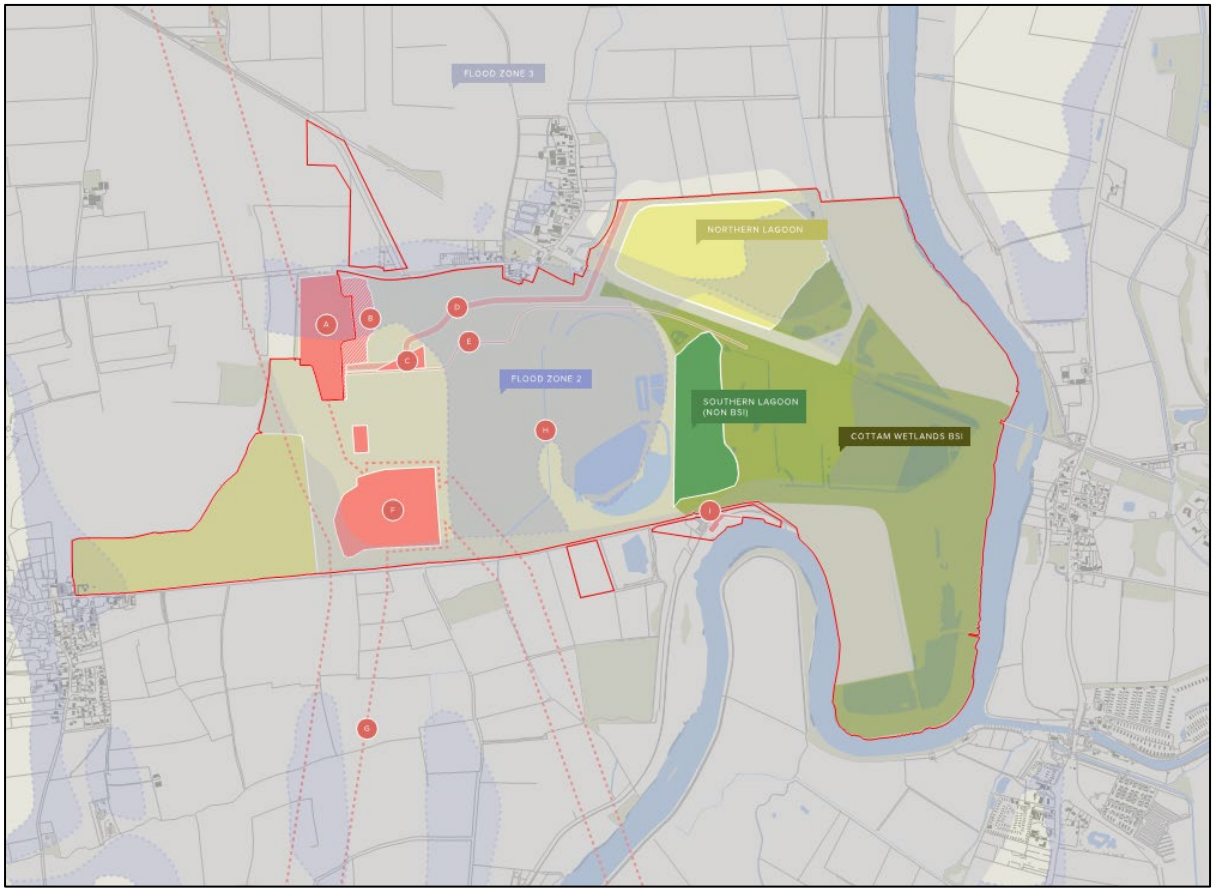
Redevelopment of Cottam Power Station

Preliminary Transport Appraisal

RT117771-01



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Bassetlaw District Council

November 2020

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Contents

Appendices

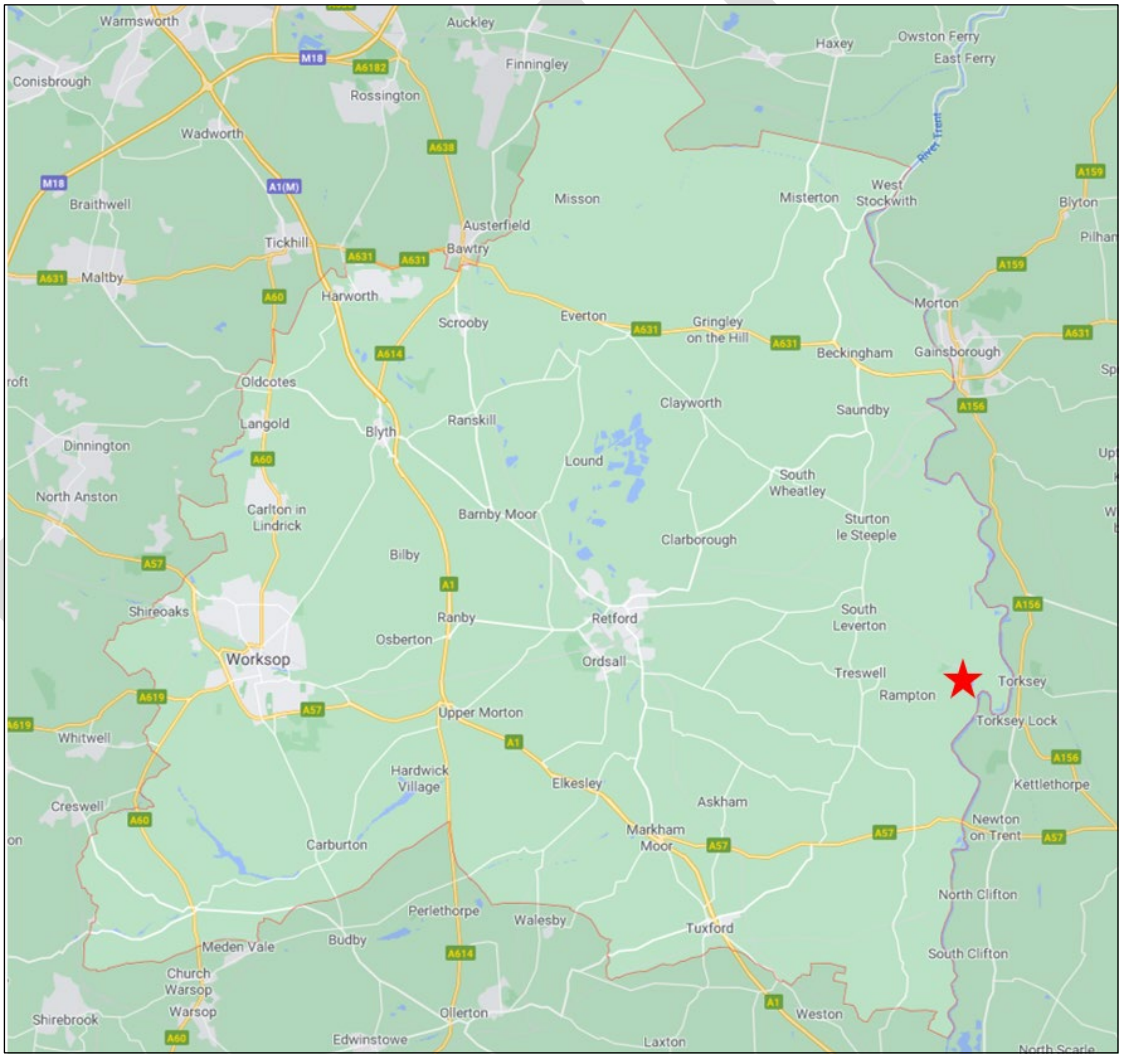
1 Introduction

1.1 PREAMBLE

1.1.1 Bassetlaw District Council (BDC) has commissioned WYG to undertake a preliminary review of the likely transport implications of redevelopment of the former Cottam Power Station site.

1.1.2 The site is located on the eastern edge of the Bassetlaw district and on the western bank of the River Trent. The location of the site within the district is indicated by the red star in **Image 1** below.

Image 1 – Site Location



Google Map Data ©2020

1.1.3 The site is located within the administrative boundary of BDC, who are the local planning authority for the area. The local highway authority for the area is Nottinghamshire County Council (NCC), with the highway authority to the east of the site being Lincolnshire County Council (LCC).

1.1.4 The site has been identified by BDC as a Priority Regeneration Area within the Draft Bassetlaw Local Plan November 2020, which will set the local planning policy framework in the District until 2037. An initial consultation on the Draft Local Plan ended in February 2020, and responses to the Cottam regeneration proposal highlighted concerns about the traffic impact of the proposals on the more rural highway network and through existing villages within the area.

1.1.5 The site comprises many known planning constraints that will need addressing through any proposed regeneration scheme. The site, identified as a 'broad location' meaning that although the site isn't allocated to deliver in this plan period, has the option to come forward if a proposal is deemed acceptable.

1.2 METHODOLOGY

1.2.1 This report provides an initial assessment of the likely transport implications of the proposed allocation on the local highway network, on routes through local villages.

1.2.2 This study has been produced within the context of NPPF guidance, with the aim of providing a high level but robust assessment of current transport conditions and future travel demands.

1.2.3 This study has been prepared in consultation with Nottinghamshire County Council (NCC). the local highway authority within Bassetlaw.

1.3 STRUCTURE OF THE REPORT

1.3.1 The structure and content of the remainder of this report is summarised as follows.

Policy

1.3.2 Presents a summary of relevant national and local transport and planning policies.

Existing Conditions

1.3.3 Presents an overview of the study area, identification of existing transport conditions and existing transport services and infrastructure for all relevant modes of transport.

Development Assumptions

1.3.4 Summarises the scale and nature of development that has been applied in the assessment.

Site Accessibility

1.3.5 Describes the existing accessibility of the site by sustainable modes of travel and discusses the potential for the accessibility of the site to be improved for these modes.

Trip Generation

1.3.6 Summarises the methodology used to estimate development trip generation by mode.

Trip Distribution and Assignment

1.3.7 Summarises the methodology used to distribute and assign car trips onto the highway network.

Likely Impacts

1.3.8 Provides commentary on the estimated development traffic flows, likely impacts on the highway network.

Summary

1.3.9 The final section summarises the findings of the study.

2 Policy

2.1 NATIONAL POLICY

2.1.1 The National Planning Policy Framework (February 2019) sets out the Government's planning policies for England and how these should be applied. A key objective of the NPPF is to achieve sustainable development and at the heart of the Framework is a presumption in favour of sustainable development.

2.1.2 Paragraph 102 from Chapter 9 of the NPPF 'Promoting Sustainable Transport' is reproduced below:

> *"Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*
>
> *a) the potential impacts of development on transport networks can be addressed;*
>
> *b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
>
> *c) opportunities to promote walking, cycling and public transport use are identified and pursued;*
>
> *d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
>
> *e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places."*

2.1.3 Paragraph 103 of the NPPF goes on to state:

> *"The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making."*

2.2 LOCAL POLICY

2.2.1 Local Transport Policy is set out in the Nottinghamshire Local Transport Plan 3 (LTP3) 2011-2026. Chapter 4 of the LTP covers providing a reliable, resilient transport system which supports a thriving economy and growth. Section 4.1.3 Land-Use Planning states:

> *"Sensitive but effective control of land-use planning is vital in delivering a successful sustainable development strategy and consequently 'sustainable communities'. If and where it is possible to cut out congestion at source, by removing or reducing the need to travel, this is preferable and more beneficial than dealing with the problem when it has occurred – thus land-use planning is imperative to the Council's overall aims. The County Council will, through control of land-use planning, seek to:*
>
> - *reduce the need to travel, thereby reducing traffic growth*
> - *promote a step change in the level of public transport, and*

- *only deliver highway capacity when all other measures have been exhausted."*

2.2.2 It goes on to state that:

"The County Council will promote sustainable development through adopting the sequential approach to the location of development set out in the East Midlands Regional Plan and by encouraging:

- *a range of quality employment land to promote economic growth and appropriate employment opportunities; and residential development of a type and in locations which meet the needs of the community*
- *an integrated transport network to support new development whilst reducing the need to travel, especially by private car*
- *a range of services and facilities to support business and to meet the needs of communities, and*
- *as a priority, development to improve the economy, services and the environment in disadvantaged areas and those with high levels of social need."*

2.3 SUMMARY

2.3.1 Key requirements of the national and local transport policies are that significant development should be focused in locations that are or can be made to be sustainable by reducing the need to travel, especially by private car, and by providing a genuine choice of sustainable transport modes. The Cottam Power Station site has therefore been assessed in this context.

3 Existing Conditions

3.1 EXISTING SITE

3.1.1 The site is the former Cottam Power Station, located to the south of the village of Cottam, approximately 9 miles to the east of Retford by road. As shown in **Image 1** on page 1, the site is located on the eastern edge of the Bassetlaw district and on the western bank of the River Trent.

3.1.2 The larger, coal-fired, power station on the site ceased generation in 2019 and major decommissioning activities are expected to be completed by the end of 2020 and demolition thereafter. A smaller station, Cottam Development Centre (CDC) remains in use and is located adjacent to the north-western boundary of the site.

3.1.3 The illustrative site boundary, showing its location in relation to the villages of Cottam and Rampton is shown in **Image 2** below.

Image 2 – Illustrative Site Boundary

3.2 LOCAL HIGHWAY NETWORK

3.2.1 Vehicular access to the former power station is provided by a single point of access to Cottam Road. This is a large simple priority T-junction access towards the western boundary of the site. Approximately 170m to the west of this junction, there is a further simple priority T-junction providing access to the CDC site.

3.2.2 Near the existing access, Cottam Road is a single carriageway road, subject to the national speed limit. The carriageway has a general width of approximately 4.8 metres, and there is a footway behind a verge to the north of the carriageway that provides a link east to Cottam village. There are no parking restrictions on this section of Cottam Road and no street lighting (although lighting is provided on the power station access road). To the east of the site access Cottam Road is subject to an 18T weight restriction (except for access).

3.2.3 To the east of the site, Cottam Road continues north through the small village of Cottam and on towards the hamlets of Coates and Littleborough. In this area the highway network is very rural in nature, commensurate with the scale of settlements that it serves, and the absence of any highway connections to the east over the River Trent.

3.2.4 To the west of the site, Cottam Road follows a broadly straight alignment for 2km towards the village of Treswell. Just to the east of Treswell, westbound traffic on Cottam Road is signposted either south along Rampton Road to Rampton, Lincoln (A57) and Newark (A1), or west towards Treswell, North Leverton and Retford.

3.2.5 At the south-east corner of the site there is a gated vehicular access to Torksey Ferry Road, a privately maintained, loosely surfaced, single vehicle width track, that leads west along the southern boundary of the site towards the village of Rampton.

3.3 TRAFFIC FLOW DATA

3.3.1 Due to the ongoing Covid-19 situation it has not been possible to undertake any new traffic surveys as the data would not be representative of typical conditions.

3.3.2 A review of available traffic survey data (highway link counts and junction survey counts) has therefore been undertaken for the local highway network surrounding the site with Nottinghamshire County Council (NCC) and Lincolnshire County Council (LCC), being consulted.

3.3.3 LCC were able to provide junction turning count data for four junctions at locations in Newton-on-Trent, Drinsey Nook and Gainsborough. However, within Nottinghamshire there was an absence of recent traffic survey data, particularly junction turning counts which was due to the

predominantly rural nature of the area, and lack of major development in the area in the last 5-10 years. The only junction turning count available in the area was a survey undertaken in 2017 at the A57/Laneham Road/Main Street crossroads junction (Dunham crossroads).

3.3.4 A review of recent planning applications was also undertaken for the local area to see if any recent traffic count data was available in planning-related documents in the public domain. However, this proved fruitless.

3.3.5 Some highway link count data was available for the Nottinghamshire network which, although a bit out of date, still provides an indication of the peak period and daily traffic flows on several local routes. Development traffic impacts have therefore been estimated using this data and this is discussed in Section 8. A summary of the link data is provided in **Table 1** below.

Table 1 – Existing 2-Way Link Flows

Ref	Road Link	Location	Survey Year	AM Peak	PM Peak
1	Cottam Road, East of Rampton Road	Treswell	2014	388	307
2	Rampton Road	Treswell	2014	179	164
3	Cottam Lane East of Townside Lane	Treswell	2010	151	124
4	Station Road	South Leverton	2013	299	299
5	Sturton Road	North Leverton	2013	347	380
6	A620 Gainsborough Road	Saundby	2012	570	615
7	Retford Road	Woodbeck	2014	217	173
8	North Green	East Drayton	2014	116	121
9	Top Street	East Drayton	2014	128	134
10	Laneham Road	Dunham on Trent	2013	244	206

3.4 LOCAL VILLAGES

3.4.1 The villages most likely to be affected by development traffic are Treswell, Stokeham, East Drayton which are located to the west and south. South Leverton, North Leverton with Habblesthorpe, and Sturton le Steeple to the north. These are all small villages with populations ranging from circa 200 residents in Treswell to circa 1,000 residents[1] in North Leverton with Habblesthorpe.

[1] Source: 2011 Census

3.4.2 To identify the villages most likely to be affected by development related trips of the site the quickest/shortest routes between the site and destinations to the north, south, east and west have been identified using Google online route planning software. Details of the identified preferred routes can be found in **Appendix A** and the villages on each route are described as follows.

To/From the North

3.4.3 The villages most likely to be affected by development traffic between the site and destinations to the north are Treswell, South Leverton, North Leverton with Habblesthorpe, and Sturton le Steeple.

3.4.4 Town Street/Cottam Lane runs broadly east-west through Treswell and is a single carriageway route that is subject to a 30mph speed limit through the village. The route generally has a footway on at least one side and street lighting is provided at regular intervals. There are several side road junctions along the route, all of which are simple priority T-junctions, and there is direct frontage access to the route from adjacent dwellings. There are no specific priority measures for pedestrians/cyclists or buses along the route. Bus stops are provided on the route, these being simple flags on poles with timetable display cases.

3.4.5 North of Treswell, Church Street runs north-south through the village of South Leverton. Church Street is a single carriageway route, subject to a 30mph speed limit through the village, and having street lighting at regular intervals. The route has a continuous footway on its west side through the village, with intermittent footways on its east side. There are several simple priority T-junctions along the route and direct frontage access is provided to dwellings along the route.

3.4.6 To the north of South Leverton, Church Street becomes Station Road and bears east and then north into the village of North Leverton with Habblesthorpe, where Station Road becomes Southgore Lane and forms the southern arm of a priority crossroads junction with Main Street (major road) and Sturton Road (northern arm) in the centre of the village. Southgore Lane is a single carriageway route, subject to a 30mph speed limit and with street lighting facilities. There are footways on both sides of the route, no parking restrictions, and frontage access to residential dwellings is provided along the route. To the south of the village there is a Vehicle Activated Sign (VAS) on Southgore Lane advising northbound vehicles of their speed as they enter the built-up area.

3.4.7 Approximately one mile to the north of North Leverton is the small village of Sturton le Steeple, with Leverton Road/Cross Street running south-north through the village. The street is single

carriageway, with a continuous footway along its west side. There is street lighting along the route and direct frontage access to residential dwellings. The route is subject to a 30mph speed limit and there is a VAS for southbound vehicles in the centre of the village.

3.4.8 The small village of Saundby is located approximately 2.5 miles to the north of Sturton le Steeple, with the A620 Gainsborough Road providing a route south-north through the village. The A620 is subject to a 40mph speed limit through the village and is a single carriageway route with limited frontage access and a continuous footway on its eastern side.

3.4.9 The A620 continues north from Saundby for approximately one mile before it forms the southern arm of a four-arm priority roundabout junction with the A631 (east and west arms) and Station Road (north arm) to the south of Beckingham. The A631 provides a western bypass of Beckingham, with the A631 to the east of the roundabout providing a route east, over the River Trent, to Gainsborough.

To/From the East

3.4.10 The closest bridge crossing of the River Trent to the east is the A57 Toll Bridge at Dunham on Trent. Traffic from the site traffic wishing to travel east via the A57 would use the signposted route between the site and the A57 which follows Cottam Road/Rampton Road/Laneham Road and joins the A57 to the west of Dunham village. This route passes close to Stokeham and Laneham without passing through the villages.

To/From the South

3.4.11 Traffic travelling to/from the proposed development and the south in order to access the A57 westbound and the A1 is likely to route through the villages of Stokeham, East Drayton and Darlton.

3.4.12 At Stokeham, traffic travelling to the A57 west is likely to leave the signposted route on Laneham Road to join Main Street, which runs through Stokeham village, before then travelling south on Drayton Road. Main Street is a single carriageway road subject to a 30mph speed limit. It has direct frontage access from adjacent dwellings, a footway on one side and no street lighting. To the south of Stokeham Drayton Road between Stokeham and Drayton is a single carriageway rural road subject to the national speed limit. It has grass verges on both sides, no footways and no lighting.

3.4.13 Drayton Road passes through two 90 degree 'dog leg' bends to the north of East Drayton before entering the village. Through East Drayton the road becomes Top Street and runs north-south

for approximately half a mile through the village. The route is single carriageway, subject to a 30mph speed limit and has street lighting and footways. The route has direct frontage access to dwellings and there is a priority crossroads junction in the centre of the village. To the south of the village the road negotiates two 90 degree 'dog leg' bends before becoming Darlton Road and continuing south to join the A57 at a simple priority junction just to the west of the small village of Darlton. Darlton Road between East Drayton and the A57 is a single carriageway rural road subject to the national speed limit. It has grass verges on both sides, no footways and no lighting.

