Wall Heath: Transport & Access

Approximately 100,000m^2 of employment development is being promoted for inclusion in the Local Plan at land west of the A449 Wolverhampton Road in Wall Heath, Staffordshire (adjacent to the border with Dudley MBC).

A Technical Note was prepared in 2019 (**Appendix 1**) to examine the forecast transport implications of developing the Site. The Technical Note was based on a plan which included approximately 87,000m^2 of employment development (split 20% B1, 40% B2 and 40% B8 use).

A revised plan has been produced, which proposes an increased overall development floorspace, but a change in land use mix, with the B1 use replaced by an increase in B8 and E(g)(iii) uses.

As a result of the alteration of the proposed mix of land use it is forecast that the revised proposal will generate fewer vehicle movements than the previous proposal.

It was identified previously that the A449 / B4176 signalised crossroads junction, along with the proposed site access junction will require detailed assessment as part of future promotion of the Site through the planning process. This remains the case.

Vehicular access to the site can be achieved via a new signalised T-junction along the B4176 Bridgnorth Road to the north of the Site. An existing footway runs along the northern side of Bridgnorth Road and a connection to this can be made at the proposed site access junction. The existing footway along the Bridgnorth Road provides a connection to the existing network of footways in Wombourne to the north and Wall Heath to the south.

Wolverhampton Road is served by existing frequent bus services which provide connections to Wolverhampton City Centre and Railway Station to the north and Stourbridge to the south.

The Site is therefore considered to be located in an accessible location.

The South Staffordshire Railway Walk (SSRW) intersects the Site and is a dis-used railway line on an embankment approximately 4.5m high. There exists two passages beneath the SSRW, one of which is part of a public bridleway, another used for farm access. It is proposed that these passages be retained and improved to be utilised as traffic-free pedestrian access points to the site. It is possible that the bridleway crossing could be used as an emergency secondary access if required.

A new crossing beneath the SSRW is required to provide vehicular access to the Site and connect to the B4176 to the north.

A pedestrian connection can also be provided to Maidensbridge Road to the south, following the path of the existing public bridleway.

BETTER SOLUTIONS, INTELLIGENTLY ENGINEERED

Project	**Wall Heath, South Staffordshire**		
Document Number	WAL-BWB-ZZ-XX-RP-TR-0001-TN	**BWB Ref**	BMW3052
Author	Jordan Farrell	**Status**	S2
Checked	Lewis Thomas	**Revision**	V1
Approved	Lewis Thomas	**Date**	15/11/19

1 INTRODUCTION

1.1 Land at off Wolverhampton Road, Wall Heath is being promoted for an employment allocation into the Local Plan. This Technical Note has been prepared to examine the transport implications of developing the Wall Heath site to provide an employment development (B1/B2/B8 use) of circa 86,701 sqm.

