

**Turley for IM Properties Matter 7D Submission – Information Requested by the Inspector re Access to Land East of Cromwell Lane (Burton Green)**

At yesterday's EIP session regarding Land to the east of Cromwell Lane (Burton Green), we agreed to provide the Inspector with confirmation that the proposed access design into the site was agreed in principle with the County Council, and to respond to a query in respect of our submitted highways information. I set out our response to each of these points below.

**Access Design**

Unfortunately, the team have been unable to locate an email from Mr Simm relating specifically to the access agreement, however, I can confirm that this was discussed with our client's highways advisors at a meeting on 20 October with Warwickshire County Council highways team. At this meeting Mr Simm verbally confirmed that the proposed layout was acceptable. I trust that this provides sufficient comfort at this stage – we would be pleased to liaise again with the County Council to get written confirmation regarding the access design if the Inspector considers it would be helpful.

**Traffic Distribution**

The Inspector queried yesterday the relationship between the 12 STA Highways Link Locations (p. 7 of the M-EC statement), Table 3 contained within the M-EC statement, and paragraph 52 of the conclusion section of the Statement (which referred to Westwood Heath Road).

Having reviewed their document, M-EC have confirmed that their reference to 'Westwood Heath Road' was a drafting error, and should have referred instead to 'Crackley Lane'. This amendment has been made, and re-submitted to the County Council. Email confirmation of their agreement to the amendment is attached. There was also a formatting error in the document, and the correct paragraph reference (5.4) has now been applied.

We discussed at the Examination yesterday, that by providing an access onto Cromwell Lane, traffic heading south is likely to turn left and travel along Red Lane, rather than right along Westwood Heath Road and Crackley Lane. As we heard on Tuesday, the two main concerns to the County Council in terms of limiting capacity are

Crackley Lane and Gibbets Hill Road. As set out within the attached statement, the distribution of traffic from the development of land to the east of Cromwell Lane would therefore not severely impact on these two links.

As confirmed by Warwick District Council yesterday, Warwickshire County Council have confirmed that the land to the east of Cromwell Lane could be brought forward alongside allocation H42, without the need for the A46 link road to be provided.

The modelling undertaken for the land to the east of Cromwell Lane has been undertaken on the same basis as that for site H42, which is currently proposed for allocation through the Council's modifications.

I trust that the above provides the Inspector with suitable clarification at this stage. Should there be any further queries, please do not hesitate to contact myself or Kathryn Young.

Kind regards

Angela

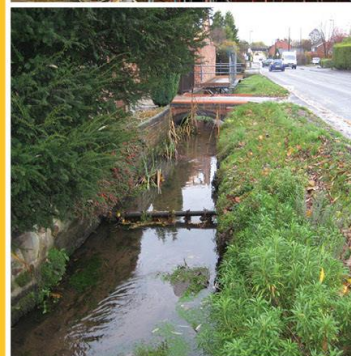


**PROPOSED RESIDENTIAL DEVELOPMENT SITE,  
CROMWELL LANE, COVENTRY**

**HIGHWAYS AND TRANSPORTATION  
TECHNICAL REPORT**

**NOVEMBER 2016**

**REPORT REF: 22407/11-16/4599**



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CROMWELL LANE, COVENTRY**

**HIGHWAYS AND TRANSPORTATION  
TECHNICAL REPORT**

**NOVEMBER 2016**

**REPORT REF: 22407/11-16/4599**

CLIENT: IM Properties PLC

ENGINEER: Mewies Engineering Consultants  
The Colmore Building  
20 Colmore Circus Queensway  
Birmingham  
B4 6AT

Tel: 0121 2624045  
Email [group@m-ec.co.uk](mailto:group@m-ec.co.uk)

Report Prepared By:



.....  
Neil Benison BSc. IEng MICE

Report Checked By:



.....  
Alexander Bennett BSc Hons, MCIHT MTPS

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## **1.0 INTRODUCTION**

- 1.1 Mewies Engineering Consultants Ltd (M-EC) has been commissioned by IM Properties PLC to produce a Technical Report to support a proposed residential development of up to 130 dwellings at Cromwell Lane, Coventry. A site location plan is contained in Appendix A.
- 1.2 This note has been produced to examine the suitability of the site to be removed from the Green Belt and allocated/safe-guarded in the Warwick District Local Plan. This report will deal with matters raised in Warwickshire County Councils (WCC) Final Strategic Transport Assessment and also includes an assessment of the potential traffic generated by the development proposal and its distribution on the local highway network.
- 1.3 M-EC has completed this report for the benefit of the individuals referred to in paragraph 1.1 and any relevant statutory authority which may be require reference in relation to approvals for the proposed development. Other third parties should not use or rely upon the contents of this report unless explicit written approval has been gained from M-EC.
- 1.4 M-EC accepts no responsibility or liability for:
- a) The consequence of this documentation being used for any purpose or project other than that for which it was commissioned;
  - b) The issue of this document to any third party with whom approval for use has not been agreed.

## **2.0 SITE DESCRIPTION**

- 2.1 The development site is currently greenfield land and is located approximately 1.2km north-east of Burton Green village centre, and approximately 6.5km south-west of Coventry City centre. The site is located adjacent to the rear of existing residential properties on Cromwell Lane to the west and Westwood Heath Road to the north. Land to the eastern and southern boundary of the site comprises arable land. The site location can be found in Figure 1.
- 2.2 There is an existing field access into the site from Cromwell Lane. Public Right Of Way (PROW) W168 runs through the centre of the site, with PROW W168b running parallel to the eastern boundary.
- 2.3 The Cromwell Lane site sits adjacent to a proposed Housing Allocation known as Westwood Heath (H42).
- 2.4 The proposed development will comprise up to 130 dwellings with access taken from Cromwell Road.

