application and there is no record of any accidents at the existing Starhill site access.<br><br>LR requested for the KCC Traffic Schemes team to be consulted regarding the Star Hill traffic calming measures. Any proposals to reduce speeds on Star Hill will need approval from the Police but it | PBA to check potential for signage on Star Hill<br><br>PBA to engage Jeff Bineham from KCC Traffic Schemes team with proposals. |

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| | was noted by KCC that the proposed speed limit was in line with the current speed surveys.<br><br>RP ran through the expected development flows at the Star Hill access and the methodology used which is based on GIS journey times. It was explained that the choice of access used is influenced by the masterplan as well as the road layout and traffic calming measures which all affect journey times.<br><br>RP explained that there would be no highway capacity or safety issues at Star Hill based on the current flows expected at Star Hill and that even with the addition of proposed development flows on Star Hill would still be lower than on other comparable roads in the area. LR stressed that this would be useful information in order to satisfy Members regarding the use of Star Hill access.<br><br>LR requested that the improvement schemes and expected flows on Star Hill are issued to KCC. This should include a comparison against flows assessed as part of the OPA TA and also the consented single access OPA flows.<br><br>DB re-iterated the KCC requirement to have two access points as required by Kent Design policy but stressed the need to ensure that Star Hill is a suitable access and all concerns are addressed.<br><br>RP confirmed that a sensitivity test will be undertaken assuming a single access point at Polhill. It was agreed that this would best not be included within the main TA but prepared as a separate standalone note.<br><br>Regarding remaining QinetiQ operation, AT confirmed that they are not expected to produce significant levels of HGV traffic and that historically, HGVs have only been used very infrequently.<br><br>DB stated that it may be beneficial to restrict/condition the level of HGV movements at Star Hill. | PBA to issue Start Hill highway scheme and flow comparison table to KCC |
| 4. | **Masterplan and On-Site Highway Proposals**<br>PJ ran through the emerging design proposals highlighting that the focus would be on the village centre to ensure that the village is self-sustaining.<br><br>DB queried whether the amenities at the village centre would attract external trips into the site to which RP/ AT responded that it is unlikely for this to happen although a satellite health facility might draw in some local trips.<br><br>Regarding journeys to school for primary school children, DB queried whether there have been similar schemes where a community bus has been provided. AT responded that the Chaul End development in central Bedfordshire includes a community bus and that in reality, parents are likely to organise and manage primary school drop-offs in groups amongst themselves.<br><br><u>Adoption of Highways</u><br>RP explained the preference in not having roads adopted given the existing infrastructure and potential costs involved as per email correspondence with Jamie Hare from KCC adoptions team. | |

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| | DB explained that there are numerous potential issues which need to be considered, such as materials and the requirement to have a certain level of lighting, if the roads require adopting.<br><br>DB queried whether bus services would route via non-adopted roads on site to which RP responded that they already do. However, PBA would check with GoCoach<br><br><u>On-Site Highway Proposals</u><br>AT/PJ explained that the proposed road layout will retain much of the existing infrastructure and road layout due to heritage and AONB considerations. DB queried as to whether this is the most effective road layout, and further masterplanning work should be presented.<br><br>RP walked through the various traffic calming measures proposed within the site comprising of engineering solutions due to the layout constraints. LR/ DB stated that where possible, the preferred option would be traffic calming through design as opposed to 'hard' engineering solutions but appreciated the various constraints present on site.<br><br>Regarding conditioning of the internal road layout for the respective Parcels, it was agreed that the overall concepts would be conditioned based on the Parameters Plan but that the exact details of the road layout and traffic calming measures would be reserved. | PBA to get confirmation from GoCoach regarding routing via non-adopted roads. |
| 5. | **Update on Traffic Modelling**<br>RP summarised the modelling outcomes based on current masterplan/ layout assumptions and resulting flows on Star Hill. The outcomes are as follows:<br>- Junction modelling undertaken for the 2035 Future Base scenario and 2035 With Development Scenario. The 2035 Future Base scenario is derived by uplifting 2018 traffic counts to 2035 using TEMPro and adding the West Kent Cold Store and consented (single access) Fort Halstead flows.<br>- Overall, the proposed development does not have a negative impact on any of junctions assessed compared to the 2035 Future Base scenario<br>- Hewitts Roundabout and the A224/ Pilgrims Way link road junction operate over capacity in the Future Base scenario and continue to operate over capacity with the development (albeit slightly better than with no development).<br>- Otford Lane/ Polhill junction operates just over capacity in the 2035 Future Base scenario but within capacity with the development.<br>- The proposed Polhill access roundabout operates within capacity with the development in place. | |
| 6. | **Surrounding Villages**<br>LR/DB suggested that it would be beneficial to identify any improvement schemes already identified/proposed within the surrounding villages. This would inform later discussions on whether it would make sense for the development to make contributions to the improvement schemes based on the levels of development traffic expected to route via each village. | PBA to check with Jeff Bineham from KCC Traffic Schemes team whether there are existing proposals in need of funding |

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| | RP drew attention to the Traffic report undertaken by Otford Parish Council. This suggested that the Fort Halstead development would have little impact on the village. | |

## MMNejad

**From:** Parker, Bob FWD
**Sent:** 12 April 2019 10:05
**To:** Louise.Rowlands@kent.gov.uk
**Cc:** Alastair Mackie; MMNejad FW: Fort Halstead
**Subject:** PT

Hi Louise

Below our file note of our meeting (Alistair Mackie) with the KCC PT team (Dan Bruce & Nick Smyth) 7th March 2019

Service 431

1. Service 431 is actually a KCC tender, so they call the shots on it, not Go Coach.
2. KCC fully support the 431 diverting via the site
3. Long term future of the 431 is unknown, due to potential budget cutbacks but s106 funding could keep it going and possibly enhance it

Community minibus

1. KCC think the rail links look good
2. KCC understand the logic of demand responsive off-peak
3. KCC think the service is entirely workable but may be expensive
4. KCC are experimenting with five models for rural transport as part of their 'Big Conversation', including Sevenoaks taxibus and feeders to mainline services. The community minibus is consistent with that policy of trialling unconventional solutions and DRT is politically fashionable with Kent at the moment.
5. KCC would be willing to procure the community service. (They prefer s106 agreements to be flexibly phrased, e.g. 'to improve and enhance local bus services in the locality' to future-proof against possible service changes)
6. KCC would like to see ticketing incentives to stimulate interest and get new residents into 'good' habits. The Kent Connected smartcard could be used to load specific ticket packages for Fort Halstead – this would be well received by KCC.

Infrastructure

1. KCC have no problem with roads being unadopted but bus stop maintenance would need to fall on the developer/management company
2. Need to know how buses can access the site and turn if the through route is not available from the start

Next steps

1. PBA to provide phasing plan for the development (particularly in relation to the through route)
2. KCC to consider their position on enhancing the 431 v community minibus v fixed timetable service and will respond
3. KCC to consider their preference for procurement (by developer or KCC themselves) and will respond.
4. KCC to supply their new Design Guidance for Buses in Developments (but note where this is in conflict with the Kent Design Guide, the latter takes precedence).

Kind regards,

**Alastair Mackie**
Associate

Direct: 01189520640
Mobile: 07876 576289
amackie@peterbrett.com
Reading

## MMNejad

**From:** Laura.McKenzie@kent.gov.uk
**Sent:** 05 June 2019 08:26
**To:** mnejad@peterbrett.com
**Cc:** David.Barton@kent.gov.uk; Rowlands, Louise - GT HTW; Lewis, Jason; Parker, Bob
**Subject:** Fort Halstead Primary School
**Attachments:** 190516 - TN02 Primary School Impacts.docx

Hi MMNejad

Apologies for any delay in providing a response regarding Fort Halstead primary school highway impact technical note.

The proposed location of the school appears to be in an area previously proposed for commercial use, whereby should the school not proceed the land would revert to commercial use.

The proposed demand for the school assumes a generation of 210 spaces, with an assumption of 81% of children from Fort Halstead development attending the school. This equates to a demand for 170 places, and 40 pupils from outside of the development. 38 full time employees have been assumed, which seems excessive for a 1FE primary school. I would estimate that with one Teacher and Teaching Assistant per class, Headteacher, 5 admin staff and 5 additional staff equates to 25 staff.

The 'worst case' trips scenario indicates that all trips will be off site. However the proposed location of the school would add to traffic generation within the site. As a primary thread of the highway aspect of the site, we are seeking to avoid the use of Star Hill. The addition of the school may provide a positive reduction in this respect by way of reducing outward trips to Knockholt and in turn Star Hill. I suggest that the use of the community bus should be encouraged in the 'with school' and 'no school' scenarios. The community bus is proposed for school trips as well as commuters to Knockholt station and other trips during the day. It is accepted that providing an assessment of 'no bus, no school' as the worst case scenario. Trip distribution will need to be assessed in the worst case scenario which would include the use of Star Hill.

If you need anything further, please do let me know.

Best wishes,

**Laura McKenzie** | Transport & Development Planner | Highways, Transportation & Waste | Kent County Council | Ashford Highway Depot, Javelin Way, Henwood Industrial Estate, Ashford TN24 8AD | Tel: 03000 413890 | Contact Centre: 03000 418181 | www.kent.gov.uk | Follow us on Twitter @kent_cc

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**From:** MMNejad
**Sent:** 03 June 2019 10:00
**To:** Rowlands, Louise - GT HTW <Louise.Rowlands@kent.gov.uk>; Barton, David - GT HTW <David.Barton@kent.gov.uk>
**Cc:** Robert Parker <rparker@peterbrett.com>; Jason Lewis <jslewis@peterbrett.com>
**Subject:** RE: Fort Halstead Primary School

Hi Louise/ David,

Have you had a chance to review my email below and the attached technical note re the primary school assessment approach?

# Appendix B

# TECHNICAL NOTE

**Job Name:** Fort Halstead

**Job No:** 26582

**Note number:** 010

**Date:** 16 February 2015

**Prepared By:** Robert Parker

**Subject:** **High level audit of existing pedestrian and cycle connections**

## 1. Introduction

This note provides an overview of existing connections to the Fort Halstead site for pedestrians and cyclists.

The site is relatively remote, being located within the Kent Downs Area of Outstanding Natural Beauty (AONB) and sitting at the top of the chalk escarpment.

This note provides a high level audit of the following connections to the site:

- Layout of Crow Drive, the private road which provides the main access into the site from the A224;
- Access towards Knockholt Pound, including the footpath link that runs adjacent to the site to Birchwood Lane;
- Access to Halstead village, which is via Otford Lane;
- Access along the A224 corridor and on to Knockholt station via Old London Road; and
- Access towards Otford via exiting bridleways.

Figure 1 identifies the various footpaths and bridleways that link the site and Figure 2 the various corridors identified above and which are described in this note.