To/From the West

3.4.14 Traffic travelling towards the west is likely to take one of two routes, depending on whether the destination is to the north or south of Retford. For journeys to the north of Retford the most direct route follows Cottam Road through Treswell, then north on Leverton Road to South Leverton before heading west on Retford Road/Leverton Road to join the A638 in Retford at the A638 Arlington Way/Spital Hill/Chapel Gate signal controlled crossroads. Once through the villages of Treswell and South Leverton most of this route is a single carriageway rural road subject to the national speed limit, with grass verges and no footways or street lighting. Upon entering the urban edge of Retford, the speed limit reduces to 30mph and footways are generally present on both sides of the road together with street lighting.

3.4.15 For journeys to the south of Retford the most direct route follows Cottam Road, Rampton Road, Laneham Road and then west on Retford Road past Woodbeck to Lady Well Lane/Grove Road to enter Ordsall at the A638 London Road/Grove Road mini roundabout junction. On this route the section past Woodbeck has a speed limit of 30mph with a footway on one side, street lighting and direct frontage access to properties. Once past Woodbeck this route is a single carriageway rural road subject to the national speed limit, with grass verges and no footways or street lighting. Upon entering the urban edge of Ordsall, the speed limit reduces to 30mph and footways are generally present on one or both sides of the road together with street lighting.

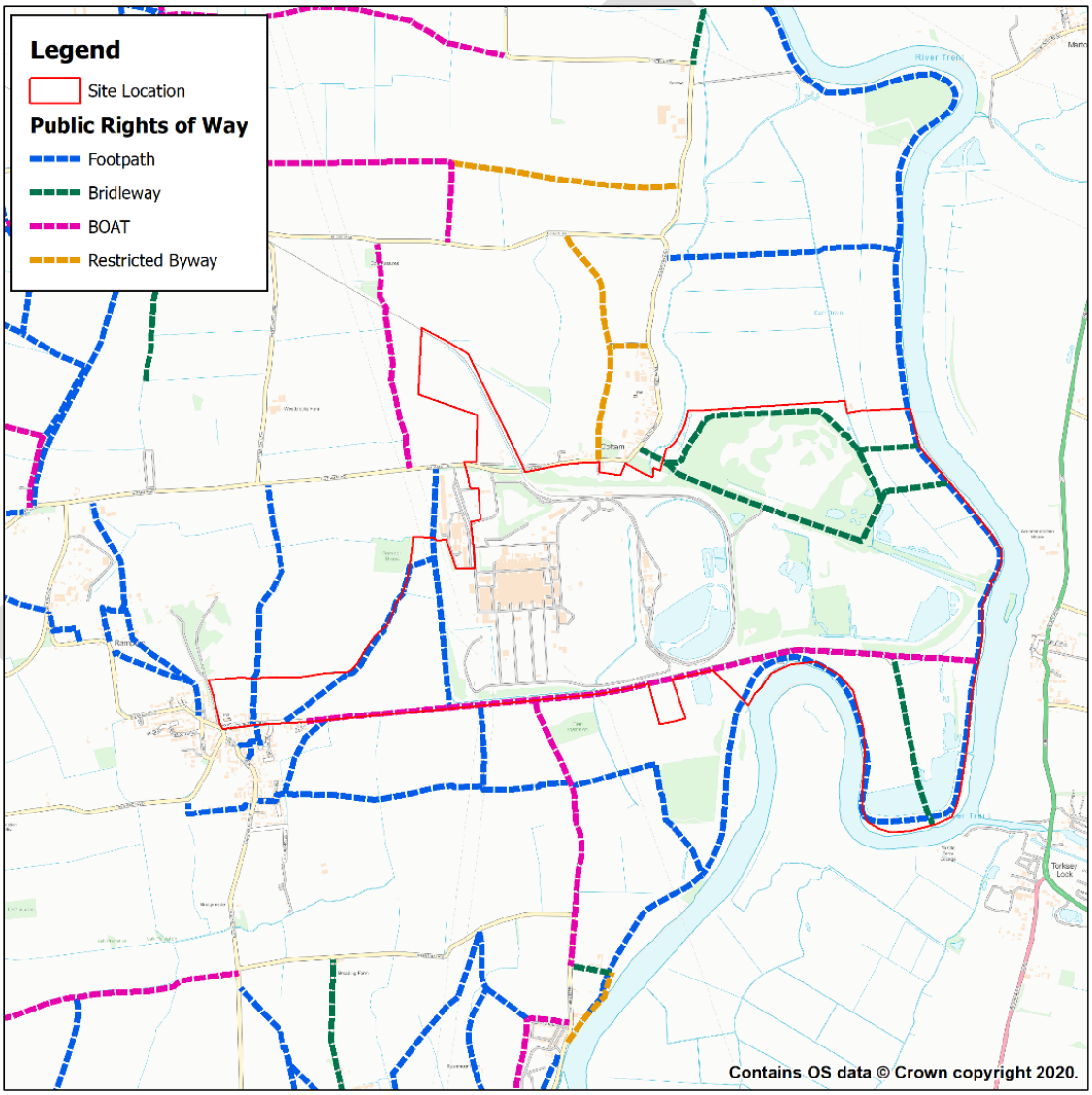
3.5 SUSTAINABLE TRANSPORT INFRASTRUCTURE

Walking

3.5.1 Along the Cottam Road site frontage there is an existing footway to the north of Cottam Road that runs east into Cottam village, but no footway provision along Cottam Road to the west of the site.

3.5.2 **Image 3** on the next page shows that there are several Public Rights of Way (PROW) in and around the site. There is an existing public bridleway route that provides a link through the site between Town Street in Cottam and the River Trent. To the west of the site there is a public footpath route that provides a link through the site between Cottam Road, to the north, and Torksey Ferry Road, to the south. To the east of the site, along the western bank of the Trent is the Trent Valley Way which is a waymarked long distance footpath that follows the River Trent and its valley downstream from Nottinghamshire to Lincolnshire where it outflows into the Humber.

Image 3 – Public Rights of Way



3.5.3 Torksey Ferry Road is classified as a Byway Open to all Traffic (BOAT) and provides a route west from the site to the village of Rampton. To the south of Torksey Ferry Road, Shortleys Road,

(also a BOAT) provides a route south to the hamlet of Church Laneham and the village of Laneham. This is an unlit, privately maintained 'track' for most of its length.

Cycling

3.5.4 There are no specific cycle routes in the vicinity of the site, although as the area is predominantly flat and local roads are lightly trafficked the local highway network is conducive to cycling and several local villages are within easy cycling distance of the site.

Bus

3.5.5 Bus services in the vicinity of the site are very limited. The nearest bus stop is on Town Street in Cottam which is served by the P190 Village Link Phone-a-Bus service between Tuxford and Retford. This is operated by Gem Mini Travel and operates between 1015-1825 hrs Monday to Saturday. There are four buses a day to Retford and three buses a day to Tuxford, Monday to Saturday, with services to/from Cottam needing to be pre-booked.

Rail

3.5.6 The nearest railway station is located within Retford, approximately 9 miles to the west by car. Retford railway station is on the East Coast Mainline and the Sheffield to Lincoln line. It has four platforms, two serving each line. Regular daily services are available to London, York, Sheffield and Lincoln.

3.5.7 Retford station is operated by London North Eastern Railway (LNER) and facilities include 38 cycle storage spaces, 101 car parking spaces (3 accessible), ticket office, refreshments, toilets and waiting rooms.

3.5.8 The Cottam Power Station site is also served by a rail spur off the Sheffield to Lincoln line which was used for coal deliveries when the power station was operational. The rail spur is no longer in use.

3.6 ROAD SAFETY

3.6.1 Road collision statistics for the local highway network were initially reviewed using available online data, with more detailed data then being obtained from NCC or LCC where a highway link/junction had experienced several collisions in the latest five-year period between 1st January 2015 and 31st December 2019. A figure depicting the location of recorded injury collisions can be found in **Appendix B**.

3.6.2 In the immediate vicinity of the site there have been two recorded injury collisions in the latest five-year period, one of which resulted in a fatality and one of which resulted in serious injury. The fatal incident occurred in April 2017 and involved a single car losing control and colliding with a tree. The serious injury collision also involved a single vehicle, a motorcycle, with the rider falling from the vehicle and sustaining serious injuries.

3.6.3 In Treswell, there have been a total of five recorded injury collisions in the latest five-year period. Two of these occurred at the Cottam Road/Rampton Road junction to the east of the village, one at the Laneham Road/Cocking Lane junction to the south of the village and one at the Town Street/Leverton Road junction in the centre of the village. The remaining collision occurred at the Leverton Road/Beckingham Lane junction to the north of the village.

3.6.4 The collision at the Laneham Road/Cocking Lane junction resulted in a fatality and involved a car turning right out of Cocking Lane colliding with a northbound goods vehicle on Laneham Road. The collision occurred in dark/icy conditions. The collision at the Town Street/Leverton Road junction was classified as serious in severity and involved a vehicle turning right out of Leverton Road in collision with a motorcycle travelling eastbound along Town Street. The collision occurred in daylight and in fine/dry conditions. The remaining three collisions were all classified as slight in severity.

3.6.5 Further north, there has been a single recorded injury collision in South Leverton in the latest five-year period and a single collision in North Leverton with Habblesthorpe. Both of these collisions were classified as slight in severity. There has also been a single 'slight' collision recorded in Sturton le Steeple, and two 'slight' collisions in Saundby.

3.6.6 In Beckingham, there have been a total of eight recorded injury collisions at the A631/A620/Station Road roundabout junction in the five-year period. These collisions have been examined in greater detail using information provided by NCC. Three of the collisions at the junction resulted in serious injury, with the remaining five resulting in slight injury. Two of the serious injury collisions involved the loss of control of a single vehicle, with third serious injury occurring as a result of failure to give way at the junction. Two of the 'slight' collisions were also as a result of failure to give way, two occurred as a result of lane changes and the remaining one was due to the loss of control of a single vehicle.

3.6.7 To the east of Beckingham, into Gainsborough, there have been four recorded injury collisions at the A631/Bridge Street/A156 signal crossroads junction in the latest five-year period. All were classified as 'slight'.

3.6.8 To the south of the study area, at the A57/Laneham Road/Main Street crossroads junction (Dunham crossroads), there has been only one recorded injury collision in the latest five-year period and therefore no further analysis has been undertaken. To the west of this junction there has been seven recorded injury collisions on a 4km stretch of the A57 (to a point just west of Darlton) in the latest five-year period, four of which were classified as 'serious'. One of these has been ignored as it involved a passenger in a vehicle where no collision occurred.

3.6.9 Of the remaining three serious injury collisions, one occurred at the A57/Darlton Road junction and involved a vehicle turning right towards Darlton Road in collision with an eastbound vehicle on the A57. The second involved a head-on collision between vehicles travelling in opposite directions on the A57 through Darlton, and the third occurred at a lay-by less than a mile to the east of Darlton. The incident involved a vehicle turning right into the layby as a motorcycle was overtaking it, with the motorcycle rider being seriously injured.

3.6.10 Further west, at the A1/A57 Markham Moor grade separated junction there has been a total of eight recorded injury collisions at the two Markham Moor roundabouts in the latest five-year period, all of which were classified as 'slight'.

3.6.11 To the east of Dunham crossroads, there have been several collisions along the A57 in the latest five-year period, with 15 collisions recorded on the 3km length between Dunham crossroads and Newton on Trent over this period. One of these collisions resulted in a fatality and two resulted in serious injuries. The remaining collisions all resulted in slight injuries. The fatality occurred close to the A57/Upper Row and involved a single vehicle. One of the serious injury collisions occurred in Dunham village, and involved a car turning right onto the A57 in collision with a motorcycle travelling along the A57.

3.6.12 The other serious injury collision occurred just to the east of Dunham toll bridge and involved a vehicle trying to U-turn on the A57 in collision with a motorcycle that was trying to overtake the vehicle.

3.6.13 Into Lincolnshire, there has been a total of four recorded injury collisions at the A57/A1133 staggered crossroads junction within the latest five-year period. Three of these collisions resulted in slight injury and one collision resulted in serious injury. The serious injury collision involved a vehicle turning right off the A57 across the path of a westbound vehicle on the A57.

3.6.14 At the A57/A156 signal junction there has been five collisions recorded in the latest five-year period, all of which resulted in slight injury.

4 Development Assumptions

4.1 SCHEDULE OF ACCOMMODATION

4.1.1 For the purposes of this assessment the following development has been assumed:

- 1,600 residential dwellings
- 15 Hectares of mixed B1/B2/B8 employment
- Local Centre
- 2-Form Entry Primary School (420 pupils)

4.1.2 A masterplan layout is not available at this stage therefore some assumptions regarding the site access strategy have been made as follows.

4.1.3 The site will deliver 15 hectares of employment split between B1c, B2 and B8 use-classes to meet local market demands. At this stage, it is unknown what the final employment Gross Floor Area (GFA) will be so this has been estimated based on 40% of the total site area. Land-use splits have been based on splits agreed with BDC for similar proposals assessed at Morton and Gamston Airfield. These splits are 12.5% B1c, 37.5% B2 and 50% B8 which gives the following GFA by employment use-class:

- Employment B1(c) - 7,500 sqm
- Employment B2 - 22,500 sqm
- Employment B8 - 30,000 sqm

4.1.4 At this stage no details are available regarding the proposed local centre therefore we have assumed a GFA of 725 sqm, based on a TRICS® average for this land-use in rural/suburban areas.

4.1.5 The development is expected to provide a two form-entry (2FE) primary school catering for children between the ages of 5 and 11. This will equate to seven forms/year groups, and fourteen classes within the school. Assuming 30 pupils per class equates to 420 primary school pupils in total.

4.1.6 No secondary school provision is proposed on the site, so secondary school students will travel off-site to existing secondary schools in the local area for their education needs.

4.2 VEHICULAR ACCESS

4.2.1 It has been assumed that all vehicular access to the site would be taken via junctions to be provided onto the Cottam Road/Outgang Lane site frontage. The location and form of the access

points has not been determined at this stage, but there appears to be enough site frontage available to provide two points of access, which would be the minimum required to serve a development of this scale. All new accesses will need to be designed in accordance with relevant design standards.

4.3 PEDESTRIAN/CYCLE ACCESS

4.3.1 The site has frontages onto Cottam Road/Outgang Lane on its northern boundary and Torksey Ferry Road on its southern boundary. As discussed in Section 3.5 there are also several Public Rights of Way (PRoW) that pass close to, or through the site. Opportunities therefore exist to connect the site with these local routes subject to appropriate local improvements.

4.4 INTERNAL LAYOUT

4.4.1 An internal site layout plan is not available at this stage. However, it has been assumed that an appropriate internal network of highway, walking and cycling routes could be delivered in accordance with relevant design guidance, that would provide for safe movement within the site for all users including service and emergency vehicles.

5 Site Accessibility by Sustainable Modes

5.1 SITE LOCATION

5.1.1 The site is situated on the eastern edge of the district in a rural area. To the east the site is bounded by the River Trent which acts as a barrier for movement to/from the east. The closest villages to the site are small and offer only very limited facilities. There is one school near to the site, Rampton Primary School, which caters for 70 children.

5.1.2 The closest settlement to the site that provides key services including education, healthcare, retail and leisure is the town of Retford which is situated approximately 9 miles to the west by car.

5.2 WALKING & CYCLING

5.2.1 In terms of what constitutes a reasonable walking distance and to understand the potential for future walking/cycling trips, it is necessary to consider what is realistic for a walking trip, and evidence for the assumptions made in this report are based on several documents.

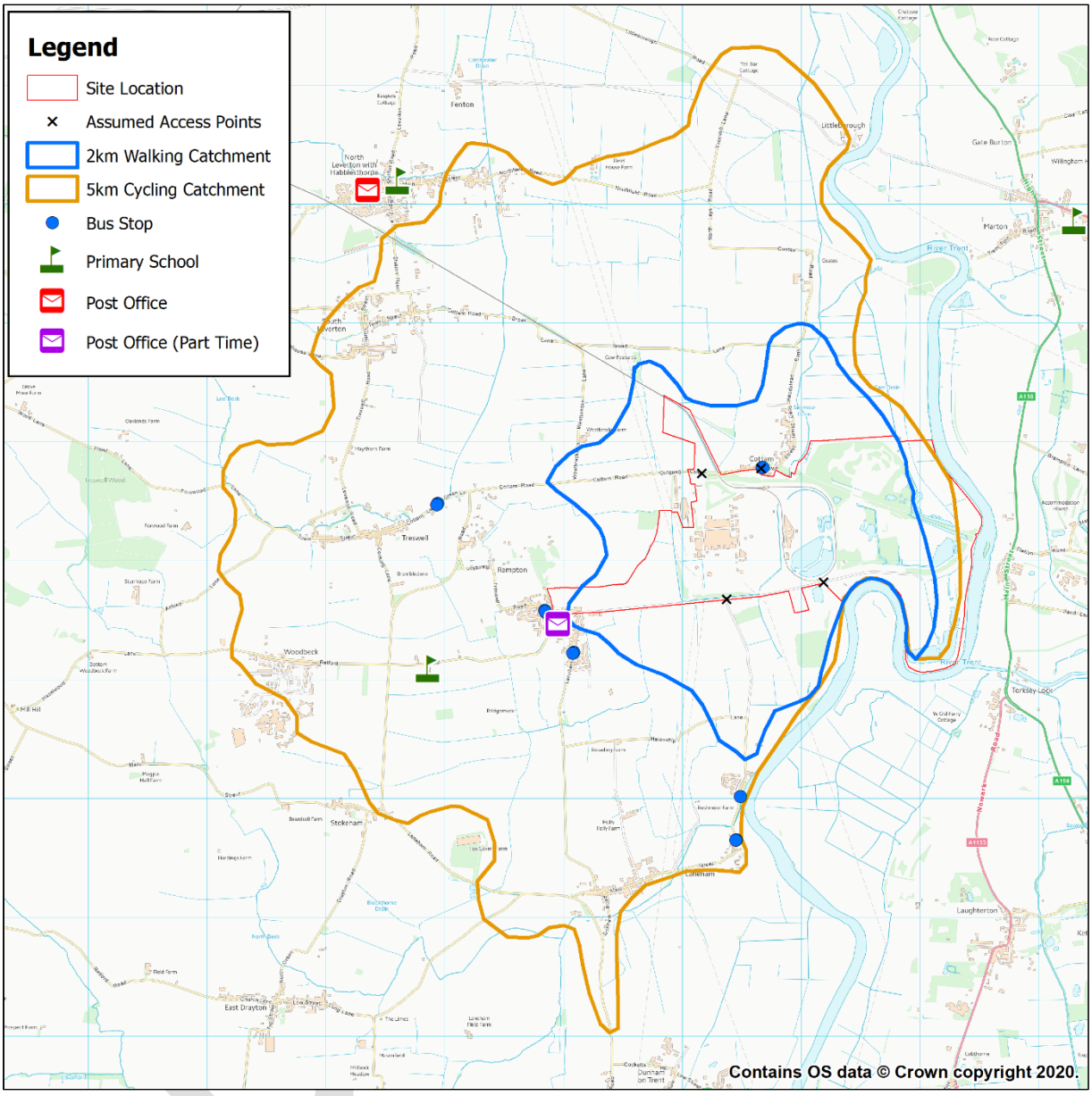
5.2.2 The Chartered Institution of Highways and Transportation (CIHT) in their document 'Guidelines for Providing for Journeys on Foot' state that "walking accounts for over a quarter of all journeys and four fifths of journeys less than one mile". The document also provides guidance on acceptable walking distances and suggests that a preferred maximum walking distance of 2km is applicable for commuting or school trips.

5.2.3 It can be concluded therefore that distances up to 2km can be considered reasonable to be undertaken on foot, and that walking is a realistic mode to consider for trips within this distance. Whilst this does not preclude pedestrians from undertaking longer journeys, it is considered that 2km is reasonable.

5.2.4 A 2km walking distance from the centre of the site is shown in **Image 4** on the next page and this encompasses the village of Cottam and part of the village of Rampton. The available facilities within Cottam are limited to bus stops and a pub/guesthouse (The Moth & Tavern). Facilities in Rampton include a church, part-time post office, vehicle repair garage and a pub (Eyre Arms). Sundown Adventureland, a children's theme park, is located between Rampton and Treswell, and falls outside of the 2km walking distance.

5.2.5 The nearest school to the site is Rampton Primary School which is situated on Retford Road to the west of the village of Rampton, between Rampton and Woodbeck and falls outside of the 2km walking distance.

Image 4 – Walking and Cycling Catchments



5.2.6 In much the same way as pedestrian trip lengths are defined, the length of cycling trips will be governed by routes that are available and trip length, although several other factors often mitigate for or against making these trips.

5.2.7 The DfT in their Transport Statistics on Cycling in Great Britain state that the average length of a cycle journey is 2.4 miles (3.84km). It can therefore be concluded that approximately 4km represents a reasonable average cycling distance.

5.2.8 A 4km cycling distance from the centre of the site is also shown on **Image 4** and this encompasses the villages of Cottam and Rampton and the facilities mentioned above plus the

villages of Treswell, South Leverton, part of North Leverton with Habblesthorpe, most of Woodbeck, as well as the villages of Laneham and Church Laneham. Facilities available in Treswell include bus stops, a church and a vehicle repair garage. Facilities in South Leverton include a church, a pub (The Plough Inn), residential care home and a preparatory school. Facilities in Laneham and Church Laneham include a garden centre, a church and two pubs (The Bees Knees and the Ferry boat Inn).