### 3.0 STRATEGIC TRANSPORT ASSESSMENT

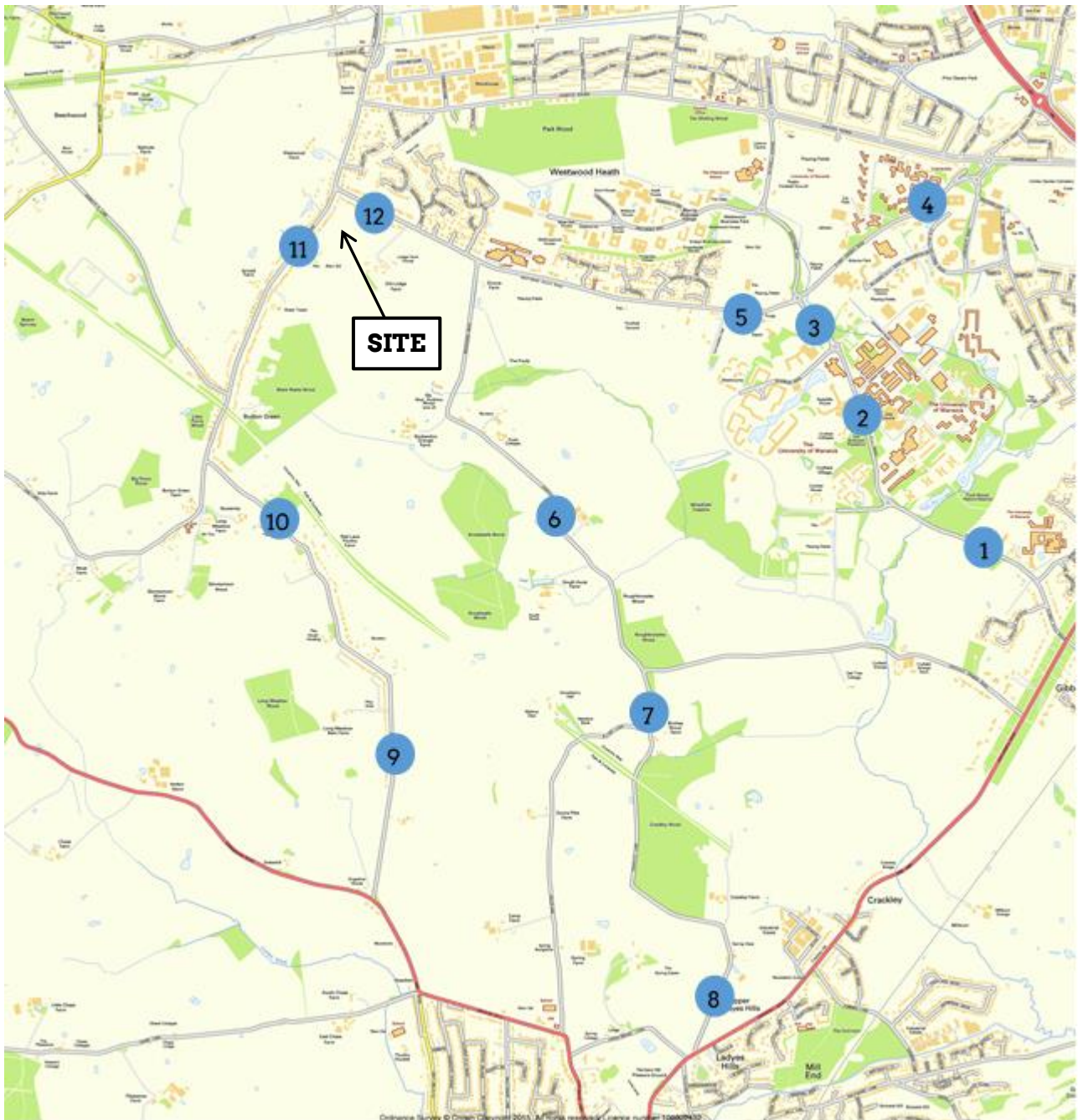
- 3.1 WCC have prepared a number of Strategic Transport Assessments (STA), during the progression of the Warwick District Local Plan process, assessing initially multiple options for allocating housing across the District, and in latter phases more detailed modelling of preferred options.
- 3.2 This culminated in the Final Phase STA being submitted, February 2016, as an Assessment of Additional Housing Allocations, specifically the Westwood Heath and Kings Hill areas.
- 3.3 In previous iterations of the STA microsimulation modelling has been used to inform the assessments. The existing Wide Area Paramics models do not cover the areas of Westwood Heath or Kings Hill, therefore a supplementary analysis had been undertaken for the area using the best available information.
- 3.4 Appendix A of the 2016 STA provides a supplementary analysis of the likely impact the sites, currently proposed in Westwood Heath and Kings Hill, will have on the highway network. The site in Westwood Heath is adjacent to the proposed development site with access onto Westwood Heath Road. Discussions with WCC have indicated a generic development area was assessed with no consideration to different access points such as Cromwell Road and how this would impact distribution across the network.
- 3.5 Twelve highway link locations were identified in close proximity to the sites, to offer comparisons of how links, around the surrounding network, may be affected as a result of the developments. The links identified included Westwood Heath Road, Crackley Lane, Cromwell Lane, Kirby Corner Road and Gibbet Hill Road. Figure 2 below identifies the 12 highway link locations.
- 3.6 Four separate development scenarios were used, using an incremental development quantum, in an effort to test an acceptable level of development before major mitigation would be required on the network. The development scenarios can be found in Table 1.

**Table 1: Additional Assessment Dwelling Scenarios**

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Westwood Heath	425	850	1175	1500
Kings Hill	1050	2100	3050	4000



**Figure 2: STA Highway Link Locations**



3.7 The STA uses three methods of assessing the impact of traffic flows on the surrounding network:

- 1) Absolute value measuring increases of flows on the individual links;
- 2) GEH statistics to measure the significance of the increase; and
- 3) Link capacity.

- 3.8 The assessments indicated that Crackley Lane and Gibbet Hill Road are the most congested roads during the AM peak. Even in Scenario 1 of the assessment, Crackley Lane is over capacity on links 6 and 7 and by Scenario 2, Crackley Lane is overcapacity on all links, 6, 7 and 8.
- 3.9 Therefore, it was considered by WCC that no more than 425 dwellings could be accommodated on Westwood Heath Road, without exceeding the capacity of Crackley Lane, unless significant mitigation measures could be delivered. WCC have indicated through further discussions that these significant highway improvements will take the form of an A46 Link Road which will eventually link the A46 to either the A45 or A452 across 3 implementation phases. A note prepared by WCC and submitted to the Local Plan examination can be found in Appendix B of this report.

**4.0 PROPOSED SITE IMPACT**

4.1 This section considers the number of vehicular trips the proposed development will generate during the AM and PM peak hour and how this will impact the local highway network and the sensitive receptors identified within the STA.