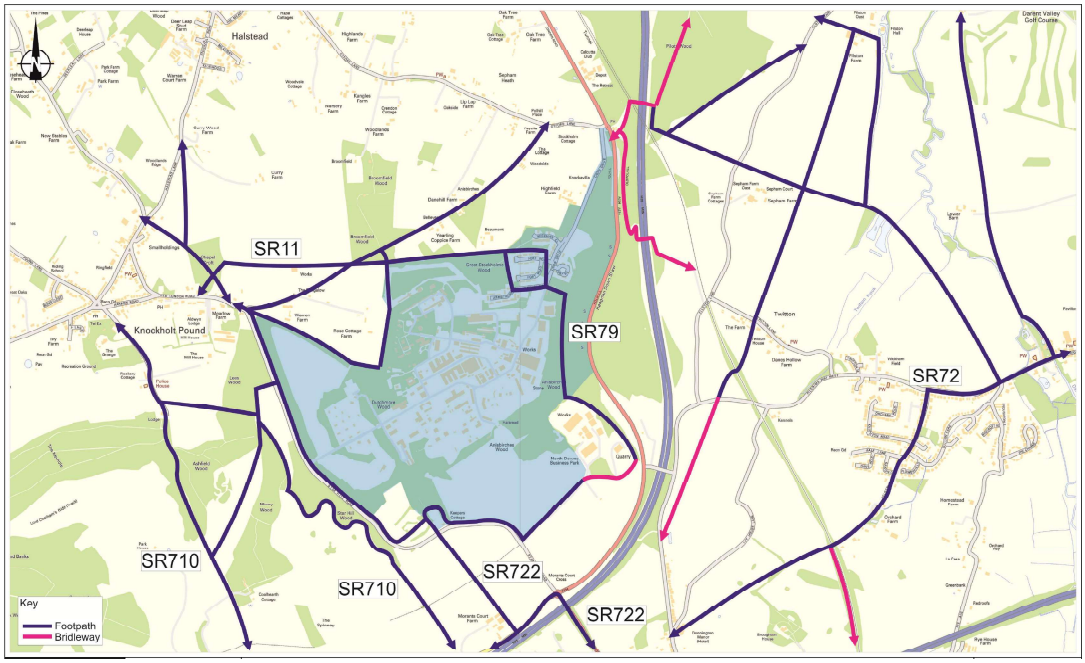



Figure 1: Footpaths and bridleways providing access to Fort Halstead

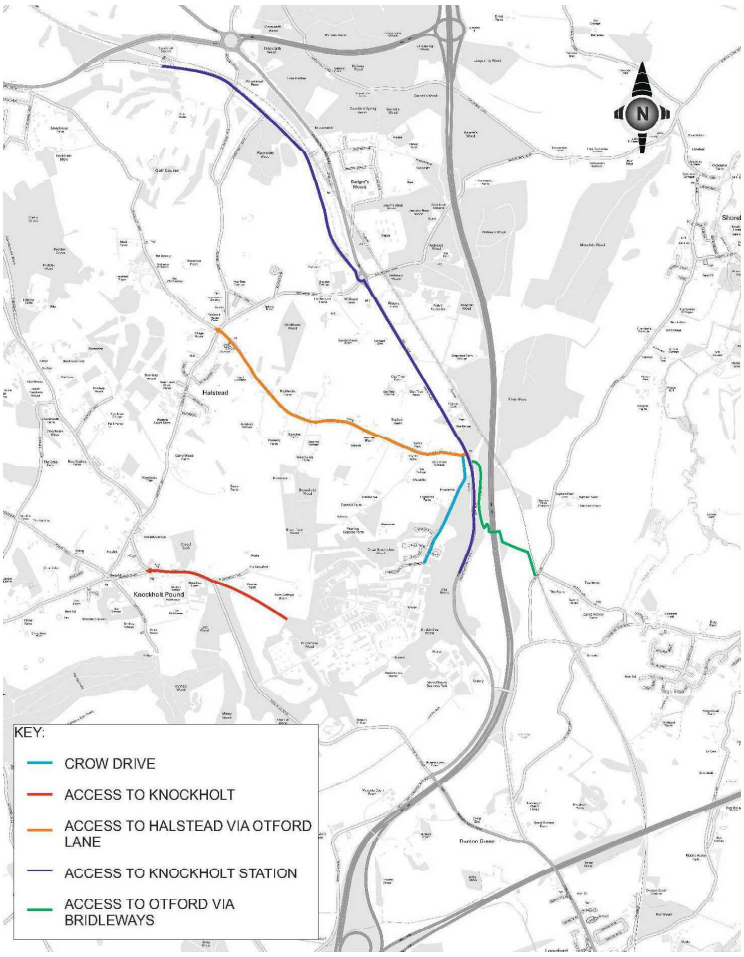



Figure 2: Key pedestrian and cycle corridors

## 2. Crow Drive

Crow Drive is the main access road to Fort Halstead. Figure 3 provides a selection of photographs showing its layout. It has the following characteristics:

- It is currently a private road but will be adopted through the current development proposals;
- It is signed as a 30 mph road and generally has a width of around 6.2 metres but widens to around 10 metres towards Otford Lane, where is marked as two lanes towards Otford Lane and one lane inbound towards the development. The road is lit;
- There is a continuous footpath of around 1.2 metres on the south east side of the carriageway. On the north west side there is a parallel track / shared surface road for most of the length, although the final section towards Otford Lane has no facility. Towards the centre of the development, alongside the visitor car park, the track is marked as a shared pedestrian cycleway. The status of the track along the central section of Crow Drive (Photos 7 and 8) is rather unclear; potentially it can be used by motorised traffic although it does not provide direct access to properties (although there are a few accesses over the track);
- There is relatively little frontage activity along Crow Drive. Within the development site there is residential development on either side of Crow Drive but this is set well back from

the road with no direct access from Crow Drive. There is also some limited commercial development on the north side of the road as well as access to the visitor car park.

- There is an existing zebra crossing over Crow Drive which connects the existing residential developments to the north and south of the road. Generally there is a lack of dropped kerb features; and
- The road consists of a number of long straights with no existing speed restraint measures. It would therefore currently be difficult to enforce the signed 30 mph speed limit.

The development proposals in themselves will not change the nature of this road, except for the proposed signalisation of the A224 / Otford Lane junction, which includes proposals to change the priorities at that junction. There are, however, opportunities to provide a cycle facility on the north west side of this road. Part of this is already signed as such and there is scope for the northern section to be also signed. Drawings family number 26582/001/008 shows how this could be converted to a shared pedestrian / cycleway and how this could be connected to a northbound cycle lane on the northernmost section of the road.

As part of the upgrading of the road to an adoptable standard, it is likely that dropped kerbs and tactile paving will need to be provided where appropriate. It is also likely that suitable speed restraint measures will need to be introduced. Drawing 26582/001/008C also shows a possible chicane feature. Based upon the Kent Design Guide, Crow Drive would then be categorised as a distributor road and would require speed restraint measures at least every 150 metres.

Photo 1: Junction of A224 with Otford lane

Photo 2: Junction of A224 with Otford lane


Photo 3: Crow Drive looking south from Otford Lane

Photo 4: Crow Drive looking north towards bend

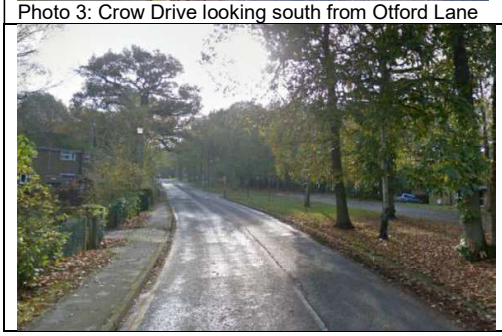


Photo 5: Approaching residential area from A224

Photo 5: Crow Drive pedestrian crossing

Photo 6: Leaving residential quarter towards A224

Photo 6: Crow Drive looking south towards visitor car park

Photo 7: Crow Drive existing wide 'footway' looking south

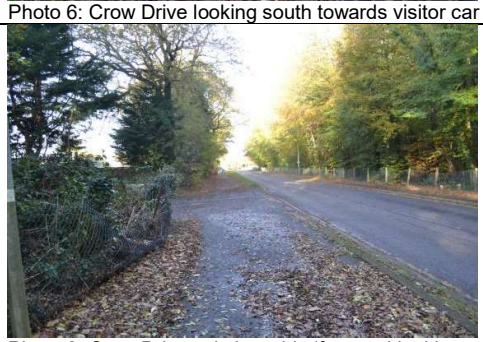


Photo 8: Crow Drive existing wide 'footway' looking north

Figure 3: Crow Drive layout

## 3. Access to Knockholt Pound

There are two alternatives; via the secondary site access and then north via Star Hill Road to, or using the existing footpath that runs along the northern boundary of the site and links back onto Star Hill Road at the junction of Birchwood Lane. Figure 4 provides photos showing the layout of the two routes:

- Star Hill Road is an unlit rural lane subject to the National speed limit (60 mph) until it enters the village of Knockholt Pound. There are no pedestrian facilities on Star Hill Road.
- The footpath link to Birchwood Lane is currently a grassed track adjacent to the security fence. The final part of the path traverses a small wooded area;

The centre of Knockholt Pound is approximately a 1 mile (1.6 km) walk from the centre of the Halstead development. As part of the development proposals, it is proposed to upgrade the footway to Birchwood Avenue to make it suitable for both pedestrians and cycles.

Figure 4: Access to Knockholt Pound

## 4. Access to Halstead

Access to Halstead is via Crow Drive and Otford Lane, the latter being quite a narrow unlit country lane. The overall distance is approximately 2.0 miles (3.2 km) and whilst this is within easy cycle distance it is unlikely that people would walk other than for leisure trips.

Figure 5 shows the characteristics of Otford Lane. The top end, within the village, becomes very congested at the start and end of school times.

It is considered that Otford Lane provides a reasonable cycle route. There are no obvious measures that might be taken to improve Otford Lane as a pedestrian or cycle route.

Photo 1: South east end of Otford Lane by Crow Drive

Photo 2: Otford Lane, outside village

Photo 3: North west end Otford Lane by school

Photo 4: Parking outside of school at pick up time

Figure 5: Access to Halstead via Otford Lane

## 5. Access to Knockholt station

Knockholt station is approximately 2.9 miles (4.7 km) cycle ride from the centre of Fort Halstead via Crow Drive, A224 London Road and Old London Road:

- The A224 London Road between Otford Lane and the Shacklands roundabout is a single carriageway road of between 8.8 and 10 metres width. It has a footway of approximately 1.2 metres on its east side but no facility on the west. Recently, a 50 mph speed limit was introduced along its length but lighting, except at the junction with Otford lane and at the Shacklands roundabout, is now turned off on an experimental basis. It has limited frontage activity on its east side close to the Otford Lane junction (diner, restaurant and furniture store) and at the northern end there are access points to the Polhill Garden Centre and a large pub / restaurant, which have right turn facilities;
- The Shacklands roundabout is a large 5 arm roundabout (64 metre diameter) of which two are low-trafficked rural lanes providing access to Halstead and Shoreham, respectively.
- Old London Road is a single carriageway road and is subject to a 40 mph speed limit. It has advisory cycle lanes on either side except towards the station where the advisory lane has been replaced by pay and display parking to serve the demand generated by the station. On-street parking overflows into the advisory cycle lane. There are bus stops adjacent to the station access road and cycle parking at the station including secure parking within a lockable shed; although overall capacity of the cycle parking is quite limited.

There is scope to provide on-road cycle lanes on the southern section of the A224 although there may be a need to widen slightly at the very south into the existing highway verge. Further north there is limited scope for improvement since there are right turn bays into the Polhill Garden centre and to the pub; and it is considered that these will need to be retained.

Whilst there is scope to provide diversion lanes at the Shacklands roundabout, it is considered that these are unlikely to be used because most cyclists on this route are ‘urban’ cyclists who would prefer to remain on road rather than use slower diversion routes.