5.2.9 There are therefore very few existing facilities accessible within reasonable walking and cycling distances from the site and Census 2011 data confirms that, at the time of the Census, only 2% of journeys to work were made by cycle and 0% of journeys to school were made by cycle within the Lower Super Output Area that the site is situated within.

5.3 BUS

5.3.1 The nearest bus stop is on Town Street in Cottam which is served by the P190 Village Link Phone-a-Bus service between Tuxford and Retford. This is operated by Gem Mini Travel and operates between 1015-1825 hrs Monday to Saturday. There are four buses a day to Retford and three buses a day to Tuxford, Monday to Saturday, with services to/from Cottam needing to be pre-booked.

5.3.2 Any development of the site would require the existing limited bus service to be significantly enhanced if bus were to be a realistic choice of travel to/from the site. The most realistic option would seem to be to provide a regular service from the development into Retford. The town provides a range of facilities and good rail links. It is on the East Coast Main Line, offering services to London and York, and the Northern Rail network, providing services to Sheffield and Lincoln.

5.3.3 The bus journey time from Cottam to Retford would be 20 to 25 minutes. This means that an hourly service to and from Cottam could be provided with a single bus. The cost of this hourly service (assuming 13 return journeys between 07.00 and 19.00 hrs six days per week) would be in the range of £150,000 to £200,000 per annum depending on vehicle size.

5.3.4 This cost excludes fare revenue, so the final financial commitment would depend on the fare charged and, more significantly, the number of passengers that could be generated. Assuming a £4 return fare, it would require between 250 and 325 passengers per day to cover costs. This equates to an average of 20 to 25 passengers per journey across each day.

5.3.5 It is common practice for developers to provide short-term financial support to allow a new bus service to build patronage as the development proceeds. However, given the scale of this

development, it is possible that the required passenger numbers may never be achieved, making a real possibility of a long-term subsidy commitment or service withdrawal. It is possible that incentives to promote bus travel could help this situation, but they would also require some financial input.

5.4 RAIL

5.4.1 As mentioned in Section 3 the nearest railway station is located within Retford, approximately 9 miles to the west by car. Retford railway station is on the East Coast Mainline and the Sheffield to Lincoln line. It has four platforms, two serving each line. Regular daily services are available to London, York, Sheffield and Lincoln.

5.4.2 Whilst Retford station is well served by daily train services accessing the station on foot or by cycle isn't feasible from the site due to the distance involved. Poor bus connectivity also means that the predominant mode of travel between the site and Retford station would be the private car, which would place additional pressure on the local highway network and station parking within Retford.

5.4.3 The site is served by a rail spur off the Sheffield to Lincoln line which was used for coal deliveries when the power station was operational. However, the rail spur is no longer in use.

5.4.4 Preliminary discussions between BDC and Network Rail have ruled out the possibility of utilising this rail spur to provide a rail connection to the site for the following reasons:

- The rail spur serving the site is a dead end, so it isn't possible to just add an extra stop for a passing service or make a minor diversion to an existing passing service. Accessing the site by rail would require a bespoke service that would be very inefficient to operate.
- The configuration of the junction of the rail spur with the Sheffield to Lincoln line only permits movement between the site and the west. Travel to Lincoln would require travelling into Retford first which would be very inefficient and would reduce its attractiveness to potential users.
- Adding a bespoke rail service to serve the site would have timetable implications for existing rail services on the Sheffield to Lincoln line.
- The volume of rail trips that would be generated by redevelopment of the site would be too small to justify provision of a bespoke rail service.

5.4.5 It can therefore be concluded that rail is not a viable mode of travel to serve future redevelopment of the site.

5.5 SUMMARY

5.5.1 The site currently has very poor accessibility by sustainable modes of transport. Whilst opportunities exist to provide improved connections to local villages for walking and cycling these villages offer very few facilities. The nearest settlement providing key services is Retford, approximately 9 miles to the west and this distance effectively rules out walking and cycling to access these services or the nearest railway station which is also in Retford.

5.5.2 Preliminary discussions between BDC and Network Rail have ruled out the possibility of using the existing rail spur to serve the site with a passenger rail service.

5.5.3 The site is very poorly served by existing bus services and providing an improved bus connection is likely to require the site promoter/developer to subsidise a bespoke service in perpetuity.

5.5.4 Any development on the site is therefore likely to be heavily reliant on car based trips and would be contrary to national and local transport policies with regards to focussing significant development in locations that are, or can be made to be sustainable, by reducing the need to travel by car by providing a genuine choice of sustainable transport modes.

6 Trip Generation

6.1 INTRODUCTION

6.1.1 For small scale residential developments trip generation is typically calculated using trip generation rates from the Trip Rate Information Computer System database (TRICS®). This database contains transport surveys at existing developments for a range of different land uses, and these are used to estimate trip rates for proposed developments with similar characteristics.

6.1.2 With regard to residential development, TRICS® does not contain sites of the scale of the proposed new settlement in Bassetlaw, and the relatively small scale of the sites within the database is such that they would generally have just dwellings present rather than the additional facilities that would be present within a new settlement (i.e. employment, education, retail etc).

6.1.3 While TRICS® can be used to calculate trips generation from these additional land uses separately, this may provide an over calculation of trips travelling to / from the site since there would be some internalisation[2] of trips between the different land uses, for example residents on the development working in the employment areas.

6.1.4 A 'first principles' calculation approach has therefore been used to estimate what level of internalisation of trips could occur, and therefore what the associated external trips could be on the wider highway network.

6.1.5 Full details of the methodology adopted for deriving peak hour traffic generation figures for the proposed development are contained in the WYG report no. A117771-02, a copy of which can be found in **Appendix C**.

6.2 TRIP GENERATION SUMMARIES

6.2.1 The resulting internal and external person and vehicle trip generation for the typical weekday morning and evening peak hours are shown in the tables on the following pages.

[2] Trips between different land uses on the site that remain internal to the development and do not impact on the wider highway network.

Table 2 – Internal Person Trips by Trip Purpose

Land Use (Trip Purpose)	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Residential (Work)	24	78	103	47	28	75
Residential (Education)	73	460	533	89	31	120
Residential (Shopping)	18	129	147	118	51	169
Residential (Personal Business)	77	156	233	182	93	275
Residential (Other)	11	56	67	194	80	274
Employment (B1c / B2)	25	5	30	4	19	23
Employment (B8)	6	4	10	2	6	8
Primary Education (Pupil)	454	151	605	0	0	0
Primary Education (Staff)	1	0	1	0	3	3
Secondary Education (Pupil)	0	0	0	0	0	0
Secondary Education (Staff)	0	0	0	0	0	0
Local Centre	78	77	154	98	96	194
Total	**766**	**1,116**	**1,882**	**733**	**407**	**1,141**

Table 3 – External Person Trips by Trip Purpose

Land Use (Trip Purpose)	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Residential (Work)	139	451	590	268	162	430
Residential (Education)	0	0	0	0	0	0
Residential (Shopping)	6	43	49	39	17	56
Residential (Personal Business)	9	17	26	20	10	31
Residential (Other)	4	19	22	65	27	91
Employment (B1c / B2)	145	26	171	22	110	132
Employment (B8)	36	21	57	13	33	46
Primary Education (Pupil)	113	38	151	0	0	0
Primary Education (Staff)	6	0	6	0	18	18
Secondary Education (Pupil)	26	282	308	0	0	0
Secondary Education (Staff)	0	0	0	0	0	0
Local Centre	19	12	32	18	24	49
Total	**503**	**917**	**1,419**	**451**	**401**	**852**

Table 4 – Internal Vehicle Trips by Trip Purpose

Land Use (Trip Purpose)	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Residential (Work)	16	52	69	31	19	50
Residential (Education)	32	204	236	39	14	53
Residential (Shopping)	7	55	62	50	22	72
Residential (Personal Business)	62	125	186	145	74	220
Residential (Other)	9	45	53	155	64	219
Employment (B1c / B2)	17	3	20	3	13	15
Employment (B8)	4	2	7	1	4	5
Primary Education (Pupil)	200	67	267	0	0	0
Primary Education (Staff)	1	0	1	0	2	2
Secondary Education (Pupil)	0	0	0	0	0	0
Secondary Education (Staff)	0	0	0	0	0	0
Local Centre	48	47	95	60	59	119
Total	**396**	**600**	**996**	**485**	**270**	**756**

Table 5 – External Vehicle Trips by Trip Purpose

Land Use (Trip Purpose)	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Residential (Work)	93	302	396	179	109	288
Residential (Education)	0	0	0	0	0	0
Residential (Shopping)	2	18	21	17	7	24
Residential (Personal Business)	7	14	21	16	8	24
Residential (Other)	3	15	18	52	21	73
Employment (B1c / B2)	97	18	115	15	74	88
Employment (B8)	24	14	38	9	22	31
Primary Education (Pupil)	50	17	67	0	0	0
Primary Education (Staff)	4	0	4	0	12	12
Secondary Education (Pupil)	11	125	136	0	0	0
Secondary Education (Staff)	0	0	0	0	0	0
Local Centre	12	12	24	15	15	30
Total	**304**	**534**	**838**	**304**	**268**	**572**

7 Trip Distribution & Assignment

7.1 TRIP DISTRIBUTION

7.1.1 The external vehicle trip generation figures in **Table 5** have been distributed onto the local highway network based upon 2011 Journey To Work (JTW) data for Bassetlaw 015 middle super output area (MSOA). Using GIS and HERE road data, the trips identified within the JTW data were routed to their corresponding origin/destination MSOAs using Cottam as the origin point for Bassetlaw 015 MSOA.

7.1.2 Trips that remain within the Bassetlaw 015 MSOA within the 2011 census data are assumed to remain within the development site as this is a rural MSOA and it seems a reasonable assumption that new 'local' trips would be linked to destinations within the development site.

7.1.3 The road network used in this assessment covers the Bassetlaw district and a small number of links outside of the district, predominantly the A57 towards Lincoln. Within the network area there are zones that match the MSOA boundaries, the connection of these zones to the network (model connectors), where trips enter and leave the network for the purposes of assignment, is taken to be a point in the largest urban centre within the MSOA. Trips that do not originate or terminate at an MSOA within the network area are allocated an 'exit' zone of the network on the link that they would exit the network along. The distribution percentage for all MSOAs that would use each exit zone is aggregated together to provide a distribution percentage for that zone.

7.2 TRIP ASSIGNMENT

7.2.1 VISUM was used to assign the generated development trips onto the network. The development trips were compiled into a matrix based upon the distribution percentages to each zone from the JTW MSOA analysis. The trips were assigned to the network using an all or nothing assignment, trips take the shortest route based upon journey time. There is no rerouting or congestion within the model.

7.2.2 The link speeds within VISUM were based upon the mandatory speed limits which were adjusted where required to reflect observed driver behaviour. The routing generated within the model was compared to suggested routings from Google's mapping engine that considers historic average traveling speeds on links based on congestion and the quality of the link. This indicated that in some cases rural national speed limit (60mph) links were being selected by VISUM, when in practice the actual speed of travel would be lower and a more major route may provide a quicker journey as it would be possible to travel faster albeit with a lower mandatory speed

limit. Therefore, link speeds were adjusted on some links to allow rerouting to the routes observed in Google Maps.

7.2.3 The resultant AM/PM peak period development trip distribution on the highway network in the near the site is shown in **Appendix D**.

8 Likely Impacts

8.1 INTRODUCTION

8.1.1 The AM/PM peak period link flows summarised in **Table 1** on page 8 have been factored to a common 2020 base year using Tempro growth factors for the Bassetlaw 015 Middle Super Output Area. These factors are reproduced in **Table 6** below.

Table 6 – Tempro Traffic Growth Factors

Years		Factors	
From	To	AM	PM
2011*	2020	1.1170	1.1196
2012	2020	1.1041	1.1059
2013	2020	1.0917	1.0926
2014	2020	1.0796	1.0797

Note: the earliest year available in Tempro is 2011 so this has been applied as a proxy for 2010 (affects site 3 only)

8.1.2 Estimated development traffic flows have then been compared against the 2020 base traffic flows to provide an indication of the level of traffic impacts that could be expected.

8.2 IMPACTS

8.2.1 The estimated two-way development traffic impacts on key local links is shown in **Table 7** below.

Table 7 – Two-Way Development Traffic Impacts on Local Links

Ref	Road Link	Location	2020 Base Flows		Development Flows		% Increase	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	Cottam Road, East of Rampton Road	Treswell	419	331	419	331	200%	172%
2	Rampton Road	Treswell	193	177	193	177	313%	232%
3	Cottam Lane East of Townside Lane	Treswell	169	139	234	161	139%	116%
4	Station Road	South Leverton	326	327	326	327	72%	49%
5	Sturton Road	North Leverton	379	415	379	415	25%	16%
6	A620 Gainsborough Road	Saundby	629	680	96	66	15%	10%
7	Retford Road	Woodbeck	234	187	234	187	80%	70%
8	North Green	East Drayton	125	131	125	131	232%	148%
9	Top Street	East Drayton	138	145	138	145	210%	133%
10	Laneham Road	Dunham on Trent	266	225	266	225	48%	39%

8.2.2 As can be seen from **Table 7** traffic flows on key local links and through local villages are forecast to increase significantly due to the development traffic. With peak period traffic flows increasing by two to three times existing levels in some locations.

8.2.3 Some of the large percentage increases will be partly due to existing traffic flows being low. However, this doesn't change the fact that village residents would experience a step change in the volume of passing traffic.

8.2.4 Traffic flow data wasn't available at all locations on the local network so the absence of a location from **Table 7** doesn't imply that impacts would be negligible. In particular, significant impacts could also be expected at Stokeham and Darlton.

8.2.5 Traffic flow increases through the villages of Treswell, South Leverton, North Leverton, Woodbeck and East Drayton are all identified as significant. These villages are small rural settlements comprising predominantly narrow streets with numerous direct frontage accesses to properties, on-street parking and numerous side road junctions. Village highway layouts are typically based on historic layouts that often do not comply with modern standards. Junctions are typically simple-priority T-junctions, often with sub-standard visibility and little scope for improvement due to constraints imposed by adjacent development. Traffic flow increases of the magnitude forecast are therefore likely to raise concerns regarding road safety, traffic capacity, vehicle emissions, air quality, noise, and local amenity in these locations.

9 Summary

9.1.1 The Cottam Power Station site is situated on the eastern edge of the district in a rural area. To the east the site is bounded by the River Trent which acts as a barrier to movement to/from the east.

9.1.2 The site currently has very poor accessibility by sustainable modes of transport. Whilst opportunities exist to provide improved connections to local villages for walking and cycling these villages offer very few facilities. The nearest settlement providing key services is Retford, approximately 9 miles to the west and this distance effectively rules out walking and cycling to access these services or the nearest railway station which is also in Retford.

9.1.3 The site is served by a rail spur off the Sheffield to Lincoln line which was used for coal deliveries when the power station was operational. However, the spur is no longer in use.

9.1.4 Preliminary discussions between BDC and Network Rail have ruled out the possibility of using the existing rail spur to serve the site with a passenger rail service.

9.1.5 The site is very poorly served by existing bus services and providing an improved bus connection is likely to require the site promoter/developer to subsidise a bespoke service in perpetuity.

9.1.6 Any development on the site is therefore likely to be heavily reliant on car based trips and would be contrary to national and local transport policies with regards to focussing significant development in locations that are, or can be made to be sustainable, by reducing the need to travel by car by providing a genuine choice of sustainable transport modes.

9.1.7 The Cottam Power Station site does not benefit from a genuine choice of sustainable transport modes and it is difficult to see how this situation could be improved.

9.1.8 A preliminary assessment has been undertaken to establish the likely traffic impacts that could occur if the power station were to be redeveloped for a residential led mixed-use development. The findings form this assessment demonstrate that traffic flows on key local links and through local villages are forecast to increase significantly due to the development. With peak period traffic flows increasing by two to three times existing levels in some locations.

9.1.9 Some of the large percentage increases will be partly due to existing traffic flows being low. However, this doesn't change the fact that village residents would experience a step change in the volume of passing traffic.

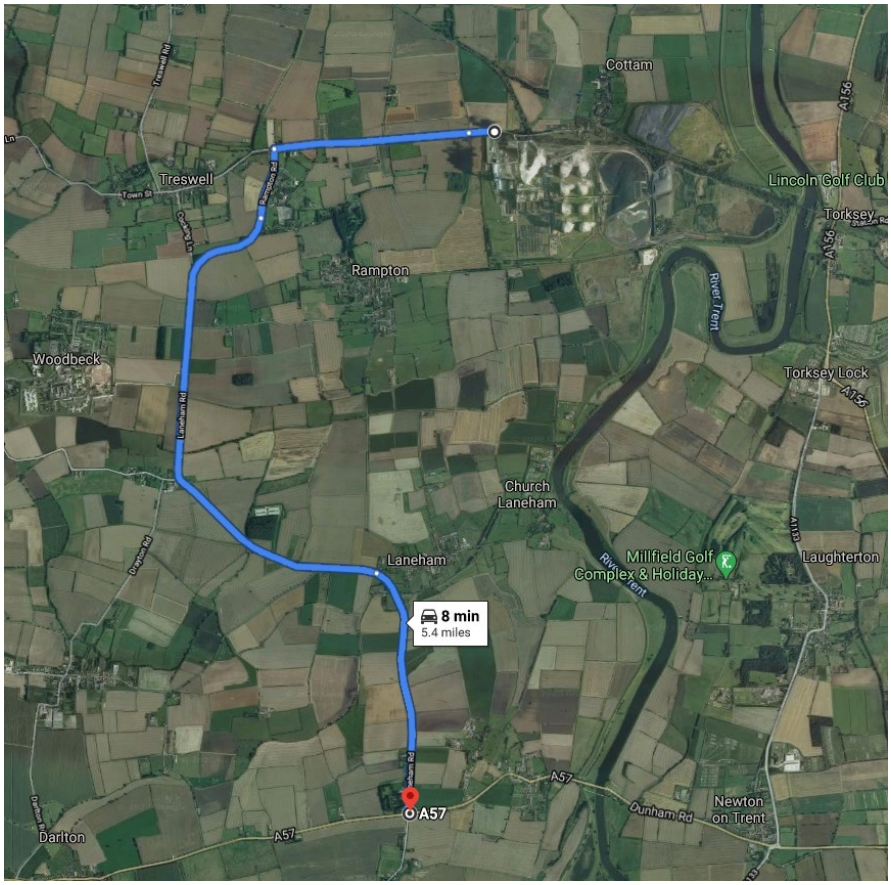
9.1.10 Traffic flow increases forecast through the villages of Treswell, South Leverton, North Leverton, Woodbeck and East Drayton are all significant. Although traffic flow data wasn't available at all locations on the local network significant impacts could also be expected at the villages of Stokeham and Darlton, due to the routing of development traffic.

9.1.11 These villages are all small rural settlements comprising predominantly narrow streets with numerous direct frontage accesses to properties, on-street parking and numerous side road junctions. Village highway layouts are typically based on historic layouts that often do not comply with modern standards. Junctions are typically simple-priority T-junctions, often with sub-standard visibility and little scope for improvement due to constraints imposed by adjacent development. Traffic flow increases of the magnitude forecast are therefore likely to raise concerns regarding road safety, traffic capacity, vehicle emissions, air quality, noise, and local amenity in these locations.