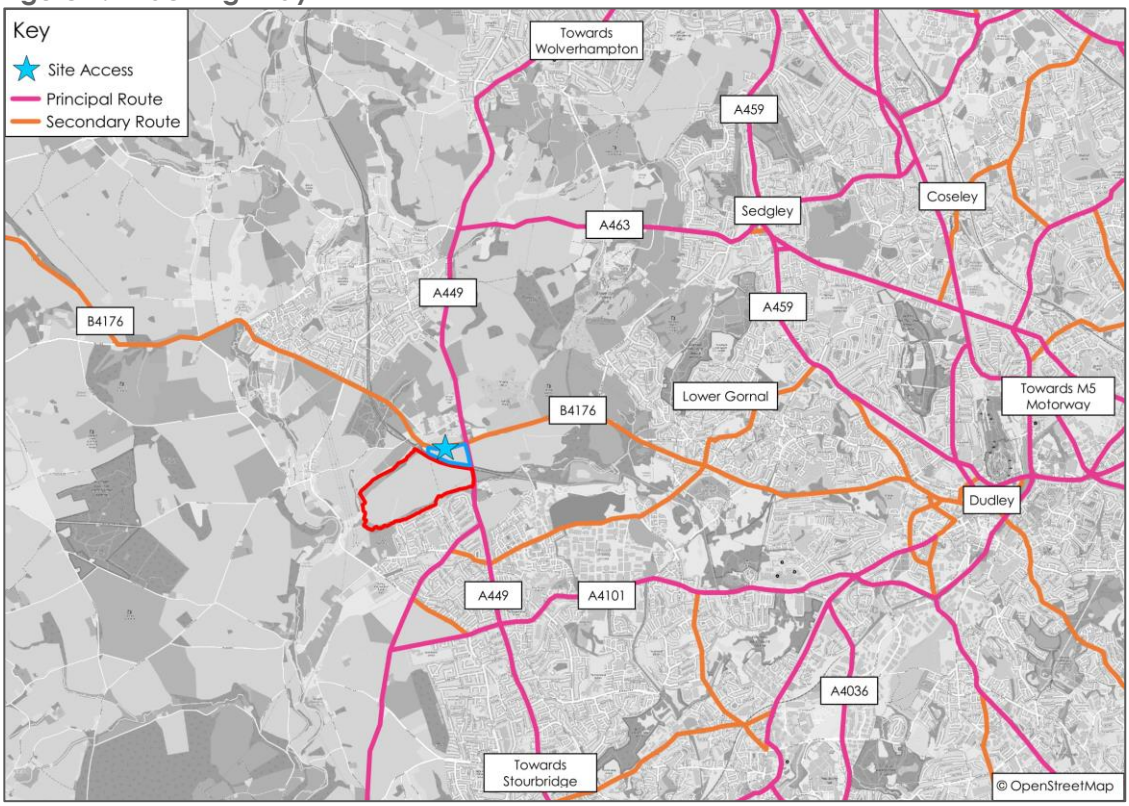
2 EXISTING CONDITIONS

2.1 The proposed site is located to the south of the B4176 and to the west of the A449 Wolverhampton Road. The A449 provides a link between Wolverhampton Centre to the north east and Kidderminster to the south west. The A449 continues past Wolverhampton and provides a link to the M54 motorway at junction 2 and subsequently provides access to the strategic highway network.

2.2 The B4176 provides a link between Dudley centre to the east of the proposed development and Telford to the northwest. The junction between the B4176 and A449 forms a four-arm signalised cross roads to the east of the proposed development site.

2.3 **Figure 1** shows the highway network around the proposed site.