4.2 An analysis of the trip rates from the TRICS7 database has been undertaken with trips obtained for ‘Residential – Houses Privately Owned’ (03/A). The TRICS assessment has been agreed with WCC.

4.3 A summary of the trip rates are provided in Table 2 below with a summary of the TRICS7 results provided within Appendix C.

**Table 2: Trip Rate Analysis for the Proposed Development**

TRICS Land Use Category		AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
		Arrivals	Departures	Arrivals	Departures
Proposed Development: Residential/Houses Privately Owned	Trip Rates per unit	0.183	0.464	0.424	0.226
	130 Dwellings	24 trips	60 trips	55 trips	29 trips
	Total trips	84 trips		84 trips	

4.4 The proposed development will generate approximately 84 vehicular trips during the AM and PM peak hours. This equates to an additional 1.4 vehicular trips being generated approximately every minute, during the peak hours.

4.5 Census data has been used to assess the direction that vehicles will travel to/from the development site with access taken from Cromwell Lane. Appendix D provides a full copy of the vehicle distribution results, which have been agreed with WCC. Table 3 below provides the results of the vehicle distribution assessment, in line with the STA Highway Link Locations (Figure 2). The STA Highway Link Locations 6, 7 and 8 are the Crackley Lane route.

**Table 3: Vehicle Distribution Results in connection with STA Highway Link Locations**

Number	AM Peak			PM Peak		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1	7	18	25	16	8	24
2	7	18	25	16	8	24
3	7	18	25	16	8	24
4	1	2	3	2	1	3
5	8	21	29	19	9	28
6	0	1	1	1	1	2
7	0	1	1	1	1	2
8	0	1	1	1	1	2
9	4	10	14	9	5	14
10	4	10	14	9	5	14
11	24	60	84	55	29	84
12	8	22	30	20	10	30

4.6 The results demonstrate that during the AM peak hour, 1 additional vehicular trip will be generated along Crackley Lane as a result of the proposed development. During the PM peak hour, 2 additional vehicular trips will be generated along Crackley Lane.

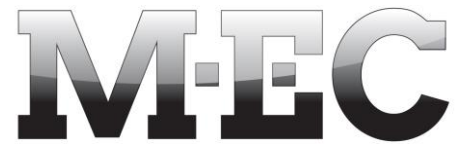
4.7 On the basis of the above, the number of additional vehicular trips generated along Crackley Lane as a result of the proposed development cannot be considered to be significant or severe and will have a negligible impact on the capacity and operation of Crackley Lane.

## **5.0 CONCLUSIONS**

- 5.1 This report has reviewed the most recent Strategic Transport Assessment work completed by WCC for Warwick Local Plan and considered the impact of the proposed development off Cromwell Road on key receptors identified within the STA.
- 5.2 The key link with the STA is Crackley Lane where highway capacity is limited and WCC have identified a cap on development numbers in the local area to 425 dwellings prior to the implementation of significant highway infrastructure. This infrastructure is likely to take the form of an A46 Link Road.
- 5.3 A detailed assessment of the likely distribution patterns from the proposed development shows the development will have a negligible impact on Crackley Lane within only 1 additional vehicle in the AM peak and 2 movements in the PM Peak. As Crackley Lane is a limiting factor on the highway network, the positioning of the site access onto Cromwell Lane, rather than Westwood Heath Road has a positive impact on the distribution of traffic. Movement south of the Cromwell Lane site will go via Red Lane which is a more appropriate route.
- 5.4 The evidence put forward in this report shows that the ceiling of 425 dwellings on land to the south of Coventry is overly conservative and is not sufficiently detailed. On that basis M-EC feel there is no reason why the Cromwell Lane site could not be added to the draft local plan site allocations proposed in the Westwood Heath Area, as it would have minimal impact on the surrounding Highway Network and would contribute to WCC's mitigation strategies for the area.

## **APPENDIX A**

**M-EC**  
**Wellington House**  
**Leicester Road**  
**Ilstock**  
**Leicestershire**  
**LE67 6HP**



## **SITE LOCATION PLAN**

**Project:** CROMWELL LANE, COVENTRY

**File Ref:** 22407

**O.S. Grid Ref:** 427460, 276625

**Postcode:** CV4 8AN



**APPENDIX B**



# **Warwick District Council Local Plan Examination**

**Matter 7c: Proposed housing site allocations, safeguarded land and direction for growth  
(Edge of Coventry)**

**Written Statement by Warwickshire County Council  
A46 Link Road**

**November 2016**



## 1. Purpose of the Statement

The purpose of this statement is to provide the Local Plan Inspector and those attending the Examination in relation to Matter 7c with details of the proposed A46 Link Road. It is not designed to form a rebuttal to any individual representations which have been made in response to the questions posed by the Inspector on Matter 7c.

## 2. Context

Warwickshire County Council, in conjunction with Coventry City Council and Warwick District Council, is exploring ambitious proposals to ensure that the sub-region and its economy continues to benefit from a high quality transport network which supports access to jobs, improved business to business connectivity and sustainable housing and employment growth. Solihull Metropolitan Borough Council is joining with its Coventry and Warwickshire partners to explore these proposals.

Coventry and Warwickshire has the fastest growing economy within the West Midlands. Infrastructure investment is needed in key corridors such as the A45 and A46 to provide the conditions for businesses to continue to invest in the area. An efficient transport network with sufficient capacity and resilience is key to maintaining and supporting future growth.

The current major investment at Tollbar End near Coventry on the A45/A46 along with committed improvements at Binley (A46/A428) and Stanks near Warwick (A46/A425/A4177) demonstrate the importance of this corridor to the sub-regional economy. There is also an aspiration over time to see the A46 become an 'Expressway' between the M6/M69, M40 and M5.

In response to the need for sustained investment in the corridor Warwickshire County Council, Coventry City Council and Warwick District Council are promoting, and discussing with Solihull Metropolitan Borough Council, a three-stage scheme known as the A46 Link Road. This has in principle support from a number of stakeholders including the Coventry and Warwickshire Local Enterprise Partnership, Highways England, the University of Warwick, Stoneleigh Park and the West Midlands Combined Authority.