There is scope to upgrade the existing cycle parking facilities at the Knockholt Station.

Figure 6 shows some photographs of the A224 corridor and access to Knockholt station.

Photo 1: A224 at Otford Lane

Photo 2: A224 looking north


Photo 3: Old London Road at station access road

Photo 5: Old London Road – end of advisory cycle lanes


Photo 5: Old London Road station access road

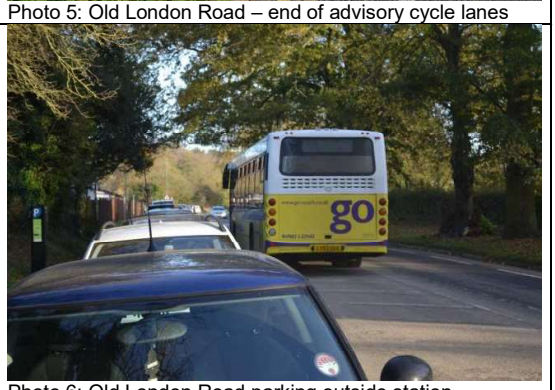


Photo 6: Old London Road parking outside station


Photo 7: Parking at Knockholt station

Photo 8: Overspill parking at station

Figure 6: Access along the A224 corridor and on to Knockholt station via Old London Road

## 6. Polhill to Twitton (towards Otford) bridleway

Figure 7 shows the current bridleway which provides a link to Twitton Lane from the A224 London Road / Otford Lane junction. This potentially provides an alternative, although longer, route towards Otford avoiding Polhill. It is considered that this route would be mainly used as a leisure route by pedestrians and cyclists rather than as a main commuter route. Therefore it is considered that there is limited requirement to upgrade this route other than to provide better connection across the A224 at the Otford lane junction. It would be beneficial to light the tunnel under the M25 motorway.

Figure 7: Access towards Otford using existing bridleways

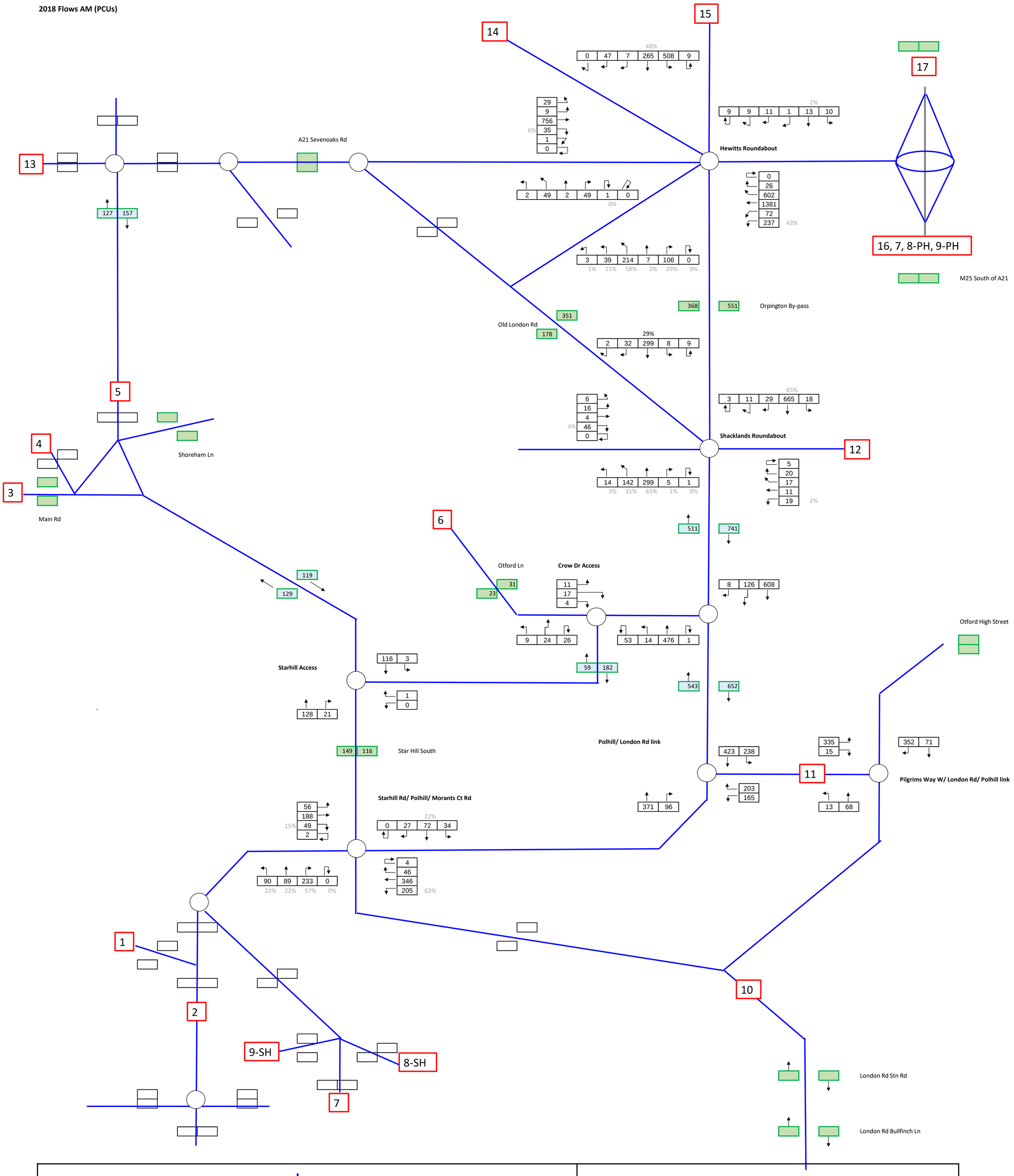
# Appendix C

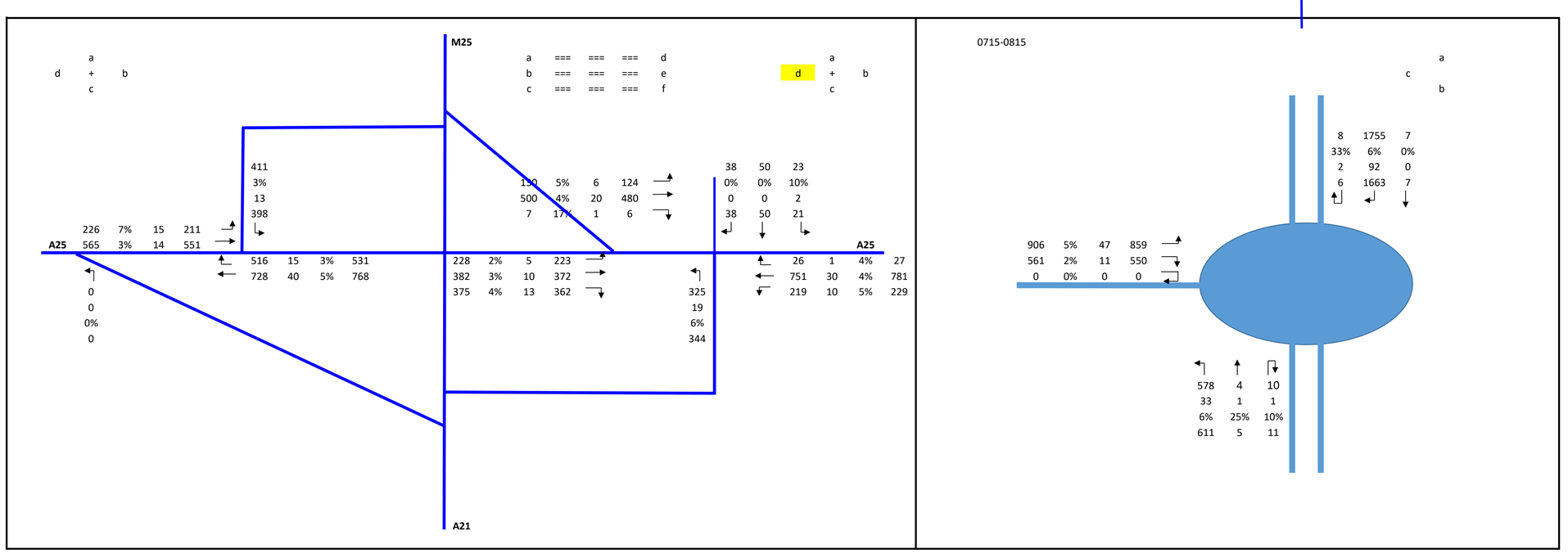
Table C1: Queue Count Survey Summary

| Junction and Survey Year | Current queuing issues | |
|---|---|---|
| | AM period (07:00 to 10:00) | PM period (16:00 to 19:00) |
| A21 Sevenoaks Road/ London Road (2014) | No significant queuing issues | No significant queuing issues |
| Hewitts roundabout (2018) | Consistent queues of between 17-19 vehicles observed on the offside lane of M25 link road between 07:00 – 08:15 which reduce to 1 – 10 vehicles from 08:15 – 10:00.<br>Short tern queuing of 20 vehicles observed on the A224 (northbound) between 08:50 – 09:00.<br>Consistent queues of 18-21 vehicles observed on both lanes of the A21 Sevenoaks Road between 07:20 – 08:20. Outside of these hours, queues of 3-11 vehicles were typically observed. | Maximum queueing of 19 vehicles observed on a single occasion on A224 (northbound). Average queues of 7 vehicles observed across the PM period otherwise.<br>Consistent queues of 14-20 vehicles observed on the nearside lane of A21 Sevenoaks Road.<br>Occasional short-term queues of 14-17 vehicles observed on A224 (southbound). Average queues of 9 and 5 vehicles observed on the nearside and offside lane of A224 (southbound) across the PM Period. |
| Shacklands roundabout (2018) | No significant queuing issues | No significant queuing issues |
| Otford Lane/A224 (2018) | No significant queuing issues | No significant queuing issues |
| Pilgrims Way West (link road)/A224 Polhill (2018) | Short term queues on Pilgrims Way West (link road) – peak queuing of between 15 - 19 vehicles observed at various times during the AM period on the main lane of Pilgrims Way West (link road). Average queues of 7 vehicles observed on Pilgrims Way West (link road) during the AM period. | Short term queues on Pilgrims Way West (link road) – peak queuing of between 15 - 19 vehicles observed at various times during the PM period on the main lane of Pilgrims Way West (link road). Average queues of 7 vehicles observed on Pilgrims Way West (link road) during the PM period. |
| Pilgrims Way West (link road)/London Road (2018) | Short term maximum queues of 17 vehicles observed on the right turn from Pilgrims Way West at 08:15 – 08:25 which appears to be the result of queuing on the link road (westbound) to maximum capacity. Average queues of 2 vehicles observed across the AM period on Pilgrims Way West. | Single peak queues of 15 vehicles observed on the right turn from Pilgrims Way West at 16:30 – 16:35. Average queues of 1 vehicle observed across the AM period on Pilgrims Way West. Single maximum queuing of 10 vehicles observed on the linked road at 17:50-17:55. Average queues of 2 vehicles observed on the link road across the PM period. |
| Morants Court Road roundabout (2018) | No significant queuing issues | No significant queuing issues |