Figure 1. Wider Highway



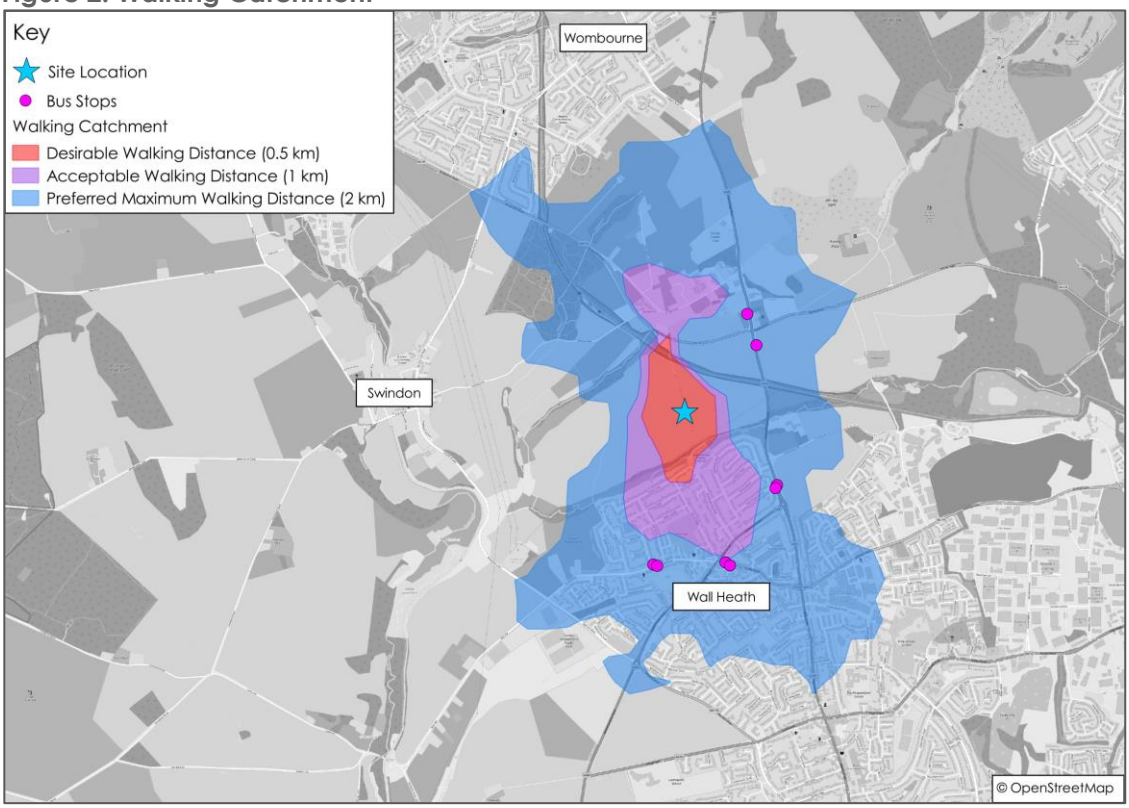
Sustainable Transport

2.4 A pedestrian footway is present on the northern side of the B4176 and the eastern side of Wolverhampton Road. The South Staffordshire Railway Walk intersects the site and routes towards Wombourne to the north and Gornal Wood to the east.