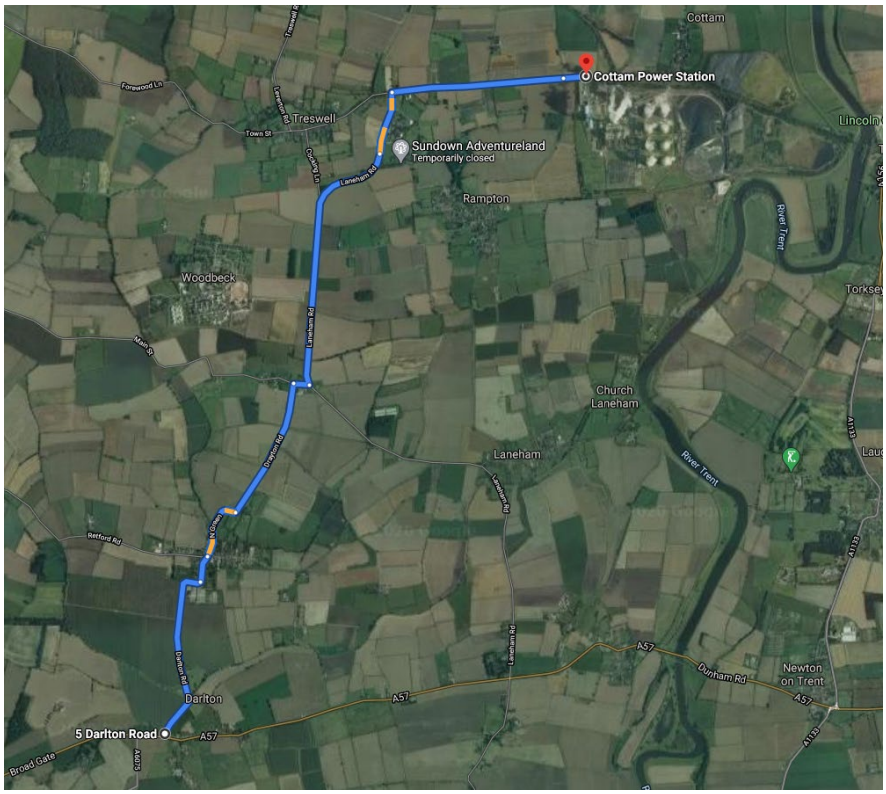
Appendix A – Preferred Routes

Routes to/from Cottam Power Station

Shortest route to the south to travel east on the A57:

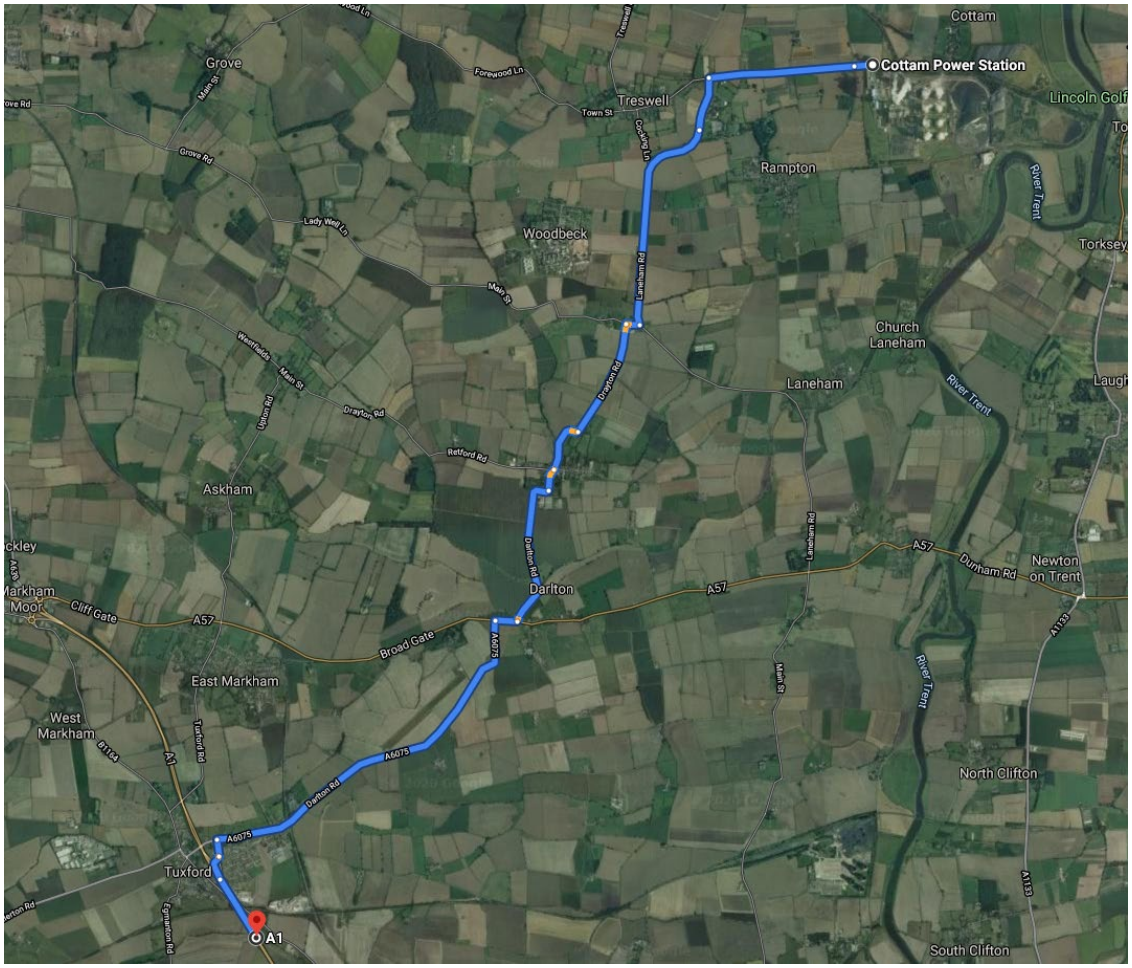


Shortest route to the south to travel west on the A57:

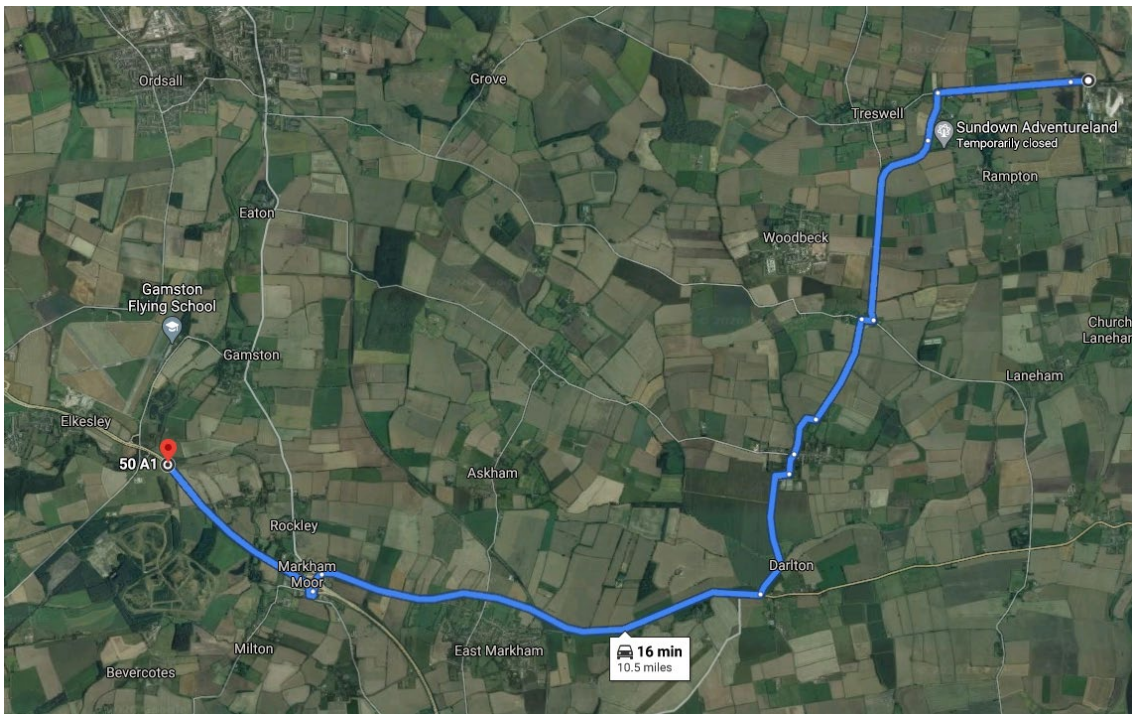


Routes to/from Cottam Power Station

Shortest route to the A1 to travel south:



Shortest route to the A1 to travel north:



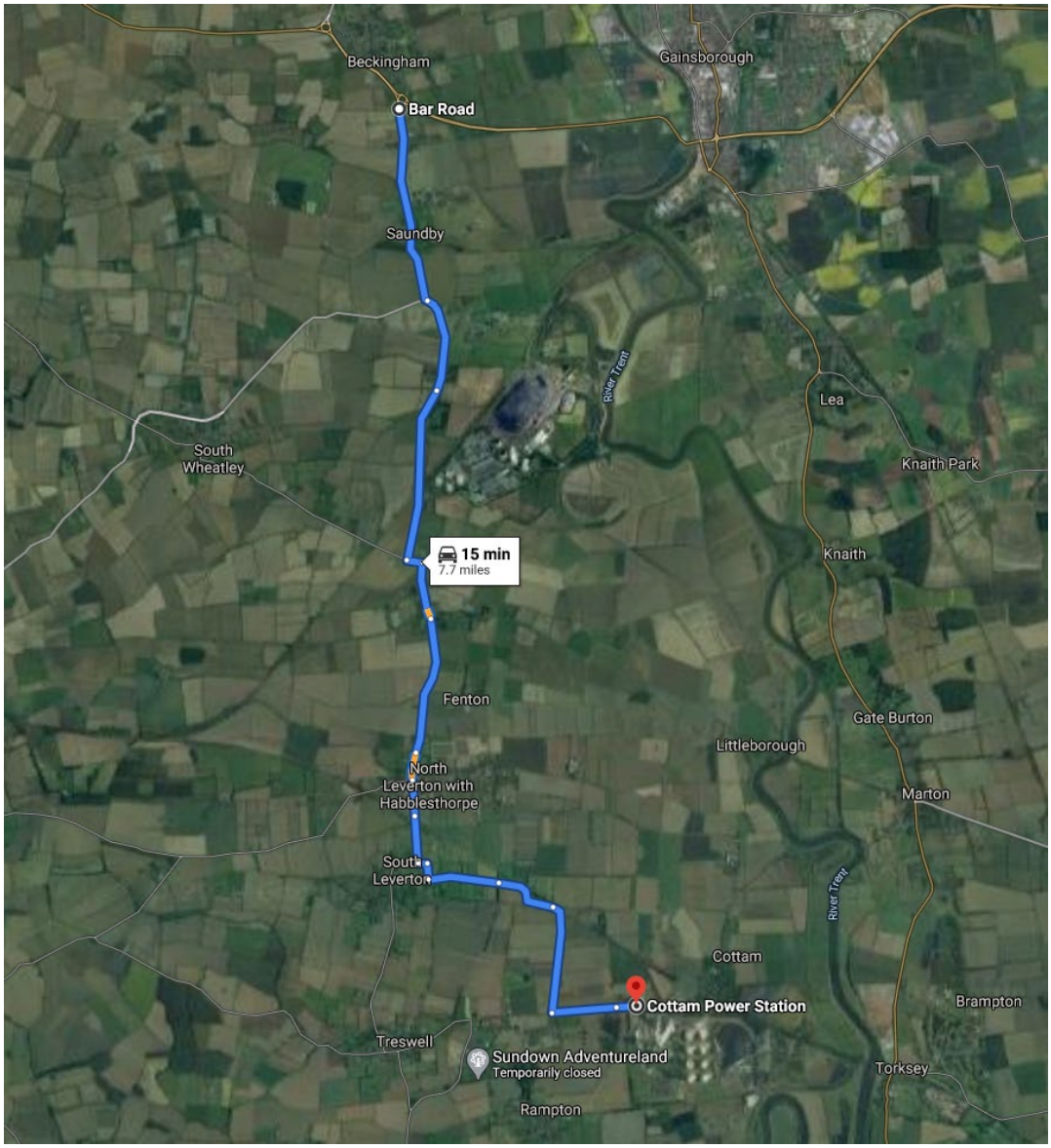
Routes to/from Cottam Power Station

Shortest route to the west to the north/centre of Retford:

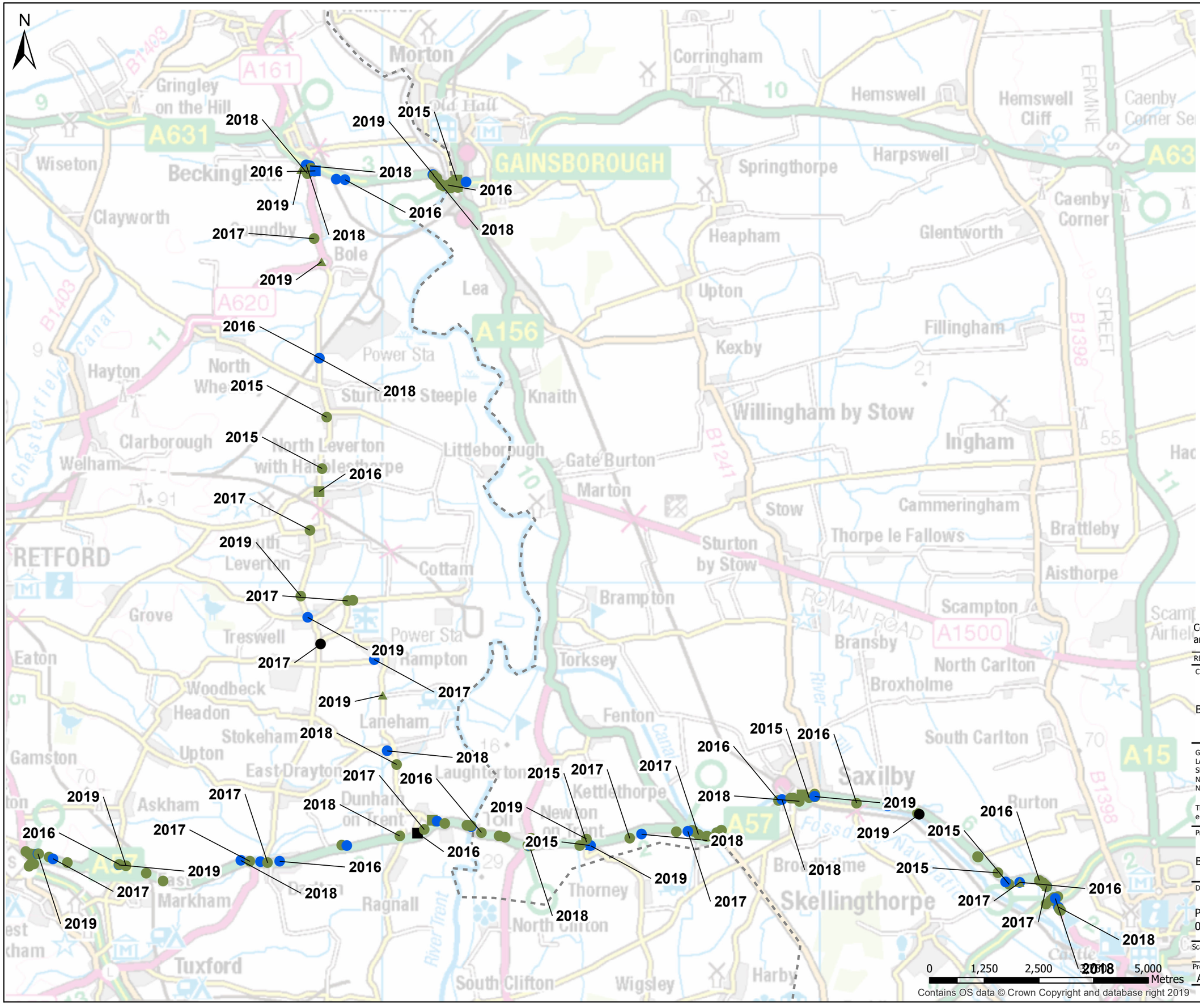
Shortest route to the west to the south of Retford:

Routes to/from Cottam Power Station

Shortest route to the north to the A631:



Appendix B – Collision Plot



REV	DESCRIPTION	BY	CHK	APP	DATE

Client:

Bassetlaw District Council

GENEVA BUILDING
LAKE VIEW DRIVE
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Project:

Bassetlaw Local Plan

Drawing Title:

Personal Injury Collision Data
01/01/2015 - 31/12/2019

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
NTS	ES	10/07/20	RJH	10/07/20	RJH	10/07/20

Project No.	Office	Type	Drawing No.	Revision
A117771	35	18	005	-

Appendix C – Trip Generation Report

Bassetlaw Local Plan

Cottam Power Station Trip Generation Methodology Report

RT117771-02

June 2020

Prepared by WYG Environment Planning Transport Limited.

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Document control

Document:	Cottam Power Station Trip Generation Methodology Report
Project:	Bassetlaw Local Plan
Client:	Bassetlaw District Council
Job Number:	A117771-02

Revision:	-	
Date:	June 2020	
Prepared by: Andy Roberts	Checked by: Jamie Cassie	Approved By: Alistair Gregory
Description of revision:		

Revision:		
Date:		
Prepared by:	Checked by:	Approved By:
Description of revision:		

Contents

Appendices

1 Introduction

1.1 PREAMBLE

1.1.1 This report has been produced to present the methodology used by WYG to calculate trip generation applicable to a potential new settlement located at the former Cottam Power Station site in Bassetlaw. This refers to the redevelopment of the brownfield site that is being considered for allocation within the Bassetlaw District Council (BDC) Local Plan.

1.2 SITE DETAILS

1.2.1 The former Cottam Power Station site has the potential to accommodate circa 1,600 dwellings along with employment land uses, a primary school and local shops (both food and non-food).

1.2.2 For small scale residential developments trip generation is typically calculated using the Trip Rate Information Computer System database (TRICS®). This database contains transport surveys at existing developments for a range of different land uses, and these are used to estimate trip rates for proposed developments with similar characteristics.

1.2.3 With regard to residential development, TRICS® does not contain sites of the scale of the proposed new settlement in Bassetlaw, and the relatively small scale of the sites within the database is such that they would generally have just dwellings present rather than the additional facilities that would be present within a new settlement (i.e. employment, education, retail etc).

1.2.4 While TRICS® can be used to calculate trips generation from these additional land uses separately, this would provide an over calculation of trips travelling to / from the site since there would be some internalisation[1] of trips between the different land uses, for example residents on the development working in the employment areas.

1.2.5 Given this, a 'first principles' calculation approach has been used to estimate what level of internalisation of trips could occur, and therefore what the associated external trips could be on the wider highway network. This report sets out the calculation process used.

[1] Trips between different land uses on the site that remain internal to the development and do not impact on the wider highway network.

2 Person Trip Generation

2.1 RESIDENTIAL TRIPS

2.1.1 Total person trip rates for residential development have been derived using TRICS® (see **Appendix A**). The peak hour trip rates and associated resultant person trips for a development of 1,600 dwellings are detailed below in **Table 1**.

Table 1: Person Trip Rates and Trip Generation (Residential)

	AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Trip Rates (per dwelling)	0.225	0.881	1.106	0.638	0.312	0.95
Trip Generation (1,600 dwellings)	360	1,410	1,770	1,021	499	1,520

2.1.2 It is important to note that the above table does not take into consideration any reductions in movements likely to be applied to a garden village scheme, for example 'internalisation' of movements within the village or the purpose of residents' journeys.

Destinations from Residential Use

2.1.3 In order to determine the likely levels of internalisation associated with the residential element of the development, an assessment determining the likely destinations for residents has been undertaken by breaking down the modal splits obtained from TEMPro.

2.1.4 The TEMPro database (version 7.2b) was interrogated to determine the assignment of trips by origin / destination and journey purpose for the Middle Super Output Area (MSOA) 'Bassetlaw 015' where the site is situated.

2.1.5 A future year of 2037 was selected in accordance with the end of the Draft Local Plan period. The extracted TEMPro data is presented in **Appendix B**, while the resultant percentage split between different trip purposes is summarised in **Table 2**.

2.1.6 It is important to note that both Home Based Employers Business and Home-Based Holiday/Day Trips from within TEMPro have been removed from the calculations as they are not considered to be representative regular daily trips. Similarly, 'home workers' have not been considered given that they are unlikely to travel within the peaks identified.

Table 2: 2037 TEMPro Trip Purpose Percentages

Trip Purpose	Weekday AM Peak (7am to 10am)		Weekday PM Peak (4pm to 7pm)	
	Origin	Destination	Origin	Destination
Work	38%	45%	38%	31%
Education	33%	20%	6%	9%
Shopping	12%	7%	14%	15%
Personal Business	12%	24%	21%	20%
Other (Social / Recreation)	5%	4%	21%	25%

2.1.7 Using the information in **Table 2**, the percentages have been applied to the AM and PM peak hour person trip rates identified in **Table 1**. This methodology provides an accurate split of trips likely to be generated by the development in respect to the residential element of the site. **Table 3** provides the breakdown of these movements.

Table 3: Residential Person Trips by Trip Purpose

Trip Purpose	Weekday AM Peak (8am to 9am)			Weekday PM Peak (5pm to 6pm)		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
Work	164	529	693	314	190	505
Education	73	460	533	89	31	120
Shopping	23	172	196	157	68	225
Personal Business	86	173	259	202	103	305
Other (Social / Recreation)	14	74	89	258	107	365
Total	360	1410	1770	1021	499	1520

2.2 EMPLOYMENT TRIPS

2.2.1 In accordance with the information provided by Bassetlaw District Council, the site will cater for 15 hectares of employment land, allocated for the delivery of small scale B1c, B2 and B8 uses to meet local market demand. At this time, it is unclear what the final Gross Floor Area (GFA) will be however, WYG have used a previously agreed assumption that the GFA will represent 40% of the total site area. In absence of any land use splits it has been agreed with

BDC that the following will be applied for the purposes of this study: 12.5% B1c, 37.5% B2 and 50% B8. This results in the following GFA by land use:

- Employment B1(c) - 7,500sq.m
- Employment B2 - 22,500sq.m
- Employment B8 - 30,000sq.m

B1(c)/B2 Employment

2.2.2 Due to a low number of relevant multi-modal sites in the TRICS® database, it was considered more representative to obtain vehicle trip rates rather than person trip rates for the proposed B1(c)/B2 floorspace. The TRICS® data is presented in **Appendix C**, with resultant peak hour trip rates summarised in **Table 4**.

Table 4: B1(c)/B2 Vehicle Trip Rates per 100sq.m of GFA

AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
0.380	0.070	0.450	0.059	0.289	0.348

2.2.3 To determine the person trip rates for the land uses outlined, the 2011 Method of Travel to Work data for residents aged between 16-74 has been applied for MSOA 'Bassetlaw 015'. The census data shows that 67% of the working population within the MSOA use driving a car or van as their most frequent mode of transport (see **Appendix D**). Taking this into consideration, the vehicle trip rates outlined within **Table 4** have been adjusted, with the representative person trip rate results provided within **Table 5**.

Table 5: B1(c)/B2 Total Person Trip Rates per 100sq.m

AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
0.567	0.104	0.672	0.088	0.431	0.519

2.2.4 The resulting total person trips associated with the 30,000 sqm of B1(c)/B2 development are shown in **Table 6**.

Table 6: B1(c)/B2 Total Person Trip Generation

AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
170	31	201	26	129	156

B8 Employment

2.2.5 As with the B1(c)/B2 employment uses, there are a low number of relevant multi-modal sites in the TRICS® database for B8 employment use, and therefore vehicle trip rates were again obtained from the database. The TRICS data is presented in **Appendix E**, with resultant peak hour trip rates summarised within **Table 7**.