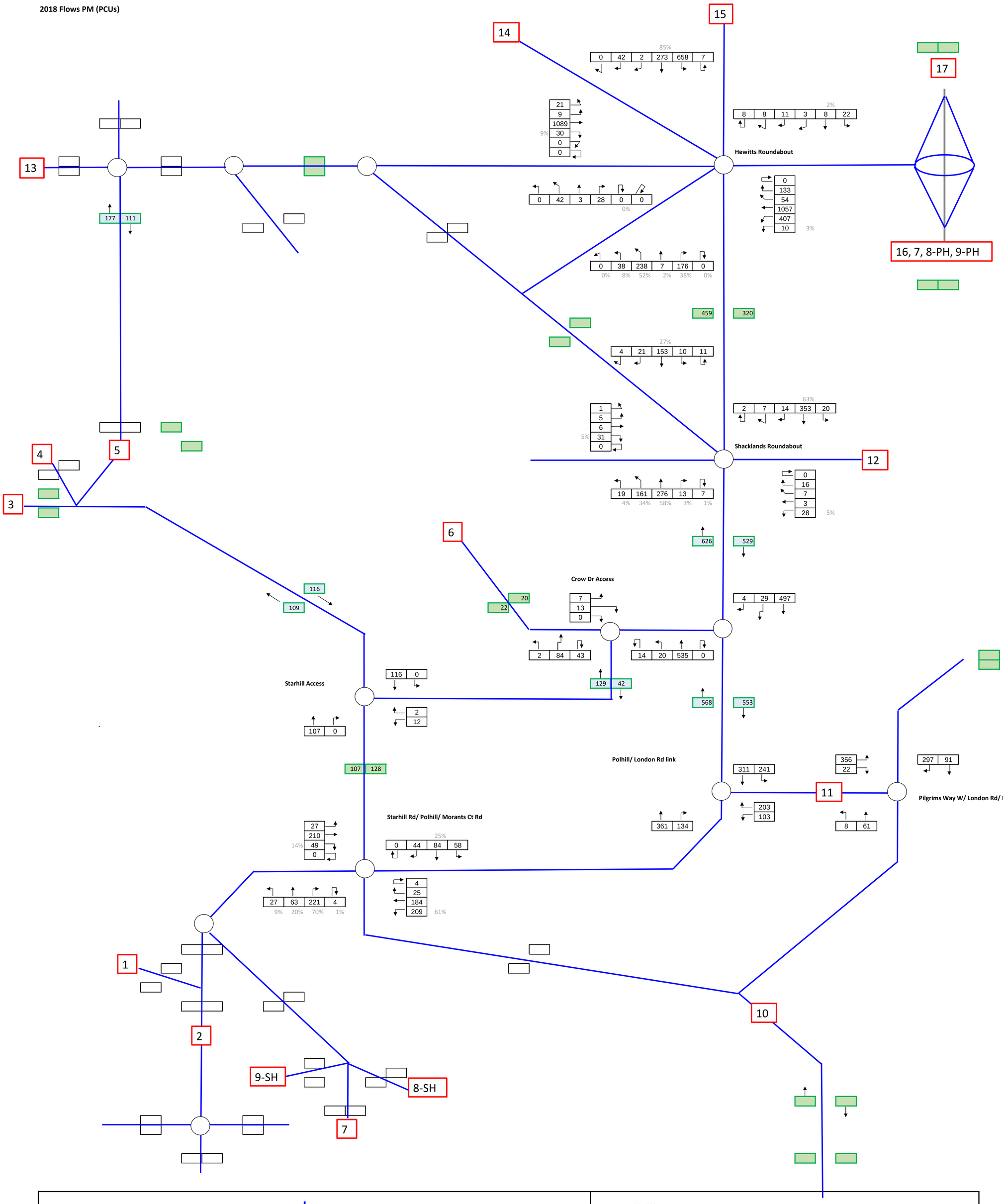
# Appendix D

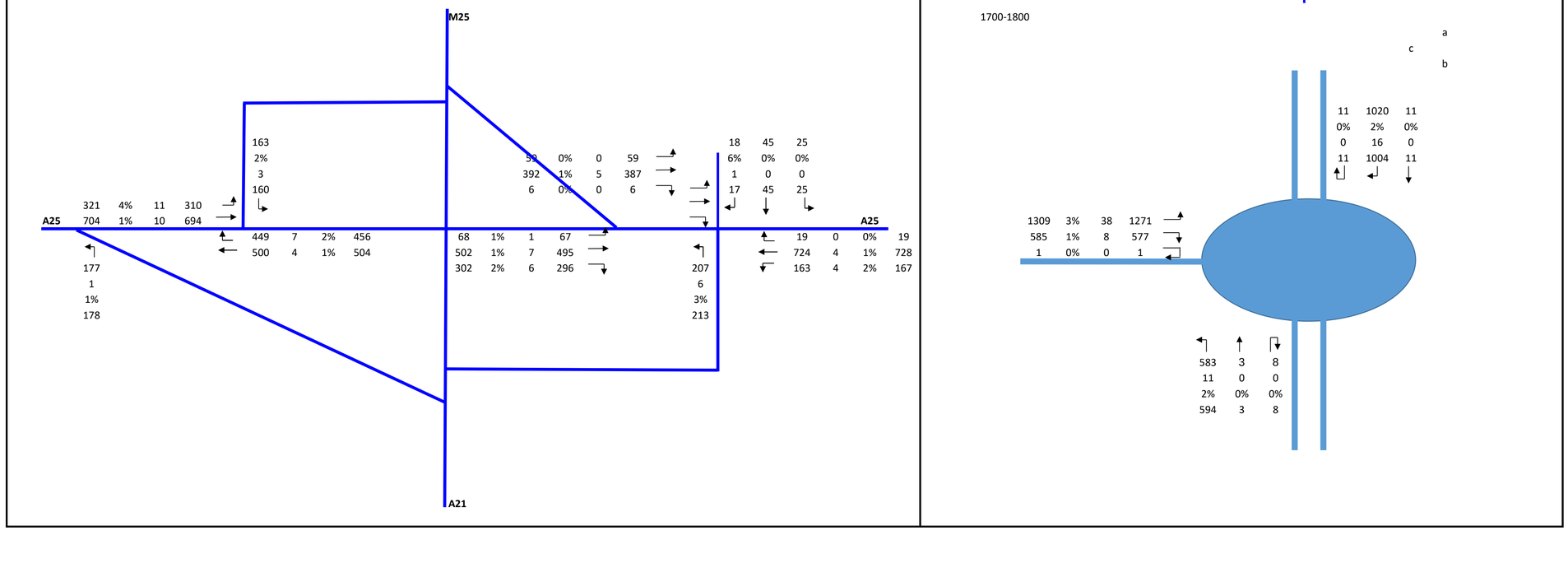
**2018 Flows AM (PCUs)**



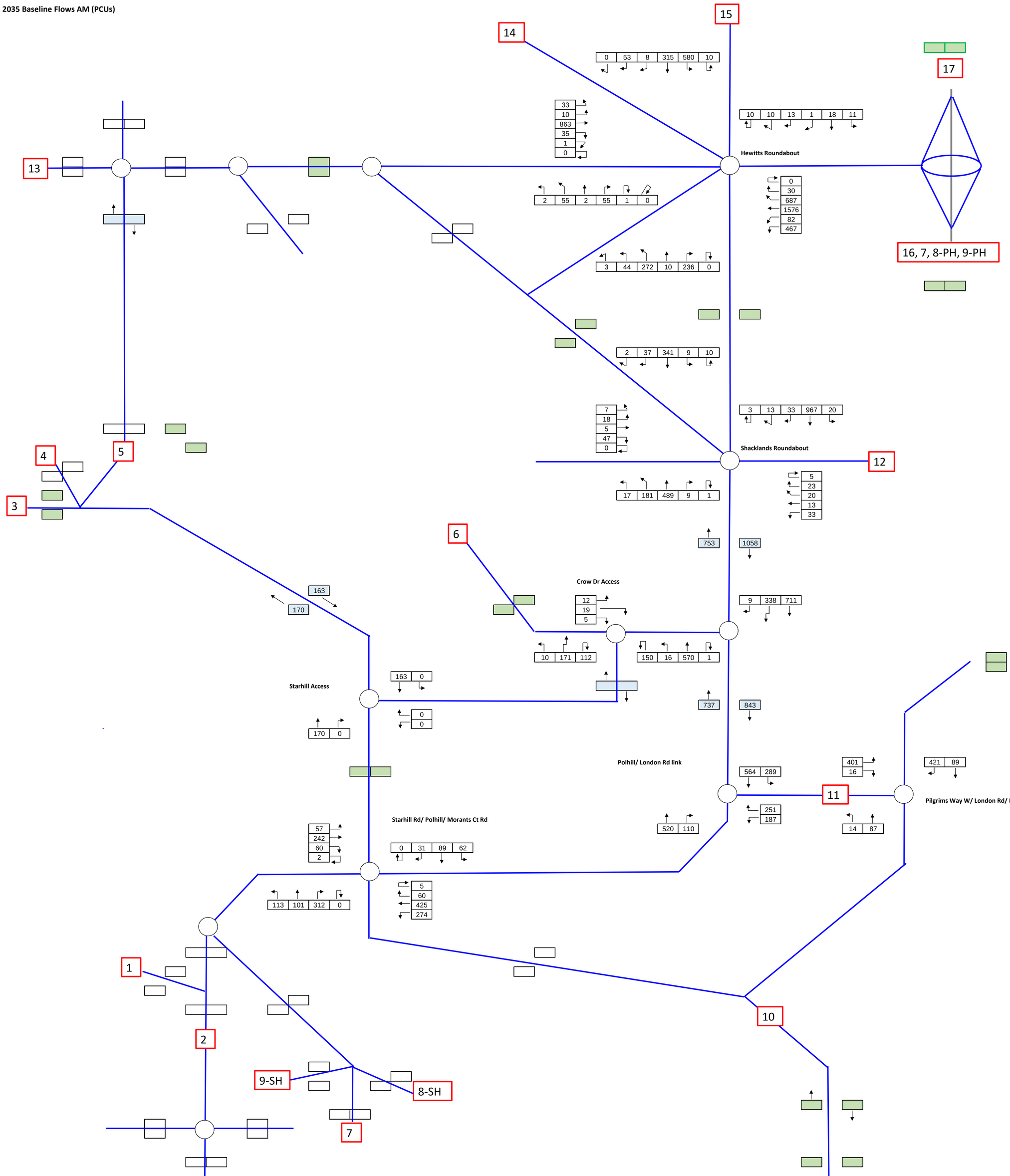



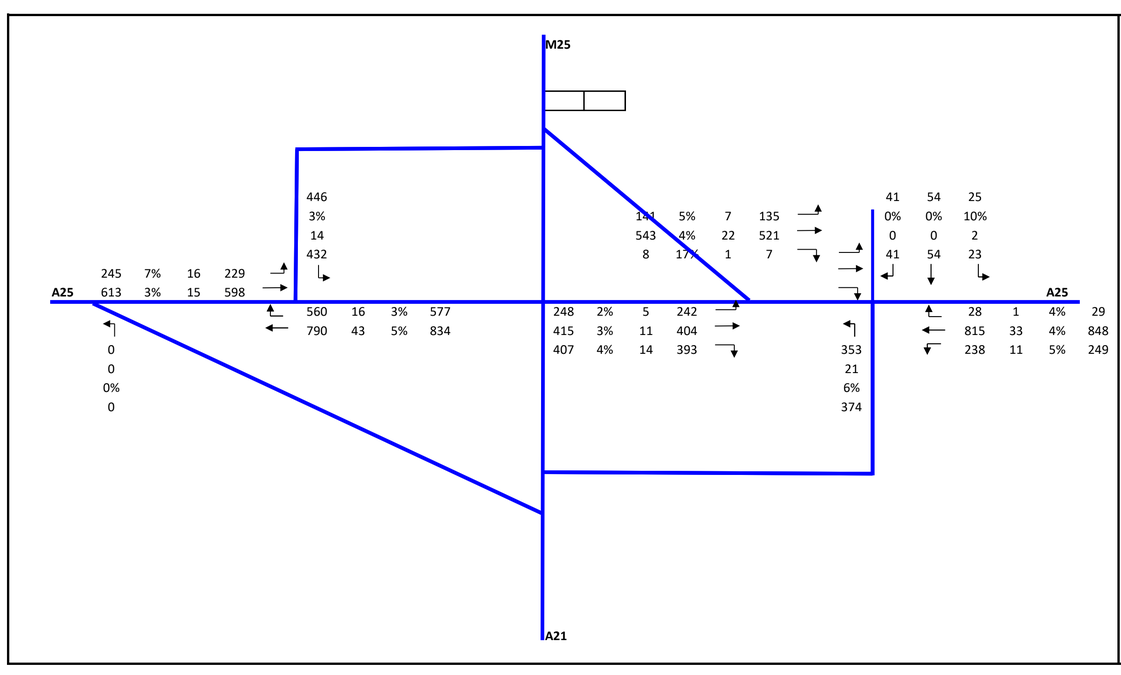
**2018 Flows PM (PCUs)**

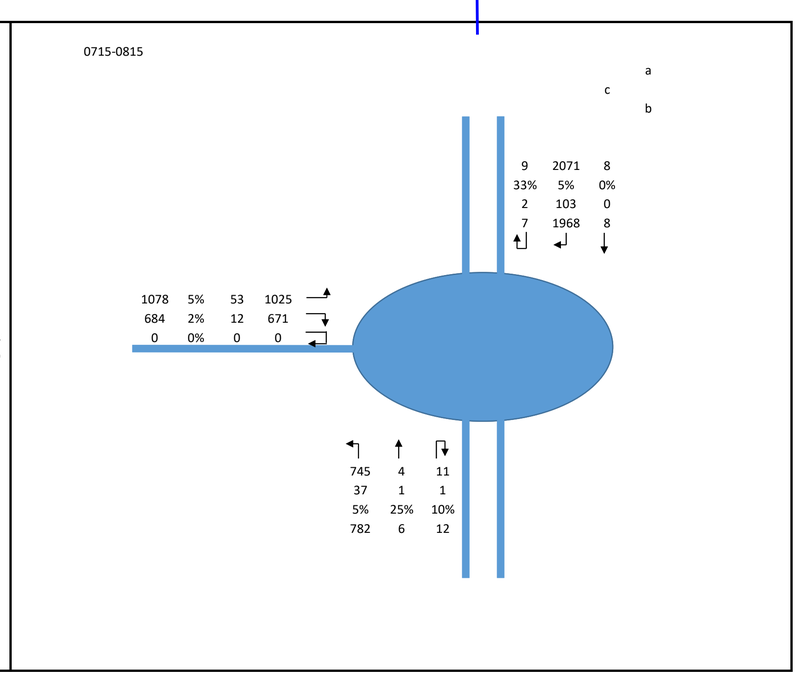


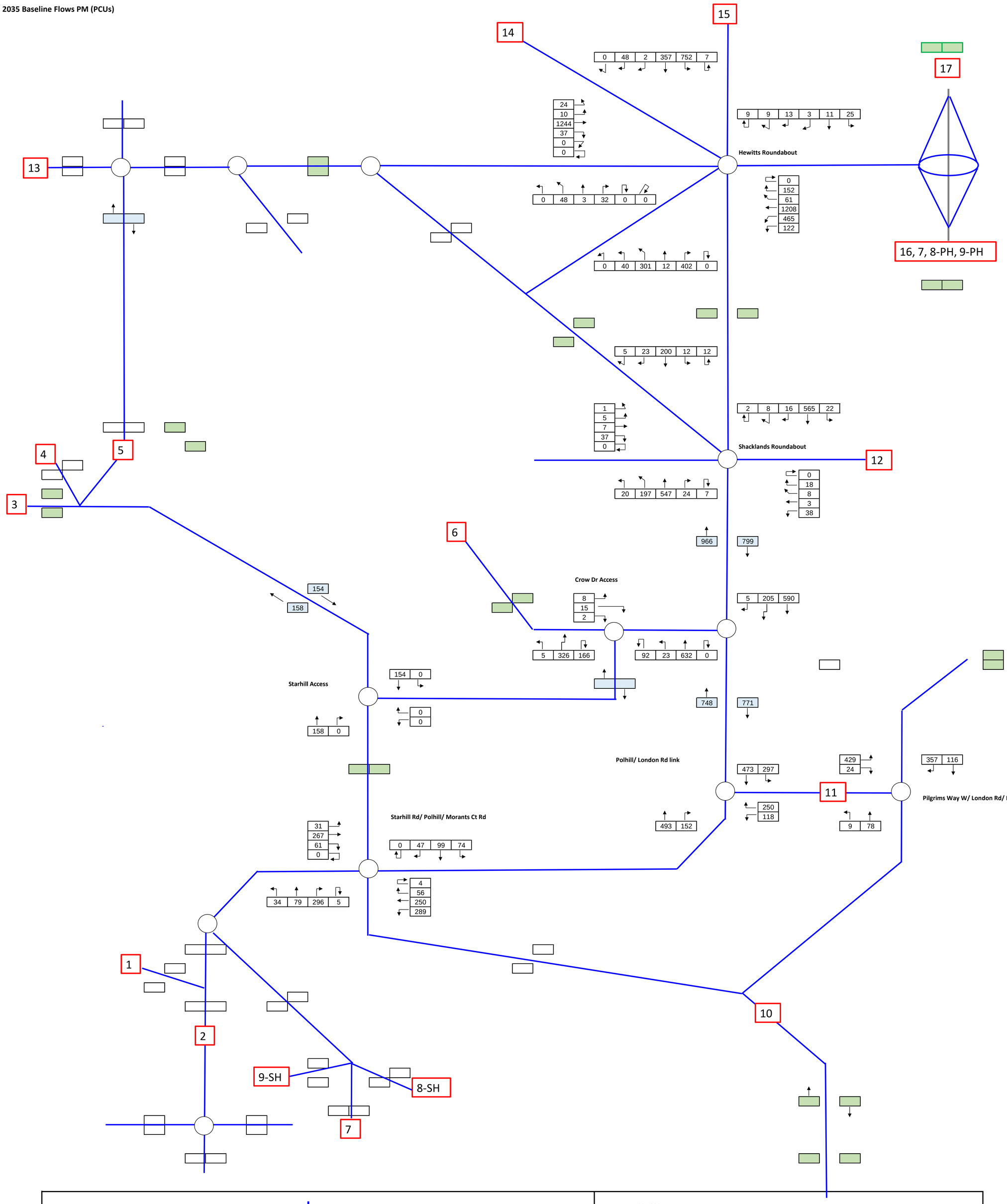