2.5 Bridleway 'Himley CP 6' routes north/south through the site between the B4176 to the north and the residential estate to the south in Wall Heath.

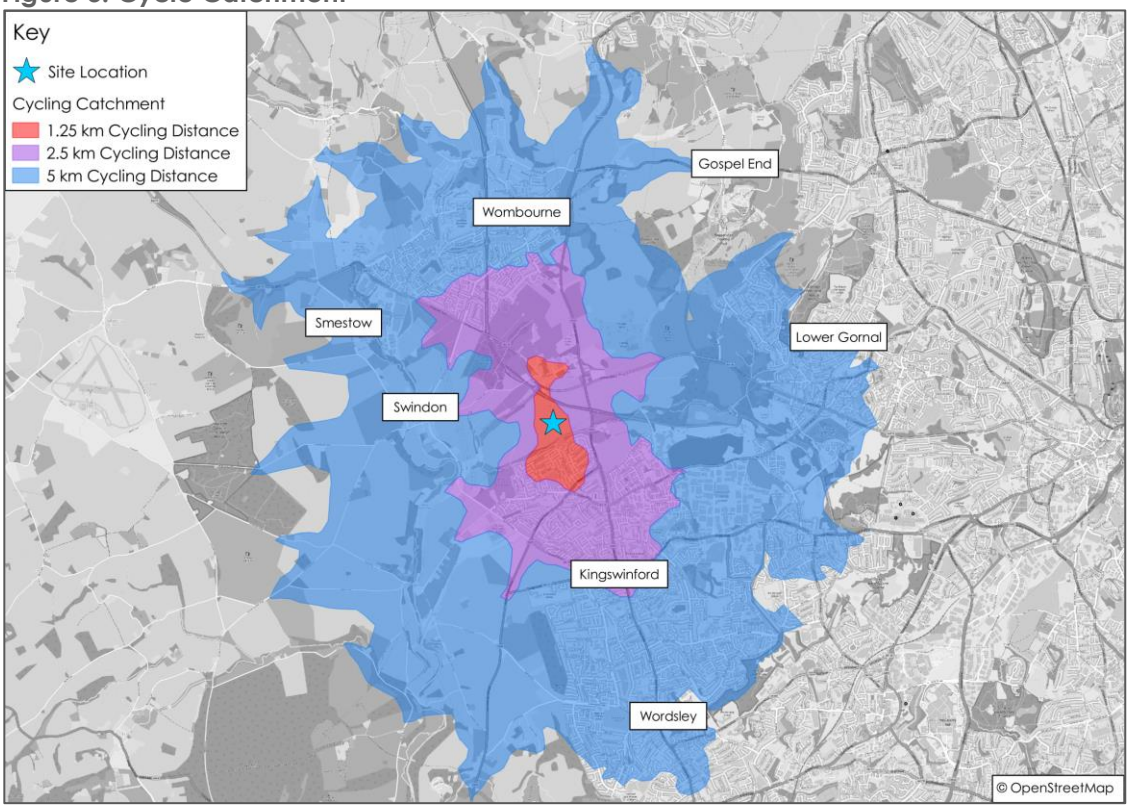
2.6 **Figure 2**Error! Reference source not found. shows a 2km walking catchment from the proposed development site that encompasses parts of Wall Heath to the south of the development site and extends towards Wombourne to the north.