## 3. The Scheme

The A46 Link Road proposal consists of three phases:

**Phase 1** of the Link Road will see a major improvement implemented at the Stoneleigh junction on the A46 between Coventry and Kenilworth to form a gyratory layout with two bridge roundabout. This will involve installing a new bridge to the east of the existing junction and realigning Stoneleigh Road and Dalehouse Lane. These revised arrangements will help address existing congestion and safety issues at the junction whilst also improving access to the University of Warwick and Stoneleigh Park. As noted earlier, the scheme will also bring benefits to local communities during the construction of HS2.

Phase 1 of the scheme is currently in the process of being designed, with planned delivery by mid-2019 ahead of the anticipated peak of HS2 construction activity in the Kenilworth and Stoneleigh area around 2019/20. A planning application is due to be submitted for Phase 1 in 2017/18, with public consultation to follow later that year. The majority of the funding required for Phase 1 is due to come through Growth Deal monies which were originally secured to fund a major improvement at the A45/Kenilworth Road junction. The County Council and Coventry City Council are in discussion with DfT to formally agree the reallocation of this funding to deliver the improvements at the A46 Stoneleigh junction. This process is expected to conclude early in 2017. Any balance of funding which is required for the scheme is expected to be met from S106/CIL monies or locally held capital funds. A contribution from HS2 Ltd may also be sought.

**Appendix A** shows the emerging design for Phase 1 of the Link Road. This should be treated as work in progress at this stage.

**Phase 2** would deliver a step-change in accessibility to the University of Warwick and the surrounding Business Parks and other employment areas through the provision of a new road linking the A46 at Stoneleigh with Westwood Heath via the A429 Kenilworth Road. This infrastructure will support the University of Warwick's emerging revised masterplan along with any longer term housing and employment proposals for the area (including the land identified under Policy DSNEW2 – Site S1 (South of Coventry) within the Local Plan). It will also help reduce the inappropriate use of minor roads within the area (e.g. Crackley Lane) for traffic wishing to access the University and its environs. Discussions are progressing well to secure funding from national/regional transport funds and contributions from other stakeholders. This includes a bid to the Department for Transport which has been made for development funding to progress Phase 2 of the scheme, an announcement on which is due to be made in November 2016 as part of the Chancellor's Autumn Statement.

Phase 2 is at an earlier stage of development than Phase 1, with no firm date for its implementation. Work undertaken to date has focussed on initial optioneering, modelling and feasibility design. The current aspiration is to see Phase 2 delivered around 2022/23. This will be dependent on funding, land acquisition and other statutory processes.

**Phase 3** This phase would fall in Solihull Metropolitan Borough Council's area, with a link from Phase 2 of the scheme towards either the A45 or A452. This element of the project is currently at an early exploratory stage. The aim of Phase 3 will be to enhance connectivity between the Coventry and Warwickshire sub-region and the economic opportunities afforded by UK Central in Solihull. It would necessarily be dependent on successful delivery of Phases 1 and 2. Like Phase 2, there is no firm date for the implementation of Phase 3, but the aspiration at present is to see this come forward around 2026 or soon after.

Funding for this element of the project could come from a number of sources, including WMCA Devolution Deal monies, Highways England/Road Investment Strategy and whatever funding mechanisms are put in place to help deliver the Midlands Connect Strategy.

#### **4. Strategic Case**

The strategic case for the A46 Link Road project aims to address seven key imperatives:

##### *(i) Improved access to the University of Warwick and Stoneleigh Park*

There is an emerging need to improve local and strategic connectivity from the Coventry and Warwickshire sub-region to the University of Warwick and the key employment sites in its vicinity, in order to support the substantial committed and planned growth of this area over the next 10-15 years. Current access is constrained by the need to travel through already congested networks and residential areas within south west Coventry and parts of Warwickshire. A number of important research facilities such as the National Automotive Innovation Centre (NAIC) are located at the University which have strong links to the priority sectors identified within the Coventry and Warwickshire Strategic Economic Plan. The success of the recent South West Coventry Local Pinch Point scheme improvements, particularly at the junction of A429 Kenilworth Road/C32 Stoneleigh Road have put increasing pressure on the A46 at Stoneleigh, which further supports the need to progress Phase 1 of the project in conjunction with the development proposals contained within the Local Plan.

The improvements to the A46 Stoneleigh junction will also support the ongoing delivery of the Stoneleigh Park masterplan through a substantial improvement in access to/from the strategic road network.

##### *(ii) Delivering wider A46 Corridor Growth*

Major employment growth is either committed or planned more widely along the A46 corridor, including Fen End, Whitley South, Coventry Airport, Ryton and Ansty. There are also a number of significant housing developments proposed within the Warwick District Local Plan around Kenilworth and parts of south west Coventry, which based on the evidence provided within the County Council's Strategic Transport Assessment will require Phase 1 of the Link Road to be delivered within the Plan period.

The A46 provides the glue which links these various areas together both locally and more widely across the sub-region, providing key business to business connectivity for companies such as Jaguar Land Rover and its supply chain. Within this context, it is vital that key junctions such as Stoneleigh are fit for purpose.

##### *(iii) A45 Corridor Congestion Reduction and Growth*

Coventry City Council has recently delivered a comprehensive package of Local Pinch Point capacity improvements at key junctions along and in the vicinity of the A45 corridor. In the case of the A45/A429 Kenilworth Road junction, the Pinch Point improvements were originally only envisaged to provide short term relief, with grade separation of the junction expected to be necessary in the future in order to provide continuing long term congestion and growth benefits to this area of the city and wider sub-region.

The proposed A46 Link Road will reduce the need for any further major improvements to A45/A429 Kenilworth Road for the foreseeable future, as Phases 1 and 2 of the A46 Link Road are expected to deliver similar or greater benefits in terms of congestion reduction and growth to the A45 corridor. This will allow sustainable growth to come forward in future Local Plans in both the city and adjoining area of Warwick District.

*(iv) Improved access to HS2 and UK Central*

Delivery of the A46 Link Road will provide an opportunity to significantly improve east-west connectivity to/from the Coventry and Warwickshire area, by enabling growth sites improved access to the A46 and the wider strategic road network. Good links with the substantial economic opportunities which will arise from the opening of the HS2 interchange in 2026 and the wider UK Central proposals are vital if the sub-regional economy is to maximise the benefits from these developments. Good connections to Birmingham Airport and the National Exhibition Centre along with other key existing employment sites such as Jaguar Land Rover's plant in Solihull are also important given the interactions these have with similar business activities which take place within Coventry and Warwickshire at Whitley, Gaydon and Fen End.

