
Rothwell and Desborough
Site Assessments

Northamptonshire
Highways - Team Growth

February 2018

QM

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1 Background

1.1.1 Kettering Borough Council are progressing their Part 2 Local Plan. They have identified a requirement for 284 additional houses in Rothwell and 400 additional houses in Desborough relative to the Joint Core Strategy (see Table 1 below).

Table 1 KBC Housing Numbers Requirements 2011 - 2031

Housing numbers requirements 2011-2031							
Settlement/ Category	JCS requirement 2011-2031	Completions 2011-16	Commitments 2011-16*	Kettering Town Centre AAP allocations	JCS sites	Residual JCS requirement	Residual JCS requirement with additional 10% buffer
Desborough	1,360	247	842	n/a	0	271	400
Rothwell	1,190	207	133	n/a	700*	150	284

1.1.2 They have a number of sites that are currently being promoted as having the potential to help deliver the additional housing by 2031. Northamptonshire Highways have already made some comments on the sites from a Development Management view which has highlighted some constraints on the highway network and in terms of highway access.

1.1.3 Kettering Borough Council are now seeking further advice regarding what the cumulative transport impact would be on the highway network within Rothwell and Desborough and in the near vicinity from each site, or a combination of sites.

1.1.4 Although the NSTM was used for assessing the Joint Core Strategy, it is better placed to assess the cumulative impacts of SUEs and major transport infrastructure improvements rather than smaller site specific assessments. Instead, the assessment methodology followed uses a spreadsheet model that can assess a number of site options relatively easily and identify the relative impact of different mixes of sites on key junctions within the towns.

1.2 ROTHWELL

1.2.1 The housing requirement for Rothwell is 284 dwellings (residual JCS requirement with additional 10% buffer).

Table 2 Rothwell - Sites to be Assessed

Broad area	Site reference	Site name	No. of dwellings	Access point(s)	Comments
West	RO/085	Land to the west of Rothwell	200	Harrington Road	This site is subject of application ref KET/2014/0637
West	RO/088a	Rothwell North/Land to the west of Rothwell (previously within Rothwell North application boundary)	300	Through Rothwell North	
North	RO/222	Land East of Rothwell North	210	Desborough Road	Would need to carefully consider interaction with junction of one-way Nunnery Avenue.
North	RO/205	Land to the east of RO/088 (Rothwell North)	500-555	-	Discounted as access reliant on access from Rothwell North. Only other potential access is via Shotwell Mill Lane which is not suitable for intensification.
North East	RO/206	Land to the north of Rushton Road	120	Rushton Road	
North East	RO/086	Land to the rear of 74-82 Rushton Road	35	Rushton Road	
North East	RO/202	Land to the north of Rothwell (including RO/086)	66	Rushton Road	Scott Ave unsuitable for small clusters of private drives. No access from Rushton Road from West. Must be from north after bend.
North East	RO/204	Land to the south of Rushton Road	90	Rushton Road	Access purely from Rushton Road would be acceptable for this number of units.

Table 3 Rothwell - Options to be assessed

Option	Sites	Total no. of dwellings
i.	RO/085 and RO/202	266
ii.	RO/085 and RO/204	290
iii.	RO/085 and RO/206	320
iv.	RO/202, RO/204, RO/206	276
v.	RO/088a	300
vi.	RO/222 and RO/204	300
vii.	RO/222 and RO/206	330

1.3 DESBOROUGH

1.3.1 The housing requirement for Desborough is 400 dwellings (residual JCS requirement with additional 10% buffer).

Table 4 Desborough - Sites to be Assessed

Broad area	Site reference	Site name	No. of dwellings	Access point(s)	Comments
West	DE/211	Land off Federation Ave	180	Federation Avenue	Capacity of Federation junction with Rothwell Road needs to be carefully managed.
West	DE/067	Land adj. Orchard Close, off Harrington Road	75	Harrington Road and Orchard Close	Orchard Close requires acquisition of land required. Highways have concerns over this site.
West	DE/212	Land of Eyam Close	90	Eyam Close	Elton Close is not suitable for access.
West	DE/188	Land off Buxton Drive	32	Buxton Drive	Being promoted with DE/212
North	DE/213	Land off Harborough Road	230	Harborough Road	Will require two accesses but will both load onto Harborough Road
East	DE/063	Land off Pipewell Road	92	Pipewell Road	Access constrained by railway bridge which is single land controlled by lights (may be upgraded by MML electrification). Highways have concern over this site.
South	DE/210	Land to the south of Desborough	304	Rothwell Road	Restricted access from Sycamore and Hawthorns.

Table 5 Desborough - Options to be assessed

Option	Sites	Total no. of dwellings	
North option	DE/067, DE/212,DE/188 and DE/213	427	
West option	DE/211, DE/067, DE/212, DE/188	377	
South option	DE/211 and DE/210	484	
East option	DE/063 and DE/210	396	
North/west option	DE/211, DE/212,DE/188,DE/210	545	Discounted – too high
Spread 1	DE/211, DE/212,DE/188,DE/063	394	
Spread 2	DE/067, DE/188, DE/213, DE/063	429	
Spread 3	DE/212, DE/188, DE/210	426	
Spread 4	DE/067,DE/212,DE/188, DE/210	501	Discounted – too high
Spread 5	DE/067, DE/212,DE/188, DE/213	427	
Spread 6	DE/213, DE/210	534	Discounted – too high
Spread 7	DE/211, DE/213	410	
Spread 8	DE/188, DE/212	122	