Figure 2. Walking Catchment



2.7 **Figure 3** shows a 5km cycle catchment from the proposed development site that encompasses Wombourne to the north, Lower Gornal to the east, Kingswinford to the south and Swindon and Smestow to the west of the proposed development.

Figure 3. Cycle Catchment



2.8 The nearest bus stops to the site are located on The A449 Wolverhampton Road that are served by the service number 16 Wolverhampton to Stourbridge which is operated by National Express West Midlands (NXWM). This service operates on a half hourly frequency Monday to Saturday. In addition, the number 15 is located to the south of the site and operates between Wolverhampton and Merry Hill Shopping Centre. This service operates with a 15-minute frequency thought the day Monday to Saturday. An hourly service runs for both the 15 and 16 on a Sunday.

2.9 Both bus services route to Wolverhampton bus station which is within convenient walking distance of Wolverhampton Railway Station. The station provides regular services to and from Birmingham.

3 PROPOSED DEVELOPMENT

3.1 The proposed development site is located to the south west of Wolverhampton and west of Dudley, the development will provide approximately 86,701m² of employment development.

3.2 Primary vehicle access will be taken from the B4176 in the form of a three-arm signalised junction. Drawing **WAL-BWB-GEN-XX-DR-TR-100_S2_P1** shows the proposed new signalised junction access arrangement. A HGV vehicle tracking assessment has also been undertaken of the proposed access and can be seen in drawing **WAL-BWB-GEN-XX-DR-TR-110_S2_P1**.

3.3 Emergency accesses could potentially be achieved to the west of the proposed access on B4176 using the existing track, as well as via a left in/ left out arrangement on the A449 Wolverhampton Road to the east of the site if necessary, which could also form a secondary/bus only access.

3.4 Footway and cycleway links will be provided throughout the site to encourage active travel by the employees. These routes will also connect to the existing off-site infrastructure to allow pedestrian and cycle travel to off-site destinations. A detailed review of the walking and cycling infrastructure will be undertaken and improvements will be identified where required.

3.5 The existing bus services are located outside of convenient walking distance of some of the development parcels, and therefore a new or improved existing bus service may be required to ensure that all employees have the opportunity to travel by bus. A public transport strategy will be developed in consultation with the local bus companies and the local highway authority to identify the preferred option for serving the site. Options could include the extension of one of the existing services to loop through the site, either via an internal loop or by using two access points. Alternatively, a new service could be introduced which would route between the site and bus/railway stations at Stourbridge.

3.6 Both vehicle and cycle parking provision on site would be provided in accordance with the local parking standards.

4 TRIP GENERATION AND DISTRIBUTION

Introduction

4.1 To quantify the impact of the proposed development on the local transport system, the number of vehicle trips for all modes of transport that are likely to be generated by the development should be calculated. This section forecasts the likely trips generated by all modes for the proposed development

Vehicle Trip Generation

4.2 To calculate the forecast traffic generation for the proposed development

Table 1. Trip Rates

Land Use	AM			PM		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
All Vehicles						
B1	1.144	0.110	1.254	0.066	1.046	1.112
B2	0.301	0.083	0.384	0.023	0.151	0.174
B8	0.160	0.110	0.270	0.089	0.174	0.263
HGV's						
B1	0.004	0.003	0.007	0.000	0.002	0.002
B2	0.060	0.045	0.105	0.000	0.000	0.000
B8	0.047	0.057	0.104	0.056	0.042	0.098
Cars						
B1	1.140	0.107	1.247	0.066	1.044	1.110
B2	0.241	0.038	0.279	0.023	0.151	0.174
B8	0.113	0.053	0.166	0.033	0.132	0.165