**2035 Baseline Flows AM (PCUs)**



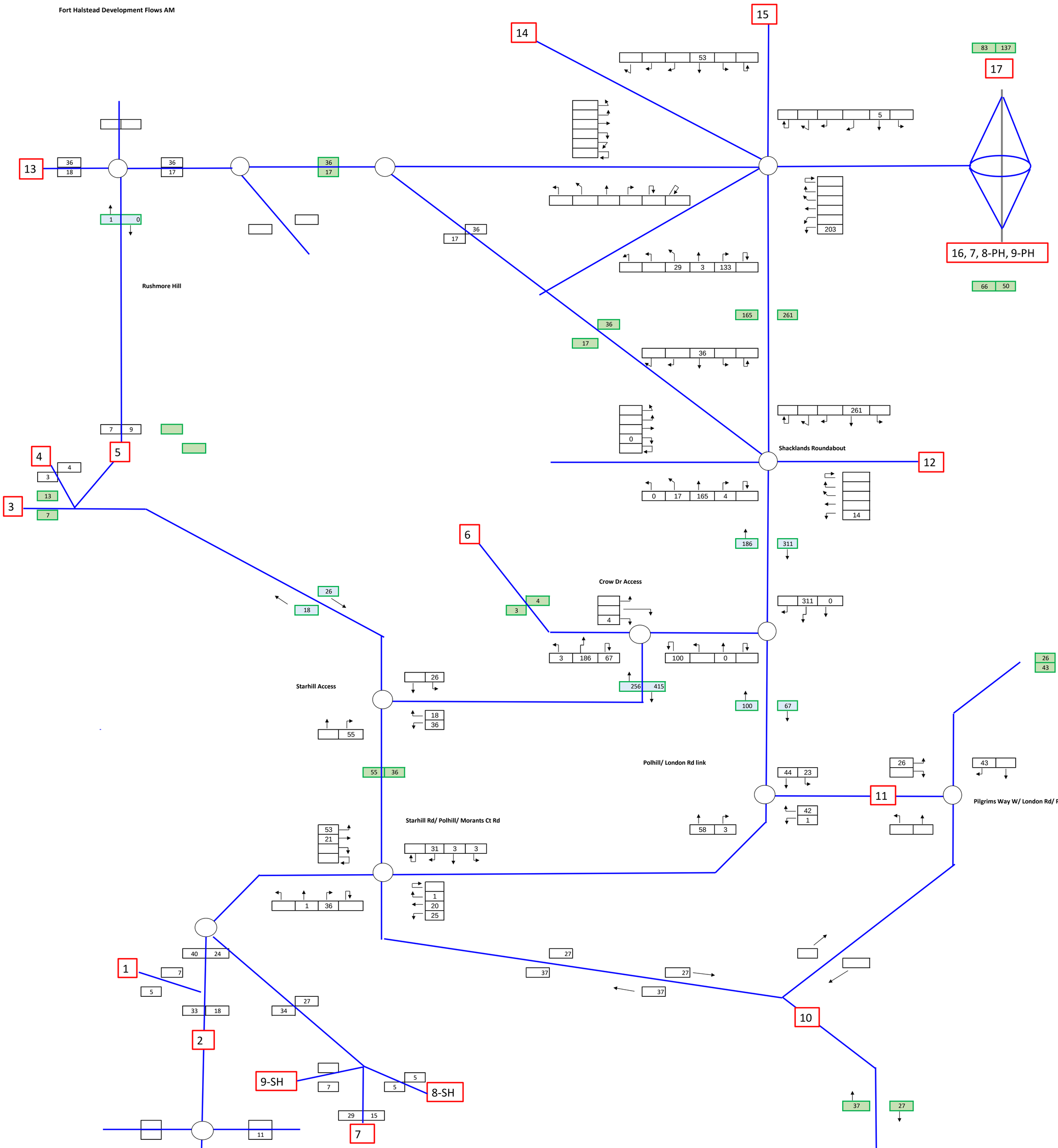



**2035 Baseline Flows PM (PCUs)**



Fort Halstead Development Flows AM



Fort Halstead Development Flows PM

Rushmore Hill

Shacklands Roundabout

Crow Dr Access

Starhill Access

Polhill/ London Rd link