Table 7: B8 Vehicle Trip Rates per 100sq.m

AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
0.094	0.056	0.150	0.034	0.088	0.122

2.2.6 In order to determine the person trip rates for the land uses outlined, the same methodology to that used for the B1(c)/B2 employment uses has been applied, as 67% of the working population within the 'Bassetlaw 015' MSOA use driving a car or van as their most frequent mode of transport. Trip rates outlined within **Table 7** have been adjusted, with the representative person trip rate results provided within **Table 8**.

Table 8: B8 Total Person Trip Rates per 100sq.m

AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
0.140	0.084	0.224	0.051	0.131	0.182

2.2.7 The resulting total person trips likely to be associated with the 30,000 sqm of B8 development are shown in **Table 9**.

Table 9: B8 Total Person Trip Generation

AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
42	25	67	15	39	55

2.3 EDUCATION TRIPS

2.3.1 Whilst educational numbers are yet to be confirmed, the development will provide primary provision. The following paragraphs quantify trips associated with Primary education.

Primary Education

2.3.2 It is likely that the proposed development will provide a single primary education facility, being 2 form-entry (FE) and catering for seven year groups of children between the ages of 5 and 11. This will therefore equate to seven forms/year groups, and fourteen classes within the school. Assuming 30 pupils in each class this equates to 420 primary school pupils in total.

2.3.3 To estimate the number of primary education teaching staff, the Department for Education 'School Workforce in England: November 2013' statistical release document states "Half of school staff are teachers, with teaching assistants and non-classroom based support staff each accounting for a quarter of school staff." Using this, and the pupil numbers detailed above, the number of teaching staff has been calculated as shown in **Table 10**.

Table 10: Full Time Staff in Primary Education

Trip Type	Number
Estimated No. Pupils	420
Pupils Per Class	30
No. Classes	14
No. Teachers	14
No. Teaching Assistants	7
Other Staff	7
Total Staff	**28**

2.3.4 With regards to pupil related trips, it is assumed that 50% of primary-aged pupils will be accompanied by an adult. This therefore generates two trips per peak, one where the pupil and parent travel to / from the school together and the other where the parent travels to / from the school on their own without the child. The remaining 50% of pupils are assumed to travel on their own and therefore generate one trip per peak.

2.3.5 Pupil trips across the peak periods has been assumed to have the following distribution. It is assumed that only 10% of pupil trips will occur between 07:00 and 08:00 hrs with the remaining 90% of pupils arriving between 08:00 and 09:00 hrs and no pupils are expected to arrive after this point. This presents a robust assessment as most pupils will be expected to arrive before the school day starts (between 08:30-09:00 hrs), although some pupils will also arrive before 08:00 hrs in order to use breakfast club facilities for example.

2.3.6 In the afternoon, it has been assumed that most pupils (90%) will leave between 15:00-16:00 hrs on completion of the school day. This is prior to the peak hour which has been assessed within this report. However, 10% of pupil trips have been assumed to occur between 16:00-17:00 hrs to allow for pupils attending after-school clubs who may stay later.

2.3.7 Regarding the distribution of staff trips across the peak periods, it has been assumed that 75% of the employee trips will occur between 07:00 and 08:00 hrs, accounting for staff arriving prior to the start of the school day. The remaining 25% of staff are assumed to arrive between 08:00 and 09:00 hrs. This presents a robust assessment as in reality, non-teaching staff may arrive later, for example those who are part time. In the evening, it is assumed that 25% of staff members depart the school between 16:00 and 17:00 hrs, immediately after the school day ends. The remaining 75% are assumed to depart between 17:00 and 18:00 hrs.

2.3.8 Total person trips for parents, pupils and staff in the morning (08:00-09:00 hrs) and evening (17:00-18:00 hrs) peak hours are summarised in **Table 11**.

Table 11: Primary School Total Person Trips (Pupils, Parents and Staff)

	AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Pupil Trips	378	0	378	0	0	0
Parent Trips	189	189	378	0	0	0
Staff Trips	7	0	7	0	21	21

Secondary Education

2.3.9 Whilst there will be no provision for Secondary Education facilities within the development, a large proportion of children will travel to such facilities.

2.3.10 Nottinghamshire County Council, as the Local Education Authority allows for secondary school places on the basis of 16 school places per 100 dwellings. This would therefore equate to 256 secondary school children as part of the development.

2.3.11 With regards to pupil related trips, it is assumed that 10% of secondary-aged pupils will be accompanied by an adult. This therefore generates two trips per peak, one where the pupil and parent travel to / from the school together and the other where the parent travels to / from the school on their own without the child. The remaining 90% of pupils are assumed to travel on their own and therefore generate one trip per peak.

2.3.12 No Secondary school staff have been assumed to be living within the site.

2.3.13 A summary of the total person trips associated with secondary education can be found within **Table 12**.

Table 12: Secondary School Total Person Trips (Pupils, Parents and Staff from Site)

	AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Pupil Trips	0	256	256	0	0	0
Parent Trips	26	26	52	0	0	0

2.4 LOCAL CENTRE TRIPS

2.4.1 At this stage the exact provision for the proposed local centre is unknown, however based on a TRICS® average for such a land use in rural/suburban areas, a GFA of 725sq.m has been assumed.

2.4.2 Multi-modal sites in the TRICS® database have been used to predict trip generation, with the relevant TRICS® data presented in **Appendix F**. The trip rates for the peak hours are then presented in **Table 13**, along with a calculation of person trips.

Table 13: Local Centre Person Trip Rates and Trip Generation

	AM Peak (8am to 9am)			PM Peak (5pm to 6pm)		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Trip Rates (per 100sq.m)	13.379	13.241	26.620	16.897	16.552	33.449
Trips	97	96	193	123	120	243

2.5 SUMMARY

2.5.1 Taking account of the above, **Tables 14** and **15** provides a summary of the person trips for each land use type and trip purpose in the peak hours.

Table 14: Summary of Person Trip Generation (AM Peak Hour)

Land Use (Trip Purpose)	Arrival	Departure	Two-Way
Residential (Work)	164	529	693
Residential (Education)	73	460	533
Residential (Shopping)	23	172	196
Residential (Personal Business)	86	173	259
Residential (Other)	14	74	89
Employment (B1c / B2)	170	31	201
Employment (B8)	42	25	67
Education (Primary - Pupil / Parents)	567	189	756
Education (Primary - Staff)	7	0	7
Education (Secondary - Pupil / Parents)	26	282	308
Education (Secondary - Staff)	0	0	0
Local Centre	97	96	193
Total	**1,269**	**2,033**	**3,302**

Table 15: Summary of Person Trip Generation (PM Peak Hour)

Land Use (Trip Purpose)	Arrival	Departure	Two-Way
Residential (Work)	314	190	505
Residential (Education)	89	31	120
Residential (Shopping)	157	68	225
Residential (Personal Business)	202	103	305
Residential (Other)	258	107	365
Employment (B1c / B2)	26	129	155
Employment (B8)	15	39	54
Education (Primary - Pupil / Parents)	0	0	0
Education (Primary - Staff)	0	21	21
Education (Secondary - Pupil / Parents)	0	0	0
Education (Secondary - Staff)	0	0	0
Local Centre	123	120	243
Total	**1,185**	**808**	**1,993**

3 Internalisation of Trips

3.1 OVERVIEW

3.1.1 Given that the proposed development will cater for an array of different land uses, a large proportion of trips will be internal to the site, and therefore will not travel out onto the wider highway network. This section of the report provides further details on the likely level of internalisation the site will bring for each individual land use.

3.2 RESIDENTIAL TRIPS

3.2.1 It is likely that the largest percent of internalisation will occur from residential movements, usually from home to employment and/or to education. The levels of internalisation for residential movements have been provided within **Table 14**, with details of these calculations outlined within this section of the report.

Residential to Employment

3.2.2 Estimation of internalisation of residential to employment trips has been determined by using 2011 census data for existing settlements within the East Midlands with population sizes ranging from approximately 5,000 to 15,000 residents. Whilst the development is likely to have a population of circa 4,000 residents, insufficient journey to work data for developments of this size were available from census and therefore, a greater sample size was used.

3.2.3 For each of these settlements between 5,000 to 15,000 residents, the proportion of residents both living and working within the same settlement compared to the entire employable population of the settlement was calculated. A summary of this calculation can be found within **Appendix G**.

3.2.4 The data outlines that settlements of between 5,000 and 8,000 population for settlements of similar size within the East Midlands, an average of 16.7% of the total employable residential population of the settlement also work within the same settlement (internalised). However, to ensure for a robust assessment, WYG have used an internalisation percentage of 14.8%, which is in keeping with similar studies undertaken by WYG for Bassetlaw DC.

Residential to Education (Primary and Secondary School)

3.2.5 The primary school on the site will be built predominantly to cater for likely demand from the residential element. However, Nottinghamshire County Council, as the Local Education Authority allows for primary school places on the basis of 21 school places per 100 dwellings and secondary school places on the basis of 16 school places per 100 dwellings.

3.2.6 Using the above calculations, this equates to 336 primary school children and 256 secondary school children (based on the proposed 1600 dwellings). The 2FE primary school proposed at the development will likely cater for 420 pupils and therefore, 84 pupils (20%) will be travelling to/from external residential areas.

3.2.7 As there will be no Secondary education provision within the new development, all of the 256 secondary school pupils all movements will be external.

Residential to Retail

3.2.8 It has been assumed that 50% of all retail trips will be for food shopping and 50% for non-food shopping.

3.2.9 It has then been estimated assumed that 75% of dedicated, primary retail trips will be internal to the site, based on the good provision of both food and non-food retail floorspace on-site, suitable for day-to-day and top-up shopping. This is considered appropriate for peak period assessments, when primary (single purpose) retail trips are less likely to be made and shopping tends to be undertaken as part of a linked trip (travel to work, home etc).

Residential to Personal Business

3.2.10 The TEMPro definition of personal business includes visits to services including hairdressers, betting shops, dry cleaners, solicitors, banks, estate agents, libraries, churches and medical consultations.

3.2.11 As the development proposals are in their early stages, a masterplan has not yet been established however, it is understood that the site will comprise a local centre containing but not limiting to the services outlined previously. It is therefore considered reasonable to assume that 90% the personal business trips during the peak periods are likely to be internal.

Residential to Recreation / Social

3.2.12 Personal business trips are likely to include recreational/social trips which fall within the development proposals. Recreation trips such as jogging, dog walking and visits to children's play areas are also all likely to occur within the development site. As such, it is assumed that 75% of recreation / social trips will be internal.

3.3 EMPLOYMENT TRIPS

3.3.1 As noted previously, it has been calculated previously that 14.8% of all jobs at the site will be taken up internally by the residential population the development will yield, therefore 85.2% of all jobs at the site will be taken by external residents.

3.4 EDUCATION TRIPS

3.4.1 As noted above it is expected that 80% of Primary School trips relating to pupils and parents will originate from within the development, with 20% of Primary school trips being external.

3.4.2 It is also calculated that 100% of Secondary School trips will be external given there will be no Secondary School provision within the site.

3.4.3 It has been calculated previously that 14.8% of all jobs at the site will be taken up internally by the residential population, and this percentage has therefore also been applied to staff working at the primary school, resulting in an external traffic generation of 85.2%.

3.5 LOCAL CENTRE TRIPS

3.5.1 As noted previously, the above facilities on the site will be primarily to serve the residential element of the development, and as such most trips associated with them will be internalised. It has therefore been assumed that 80% of trips will originate from within the development as either internal, pass-by, linked or diverted trips, with 20% being external trips.

3.6 SUMMARY

3.6.1 Taking account of the above, **Table 16** provides a summary of trip internalisation, and this has then been applied to the data in **Tables 14** and **15** to calculate the internal / external split of person trips detailed in **Tables 17** and **18**.

Table 16: Summary of Trip Internalisation

Trip Type	Splits	
	Internal	External
Residential to Employment	14.8%	85.2%
Primary Residential to Education (Pupils)	80%	20%
Primary Residential to Education (Pupils)	0%	100%
Residential to Retail	75%	25%
Residential to Personal Business	90%	10%
Residential to Social / Leisure	75%	25%
Education (Staff)	14.8%	85.2%
Employment to Residential	14.8%	85.2%
Local Centre	80%	20%

Table 17: Internal Person Trips

Land Use (Trip Purpose)	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Residential (Work)	24	78	103	47	28	75
Residential (Education)	73	460	533	89	31	120
Residential (Shopping)	18	129	147	118	51	169
Residential (Personal Business)	77	156	233	182	93	275
Residential (Other)	11	56	67	194	80	274
Employment (B1c / B2)	25	5	30	4	19	23
Employment (B8)	6	4	10	2	6	8
Primary Education (Pupil)	454	151	605	0	0	0
Primary Education (Staff)	1	0	1	0	3	3
Secondary Education (Pupil)	0	0	0	0	0	0
Secondary Education (Staff)	0	0	0	0	0	0
Local Centre	78	77	154	98	96	194
Total	**766**	**1,116**	**1,882**	**733**	**407**	**1,141**

Table 18: External Person Trips

Land Use (Trip Purpose)	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Residential (Work)	139	451	590	268	162	430
Residential (Education)	0	0	0	0	0	0
Residential (Shopping)	6	43	49	39	17	56
Residential (Personal Business)	9	17	26	20	10	31
Residential (Other)	4	19	22	65	27	91
Employment (B1c / B2)	145	26	171	22	110	132
Employment (B8)	36	21	57	13	33	46
Primary Education (Pupil)	113	38	151	0	0	0
Primary Education (Staff)	6	0	6	0	18	18
Secondary Education (Pupil)	26	282	308	0	0	0
Secondary Education (Staff)	0	0	0	0	0	0
Local Centre	19	12	32	18	24	49
Total	**503**	**917**	**1,419**	**451**	**401**	**852**

4 Modal Splits

4.1 INTRODUCTION

4.1.1 The data presented in the summary tables in the above sections focuses purely on person trips. In order to understand the level of vehicle trips that will be generated onto the external highway network consideration has been given to modal splits for each land use and associated trip purpose.

4.1.2 Existing 2011 Census modal split data has been applied from the MSOA 'Bassetlaw 015' in order to estimate the modal split of travel to work trips associated with a new garden village. For other, non-work related trips the car modal share has been derived from TRICS® data.

4.2 RESIDENTIAL

Residential to Employment Trips

4.2.1 As noted previously, and detailed in **Appendix D**, the 2011 census Method of Travel to Work data for the MSOA 'Bassetlaw 015' area details that 67% of the working population use driving a car or van as their most frequent mode of transport.

Residential to Education

4.2.2 Multi modal data for primary schools has been extracted from TRICS® and is presented in **Appendix I**. This details a total daily person trip rate of 52, while the total daily vehicle trip rate is 23, which equates to a vehicle model split of 44.2%. This same rate has been applied to secondary school travel.

Residential to Retail (Local Centre)

4.2.3 The local centre TRICS® data presented in **Appendix F** details a total daily person trip rate of 456, while the total daily vehicle trip rate is 280. This equates to a vehicle model split of 61.4%.

Residential to Personal Business

4.2.4 Personal business trips will cover a wide range of purposes and within the TRICS® database there is no data to realistically equate to this, therefore a conservative estimate of 80% external trips has been assumed.

Residential to Recreation / Social

4.2.5 Recreation and social trips will cover a wide range of purposes and within the TRICS® database there is no data to realistically equate to this, therefore a conservative estimate of 80% external trips has been assumed.

4.3 EMPLOYMENT

4.3.1 As noted above, 67% of people will travel to work by car, and this has therefore been applied employees travelling into the site.

4.4 EDUCATION

4.4.1 As noted previously, 67% of people will travel to work by car, and this has therefore been applied to staff working at the primary and secondary schools.

4.5 RETAIL (LOCAL CENTRE)

4.5.1 As detailed above, the vehicle modal split for the local centre has been taken as 61.4%.

4.6 SUMMARY

4.6.1 Taking account of the above, **Table 19** provides a summary of the percentage car modal split, and this has then been applied to the data in **Table 16** to calculate the internal and external vehicle trip generation detailed in **Tables 20** and **21**.

Table 19: Vehicle Modal Split for Internal / External Trips

Trip Type	Percentage Vehicle Split
Residential to Employment	67.0%
Residential to Education	44.2%
Residential to Retail	42.5%
Residential to Personal Business	80.0%
Residential to Social / Leisure	80.0%
Employment	67.0%
Education (Staff)	67.0%
Local Centre	61.4%

Table 20: Internal Vehicle Trip Generation

Land Use (Trip Purpose)	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Residential (Work)	16	52	69	31	19	50
Residential (Education)	32	204	236	39	14	53
Residential (Shopping)	7	55	62	50	22	72
Residential (Personal Business)	62	125	186	145	74	220
Residential (Other)	9	45	53	155	64	219
Employment (B1c / B2)	17	3	20	3	13	15
Employment (B8)	4	2	7	1	4	5
Primary Education (Pupil)	200	67	267	0	0	0
Primary Education (Staff)	1	0	1	0	2	2
Secondary Education (Pupil)	0	0	0	0	0	0
Secondary Education (Staff)	0	0	0	0	0	0
Local Centre	48	47	95	60	59	119
Total	**396**	**600**	**996**	**485**	**270**	**756**

Table 21: External Vehicle Trip Generation

Land Use (Trip Purpose)	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Residential (Work)	93	302	396	179	109	288
Residential (Education)	0	0	0	0	0	0
Residential (Shopping)	2	18	21	17	7	24
Residential (Personal Business)	7	14	21	16	8	24
Residential (Other)	3	15	18	52	21	73
Employment (B1c / B2)	97	18	115	15	74	88
Employment (B8)	24	14	38	9	22	31
Primary Education (Pupil)	50	17	67	0	0	0
Primary Education (Staff)	4	0	4	0	12	12
Secondary Education (Pupil)	11	125	136	0	0	0
Secondary Education (Staff)	0	0	0	0	0	0
Local Centre	12	12	24	15	15	30
Total	**304**	**534**	**838**	**304**	**268**	**572**

Appendix A

Calculation Reference: AUDIT-705102-190617-0615

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
	KC	KENT	2 days
	WS	WEST SUSSEX	2 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
06	WEST MIDLANDS		
	ST	STAFFORDSHIRE	1 days
	WO	WORCESTERSHIRE	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: 150 to 805 (units:)
Range Selected by User: 150 to 805 (units:)

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/05 to 10/07/18

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	1 days
Tuesday	2 days
Wednesday	3 days
Thursday	4 days

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

Selected survey types:

Manual count	10 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	9

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	8
No Sub Category	2

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	10 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®.