4.3 A summary of the trip rates and generation is shown in **Table 2**.

Table 2. Trip Generation

	AM			PM		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
All Vehicles						
B1	201	19	220	12	183	195
B2	104	29	133	8	52	60
B8	55	38	93	31	60	91
Total	360	86	446	51	295	346
HGV's						
B1	1	1	2	0	0	0
B2	21	16	37	0	0	0
B8	16	20	36	19	15	34
Total	38	37	75	19	15	34
Cars						
B1	200	18	218	12	183	195
B2	83	13	96	8	52	60
B8	39	18	57	12	45	57
Total	322	49	371	32	280	312

4.4 The trip generation shown in **Table 2** displays that there will be approximately 446 two-way trips in the AM peak and 346 in the PM peak.

Modal Split

4.5 To provide a more accurate representation of the forecast modal split anticipated at the proposed development, the journey to work data for the daytime population of the middle super output area within which the site is located. The modal split data has been based on the 2011 census 'location of usual residence and place of work by method of travel to work' data MSOA 'Dudley 012' that contains the Pensnett Estate that is located approximately 2.4km to the southeast of the proposed development and provides a similar setting to the proposed development, a summary of the census data is provided in **Table 3**.

Table 3. Modal Split

Travel Mode	Percentage Share
Car Driver	76.46%
Car Passenger	6.75%
Motorcycle, Scooter or Moped	1.26%
Train	0.36%
Bus	6.34%
Bicycle	2.38%
On Foot	5.98%
Other	0.47%
Total	**100.00%**

Source: Nomis – Office for National Statistics

4.6 **Table 3** indicated that currently approximately 83.2% of trips are made by private car with 6.7% made by public transport and 8.4% are walking/ cycling trips.

Person Trips

4.7 The modal splits presented in **Table 3** have been combined with the vehicle trip generation to calculate the two-way person trips associated with the proposed site, shown in **Table 4**.

Table 4. Multi-Modal Trip Generation

Mode	AM Peak 08:00 – 09:00			PM Peak 17:00 – 18:00		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
Car Driver	322	49	371	32	280	312
Car Passenger	28	4	32	3	25	28
Motorcycle	5	1	6	1	5	6
Train	2	0	2	0	1	1
Bus	27	4	31	3	23	26
Bicycle	10	2	12	1	9	10
On Foot	25	4	29	3	22	25
Other	2	0	2	0	2	2
Total	421	64	485	43	367	410

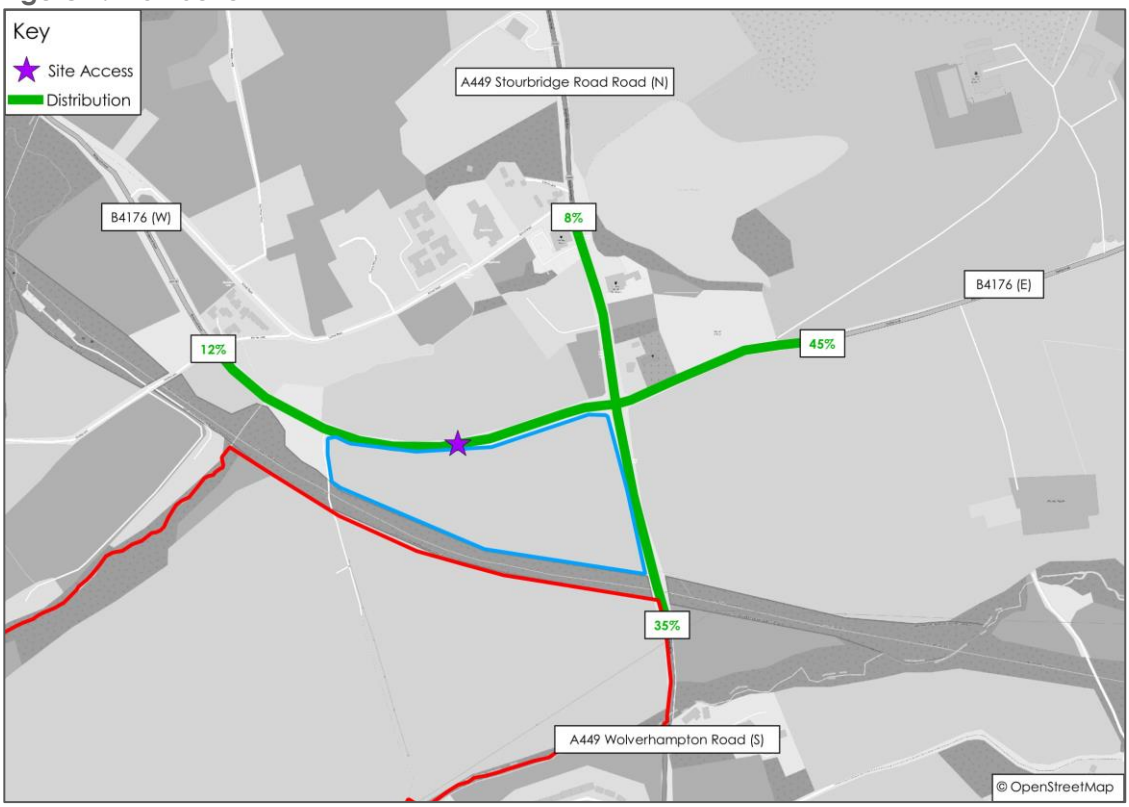
4.8 The trip generation assessment indicated that there will be a combined total of 41 two-way trips for pedestrians and cyclists in the morning peak and 35 two-way trips in the evening peak hours. This results in approximately one walking/cycling trip every minute during the morning and evening peak hours.