Starhill Rd/ Polhill/ Morants Ct Rd

Pilgrims Way W/ London Rd/ Polhill lin

M25

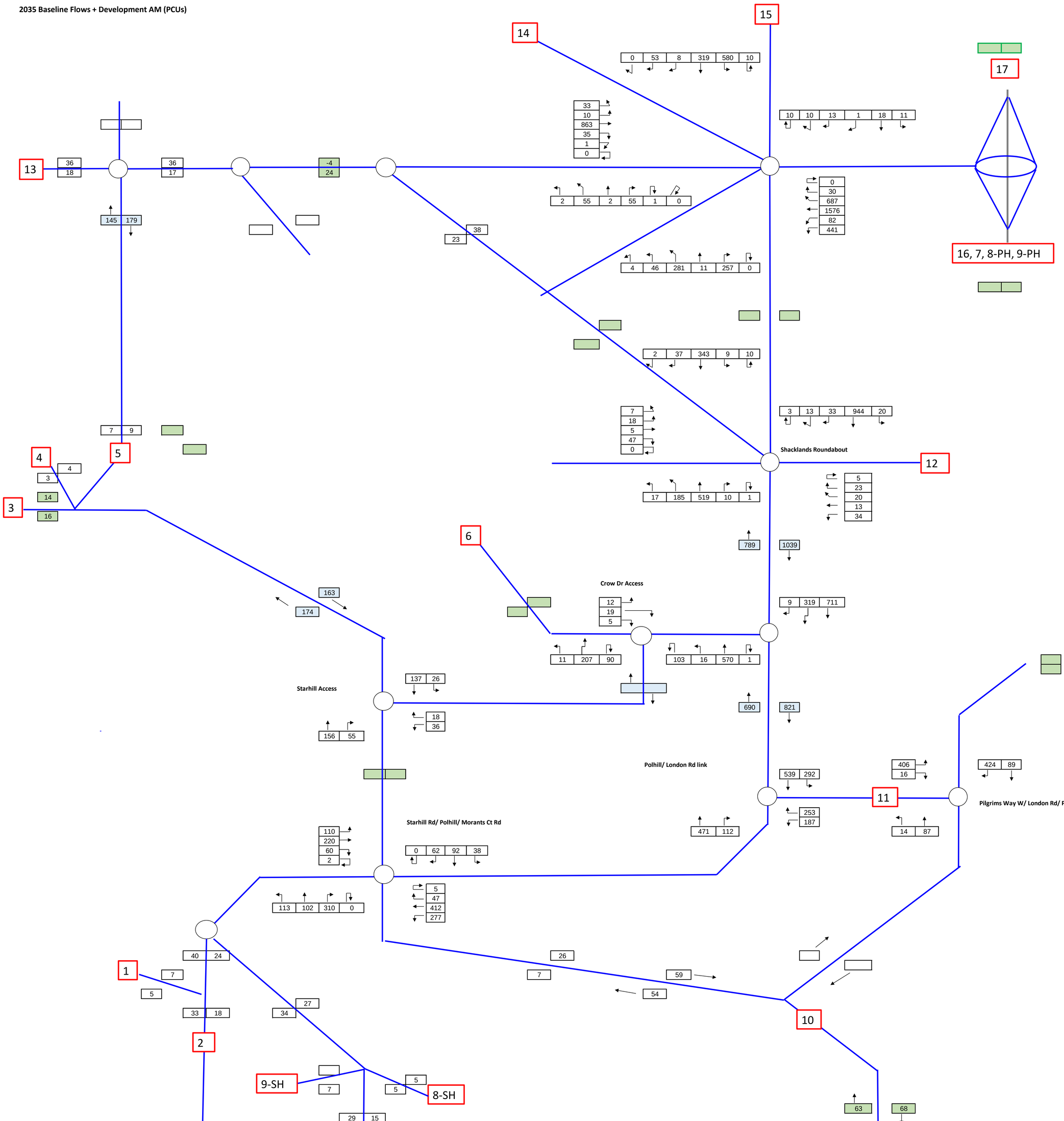
A25

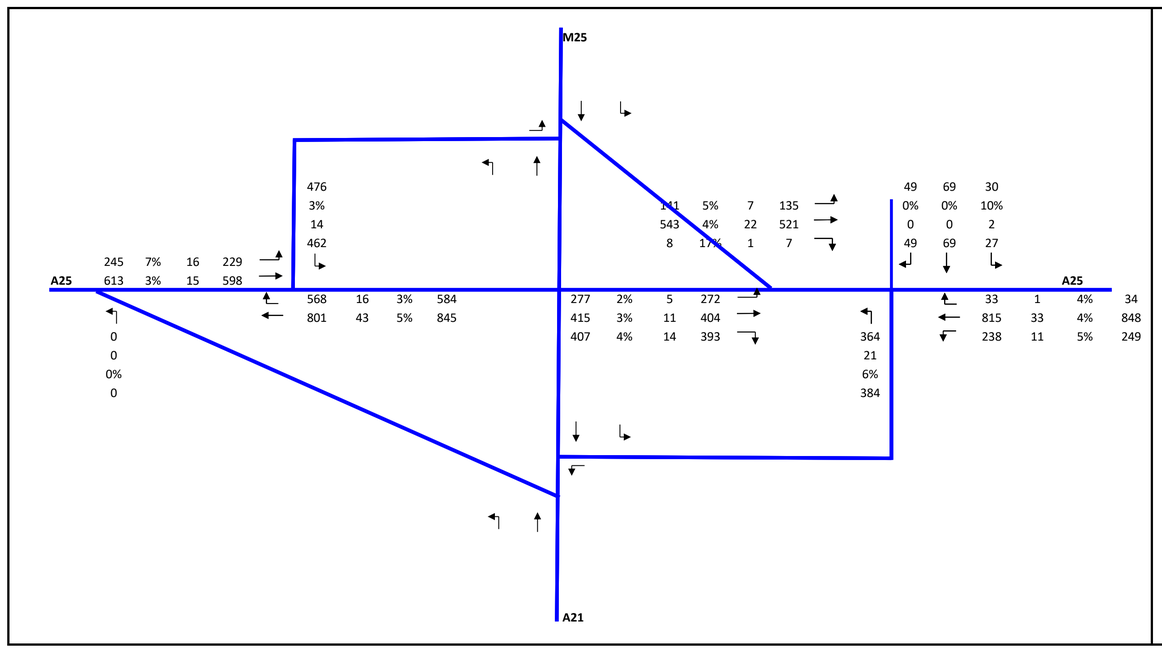
A25

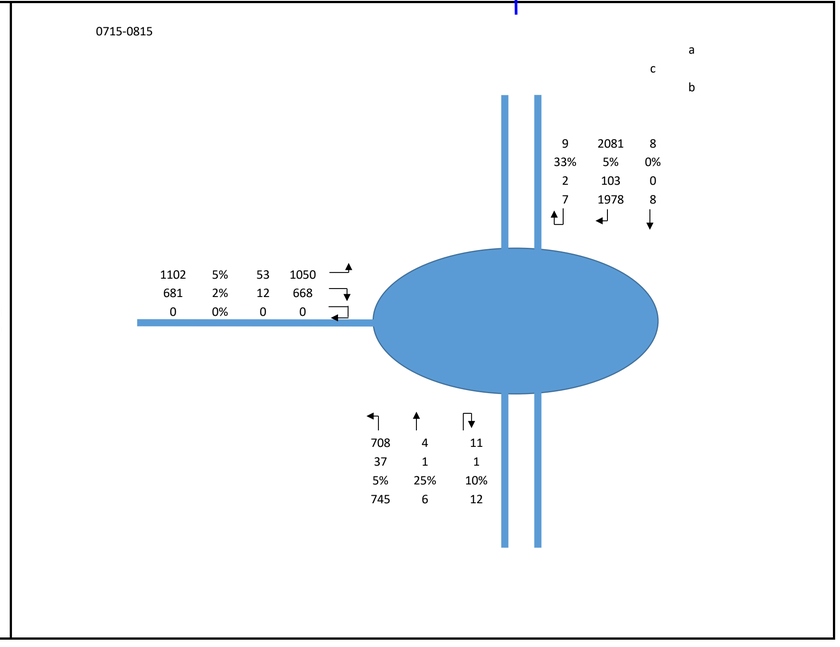
A21

1700-1800

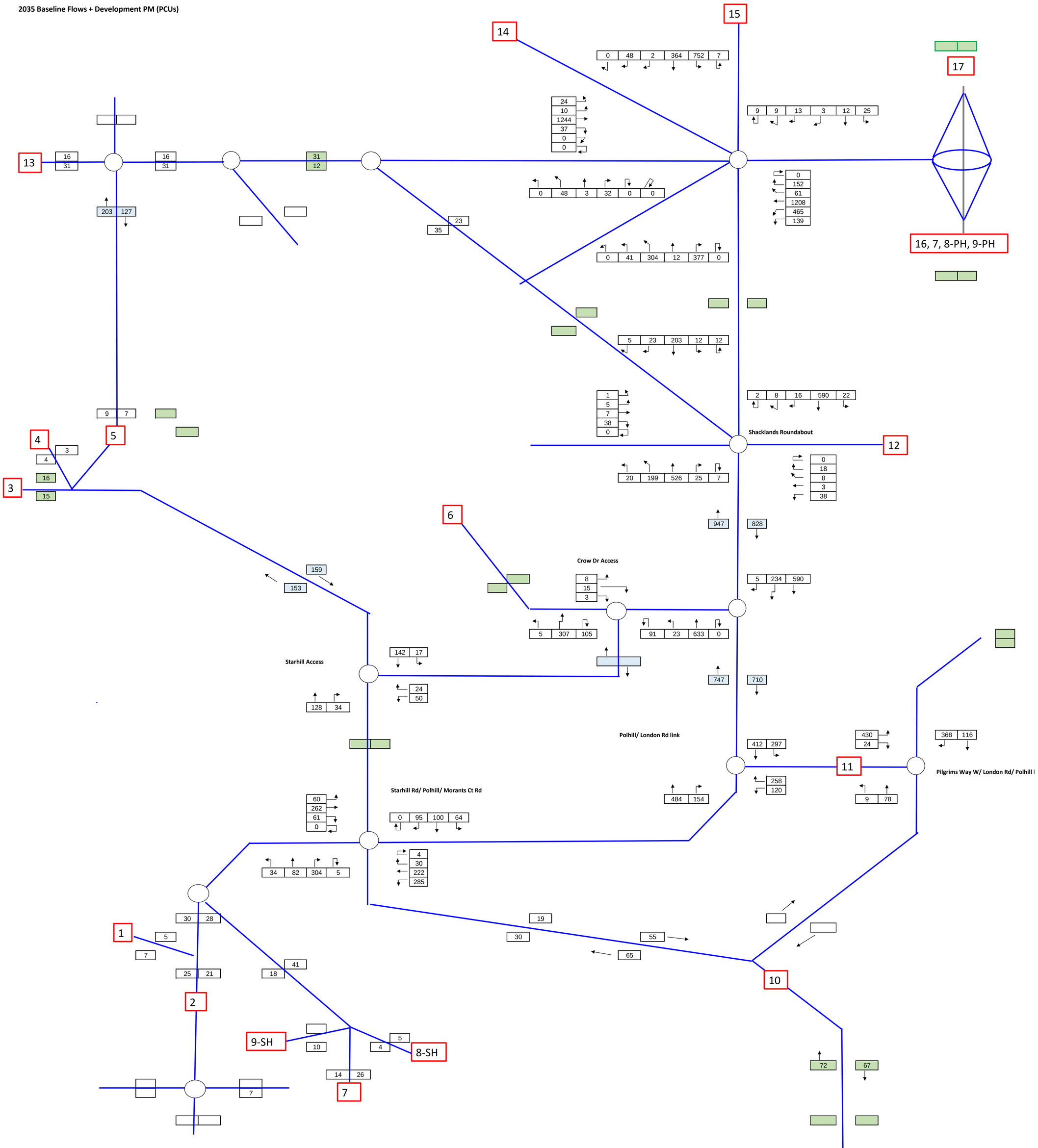
**2035 Baseline Flows + Development AM (PCUs)**