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	3 days
15,001 to 20,000	2 days
20,001 to 25,000	3 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	3 days
100,001 to 125,000	1 days
125,001 to 250,000	3 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	3 days
1.1 to 1.5	7 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	2 days
No	8 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	10 days

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

LIST OF SITES relevant to selection parameters

1 EX-03-A-01 SEMI-DET. ESSEX
MILTON ROAD
STANFORD-LE-HOPE
CORRINGHAM
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY *13/05/08* *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 LN-03-A-01 MIXED HOUSES LINCOLNSHIRE
BRANT ROAD
LINCOLN
BRACEBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY *15/05/07* *Survey Type: MANUAL*

5 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*

6 SF-03-A-02 SEMI DET./TERRACED SUFFOLK
STOKE PARK DRIVE
IPSWICH
MAIDENHALL
Edge of Town
Residential Zone
Total Number of dwellings: 230
Survey date: THURSDAY *24/05/07* *Survey Type: MANUAL*

7 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*

8 WO-03-A-06 DET./TERRACED WORCESTERSHIRE
ST GODWALDS ROAD
BROMSGROVE
ASTON FIELDS
Edge of Town
No Sub Category
Total Number of dwellings: 232
Survey date: THURSDAY *30/06/05* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 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*

10 WS-03-A-09 MIXED HOUSES & FLATS WEST SUSSEX
LITTLEHAMPTON ROAD
WORTHING
WEST DURRINGTON
Edge of Town
Residential Zone
Total Number of dwellings: 197
Survey date: THURSDAY *05/07/18* *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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DS-03-A-02	House Type
ES-03-A-03	House Type
LN-03-A-02	House Type
NT-03-A-03	House Type
TV-03-A-01	House Type
WS-03-A-08	House Type

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	10	318	0.092	10	318	0.311	10	318	0.403
08:00 - 09:00	10	318	0.144	10	318	0.421	10	318	0.565
09:00 - 10:00	10	318	0.154	10	318	0.174	10	318	0.328
10:00 - 11:00	10	318	0.124	10	318	0.167	10	318	0.291
11:00 - 12:00	10	318	0.147	10	318	0.149	10	318	0.296
12:00 - 13:00	10	318	0.167	10	318	0.160	10	318	0.327
13:00 - 14:00	10	318	0.160	10	318	0.157	10	318	0.317
14:00 - 15:00	10	318	0.176	10	318	0.187	10	318	0.363
15:00 - 16:00	10	318	0.294	10	318	0.194	10	318	0.488
16:00 - 17:00	10	318	0.296	10	318	0.184	10	318	0.480
17:00 - 18:00	10	318	0.371	10	318	0.178	10	318	0.549
18:00 - 19:00	10	318	0.322	10	318	0.210	10	318	0.532
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.447			2.492			4.939

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:	150 - 805 (units:)
Survey date date range:	01/01/05 - 10/07/18
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	6

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 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	10	318	0.003	10	318	0.002	10	318	0.005
08:00 - 09:00	10	318	0.001	10	318	0.002	10	318	0.003
09:00 - 10:00	10	318	0.003	10	318	0.001	10	318	0.004
10:00 - 11:00	10	318	0.003	10	318	0.003	10	318	0.006
11:00 - 12:00	10	318	0.002	10	318	0.003	10	318	0.005
12:00 - 13:00	10	318	0.003	10	318	0.004	10	318	0.007
13:00 - 14:00	10	318	0.003	10	318	0.003	10	318	0.006
14:00 - 15:00	10	318	0.001	10	318	0.002	10	318	0.003
15:00 - 16:00	10	318	0.002	10	318	0.001	10	318	0.003
16:00 - 17:00	10	318	0.002	10	318	0.001	10	318	0.003
17:00 - 18:00	10	318	0.001	10	318	0.001	10	318	0.002
18:00 - 19:00	10	318	0.000	10	318	0.000	10	318	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.024			0.023			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 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	10	318	0.000	10	318	0.000	10	318	0.000
08:00 - 09:00	10	318	0.000	10	318	0.000	10	318	0.000
09:00 - 10:00	10	318	0.000	10	318	0.000	10	318	0.000
10:00 - 11:00	10	318	0.000	10	318	0.000	10	318	0.000
11:00 - 12:00	10	318	0.000	10	318	0.000	10	318	0.000
12:00 - 13:00	10	318	0.000	10	318	0.000	10	318	0.000
13:00 - 14:00	10	318	0.000	10	318	0.000	10	318	0.000
14:00 - 15:00	10	318	0.000	10	318	0.000	10	318	0.000
15:00 - 16:00	10	318	0.000	10	318	0.000	10	318	0.000
16:00 - 17:00	10	318	0.000	10	318	0.000	10	318	0.000
17:00 - 18:00	10	318	0.000	10	318	0.000	10	318	0.000
18:00 - 19:00	10	318	0.000	10	318	0.000	10	318	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	10	318	0.003	10	318	0.006	10	318	0.009
08:00 - 09:00	10	318	0.004	10	318	0.010	10	318	0.014
09:00 - 10:00	10	318	0.001	10	318	0.002	10	318	0.003
10:00 - 11:00	10	318	0.000	10	318	0.002	10	318	0.002
11:00 - 12:00	10	318	0.003	10	318	0.002	10	318	0.005
12:00 - 13:00	10	318	0.004	10	318	0.004	10	318	0.008
13:00 - 14:00	10	318	0.003	10	318	0.004	10	318	0.007
14:00 - 15:00	10	318	0.003	10	318	0.002	10	318	0.005
15:00 - 16:00	10	318	0.010	10	318	0.008	10	318	0.018
16:00 - 17:00	10	318	0.008	10	318	0.008	10	318	0.016
17:00 - 18:00	10	318	0.012	10	318	0.012	10	318	0.024
18:00 - 19:00	10	318	0.011	10	318	0.008	10	318	0.019
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.062			0.068			0.130

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	10	318	0.114	10	318	0.440	10	318	0.554
08:00 - 09:00	10	318	0.189	10	318	0.730	10	318	0.919
09:00 - 10:00	10	318	0.200	10	318	0.243	10	318	0.443
10:00 - 11:00	10	318	0.161	10	318	0.225	10	318	0.386
11:00 - 12:00	10	318	0.188	10	318	0.208	10	318	0.396
12:00 - 13:00	10	318	0.225	10	318	0.219	10	318	0.444
13:00 - 14:00	10	318	0.221	10	318	0.215	10	318	0.436
14:00 - 15:00	10	318	0.247	10	318	0.259	10	318	0.506
15:00 - 16:00	10	318	0.504	10	318	0.279	10	318	0.783
16:00 - 17:00	10	318	0.478	10	318	0.276	10	318	0.754
17:00 - 18:00	10	318	0.555	10	318	0.257	10	318	0.812
18:00 - 19:00	10	318	0.472	10	318	0.325	10	318	0.797
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.554			3.676			7.230

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	10	318	0.017	10	318	0.035	10	318	0.052
08:00 - 09:00	10	318	0.031	10	318	0.118	10	318	0.149
09:00 - 10:00	10	318	0.031	10	318	0.039	10	318	0.070
10:00 - 11:00	10	318	0.025	10	318	0.026	10	318	0.051
11:00 - 12:00	10	318	0.025	10	318	0.024	10	318	0.049
12:00 - 13:00	10	318	0.030	10	318	0.022	10	318	0.052
13:00 - 14:00	10	318	0.025	10	318	0.024	10	318	0.049
14:00 - 15:00	10	318	0.031	10	318	0.038	10	318	0.069
15:00 - 16:00	10	318	0.135	10	318	0.043	10	318	0.178
16:00 - 17:00	10	318	0.060	10	318	0.035	10	318	0.095
17:00 - 18:00	10	318	0.052	10	318	0.038	10	318	0.090
18:00 - 19:00	10	318	0.040	10	318	0.041	10	318	0.081
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.502			0.483			0.985

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	10	318	0.001	10	318	0.012	10	318	0.013
08:00 - 09:00	10	318	0.001	10	318	0.024	10	318	0.025
09:00 - 10:00	10	318	0.003	10	318	0.013	10	318	0.016
10:00 - 11:00	10	318	0.002	10	318	0.004	10	318	0.006
11:00 - 12:00	10	318	0.001	10	318	0.006	10	318	0.007
12:00 - 13:00	10	318	0.004	10	318	0.004	10	318	0.008
13:00 - 14:00	10	318	0.007	10	318	0.003	10	318	0.010
14:00 - 15:00	10	318	0.004	10	318	0.003	10	318	0.007
15:00 - 16:00	10	318	0.014	10	318	0.007	10	318	0.021
16:00 - 17:00	10	318	0.016	10	318	0.005	10	318	0.021
17:00 - 18:00	10	318	0.019	10	318	0.006	10	318	0.025
18:00 - 19:00	10	318	0.016	10	318	0.004	10	318	0.020
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.088			0.091			0.179

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	10	318	0.135	10	318	0.493	10	318	0.628
08:00 - 09:00	10	318	0.225	10	318	0.881	10	318	1.106
09:00 - 10:00	10	318	0.234	10	318	0.296	10	318	0.530
10:00 - 11:00	10	318	0.188	10	318	0.257	10	318	0.445
11:00 - 12:00	10	318	0.217	10	318	0.240	10	318	0.457
12:00 - 13:00	10	318	0.263	10	318	0.250	10	318	0.513
13:00 - 14:00	10	318	0.255	10	318	0.245	10	318	0.500
14:00 - 15:00	10	318	0.284	10	318	0.301	10	318	0.585
15:00 - 16:00	10	318	0.663	10	318	0.337	10	318	1.000
16:00 - 17:00	10	318	0.563	10	318	0.323	10	318	0.886
17:00 - 18:00	10	318	0.638	10	318	0.312	10	318	0.950
18:00 - 19:00	10	318	0.539	10	318	0.378	10	318	0.917
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.204			4.313			8.517

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 Servicing 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	10	318	0.010	10	318	0.005	10	318	0.015
08:00 - 09:00	10	318	0.009	10	318	0.007	10	318	0.016
09:00 - 10:00	10	318	0.013	10	318	0.008	10	318	0.021
10:00 - 11:00	10	318	0.008	10	318	0.010	10	318	0.018
11:00 - 12:00	10	318	0.010	10	318	0.010	10	318	0.020
12:00 - 13:00	10	318	0.007	10	318	0.009	10	318	0.016
13:00 - 14:00	10	318	0.012	10	318	0.012	10	318	0.024
14:00 - 15:00	10	318	0.008	10	318	0.015	10	318	0.023
15:00 - 16:00	10	318	0.007	10	318	0.007	10	318	0.014
16:00 - 17:00	10	318	0.007	10	318	0.006	10	318	0.013
17:00 - 18:00	10	318	0.005	10	318	0.006	10	318	0.011
18:00 - 19:00	10	318	0.003	10	318	0.004	10	318	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.099			0.099			0.198

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.*

Appendix B

2037 TEMPro Destination Split Percentage based on All Travel Modes Bassetlaw 015 MSOA

Trip Destination (Homebound)	Weekday AM Peak (7am to 10am)				Weekday PM Peak (4pm to 7pm)			
	Origin	Destination	Origin	Destination	Origin	Destination	Origin	Destination
Work	1692	2734	38%	45%	2179	1426	38%	31%
Education	1472	1217	33%	20%	357	404	6%	9%
Shopping	550	392	12%	7%	778	713	14%	15%
Personal Business	554	1432	12%	24%	1184	915	21%	20%
Other (Social/Recreation/Visits)	238	241	5%	4%	1222	1172	21%	25%
Total	*4506*	*6016*	*100%*	*100%*	*5720*	*4630*	*100%*	*100%*

Appendix C

Calculation Reference: AUDIT-705102-190710-0757

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : C - INDUSTRIAL UNIT
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
03	SOUTH WEST		
	BR	BRISTOL CITY	1 days
	DV	DEVON	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
06	WEST MIDLANDS		
	HE	HEREFORDSHIRE	1 days
	WM	WEST MIDLANDS	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	2 days
08	NORTH WEST		
	CH	CHESHIRE	2 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: Gross floor area
Actual Range: 1100 to 13350 (units: sqm)
Range Selected by User: 1000 to 60000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/11 to 10/10/18

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
Tuesday	4 days
Wednesday	2 days
Thursday	3 days
Friday	1 days

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

Selected survey types:

Manual count	12 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)	4
Edge of Town	7
Neighbourhood Centre (PPS6 Local Centre)	1

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:

Industrial Zone	9
Commercial Zone	1
Development Zone	1
Village	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:

Not Known	1 days
B1	5 days
B2	4 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®.

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	4 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	3 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	2 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	4 days
250,001 to 500,000	3 days
500,001 or More	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	4 days
1.1 to 1.5	8 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:

No	12 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	12 days

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

LIST OF SITES relevant to selection parameters

1 BR-02-C-02 STAINLESS FITTINGS BRISTOL CITY
SOUTH LIBERTY LANE
BRISTOL

Edge of Town
Industrial Zone
Total Gross floor area: 1475 sqm
Survey date: TUESDAY 22/09/15 *Survey Type: MANUAL*

2 CH-02-C-02 INDUSTRIAL MATERIALS CHESHIRE
JUPITER DRIVE
CHESTER
CHESTER W. EMP. PARK
Edge of Town
Industrial Zone
Total Gross floor area: 8100 sqm
Survey date: WEDNESDAY 19/11/14 *Survey Type: MANUAL*

3 CH-02-C-03 OFFICE FURNITURE CHESHIRE
BRUNEL ROAD
MACCLESFIELD
LYME GREEN BUS. PARK
Edge of Town
Development Zone
Total Gross floor area: 6658 sqm
Survey date: MONDAY 19/09/16 *Survey Type: MANUAL*

4 DS-02-C-02 ENGINEERED PRODUCTS DERBYSHIRE
PONTEFRACT STREET
DERBY

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 2600 sqm
Survey date: THURSDAY 25/06/15 *Survey Type: MANUAL*

5 DV-02-C-02 ENERGY RECOVERY FACILITY DEVON
GRACE ROAD SOUTH
EXETER
MARSH BARTON TRAD. EST.
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 3513 sqm
Survey date: THURSDAY 06/07/17 *Survey Type: MANUAL*

6 HC-02-C-01 ENGINEERING COMPANY HAMPSHIRE
JAYS CLOSE
BASINGSTOKE

Edge of Town
Industrial Zone
Total Gross floor area: 3000 sqm
Survey date: THURSDAY 16/06/16 *Survey Type: MANUAL*

7 HE-02-C-02 THERMAL PROCESSING HEREFORDSHIRE
COLLEGE ROAD
HEREFORD
BURCOTT
Edge of Town
Commercial Zone
Total Gross floor area: 1880 sqm
Survey date: TUESDAY 22/10/13 *Survey Type: MANUAL*

8 SF-02-C-01 JOINERY SUFFOLK
ANSON ROAD
IPSWICH
MARTLESHAM HEATH
Edge of Town
Industrial Zone
Total Gross floor area: 1100 sqm
Survey date: FRIDAY 12/07/13 *Survey Type: MANUAL*

9 WM-02-C-03 INDUSTRIAL GLASS WEST MIDLANDS
DOWNING STREET
SMETHWICK

Edge of Town
Industrial Zone
Total Gross floor area: 5070 sqm
Survey date: TUESDAY 06/11/12 *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

10 WM-02-C-04 FOUNDRY WEST MIDLANDS
STOURVALE ROAD
STOURBRIDGE
LYE
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 4324 sqm
Survey date: TUESDAY 21/11/17 Survey Type: MANUAL

11 WY-02-C-02 FLUID SYSTEMS WEST YORKSHIRE
BROWN LANE WEST
LEEDS
HOLBECK
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 13350 sqm
Survey date: MONDAY 19/10/15 Survey Type: MANUAL

12 WY-02-C-03 COMPUTER MANUFACTURER WEST YORKSHIRE
INMOOR ROAD
NEAR BRADFORD
BIRKENSHAW
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Gross floor area: 1890 sqm
Survey date: WEDNESDAY 10/10/18 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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DV-02-C-01	Location

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	1	13350	0.457	1	13350	0.000	1	13350	0.457
07:00 - 08:00	11	4643	0.288	11	4643	0.045	11	4643	0.333
08:00 - 09:00	12	4413	0.380	12	4413	0.070	12	4413	0.450
09:00 - 10:00	12	4413	0.244	12	4413	0.132	12	4413	0.376
10:00 - 11:00	12	4413	0.166	12	4413	0.125	12	4413	0.291
11:00 - 12:00	12	4413	0.127	12	4413	0.134	12	4413	0.261
12:00 - 13:00	12	4413	0.189	12	4413	0.200	12	4413	0.389
13:00 - 14:00	12	4413	0.168	12	4413	0.194	12	4413	0.362
14:00 - 15:00	12	4413	0.151	12	4413	0.151	12	4413	0.302
15:00 - 16:00	12	4413	0.111	12	4413	0.200	12	4413	0.311
16:00 - 17:00	12	4413	0.089	12	4413	0.398	12	4413	0.487
17:00 - 18:00	12	4413	0.059	12	4413	0.289	12	4413	0.348
18:00 - 19:00	12	4413	0.021	12	4413	0.147	12	4413	0.168
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.450			2.085			4.535

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:	1100 - 13350 (units: sqm)
Survey date date range:	01/01/11 - 10/10/18
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

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.

Appendix D

QS703EW - Method of Travel to Work (2001 specification)

population	All usual residents aged 16 to 74
units	Persons
date	2011

2011 super output area - middle layer	All categories: Method of travel to work	Work mainly at or from home	Underground, metro, light rail, tram	Train	Bus, minibus or coach	Taxi	Motorcycle, scooter or moped	Driving a car or van	Passenger in a car or van	Bicycle	On foot	Other method of travel to work	Not in employment
E02005835 : Bassetlaw 001	7,379	438	3	29	186	15	31	3,051	318	82	351	17	2,858
E02005836 : Bassetlaw 002	6,637	684	5	39	61	3	26	3,107	169	61	132	23	2,327
E02005837 : Bassetlaw 003	6,133	729	2	37	52	2	20	2,342	144	29	145	21	2,610
E02005838 : Bassetlaw 004	6,003	332	3	23	208	4	36	2,492	265	44	200	19	2,377
E02005839 : Bassetlaw 005	4,380	194	3	25	41	3	17	1,820	140	115	367	13	1,642
E02005840 : Bassetlaw 006	6,649	342	3	80	67	21	36	3,332	363	122	404	10	1,869
E02005842 : Bassetlaw 008	6,276	348	3	53	51	8	28	2,526	234	131	638	13	2,243
E02005843 : Bassetlaw 009	4,745	269	4	43	90	10	21	2,287	253	87	229	11	1,441
E02005844 : Bassetlaw 010	5,513	285	1	59	73	7	28	2,379	206	147	426	11	1,891
E02005846 : Bassetlaw 012	4,635	159	0	33	110	22	18	1,281	294	146	481	9	2,082
E02005847 : Bassetlaw 013	4,937	293	0	32	64	11	24	2,039	284	89	367	15	1,719
E02005848 : Bassetlaw 014	5,038	338	4	37	52	4	19	2,118	248	80	275	8	1,855
E02005849 : Bassetlaw 015	6,838	792	1	34	52	5	24	2,894	183	59	253	23	2,518
E02006903 : Bassetlaw 016	8,142	322	3	59	121	30	46	3,316	445	128	605	8	3,059

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

E02005849 : Bassetlaw 015

People in Employment	**4,320**

Modal Split	18.3%	0.0%	0.8%	1.2%	0.1%	0.6%	67.0%	4.2%	1.4%	5.9%	0.5%

Appendix E

Calculation Reference: AUDIT-705102-190715-0751

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
	HC	HAMPSHIRE	2 days
	HF	HERTFORDSHIRE	1 days
	KC	KENT	1 days
	SC	SURREY	1 days
03	SOUTH WEST		
	CW	CORNWALL	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	2 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
08	NORTH WEST		
	LC	LANCASHIRE	1 days
09	NORTH		
	CB	CUMBRIA	1 days
	TV	TEES VALLEY	2 days
	TW	TYNE & WEAR	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: Gross floor area
Actual Range: 634 to 80066 (units: sqm)
Range Selected by User: 634 to 80066 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/05 to 18/05/18

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
Tuesday	5 days
Wednesday	1 days
Thursday	3 days
Friday	5 days

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

Selected survey types:

Manual count	16 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)	4
Edge of Town	12

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:

Industrial Zone	9
Commercial Zone	3
Residential Zone	1
No Sub Category	3

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:

B8	16 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®.

Population within 1 mile:

1,001 to 5,000	5 days
5,001 to 10,000	2 days
10,001 to 15,000	6 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	6 days
250,001 to 500,000	3 days
500,001 or More	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	6 days
1.1 to 1.5	10 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	15 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	16 days

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

LIST OF SITES relevant to selection parameters

1 CB-02-F-01 DOMINO'S PIZZA CUMBRIA
COWPER ROAD
PENRITH
GILWILLY IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 2950 sqm
Survey date: TUESDAY 10/06/14 Survey Type: MANUAL

2 CW-02-F-01 WAREHOUSING CORNWALL
A390
NEAR TRURO
THREEMILESTONE
Edge of Town
No Sub Category
Total Gross floor area: 5150 sqm
Survey date: TUESDAY 18/09/07 Survey Type: MANUAL

3 EX-02-F-01 SPORTS SUPPLEMENTS ESSEX
BRUNEL WAY
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 6560 sqm
Survey date: FRIDAY 18/05/18 Survey Type: MANUAL

4 HC-02-F-01 WAREHOUSING HAMPSHIRE
MAURETANIA ROAD
SOUTHAMPTON
NURSLING INDUSTRIAL ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 4000 sqm
Survey date: WEDNESDAY 21/11/07 Survey Type: MANUAL

5 HC-02-F-02 LOGISTICS HAMPSHIRE
RUTHERFORD ROAD
BASINGSTOKE

Suburban Area (PPS6 Out of Centre)
Commercial Zone
Total Gross floor area: 13200 sqm
Survey date: THURSDAY 16/06/16 Survey Type: MANUAL

6 HF-02-F-03 DISTRIBUTION CEN. HERTFORDSHIRE

HATFIELD
HATFIELD BUSINESS CEN.
Edge of Town
Commercial Zone
Total Gross floor area: 80000 sqm
Survey date: THURSDAY 10/07/08 Survey Type: MANUAL

7 KC-02-F-02 COMMERCIAL WAREHOUSING KENT
MILLS ROAD
AYLESFORD
QUARRY WOOD
Edge of Town
Industrial Zone
Total Gross floor area: 11200 sqm
Survey date: FRIDAY 22/09/17 Survey Type: MANUAL

8 LC-02-F-02 WAREHOUSING LANCASHIRE
CHORLEY ROAD
PRESTON
WALTON-LE-DALE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 1200 sqm
Survey date: FRIDAY 22/06/07 Survey Type: MANUAL

9 LN-02-F-01 BOOK SERVICE LINCOLNSHIRE
TRENT ROAD
GRANTHAM

Edge of Town
No Sub Category
Total Gross floor area: 32300 sqm
Survey date: MONDAY 29/11/10 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

10 SC-02-F-04 WAREHOUSING SURREY
PRETORIA ROAD
CHERTSEY

Edge of Town
No Sub Category
Total Gross floor area: 4460 sqm
Survey date: TUESDAY 27/11/07 Survey Type: MANUAL

11 SF-02-F-02 WAREHOUSING SUFFOLK
WALTON ROAD
FELIXSTOWE

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 22270 sqm
Survey date: THURSDAY 11/07/13 Survey Type: MANUAL

12 SF-02-F-03 ROAD HAULAGE SUFFOLK
CENTRAL AVENUE
IPSWICH
WARREN HEATH
Edge of Town
Industrial Zone
Total Gross floor area: 4700 sqm
Survey date: FRIDAY 18/09/15 Survey Type: MANUAL

13 TV-02-F-02 ARGOS WAREHOUSE TEES VALLEY
ROUNDHOUSE ROAD
DARLINGTON
FAVERDALE
Edge of Town
Industrial Zone
Total Gross floor area: 80066 sqm
Survey date: TUESDAY 07/10/08 Survey Type: MANUAL

14 TV-02-F-03 ELECTRICAL COMPONENTS TEES VALLEY
UNIT 8,NAVIGATOR COURT
STOCKTON-ON-TEES

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 634 sqm
Survey date: TUESDAY 28/06/11 Survey Type: MANUAL

15 TW-02-F-01 ASDA DISTRIBUTION CENTRE TYNE & WEAR
MANDARIN WAY
WASHINGTON
PATTISON IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 31000 sqm
Survey date: FRIDAY 13/11/15 Survey Type: MANUAL

16 WM-02-F-02 LOGISTICS FIRM WEST MIDLANDS
SOVEREIGN ROAD
BIRMINGHAM
KINGS NORTON
Edge of Town
Commercial Zone
Total Gross floor area: 3625 sqm
Survey date: MONDAY 09/11/15 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 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	12610	0.028	2	12610	0.036	2	12610	0.064
06:00 - 07:00	2	12610	0.067	2	12610	0.059	2	12610	0.126
07:00 - 08:00	16	18957	0.101	16	18957	0.054	16	18957	0.155
08:00 - 09:00	16	18957	0.094	16	18957	0.056	16	18957	0.150
09:00 - 10:00	16	18957	0.088	16	18957	0.059	16	18957	0.147
10:00 - 11:00	16	18957	0.067	16	18957	0.063	16	18957	0.130
11:00 - 12:00	16	18957	0.063	16	18957	0.066	16	18957	0.129
12:00 - 13:00	16	18957	0.066	16	18957	0.065	16	18957	0.131
13:00 - 14:00	16	18957	0.108	16	18957	0.093	16	18957	0.201
14:00 - 15:00	16	18957	0.081	16	18957	0.103	16	18957	0.184
15:00 - 16:00	16	18957	0.076	16	18957	0.103	16	18957	0.179
16:00 - 17:00	16	18957	0.060	16	18957	0.103	16	18957	0.163
17:00 - 18:00	16	18957	0.034	16	18957	0.088	16	18957	0.122
18:00 - 19:00	16	18957	0.020	16	18957	0.059	16	18957	0.079
19:00 - 20:00	2	12610	0.056	2	12610	0.052	2	12610	0.108
20:00 - 21:00	2	12610	0.024	2	12610	0.044	2	12610	0.068
21:00 - 22:00	1	22270	0.031	1	22270	0.018	1	22270	0.049
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.064			1.121			2.185

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:	634 - 80066 (units: sqm)
Survey date date range:	01/01/05 - 18/05/18
Number of weekdays (Monday-Friday):	16
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.