*(v) Delivering the A46 'Expressway'*

The Expressway concept promoted through the Government's 'Road Investment Strategy 2015/16 – 2019/20' (RIS1)<sup>1</sup> for certain sections of the trunk road network envisages a motorway standard experience for users, with dual carriageway provision and grade-separated junctions.

Major capital investment in the A46 has taken place over the last 10 years, including improvements at M40 Junction 15 (Longbridge) and A45/A46 Tollbar End/Stivichall. Further works are committed in RIS1 at A46/A428 Binley and A46/B4082 Walsgrave, and at A46/A425/A4177 Stanks as a result of Growth Deal monies and other local funding. These improvements will all contribute towards the delivery of the A46 as an Expressway between the M6/M69, M40 and M5. The proposed improvements to the A46/C32 Stoneleigh junction (Phase 1 of the A46 Link Road) are consistent with the Expressway concept. As such, Highways England is supportive and engaged in this element of the overall scheme.

*(vi) Maintaining Network Performance during HS2 Construction*

Phase 1 of the A46 Link Road will provide resilience and flexibility to this part of the network during the construction of HS2, thereby helping to maintain the performance of the local and sub-regional economy. Assurances with HS2 Ltd have been secured by the County Council through the Hybrid Bill process to ensure that Phase 1 of the project can progress in parallel with HS2 construction activity in this area.

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<sup>1</sup> Department for Transport 'Road Investment Strategy for the 2015-16 – 2019/20 Road Period' (March 2015) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/408514/ris-for-2015-16-road-period-web-version.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/408514/ris-for-2015-16-road-period-web-version.pdf)

*(vii) Delivering Strategic Resilience to the Midlands Motorway Hub*

There is an emerging recognition of the need to look at the medium/long term interventions which will be required to support the strategic resilience of the Midlands Motorway Hub (M5/M6/M42). The recent Midlands Connect 'Picking up the Pace'<sup>2</sup> report and emerging Midlands Connect Strategy refers to the role which a substantially improved A5 and A46 could play in achieving this. Delivery of Phases 1, 2 and 3 of the A46 Link Road will provide a significant new east-west route which could potentially help complement and provide resilience to the M40, M42 and M6 within the Coventry/Warwickshire/Solihull area.

## **5. Governance**

It is vital for a project of this scale and nature to be underpinned by clear governance to oversee the development and delivery of the scheme and make key decisions in a timely fashion.

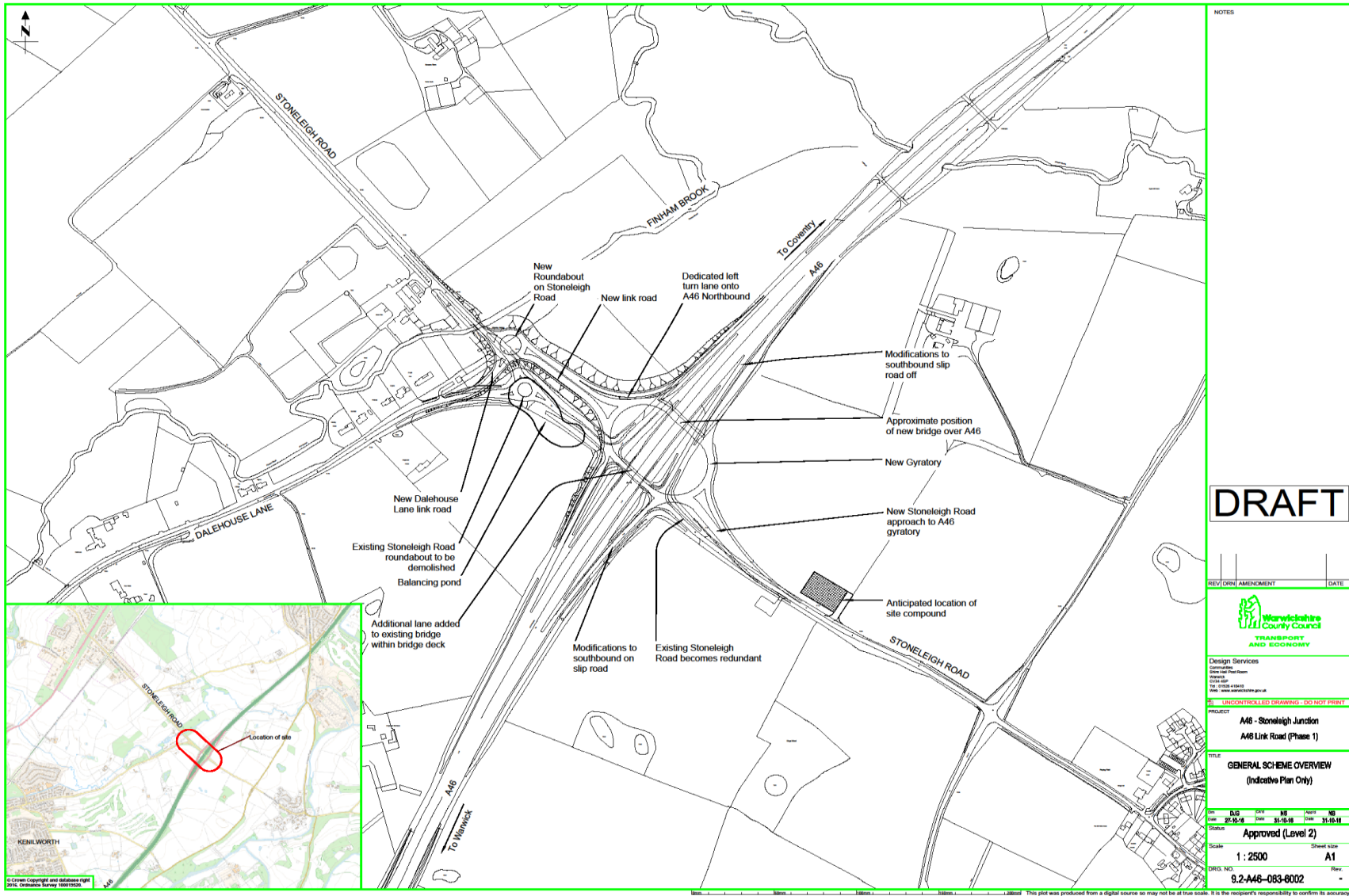
With this in mind, a Strategic Programme Board for the A46 Link Road project has been established with officer representation at a senior level from Warwickshire County Council, Coventry City Council and Warwick District Council. Solihull Metropolitan Borough Council is also attending these meetings with a watching brief. A Senior Member Board is in the process of being set up in line with the wider governance arrangements for the project.