4.9 In terms of public transport, a total of 31 two-way bus trips are forecast in the morning and 26 two- way trips in the evening peak hour, in addition to 2 two-way rail trips in the morning and 1 in the evening peak hour.

Distribution

4.10 Trip distribution patterns have been based on the 2011 census 'location of usual residence and place of work by method of travel to work' data MSOA 'Dudley 012'. The origins for all vehicle trips to the area were separated from the data and a percentage demand was derived for all of the destination for light vehicle driver trips using the most appropriate routes from each zone. **Figure 4** details the resultant local highway distribution.

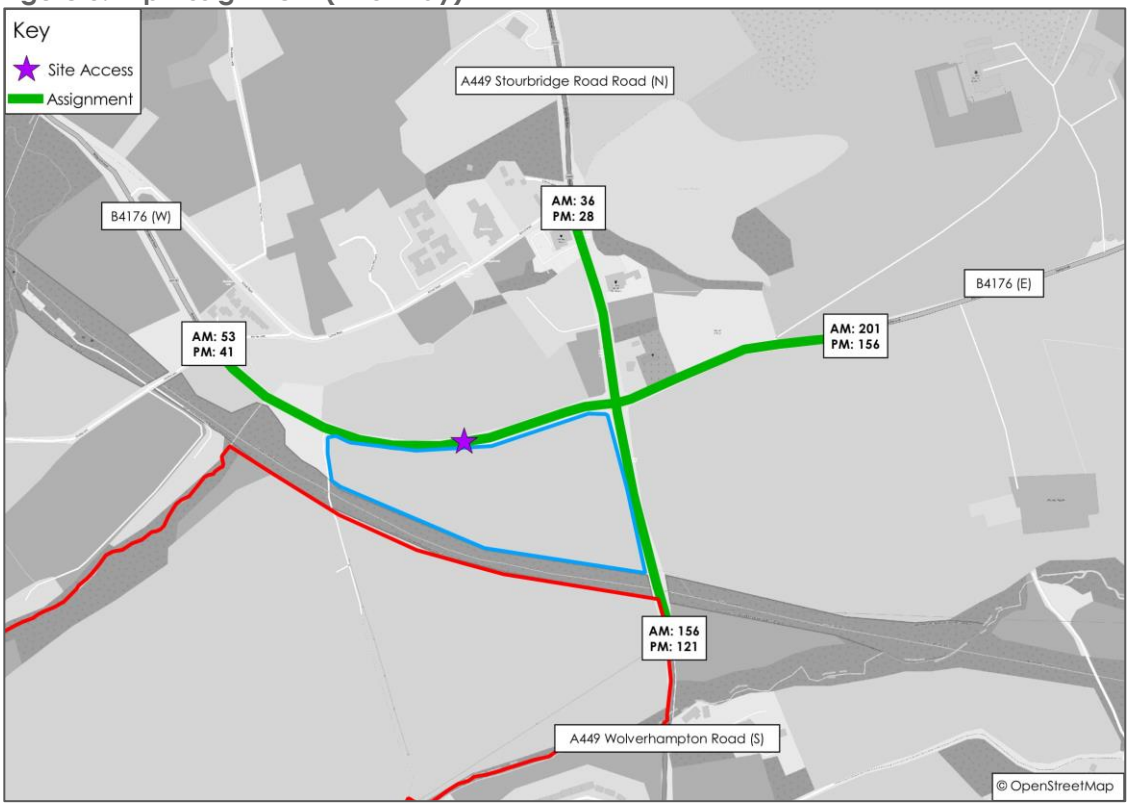
Figure 4. Distribution



Source: 2011 Census Data

4.11 As shown in **Figure 4** it is expected that 8% of trips will travel north on the A449 Stourbridge Road, 45% will use the B4176 to the east of the proposed development, 35% travel south on the A449 Wolverhampton Road and 12% travel west on the B4176. **Figure 5** shows the trip assignment onto the network.

Figure 5. Trip Assignment (Two-Way)



4.12 As shown in **Figure 5** it is expected that 36 two-way trips will travel to/from the north on the A449 Stourbridge Road in the AM peak with 28 in the PM peak, 201 trips will use the B4176 to/from the east of the proposed development in the AM with 156 trips in the PM, 156 trips will travel to/from the south on the A449 Wolverhampton Road in the AM peak with 121 trips in the PM peak and 53 trips travel to/from the west on the B4176 in the AM peak and 41 trips in the PM peak.

5 CONCLUSION

5.1 BWB Consulting (BWB) has been instructed to prepare a Technical Note to examine transport implications of developing a site to the north of Wall Heath to provide an employment development of circa 86,701 sqm.

5.2 The trip generation assessment forecast a total of 41 two-way trips for pedestrians and cyclists in the morning peak hour and 35 in the evening peak hour (08:00 – 09:00 and 17:00 – 18:00). The trip generation assessment has also estimated a total of 371 two-way trips for car drivers in the morning peak period and 312 two-way trips in the evening peak period.

5.3 Vehicular access to the proposed development is to be taken from a new 3-arm signalised junction on the B4176. Emergency accesses could potentially be achieved to the west of the proposed access on B4176 using the existing track and via a left in/ left out arrangement on the A449 Wolverhampton Road to the east of the site.