Appendix F

Calculation Reference: AUDIT-705102-200618-0644

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL VEHICLES

Selected regions and areas:

05	EAST MIDLANDS		
	LE	LEICESTERSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days

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

Primary 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: Gross floor area
Actual Range: 550 to 900 (units: sqm)
Range Selected by User: 240 to 1890 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 28/10/14

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:

Tuesday	1 days
Thursday	1 days

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

Selected survey types:

Manual count	2 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:

Edge of Town	2

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	2

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:

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	1 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:

100,001 to 125,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5	2 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.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	2 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	2 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	2 days

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

LIST OF SITES relevant to selection parameters

1	LE-01-I-02 RYDER ROAD LEICESTER	LOCAL SHOPS		LEICESTERSHIRE
	Edge of Town Residential Zone Total Gross floor area:		550 sqm	
	Survey date: TUESDAY		*28/10/14*	*Survey Type: MANUAL*
2	SH-01-I-02 WREKIN DRIVE TELFORD DONNINGTON	LOCAL SHOPS		SHROPSHIRE
	Edge of Town Residential Zone Total Gross floor area:		900 sqm	
	Survey date: THURSDAY		*24/10/13*	*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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	7.793	2	725	6.828	2	725	14.621
08:00 - 09:00	2	725	7.931	2	725	8.000	2	725	15.931
09:00 - 10:00	2	725	8.207	2	725	8.828	2	725	17.035
10:00 - 11:00	2	725	8.828	2	725	8.276	2	725	17.104
11:00 - 12:00	2	725	10.000	2	725	10.138	2	725	20.138
12:00 - 13:00	2	725	15.379	2	725	14.138	2	725	29.517
13:00 - 14:00	2	725	13.034	2	725	12.414	2	725	25.448
14:00 - 15:00	2	725	9.241	2	725	8.828	2	725	18.069
15:00 - 16:00	2	725	9.448	2	725	9.931	2	725	19.379
16:00 - 17:00	2	725	9.931	2	725	10.759	2	725	20.690
17:00 - 18:00	2	725	10.897	2	725	11.103	2	725	22.000
18:00 - 19:00	2	725	9.379	2	725	9.931	2	725	19.310
19:00 - 20:00	2	725	9.310	2	725	8.069	2	725	17.379
20:00 - 21:00	2	725	6.759	2	725	7.103	2	725	13.862
21:00 - 22:00	2	725	3.931	2	725	5.724	2	725	9.655
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			140.068			140.070			280.138

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:	550 - 900 (units: sqm)
Survey date date range:	01/01/12 - 28/10/14
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	0.000	2	725	0.000	2	725	0.000
08:00 - 09:00	2	725	0.000	2	725	0.000	2	725	0.000
09:00 - 10:00	2	725	0.000	2	725	0.000	2	725	0.000
10:00 - 11:00	2	725	0.000	2	725	0.000	2	725	0.000
11:00 - 12:00	2	725	0.069	2	725	0.069	2	725	0.138
12:00 - 13:00	2	725	0.000	2	725	0.000	2	725	0.000
13:00 - 14:00	2	725	0.000	2	725	0.000	2	725	0.000
14:00 - 15:00	2	725	0.000	2	725	0.069	2	725	0.069
15:00 - 16:00	2	725	0.138	2	725	0.069	2	725	0.207
16:00 - 17:00	2	725	0.069	2	725	0.069	2	725	0.138
17:00 - 18:00	2	725	0.000	2	725	0.000	2	725	0.000
18:00 - 19:00	2	725	0.000	2	725	0.000	2	725	0.000
19:00 - 20:00	2	725	0.000	2	725	0.000	2	725	0.000
20:00 - 21:00	2	725	0.069	2	725	0.069	2	725	0.138
21:00 - 22:00	2	725	0.069	2	725	0.000	2	725	0.069
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.414			0.345			0.759

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	0.345	2	725	0.276	2	725	0.621
08:00 - 09:00	2	725	0.207	2	725	0.138	2	725	0.345
09:00 - 10:00	2	725	0.621	2	725	0.828	2	725	1.449
10:00 - 11:00	2	725	0.414	2	725	0.207	2	725	0.621
11:00 - 12:00	2	725	0.483	2	725	0.483	2	725	0.966
12:00 - 13:00	2	725	0.552	2	725	0.828	2	725	1.380
13:00 - 14:00	2	725	0.414	2	725	0.483	2	725	0.897
14:00 - 15:00	2	725	0.483	2	725	0.345	2	725	0.828
15:00 - 16:00	2	725	0.276	2	725	0.207	2	725	0.483
16:00 - 17:00	2	725	0.276	2	725	0.207	2	725	0.483
17:00 - 18:00	2	725	0.138	2	725	0.069	2	725	0.207
18:00 - 19:00	2	725	0.000	2	725	0.138	2	725	0.138
19:00 - 20:00	2	725	0.000	2	725	0.000	2	725	0.000
20:00 - 21:00	2	725	0.000	2	725	0.000	2	725	0.000
21:00 - 22:00	2	725	0.000	2	725	0.000	2	725	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.209			4.209			8.418

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	0.207	2	725	0.207	2	725	0.414
08:00 - 09:00	2	725	0.138	2	725	0.138	2	725	0.276
09:00 - 10:00	2	725	0.138	2	725	0.069	2	725	0.207
10:00 - 11:00	2	725	0.000	2	725	0.069	2	725	0.069
11:00 - 12:00	2	725	0.069	2	725	0.069	2	725	0.138
12:00 - 13:00	2	725	0.069	2	725	0.069	2	725	0.138
13:00 - 14:00	2	725	0.138	2	725	0.138	2	725	0.276
14:00 - 15:00	2	725	0.069	2	725	0.069	2	725	0.138
15:00 - 16:00	2	725	0.138	2	725	0.069	2	725	0.207
16:00 - 17:00	2	725	0.138	2	725	0.138	2	725	0.276
17:00 - 18:00	2	725	0.069	2	725	0.069	2	725	0.138
18:00 - 19:00	2	725	0.069	2	725	0.069	2	725	0.138
19:00 - 20:00	2	725	0.138	2	725	0.069	2	725	0.207
20:00 - 21:00	2	725	0.000	2	725	0.000	2	725	0.000
21:00 - 22:00	2	725	0.000	2	725	0.000	2	725	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.380			1.242			2.622

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	9.655	2	725	8.345	2	725	18.000
08:00 - 09:00	2	725	10.276	2	725	10.207	2	725	20.483
09:00 - 10:00	2	725	10.483	2	725	10.759	2	725	21.242
10:00 - 11:00	2	725	12.138	2	725	11.379	2	725	23.517
11:00 - 12:00	2	725	12.483	2	725	12.621	2	725	25.104
12:00 - 13:00	2	725	18.552	2	725	17.793	2	725	36.345
13:00 - 14:00	2	725	16.069	2	725	15.448	2	725	31.517
14:00 - 15:00	2	725	11.517	2	725	11.103	2	725	22.620
15:00 - 16:00	2	725	11.793	2	725	12.552	2	725	24.345
16:00 - 17:00	2	725	13.103	2	725	13.862	2	725	26.965
17:00 - 18:00	2	725	14.690	2	725	14.759	2	725	29.449
18:00 - 19:00	2	725	13.379	2	725	13.241	2	725	26.620
19:00 - 20:00	2	725	11.517	2	725	10.621	2	725	22.138
20:00 - 21:00	2	725	8.138	2	725	8.552	2	725	16.690
21:00 - 22:00	2	725	4.690	2	725	6.483	2	725	11.173
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			178.483			177.725			356.208

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL PEDESTRIANS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	1.517	2	725	1.586	2	725	3.103
08:00 - 09:00	2	725	2.414	2	725	2.828	2	725	5.242
09:00 - 10:00	2	725	3.586	2	725	3.310	2	725	6.896
10:00 - 11:00	2	725	2.966	2	725	2.828	2	725	5.794
11:00 - 12:00	2	725	4.000	2	725	3.724	2	725	7.724
12:00 - 13:00	2	725	6.138	2	725	7.241	2	725	13.379
13:00 - 14:00	2	725	5.172	2	725	6.069	2	725	11.241
14:00 - 15:00	2	725	4.414	2	725	4.552	2	725	8.966
15:00 - 16:00	2	725	3.241	2	725	3.448	2	725	6.689
16:00 - 17:00	2	725	1.310	2	725	1.103	2	725	2.413
17:00 - 18:00	2	725	1.931	2	725	1.448	2	725	3.379
18:00 - 19:00	2	725	0.414	2	725	0.414	2	725	0.828
19:00 - 20:00	2	725	1.586	2	725	2.276	2	725	3.862
20:00 - 21:00	2	725	0.483	2	725	0.966	2	725	1.449
21:00 - 22:00	2	725	0.966	2	725	1.172	2	725	2.138
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			40.138			42.965			83.103

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	0.345	2	725	0.138	2	725	0.483
08:00 - 09:00	2	725	0.552	2	725	0.069	2	725	0.621
09:00 - 10:00	2	725	0.207	2	725	0.069	2	725	0.276
10:00 - 11:00	2	725	0.552	2	725	0.345	2	725	0.897
11:00 - 12:00	2	725	0.345	2	725	0.690	2	725	1.035
12:00 - 13:00	2	725	0.414	2	725	0.276	2	725	0.690
13:00 - 14:00	2	725	0.966	2	725	0.345	2	725	1.311
14:00 - 15:00	2	725	0.621	2	725	0.345	2	725	0.966
15:00 - 16:00	2	725	0.276	2	725	0.345	2	725	0.621
16:00 - 17:00	2	725	0.345	2	725	0.621	2	725	0.966
17:00 - 18:00	2	725	0.207	2	725	0.276	2	725	0.483
18:00 - 19:00	2	725	0.345	2	725	0.483	2	725	0.828
19:00 - 20:00	2	725	0.552	2	725	0.483	2	725	1.035
20:00 - 21:00	2	725	0.345	2	725	0.276	2	725	0.621
21:00 - 22:00	2	725	0.483	2	725	0.276	2	725	0.759
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			6.555			5.037			11.592

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	0.345	2	725	0.138	2	725	0.483
08:00 - 09:00	2	725	0.552	2	725	0.069	2	725	0.621
09:00 - 10:00	2	725	0.207	2	725	0.069	2	725	0.276
10:00 - 11:00	2	725	0.552	2	725	0.345	2	725	0.897
11:00 - 12:00	2	725	0.345	2	725	0.690	2	725	1.035
12:00 - 13:00	2	725	0.414	2	725	0.276	2	725	0.690
13:00 - 14:00	2	725	0.966	2	725	0.345	2	725	1.311
14:00 - 15:00	2	725	0.621	2	725	0.345	2	725	0.966
15:00 - 16:00	2	725	0.276	2	725	0.345	2	725	0.621
16:00 - 17:00	2	725	0.345	2	725	0.621	2	725	0.966
17:00 - 18:00	2	725	0.207	2	725	0.276	2	725	0.483
18:00 - 19:00	2	725	0.345	2	725	0.483	2	725	0.828
19:00 - 20:00	2	725	0.552	2	725	0.483	2	725	1.035
20:00 - 21:00	2	725	0.345	2	725	0.276	2	725	0.621
21:00 - 22:00	2	725	0.483	2	725	0.276	2	725	0.759
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			6.555			5.037			11.592

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	11.724	2	725	10.276	2	725	22.000
08:00 - 09:00	2	725	13.379	2	725	13.241	2	725	26.620
09:00 - 10:00	2	725	14.414	2	725	14.207	2	725	28.621
10:00 - 11:00	2	725	15.655	2	725	14.621	2	725	30.276
11:00 - 12:00	2	725	16.897	2	725	17.103	2	725	34.000
12:00 - 13:00	2	725	25.172	2	725	25.379	2	725	50.551
13:00 - 14:00	2	725	22.345	2	725	22.000	2	725	44.345
14:00 - 15:00	2	725	16.621	2	725	16.069	2	725	32.690
15:00 - 16:00	2	725	15.448	2	725	16.414	2	725	31.862
16:00 - 17:00	2	725	14.897	2	725	15.724	2	725	30.621
17:00 - 18:00	2	725	16.897	2	725	16.552	2	725	33.449
18:00 - 19:00	2	725	14.207	2	725	14.207	2	725	28.414
19:00 - 20:00	2	725	13.793	2	725	13.448	2	725	27.241
20:00 - 21:00	2	725	8.966	2	725	9.793	2	725	18.759
21:00 - 22:00	2	725	6.138	2	725	7.931	2	725	14.069
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			226.553			226.965			453.518

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	3.655	2	725	3.034	2	725	6.689
08:00 - 09:00	2	725	4.138	2	725	4.345	2	725	8.483
09:00 - 10:00	2	725	2.552	2	725	2.966	2	725	5.518
10:00 - 11:00	2	725	2.207	2	725	2.000	2	725	4.207
11:00 - 12:00	2	725	1.862	2	725	1.931	2	725	3.793
12:00 - 13:00	2	725	6.552	2	725	6.414	2	725	12.966
13:00 - 14:00	2	725	5.310	2	725	5.448	2	725	10.758
14:00 - 15:00	2	725	3.172	2	725	2.828	2	725	6.000
15:00 - 16:00	2	725	3.724	2	725	3.655	2	725	7.379
16:00 - 17:00	2	725	3.655	2	725	3.724	2	725	7.379
17:00 - 18:00	2	725	4.690	2	725	4.828	2	725	9.518
18:00 - 19:00	2	725	3.931	2	725	4.345	2	725	8.276
19:00 - 20:00	2	725	4.000	2	725	3.862	2	725	7.862
20:00 - 21:00	2	725	2.138	2	725	2.069	2	725	4.207
21:00 - 22:00	2	725	1.310	2	725	1.586	2	725	2.896
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			52.896			53.035			105.931

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	1.034	2	725	1.103	2	725	2.137
08:00 - 09:00	2	725	0.897	2	725	0.828	2	725	1.725
09:00 - 10:00	2	725	0.621	2	725	0.414	2	725	1.035
10:00 - 11:00	2	725	1.379	2	725	1.310	2	725	2.689
11:00 - 12:00	2	725	0.828	2	725	0.828	2	725	1.656
12:00 - 13:00	2	725	1.241	2	725	1.379	2	725	2.620
13:00 - 14:00	2	725	0.828	2	725	0.552	2	725	1.380
14:00 - 15:00	2	725	1.172	2	725	1.034	2	725	2.206
15:00 - 16:00	2	725	1.241	2	725	1.241	2	725	2.482
16:00 - 17:00	2	725	0.759	2	725	1.241	2	725	2.000
17:00 - 18:00	2	725	0.828	2	725	0.828	2	725	1.656
18:00 - 19:00	2	725	0.966	2	725	0.759	2	725	1.725
19:00 - 20:00	2	725	0.897	2	725	0.897	2	725	1.794
20:00 - 21:00	2	725	0.690	2	725	0.690	2	725	1.380
21:00 - 22:00	2	725	0.138	2	725	0.138	2	725	0.276
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			13.519			13.242			26.761

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 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL MOTOR CYCLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	2	725	0.069	2	725	0.069	2	725	0.138
08:00 - 09:00	2	725	0.069	2	725	0.069	2	725	0.138
09:00 - 10:00	2	725	0.069	2	725	0.000	2	725	0.069
10:00 - 11:00	2	725	0.069	2	725	0.414	2	725	0.483
11:00 - 12:00	2	725	0.069	2	725	0.000	2	725	0.069
12:00 - 13:00	2	725	0.138	2	725	0.138	2	725	0.276
13:00 - 14:00	2	725	0.138	2	725	0.138	2	725	0.276
14:00 - 15:00	2	725	0.138	2	725	0.069	2	725	0.207
15:00 - 16:00	2	725	0.138	2	725	0.000	2	725	0.138
16:00 - 17:00	2	725	0.069	2	725	0.069	2	725	0.138
17:00 - 18:00	2	725	0.000	2	725	0.000	2	725	0.000
18:00 - 19:00	2	725	0.000	2	725	0.000	2	725	0.000
19:00 - 20:00	2	725	0.000	2	725	0.000	2	725	0.000
20:00 - 21:00	2	725	0.069	2	725	0.069	2	725	0.138
21:00 - 22:00	2	725	0.138	2	725	0.138	2	725	0.276
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.173			1.173			2.346

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.*

Appendix G

Analysis of Census Data to Derive Internalisation of Employment Trips

Population Density	Total Population	Population in Employment	Total Workplace Population within Town	Employed Population Living & Working in Same Town	Employed Population Commuting into Town	Percentage of Employed Population Living/Working in the Same Town	Percentage of Employed Population Living/Working in Town against Total Town Employment
Population 5,000 - 8,000	310,832	142,700	107,153	23,730	83,423	16.6%	22.1%
Population 8,001 - 12,000	173,094	82,088	46,221	12,119	34,102	14.8%	26.2%
Population 12,001 - 15,000	196,746	93,767	85,475	21,842	63,633	23.3%	25.6%