Adrian Hart  
Team Leader – Strategic Transport Policy and Projects  
Warwickshire County Council

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<sup>2</sup> Midlands Connect 'Picking up the Pace' Report (July 2016)  
[https://www.midlandsconnect.uk/media/1070/mc\\_picking-up-the-pace\\_report\\_110716\\_final.pdf](https://www.midlandsconnect.uk/media/1070/mc_picking-up-the-pace_report_110716_final.pdf)

# Appendix A – A46 Link Road Phase 1 (Stoneleigh)



## **APPENDIX C**



## TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	SC SURREY	1 days
03	SOUTH WEST	
	DC DORSET	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	SY SOUTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	2 days
	GM GREATER MANCHESTER	1 days
	MS MERSEYSIDE	1 days
09	NORTH	
	CB CUMBRIA	1 days
10	WALES	
	PS POWYS	1 days
11	SCOTLAND	
	EA EAST AYRSHIRE	1 days

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

## Filtering Stage 2 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: 15 to 237 (units: )  
 Range Selected by User: 15 to 400 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 12/11/15

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	2 days
Wednesday	4 days
Thursday	4 days
Friday	1 days

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

Selected survey types:

Manual count	13 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 undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	8

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	12
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

C3	13 days
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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	5 days
10,001 to 15,000	3 days
15,001 to 20,000	3 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	1 days
50,001 to 75,000	1 days
75,001 to 100,000	4 days
100,001 to 125,000	2 days
125,001 to 250,000	1 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	9 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	13 days
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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.

LIST OF SITES relevant to selection parameters

1	CB-03-A-03 SEMI DETACHED HAWKSHEAD AVENUE  WORKINGTON Edge of Town Residential Zone Total Number of dwellings: 40 Survey date: THURSDAY 20/11/08	CUMBRIA	Survey Type: MANUAL
2	CH-03-A-05 DETACHED SYDNEY ROAD SYDNEY CREWE Edge of Town Residential Zone Total Number of dwellings: 17 Survey date: TUESDAY 14/10/08	CHESHIRE	Survey Type: MANUAL
3	CH-03-A-09 TERRACED HOUSES GREYSTOKE ROAD HURDSFIELD MACCLESFIELD Edge of Town Residential Zone Total Number of dwellings: 24 Survey date: MONDAY 24/11/14	CHESHIRE	Survey Type: MANUAL
4	DC-03-A-01 DETACHED ISAACS CLOSE  POOLE Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 51 Survey date: WEDNESDAY 16/07/08	DORSET	Survey Type: MANUAL
5	EA-03-A-01 DETACHED TALISKER AVENUE  KILMARNOCK Edge of Town Residential Zone Total Number of dwellings: 39 Survey date: THURSDAY 05/06/08	EAST AYRSHIRE	Survey Type: MANUAL
6	EX-03-A-01 SEMI-DET. MILTON ROAD CORRINGHAM STANFORD-LE-HOPE Edge of Town Residential Zone Total Number of dwellings: 237 Survey date: TUESDAY 13/05/08	ESSEX	Survey Type: MANUAL
7	GM-03-A-10 DETACHED/SEMI BUTT HILL DRIVE PRESTWICH MANCHESTER Edge of Town Residential Zone Total Number of dwellings: 29 Survey date: WEDNESDAY 12/10/11	GREATER MANCHESTER	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	MS-03-A-03 BEMPTON ROAD OTTERSPOOL LIVERPOOL Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 15 Survey date: FRIDAY 21/06/13	DETACHED	MERSEYSIDE	Survey Type: MANUAL
9	PS-03-A-02 GUNROG ROAD  WELSHPOOL Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 28 Survey date: MONDAY 11/05/15	DETACHED/SEMI -DETACHED	POWYS	Survey Type: MANUAL
10	SC-03-A-04 HIGH ROAD  BYFLEET Edge of Town Residential Zone Total Number of dwellings: 71 Survey date: THURSDAY 23/01/14	DETACHED & TERRACED	SURREY	Survey Type: MANUAL
11	SF-03-A-05 VALE LANE  BURY ST EDMUNDS Edge of Town Residential Zone Total Number of dwellings: 18 Survey date: WEDNESDAY 09/09/15	DETACHED HOUSES	SUFFOLK	Survey Type: MANUAL
12	SH-03-A-04 ST MICHAEL'S STREET  SHREWSBURY Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings: 108 Survey date: THURSDAY 11/06/09	TERRACED	SHROPSHIRE	Survey Type: MANUAL
13	SY-03-A-01 A19 BENTLEY ROAD BENTLEY RISE DONCASTER Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 54 Survey date: WEDNESDAY 18/09/13	SEMI DETACHED HOUSES	SOUTH YORKSHIRE	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
CB-03-A-04	HOUSING
CH-03-A-02	FLATS
CH-03-A-06	BUNGALOWS
DC-03-A-08	BUNGALOWS
DV-03-A-01	HOUSING
DV-03-A-02	BUNGALOWS
DV-03-A-03	HOUSING
ES-03-A-02	BUNGALOWS
FA-03-A-01	HOUSING

MANUALLY DESELECTED SITES (Cont.)

Site Ref	Reason for Deselection
FA-03-A-02	BUNGALOWS
HC-03-A-17	FLATS
LN-03-A-03	HOUSING
NF-03-A-01	BUNGALOWS
NF-03-A-02	FLATS
NY-03-A-06	BUNGALOWS
NY-03-A-07	HOUSING
NY-03-A-08	HOUSING
NY-03-A-09	BUNGALOWS
NY-03-A-10	FLATS
NY-03-A-11	BUNGALOWS
PK-03-A-01	BUNGALOWS
SH-03-A-05	HOUSING
SH-03-A-06	BUNGALOWS
SM-03-A-01	HOUSING
TW-03-A-02	HOUSING
WK-03-A-02	BUNGALOWS
WS-03-A-04	BUNGALOWS
WS-03-A-05	FLATS