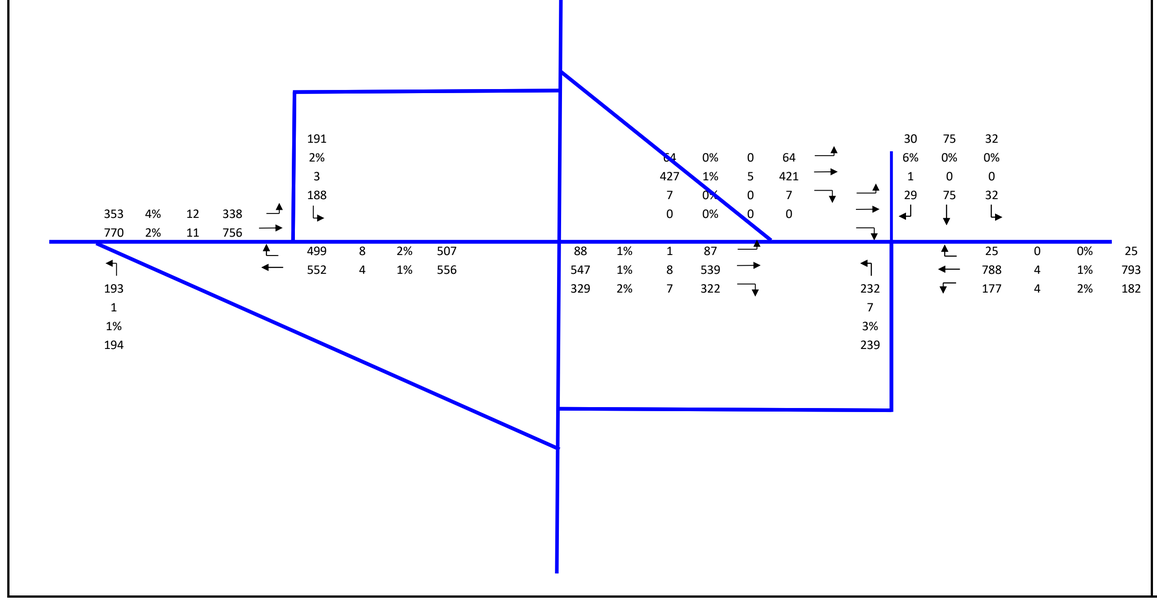


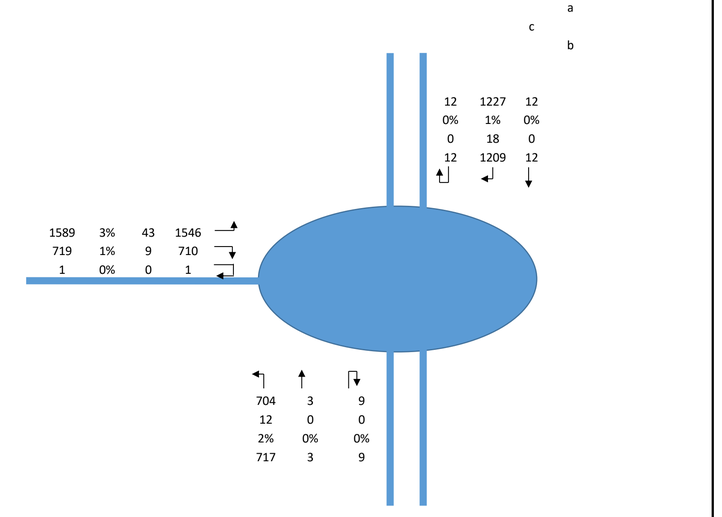



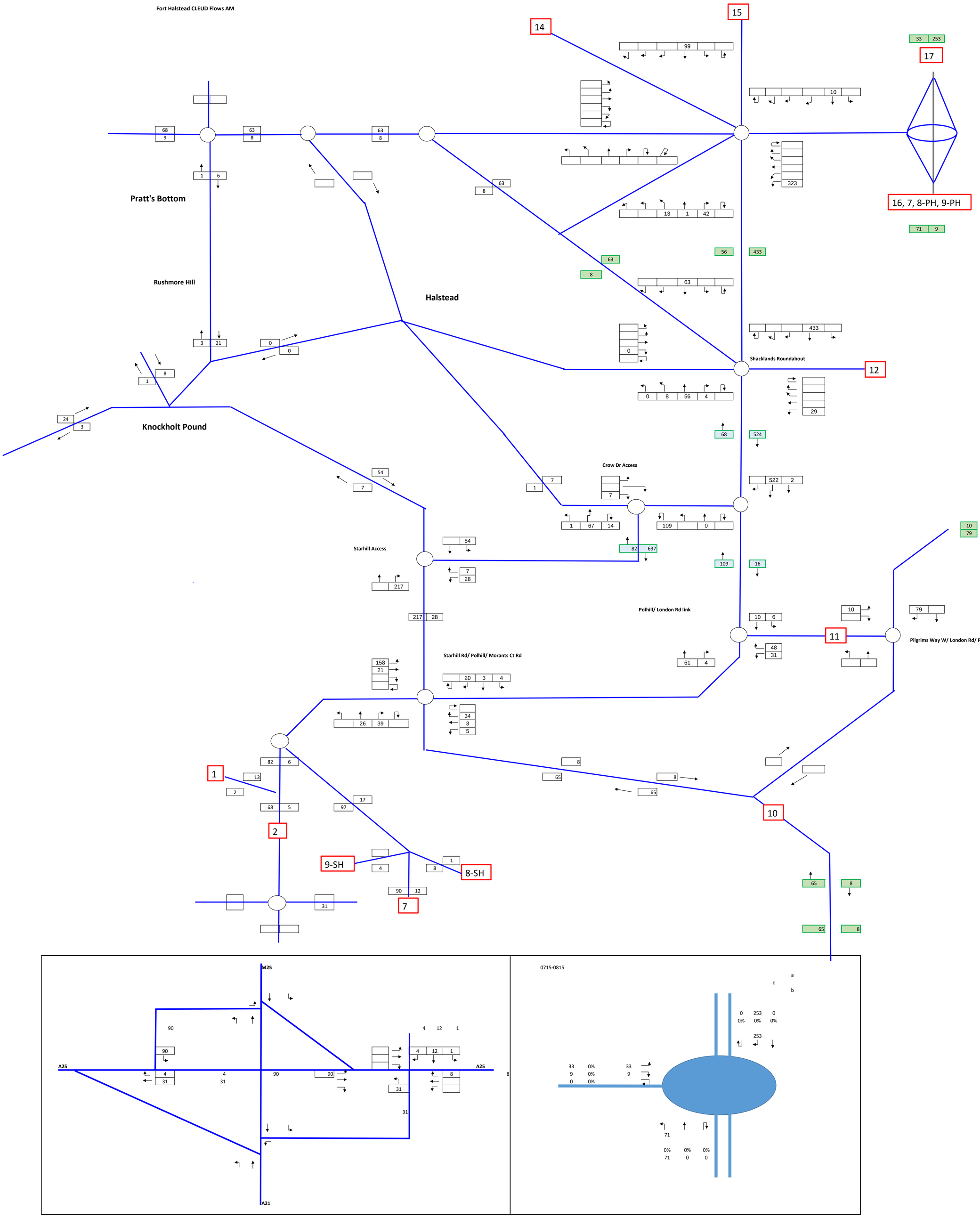
**2035 Baseline Flows + Development PM (PCUs)**