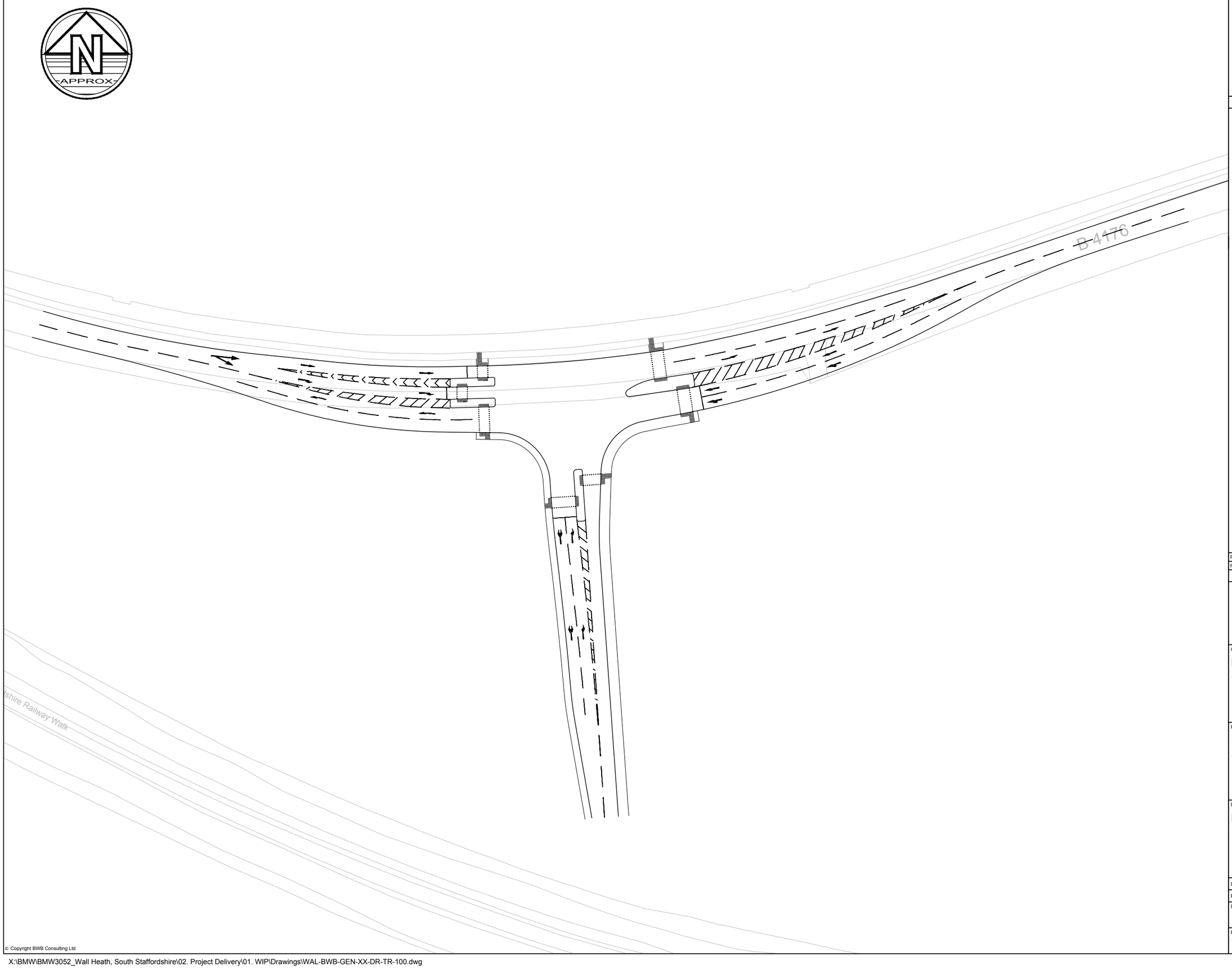
5.4 It should be noted that at this stage, this assessment has been produced to address the feasibility of the development site to inform the Local Plan. However, a Transport Assessment would also be produced as part of any future planning application which

would present a more detailed assessment once the development composition is confirmed.

5.5 In conclusion, this highways report has detailed the existing and potential future conditions and impacts of the proposed development. Subsequently, there are no transport reasons as to why the site should not be allocated for employment use.

BETTER SOLUTIONS, INTELLIGENTLY ENGINEERED

DRAWINGS



Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Legend

Rev	Date	Details of issue / revision	Drw	Rev
P1	06.11.19	PRELIMINARY ISSUE	CC	AJO

Issues & Revisions

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Client

HARRIS LAMB PROPERTY CONSULTANCY

Project Title

WALL HEATH, SOUTH STAFFORDSHIRE

Drawing Title

PROPOSED ACCESS ARRANGEMENT

Drawn:	C. Cresswell		Reviewed:	AJ. Oakes	
BWB Ref:	BMW3052	Date:	06.11.19	Scale@A3:	1:1000

Drawing Status

PRELIMINARY

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
WAL-BWB-GEN-XX-DR-TR-100	S2	P1

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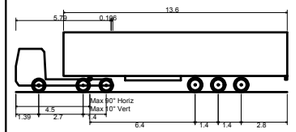

Max Legal Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.396m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

Rev	Date	Details of issue / revision	Drw	Rev
P1	06.11.19	PRELIMINARY ISSUE	CC	AJO

Issues & Revisions

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Project Title

WALL HEATH, SOUTH STAFFORDSHIRE

Drawing Title

SWEPT PATH ANALYSIS - 16.5m ARTICULATED VEHICLE

Drawn:	C. Cresswell		Reviewed:	AJ. Oakes	
BWB Ref:	BMW3052	Date:	06.11.19	Scale@A3:	1:1000

Drawing Status

PRELIMINARY

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
WAL-BWB-GEN-XX-DR-TR-110	S2	P1

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