Town	Total Population	Population in Employment	Total Workplace Population within Town	Employed Population Living & Working in Same Town	Employed Population Commuting into Town	Percentage of Employed Population Living/Working in the Same Town	Percentage of Employed Population Living/Working in Town against Total Town Employment
Anstey	6,528	3,185	988	237	751	7.4%	24.0%
Ashbourne	8,377	3,987	3,272	872	2,400	21.9%	26.7%
Ashby-de-la-Zouch	12,370	5,827	7,426	1,531	5,895	26.3%	20.6%
Barrow upon Soar	5,956	2,950	1,330	210	1,120	7.1%	15.8%
Bingham	9,131	4,476	1,990	643	1,347	14.4%	32.3%
Bircotes	7,948	3,347	2,805	792	2,013	23.7%	28.2%
Birstall	12,216	5,858	1,321	495	826	8.4%	37.5%
Bolsover	11,754	4,942	2,684	980	1,704	19.8%	36.5%
Borrowash	7,335	3,466	1,258	282	976	8.1%	22.4%
Bourne	13,961	6,620	5,497	2,376	3,121	35.9%	43.2%
Bracebridge Heath	5,656	2,881	N/A	N/A	N/A	N/A	N/A
Brackley	13,018	6,964	5,040	1,826	3,214	26.2%	36.2%
Breaston	7,545	3,566	1,329	236	1,093	6.6%	17.8%
Brinsley	5,038	2,322	N/A	N/A	N/A	N/A	N/A
Brixworth	5,228	2,668	2,782	567	2,215	21.3%	20.4%
Broughton Astley	8,940	4,827	1,456	440	1,016	9.1%	30.2%
Burton Latimer	7,449	3,598	3,001	556	2,445	15.5%	18.5%
Calverton	6,868	3,276	1,990	569	1,421	17.4%	28.6%
Carlton in Lindrick	5,456	2,342	1,626	476	1,150	20.3%	29.3%
Castle Donington	6,416	3,256	10,469	1,074	9,395	33.0%	10.3%
Chapel-en-le-Frith	6,598	3,213	5,668	1,641	4,027	51.1%	29.0%
Clay Cross	12,925	5,599	3,520	669	2,851	11.9%	19.0%
Clowne	7,590	3,505	4,858	809	4,049	23.1%	16.7%
Coningsby Airfield	5,021	2,576	5,848	2,086	3,762	81.0%	35.7%
Cotgrave	7,203	3,500	1,168	411	757	11.7%	35.2%
Countesthorpe	6,377	3,132	975	244	731	7.8%	25.0%
Creswell	5,417	2,169	1,039	255	784	11.8%	24.5%
Desborough	10,697	5,294	2,134	805	1,329	15.2%	37.7%
Duffield	5,046	2,043	1,838	262	1,576	12.8%	14.3%
Earls Barton	5,387	2,681	2,582	443	2,139	16.5%	17.2%
East Leake	6,337	2,856	1,042	237	805	8.3%	22.7%
Eckington	7,386	3,430	2,474	477	1,997	13.9%	19.3%
Edwinstowe	5,188	2,356	N/A	N/A	N/A	N/A	N/A
Groby	6,782	3,451	1,242	184	1,058	5.3%	14.8%
Higham Ferrers	8,083	4,048	1,625	347	1,278	8.6%	21.4%
Hilton (South Derbyshire)	7,714	4,267	1,871	468	1,403	11.0%	25.0%
Holbeach	7,914	3,344	1,590	487	1,103	14.6%	30.6%
Horncastle	6,815	2,862	2,965	1,130	1,835	39.5%	38.1%
Ibstock	5,650	2,724	6,963	1,060	5,903	38.9%	15.2%
Irthlingborough	7,502	3,804	1,906	477	1,429	12.5%	25.0%
Keyworth	6,733	2,939	3,034	669	2,365	22.8%	22.1%
Kibworth Harcourt	5,433	2,606	2,061	449	1,612	17.2%	21.8%
Killamarsh	9,251	4,781	1,689	491	1,198	10.3%	29.1%
Kimberley	11,353	5,547	1,839	226	1,613	4.1%	12.3%
Long Sutton (South Holland)	5,161	2,024	N/A	N/A	N/A	N/A	N/A
Lutterworth	9,907	4,863	5,929	1,160	4,769	23.9%	19.6%
Mablethorpe	12,531	3,250	2,500	1,475	1,025	45.4%	59.0%
Market Deeping	13,574	6,890	3,849	1,157	2,692	16.8%	30.1%
Market Warsop	9,018	3,581	1,663	664	999	18.5%	39.9%
Matlock	14,956	7,099	11,042	4,109	6,933	57.9%	37.2%
Measham	5,209	2,478	2,106	461	1,645	18.6%	21.9%
Mountsorrel	12,120	6,235	1,155	339	816	5.4%	29.4%
Narborough/Enderby	12,996	6,726	18,873	1,952	16,921	29.0%	10.3%
New Mills	12,291	6,172	3,450	1,564	1,886	25.3%	45.3%
New Ollerton	9,840	4,236	4,301	1,084	3,217	25.6%	25.2%
North Hykeham	14,719	6,904	7,140	1,120	6,020	16.2%	15.7%
North Wingfield	9,205	3,989	955	205	750	5.1%	21.5%
Oakham	10,922	5,037	3,397	929	2,468	18.4%	27.3%
Oundle	5,735	2,305	3,641	1,190	2,451	51.6%	32.7%
Quorn (Quorndon)	5,177	2,551	2,124	271	1,853	10.6%	12.8%
Radcliffe on Trent	7,510	3,321	1,318	382	936	11.5%	29.0%
Rainworth	7,693	3,482	2,021	521	1,500	15.0%	25.8%
Raunds	8,641	4,259	1,753	616	1,137	14.5%	35.1%
Ravenshead	5,759	2,640	3,714	304	3,410	11.5%	8.2%
Rothwell	7,694	3,699	1,275	395	880	10.7%	31.0%
Ruddington	7,020	3,511	3,470	441	3,029	12.6%	12.7%
Ruskington	5,637	2,356	N/A	N/A	N/A	N/A	N/A
Sandiacre	9,600	4,552	3,730	424	3,306	9.3%	11.4%
Selston	7,019	3,200	572	145	427	4.5%	25.3%
Shepshed	13,505	6,808	4,119	1,345	2,774	19.8%	32.7%
Shirebrook	10,885	4,353	4,514	1,428	3,086	32.8%	31.6%
Sileby	8,433	4,370	1,256	336	920	7.7%	26.8%
Southwell	6,757	2,890	2,282	665	1,617	23.0%	29.1%
Syston	12,804	6,504	4,452	924	3,528	14.2%	20.8%
Thrapston	6,239	3,233	3,299	934	2,365	28.9%	28.3%
Towcester	9,057	4,946	2,034	469	1,565	9.5%	23.1%
Washingborough	6,463	3,020	N/A	N/A	N/A	N/A	N/A
West Hallam	6,016	2,947	1,220	188	1,032	6.4%	15.4%
Whaley Bridge	5,140	2,553	1,954	509	1,445	19.9%	26.0%
Whetstone	12,760	6,311	6,091	960	5,131	15.2%	15.8%
Wingerworth	6,049	2,815	N/A	N/A	N/A	N/A	N/A
Wirksworth	5,038	2,380	1,455	536	919	22.5%	36.8%
Average	***8,301***	***3,922***	***3,185***	***769***	***2,415***	***19.1%***	***25.6%***

	Areas have been discounted from results as they do not form isolated Built up Areas within the MSOA Census Data
	Places which have been considered representive to the proposed development

Appendix B

Executive Park, Avalon Way, Anstey, Leicester, LE7 7GR
Tel: +44 (0)116 234 8000 Fax: +44 (0)116 234 8001 Email: info@wyg.com www.**wyg**.com

TRICS Trip Rates (No Internalisation)

Residential

Dwellings **1,600**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.147	0.420	**0.567**	0.390	0.162	**0.552**
Trip Generation	235	672	**907**	624	259	**883**

Employment (Split 15ha 12.5% B1, 37.5% B2 and 50% B8 like Morton GV)

B1 Use (sq.m) **7,500**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	1.646	0.191	**1.837**	0.179	1.796	**1.975**
Trip Generation	123	14	**138**	13	135	**148**

B2 Use (sq.m) **22,500**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.606	0.051	**0.657**	0.032	0.500	**0.532**
Trip Generation	136	11	**148**	7	113	**120**

B8 Use (sq.m) **30,000**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.119	0.088	**0.207**	0.068	0.135	**0.203**
Trip Generation	36	26	**62**	20	41	**61**

Local Centre (Likely to be 100% Internal)

A-Land Uses (sq.m) **725**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	7.931	8.000	**15.931**	10.897	11.103	**22.000**
Trip Generation	57	58	**115**	79	80	**160**

Education 2FE Primary School (Likely to be 100% Internal)

Number of Pupils **420**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.317	0.248	**0.565**	0.021	0.025	**0.046**
Trip Generation	133	104	**237**	9	11	**19**

Secondary School

Number of Pupils **256**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.173	0.120	**0.293**	0.023	0.037	**0.060**
Trip Generation	44	31	**75**	6	9	**15**

Appendix C

Executive Park, Avalon Way, Anstey, Leicester, LE7 7GR
Tel: +44 (0)116 234 8000 Fax: +44 (0)116 234 8001 Email: info@wyg.com www.**wyg**.com

TRICS Trip Rates

TRICS Cambourne New Settlement Trip Rates

Dwellings **1,600**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.114	0.256	**0.370**	0.362	0.234	**0.596**
Trip Generation	182	410	**592**	579	374	**954**

Employment (Split 15ha 12.5% B1, 37.5% B2 and 50% B8 like Morton GV)

B1 Use (sq.m) **7,500**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	1.646	0.191	**1.837**	0.179	1.796	**1.975**
Trip Generation	123	14	**138**	13	135	**148**

B2 Use (sq.m) **22,500**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.606	0.051	**0.657**	0.032	0.500	**0.532**
Trip Generation	136	11	**148**	7	113	**120**

B8 Use (sq.m) **30,000**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.119	0.088	**0.207**	0.068	0.135	**0.203**
Trip Generation	36	26	**62**	20	41	**61**

Local Centre (Likely to be 100% Internal)

A-Land Uses (sq.m) **725**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	7.931	8.000	**15.931**	10.897	11.103	**22.000**
Trip Generation	57	58	**115**	79	80	**160**

Education 2FE Primary School

Number of Pupils **420**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.317	0.248	**0.565**	0.021	0.025	**0.046**
Trip Generation	133	104	**237**	9	11	**19**

Secondary School

Number of Pupils **256**

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	**2-WAY**	ARR	DEP	**2-WAY**
TRICS Rates	0.173	0.120	**0.293**	0.023	0.037	**0.060**
Trip Generation	44	31	**75**	6	9	**15**

Appendix D

Executive Park, Avalon Way, Anstey, Leicester, LE7 7GR
Tel: +44 (0)116 234 8000 Fax: +44 (0)116 234 8001 Email: info@wyg.com www.**wyg**.com

GV/TRICS Vehicle Rates

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	182	410	**592**	579	374	**954**
B1 Use (7,500 sq.m)	123	14	**138**	13	135	**148**
B2 Use (22,500 sq.m)	136	11	**148**	7	113	**120**
B8 Use (30,000 sq.m)	36	26	**62**	20	41	**61**
Local Centre (725 sq.m)	57	58	**115**	79	80	**160**
2FE Primary School	133	104	**237**	9	11	**19**
Secondary School	44	31	**75**	6	9	**15**
			1,368			**1,477**

Internal

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	107	240	**346**	339	219	**558**
B1 Use (7,500 sq.m)	19	2	**21**	2	20	**22**
B2 Use (22,500 sq.m)	20	2	**22**	1	17	**18**
B8 Use (30,000 sq.m)	5	4	**9**	3	6	**8**
Local Centre (725 sq.m)	34	34	**68**	47	48	**95**
2FE Primary School	102	80	**182**	7	8	**15**
Secondary School	0	0	**0**	0	0	**0**
			648			**716**

External

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	76	170	**246**	240	155	**396**
B1 Use (7,500 sq.m)	105	12	**117**	11	114	**126**
B2 Use (22,500 sq.m)	116	10	**126**	6	96	**102**
B8 Use (30,000 sq.m)	31	23	**54**	18	35	**52**
Local Centre (725 sq.m)	23	24	**47**	32	33	**65**
2FE Primary School	31	24	**56**	2	2	**5**
Secondary School	44	31	**75**	6	9	**15**
			720			**761**

Raw TRICS Vehicle Rates

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	235	672	**907**	624	259	**883**
B1 Use (7,500 sq.m)	123	14	**138**	13	135	**148**
B2 Use (22,500 sq.m)	136	11	**148**	7	113	**120**
B8 Use (30,000 sq.m)	36	26	**62**	20	41	**61**
Local Centre (725 sq.m)	57	58	**115**	79	80	**160**
2FE Primary School	133	104	**237**	9	11	**19**
Secondary School	44	31	**75**	6	9	**15**
			1,683			**1,406**

Internal

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	138	393	**531**	365	152	**517**
B1 Use (7,500 sq.m)	19	2	**21**	2	20	**22**
B2 Use (22,500 sq.m)	20	2	**22**	1	17	**18**
B8 Use (30,000 sq.m)	5	4	**9**	3	6	**8**
Local Centre (725 sq.m)	34	34	**68**	47	48	**95**
2FE Primary School	102	80	**182**	7	8	**15**
Secondary School	0	0	**0**	0	0	**0**
			832			**675**

External

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	98	279	**376**	259	108	**367**
B1 Use (7,500 sq.m)	105	12	**117**	11	114	**126**
B2 Use (22,500 sq.m)	116	10	**126**	6	96	**102**
B8 Use (30,000 sq.m)	31	23	**54**	18	35	**52**
Local Centre (725 sq.m)	23	24	**47**	32	33	**65**
2FE Primary School	31	24	**56**	2	2	**5**
Secondary School	44	31	**75**	6	9	**15**
			851			**731**

First Principles Methodology

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	232	829	**1,061**	685	338	**1,023**
B2 Use (30,000 sq.m)	114	21	**135**	18	87	**105**
B8 Use (30,000 sq.m)	28	16	**44**	10	26	**36**
Local Centre (725 sq.m)	60	59	**119**	75	74	**149**
2FE Primary School	255	84	**339**	0	14	**14**
Secondary School	11	125	**136**	0	0	**0**
			1,834			**1,327**

Internal

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	126	480	**606**	421	193	**614**
B2 Use (30,000 sq.m)	17	3	**20**	3	13	**16**
B8 Use (30,000 sq.m)	4	2	**6**	1	4	**5**
Local Centre (725 sq.m)	48	47	**95**	60	59	**119**
2FE Primary School	201	67	**268**	0	2	**2**
Secondary School	0	0	**0**	0	0	**0**
			995			**756**

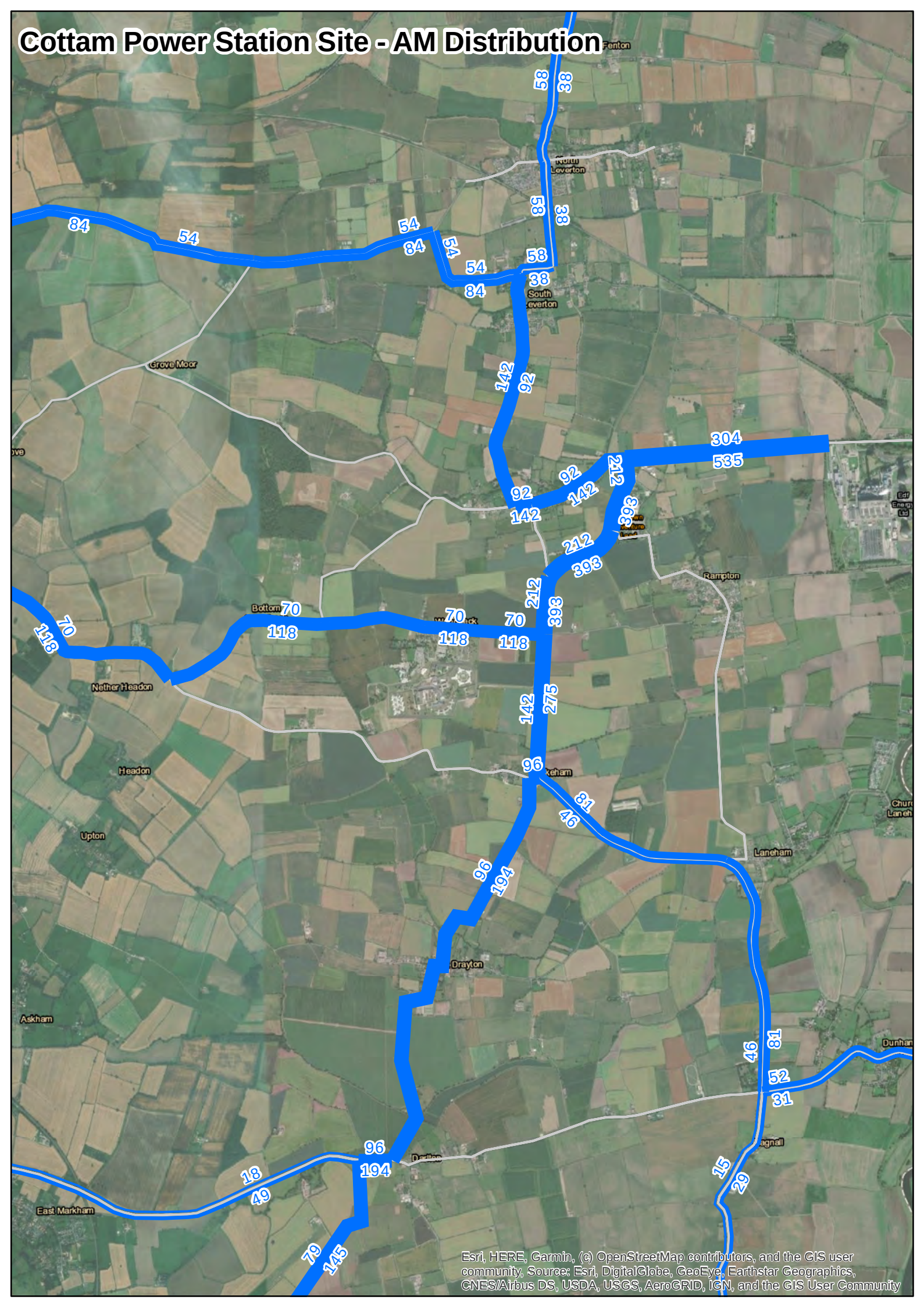
External

	AM (08:00-09:00)			PM (17:00-18:00)		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
1600 Dwellings	106	349	**455**	264	145	**409**
B2 Use (30,000 sq.m)	97	18	**115**	15	74	**89**
B8 Use (30,000 sq.m)	24	14	**38**	9	22	**31**
Local Centre (725 sq.m)	12	12	**24**	15	15	**30**
2FE Primary School	54	17	**71**	0	12	**12**
Secondary School	11	125	**136**	0	0	**0**
			839			**571**

Notes

Internalisation for GV and Raw TRICS rates has been applied using overall percentage splits based on First Principles Methodology

Appendix D – Development Trip Assignment


Cottam Power Station Site - AM Distribution
Fenton
North Leverton
South Leverton
Grove Moor
Bottom
Nether Headon
Headon
Upton
Rampton
Laneham
Drayton
Askham
East Markham
58
38
84
54
142
92
304
535
212
393
70
118
96
194
81
46
52
31
18
49
79
145
15
29
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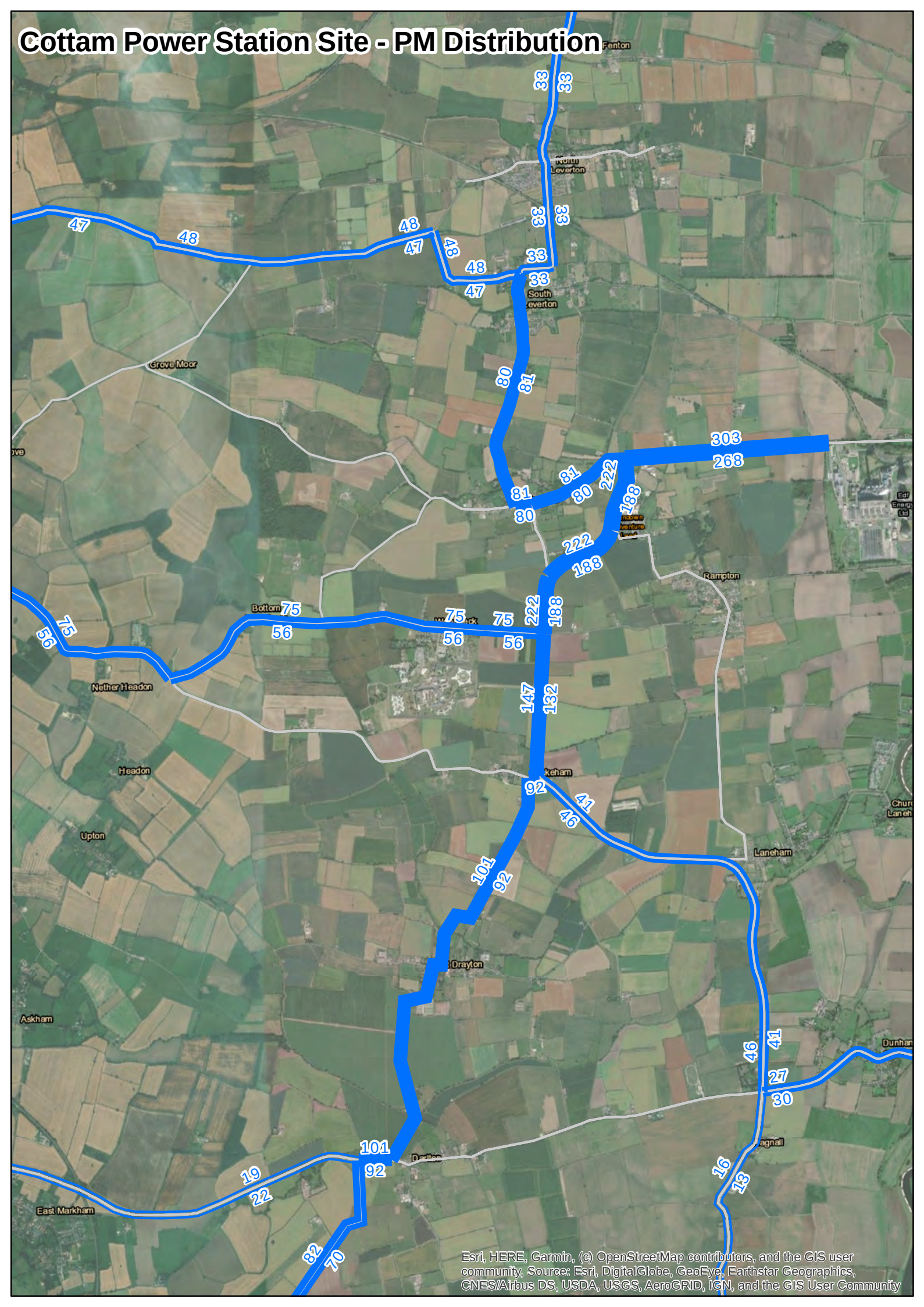
Cottam Power Station Site - PM Distribution
Fenton
North Leverton
South Leverton
Grove Moor
Rampton
Bottom
Nether Headon
Headon
Upton
Laneham
Drayton
Askham
East Markham
Dunham
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community