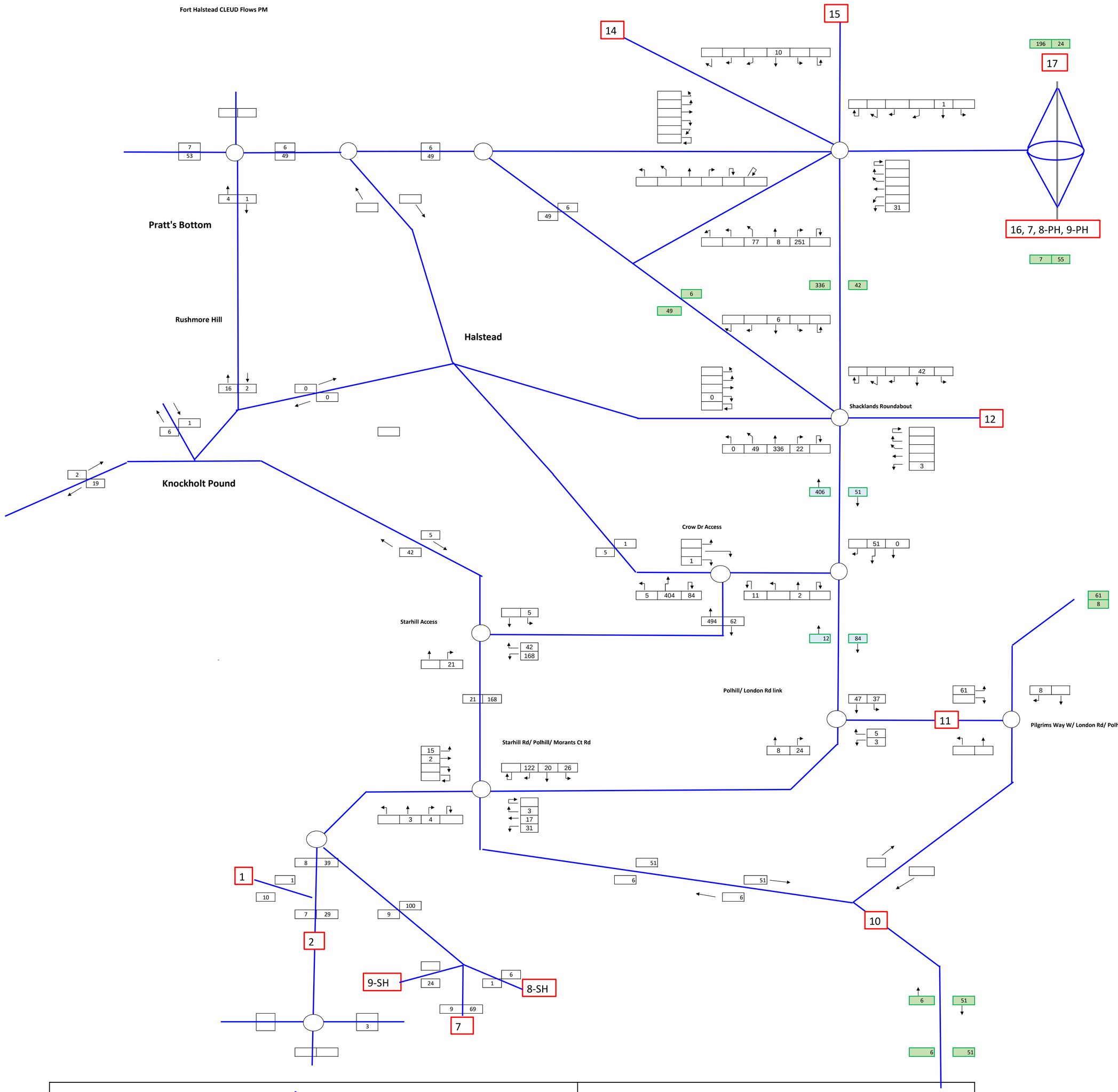



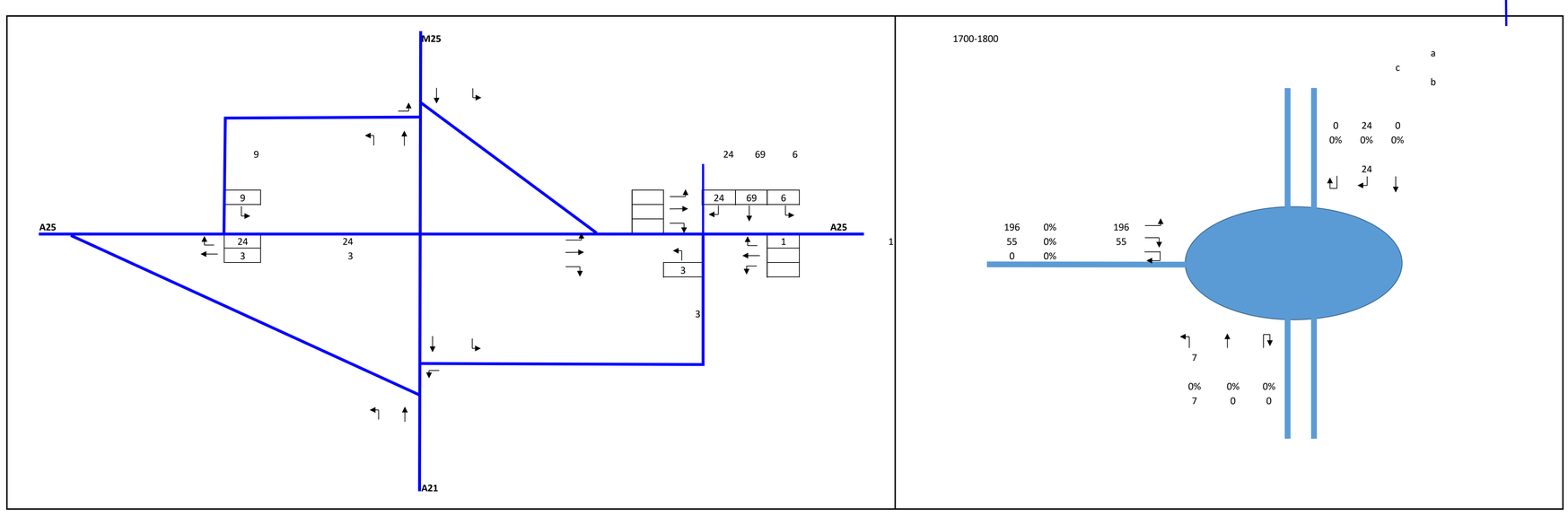


Fort Halstead CLEUD Flows AM



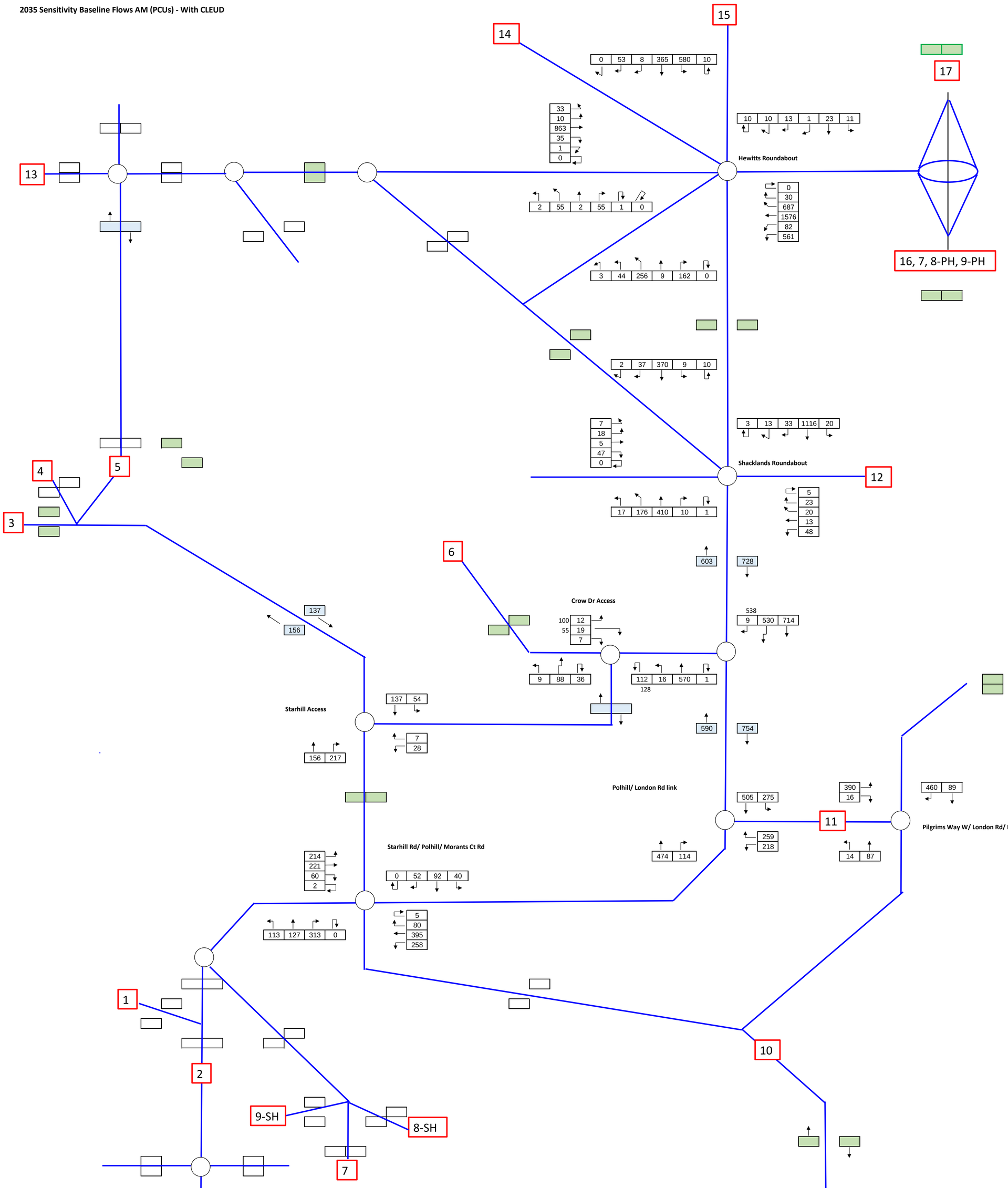
Fort Halstead CLEUD Flows PM

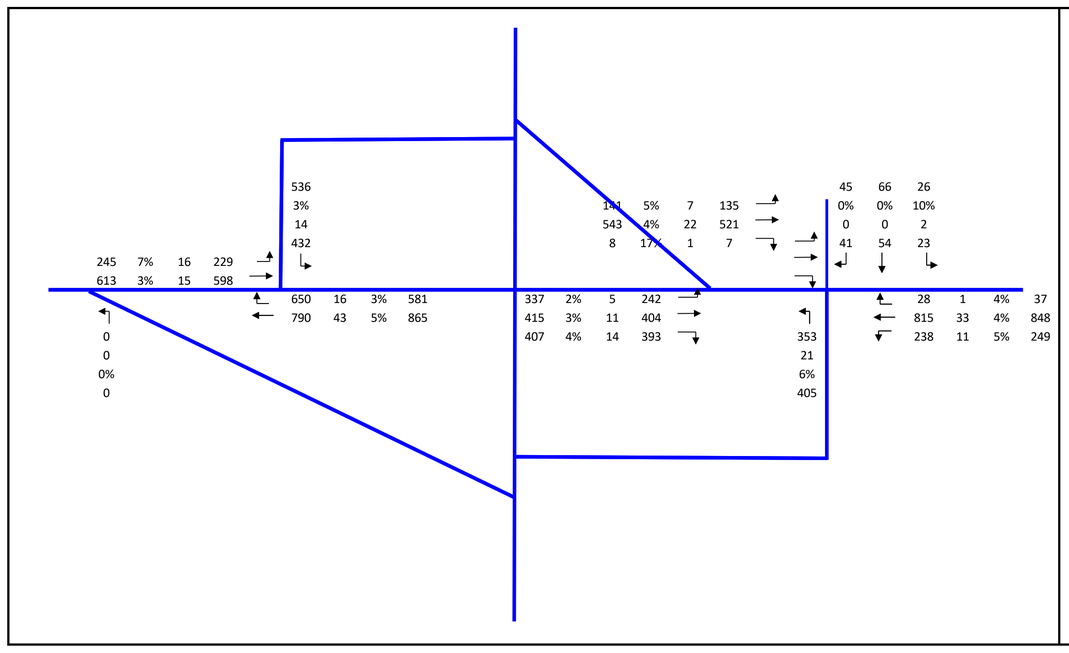


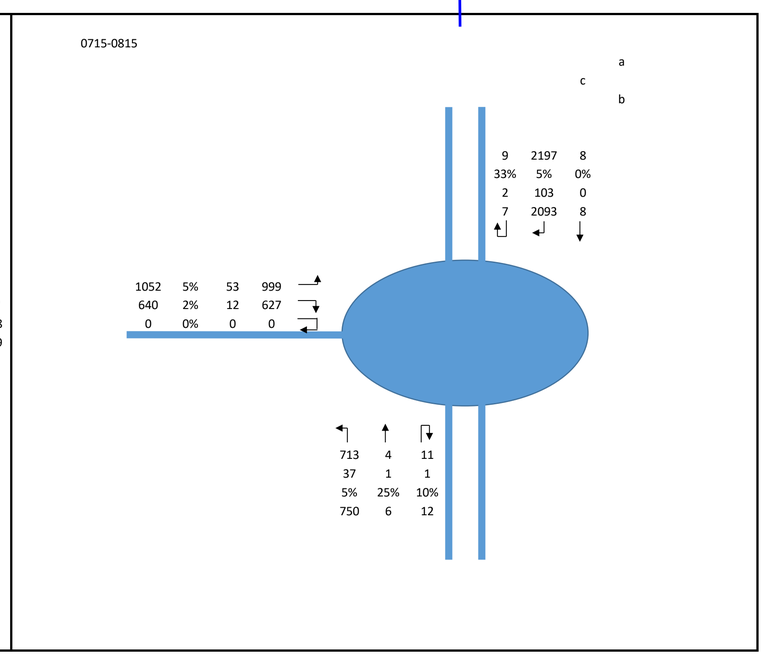




OD3

**2035 Sensitivity Baseline Flows AM (PCUs) - With CLEUD**



**2035 Sensitivity Baseline Flows PM (PCUs) - With CLEUD**