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	13	56	0.090	13	56	0.334	13	56	0.424
08:00 - 09:00	13	56	0.183	13	56	0.464	13	56	0.647
09:00 - 10:00	13	56	0.149	13	56	0.189	13	56	0.338
10:00 - 11:00	13	56	0.141	13	56	0.186	13	56	0.327
11:00 - 12:00	13	56	0.148	13	56	0.159	13	56	0.307
12:00 - 13:00	13	56	0.176	13	56	0.166	13	56	0.342
13:00 - 14:00	13	56	0.190	13	56	0.168	13	56	0.358
14:00 - 15:00	13	56	0.175	13	56	0.175	13	56	0.350
15:00 - 16:00	13	56	0.338	13	56	0.239	13	56	0.577
16:00 - 17:00	13	56	0.321	13	56	0.186	13	56	0.507
17:00 - 18:00	13	56	0.424	13	56	0.226	13	56	0.650
18:00 - 19:00	13	56	0.265	13	56	0.160	13	56	0.425
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
<b>Total Rates:</b>			<b>2.600</b>			<b>2.652</b>			<b>5.252</b>

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: 15 - 237 (units: )  
 Survey date date range: 01/01/08 - 12/11/15  
 Number of weekdays (Monday-Friday): 13  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 1  
 Surveys manually removed from selection: 28

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 shown. 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  
CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	13	56	0.004	13	56	0.011	13	56	0.015
08:00 - 09:00	13	56	0.000	13	56	0.019	13	56	0.019
09:00 - 10:00	13	56	0.001	13	56	0.003	13	56	0.004
10:00 - 11:00	13	56	0.001	13	56	0.004	13	56	0.005
11:00 - 12:00	13	56	0.005	13	56	0.005	13	56	0.010
12:00 - 13:00	13	56	0.007	13	56	0.003	13	56	0.010
13:00 - 14:00	13	56	0.004	13	56	0.005	13	56	0.009
14:00 - 15:00	13	56	0.003	13	56	0.003	13	56	0.006
15:00 - 16:00	13	56	0.016	13	56	0.010	13	56	0.026
16:00 - 17:00	13	56	0.010	13	56	0.003	13	56	0.013
17:00 - 18:00	13	56	0.015	13	56	0.012	13	56	0.027
18:00 - 19:00	13	56	0.019	13	56	0.010	13	56	0.029
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
<b>Total Rates:</b>			<b>0.085</b>			<b>0.088</b>			<b>0.173</b>

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

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 Survey date date range: 01/01/08 - 12/11/15  
 Number of weekdays (Monday-Friday): 13  
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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 shown. 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**



# CROMWELL LANE, BURTON GREEN TRAFFIC GENERATION

## Proposed Development Traffic Generation

### Proposed Development & Trip Rates

Proposed No of Dwellings: **130**

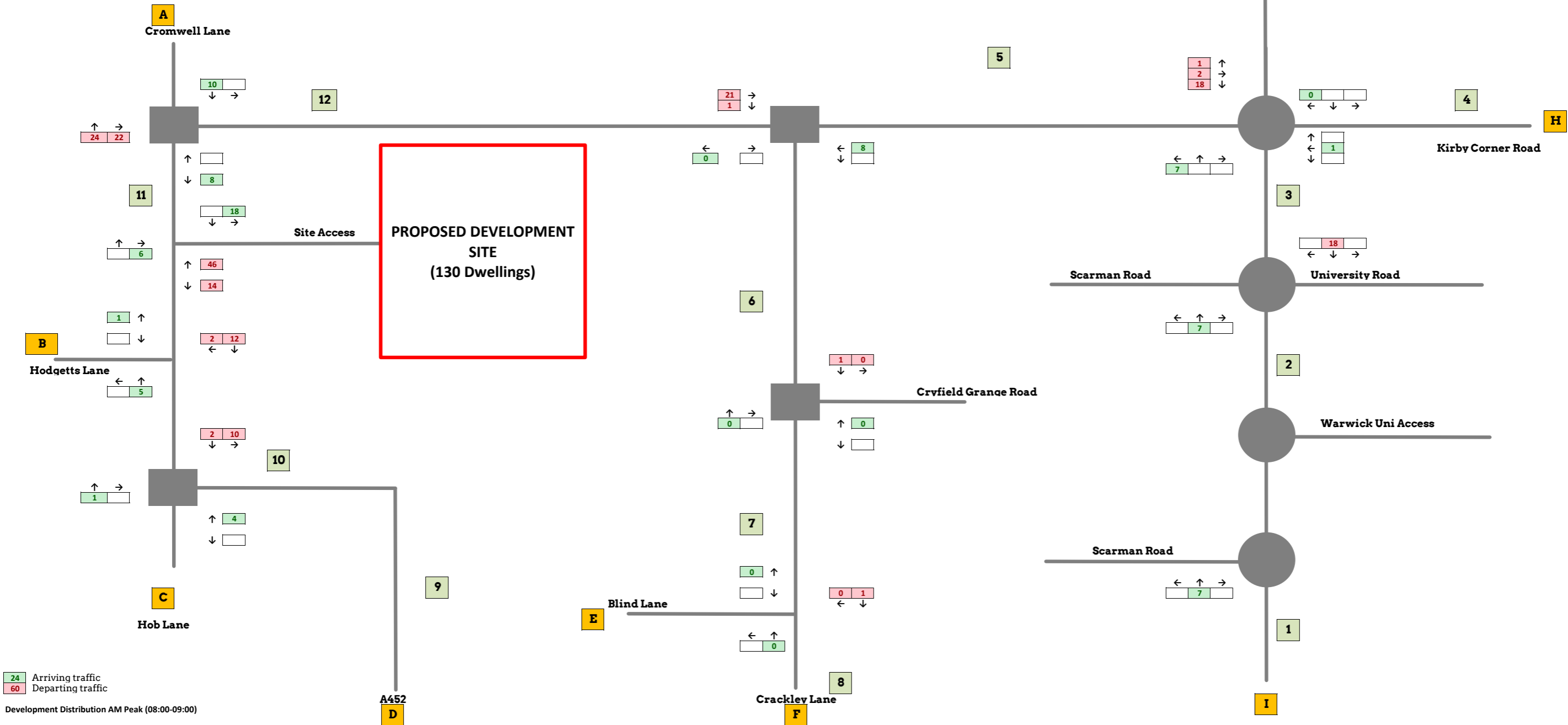
The resultant trip rates and traffic generation are presented in the following table:

Land -Use: C3 Residential (Private)	AM Peak			PM Peak		
	ARR	DEP	2-WAY	ARR	DEP	2-WAY
TRICS 7 Flows	0.183	0.464	0.647	0.424	0.226	0.650
Trip Generation	24	60	84	55	29	84



# PROPOSED RESIDENTIAL DEVELOPMENT CROMWELL LANE, BURTON GREEN

## Proposed Development Flows AM Peak

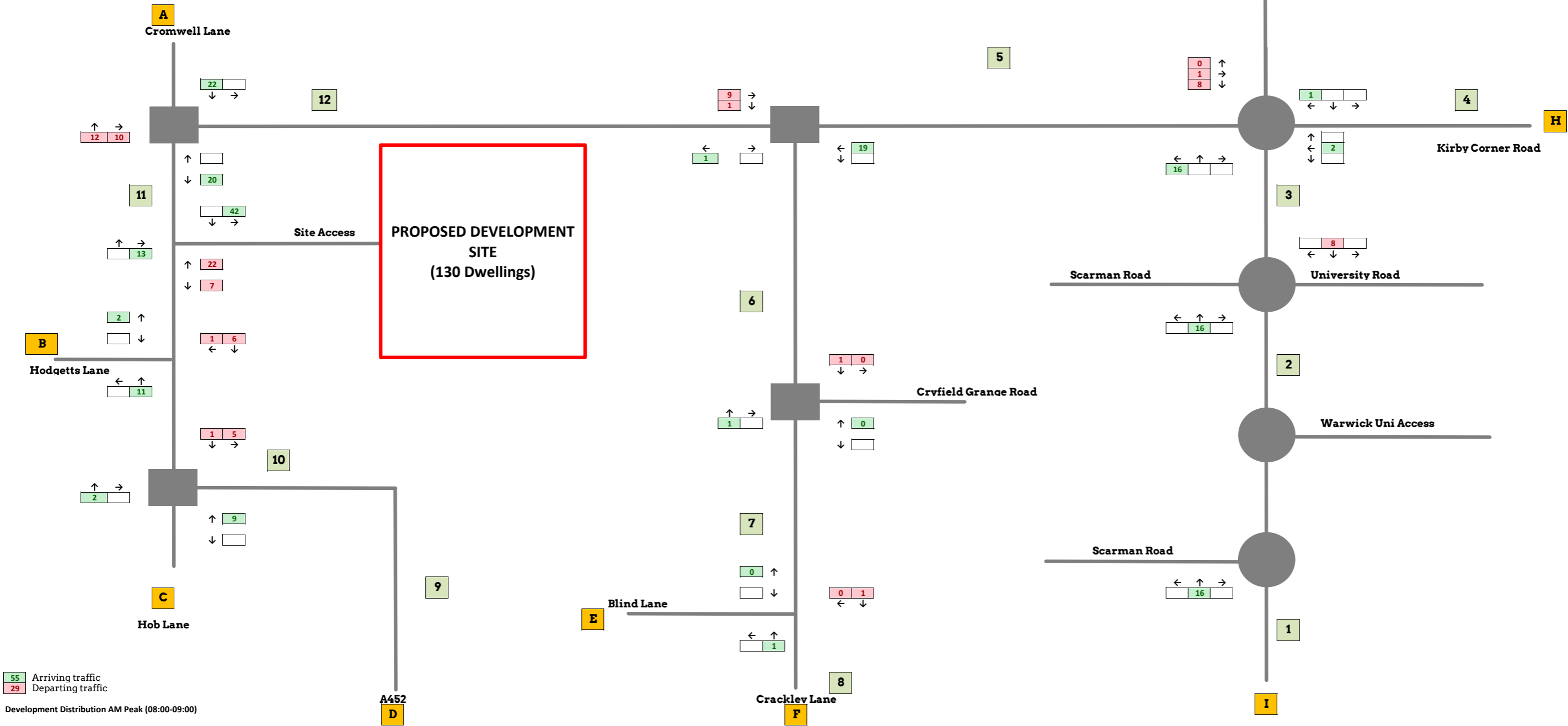


	% DIST	ARR	DEP	TOTAL
A	39.7%	10	24	34
B	3.9%	1	2	3
C	3.9%	1	2	3
D	16.8%	4	10	14
E	0.0%	0	0	0
F	1.9%	0	1	1
G	1.1%	0	1	1
H	3.6%	1	2	3
I	29.0%	7	18	25
ALL	100.0%	24	60	84

\*Rounding has occurred

# PROPOSED RESIDENTIAL DEVELOPMENT CROMWELL LANE, BURTON GREEN

## Proposed Development Flows PM Peak



	% DIST	ARR	DEP	TOTAL
A	39.7%	22	12	34
B	3.9%	2	1	3
C	3.9%	2	1	3
D	16.8%	9	5	14
E	0.0%	0	0	0
F	1.9%	1	1	2
G	1.1%	1	0	1
H	3.6%	2	1	3
I	29.0%	16	8	24
ALL	100.0%	55	29	84

\*Rounding has occurred

Civil Engineering

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Drainage

---

Flood Risk

---

Transport

---

Highways

---

Structures

---

Geotechnics

---

Contamination

---

Sustainability

---

Environment

---

Services

---

Surveying

---



Wellington House  
Leicester Road, Ibstock  
Leicestershire  
LE67 6HP

T: 01530 264 753  
F: 01530 588 116  
ibstock@m-ec.co.uk  
www.m-ec.co.uk

Consulting **Development** Engineers

Thanks Alex.

Alan Law BSc MCIHT  
County Transport Modeller  
Transport Planning  
Transport & Highways  
Communities  
Warwickshire County Council  
Tel: 01926 412044  
Email: [alanlaw@warwickshire.gov.uk](mailto:alanlaw@warwickshire.gov.uk)  
[www.warwickshire.gov.uk](http://www.warwickshire.gov.uk)

On Wed, Nov 9, 2016 at 4:33 PM, Alex Bennett <[alex.bennett@m-ec.co.uk](mailto:alex.bennett@m-ec.co.uk)>  
wrote:  
Alan

See attached an amended report following your email.

Any queries please let me know.

Best Regards

**Alexander Bennett** BSc(Hons) MCIHT MTPS  
Director

**M-EC** Consulting Development Engineers  
The Colmore Building | 20 Colmore Circus Queensway | Birmingham | B4  
6AT