2 Methodology

2.1.1 The aim of this work is to assess the cumulative impact of potential combinations of sites on the network.

2.1.2 Trip generation, distribution and assignment were predicted for each of the proposed development sites using the following methodology:

- Trip Generation: The latest version of TRICS was interrogated to determine a trip rate relevant to each development site (per unit and then calculated for the total development proposed). A locally applicable rate was estimated by applying mode share data from NOMIS for car trips for that area to person trip rates from the TRICS database.
- Distribution – Used NOMIS website to extract car driver Journey to Work trips (at MSOA level) for the areas relevant to each proposed development site. The data was then converted to percentages. The end result was a distribution in percentage terms for Journey to Work trips from that output area which was then applied to new development trips with an origin in that output area.
- Assignment – Used updated Routes document from previous work to determine routes between each origin and destination pair (based on a routefinder website).
- The resulting total development trips were applied to a network diagram showing the route choices made at each junction in the network. This gave a series of turning movements at each junction for each development site and allowed for the identification of potential future development impacts on the local network.

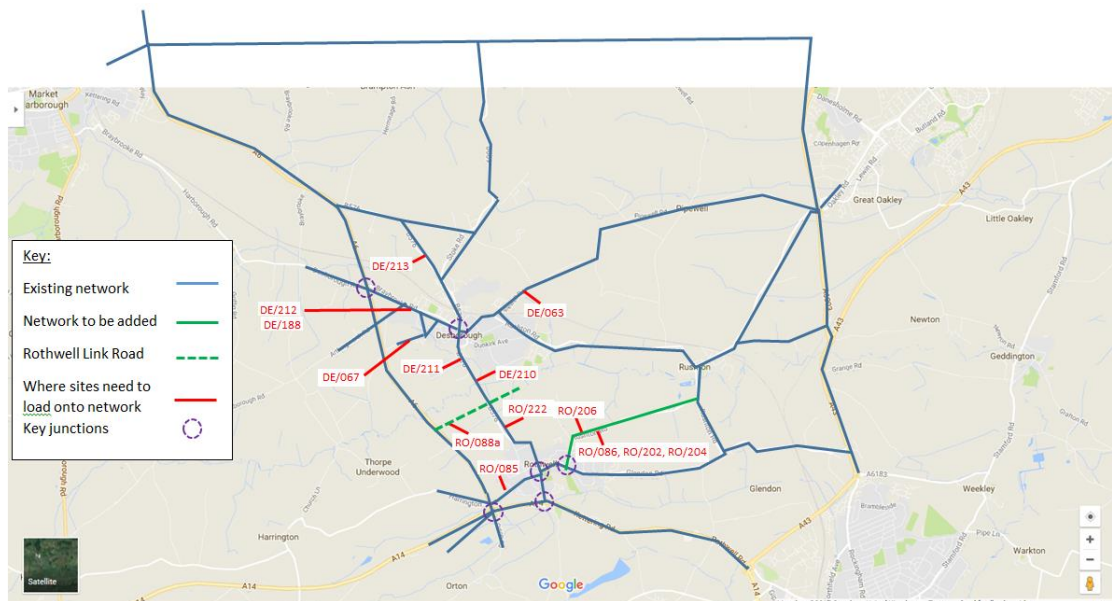
2.1.3 Each of the options in the brief above was modelled in the spreadsheet model (so network diagrams were populated for each development and then summed up for each option on a separate worksheet). There is already a spreadsheet model which has the Rothwell and Desborough network and links to A14/A6003 etc. As agreed in the proposal one section was added in – Rushton Road in Rothwell as a number of the sites are proposed to be located adjacent to it. There is also the assumption that Rothwell Link Road will be built by 2021/22. Therefore this was included in all the scenarios.

2.2 ASSUMPTIONS

- Rothwell Link Road is in (network was updated to reflect map provided in brief – shown in Fig 1 below).
- Committed development sites are not included (these have already been assessed through the Transport Assessments and any required mitigation has been identified through that process, the purpose of this current work is to identify what the additional impact would be of the additional sites proposed).
- For distribution section - Residential elements only (not employment too)

- Trips are based on base year and not growthed up to forecast year.
- Where there is more than one route between an Origin and Destination Pair - if these routes are within 2 minutes difference then split the trips over the two or more routes but if the difference is more than 2 minutes than assign to one route as it is more realistic vehicles will use the shortest time route.
- If a site is close to Rothwell Link Road then it has been assumed they will use this as part of their route for trips where this offers a time benefit, for example trips distributing westbound on the A14.
- Any two way trips lower than 5 can be disregarded for the purpose of the trip assignment exercise (i.e. have not been included in the network spreadsheet model for simplicity as agreed in the proposal).
- Constraints at junctions have not been included e.g. on street parking and the shuttle signals arrangement on Pipewell Road (north of Rushton Road junction), other than what has been taken into account by the Route Finder (Google Maps) for the delays these may cause to journey times.
- The distribution of RO/088a is reliant upon the Rothwell Link Road being fully built.

Figure 1 Network for spreadsheet model



3 Summary and Observations

3.1.1 The tables overleaf show the options and the key junctions that the related traffic is predicted to pass through. Shaded cells reflect the junctions that traffic related to each of the development options routes through. Table 6 shows the key junctions identified by NCC and Table 7 shows the remaining junctions in the network that have flows of more than 30 vehicles in the peak hour:

Table 6 Options / Junctions – Key Junctions identified by NCC

Option	A14 J3 Northern R'bout	A14 J3 Southern R'bout	A14 J4 Northern R'bout	A14 J4 Southern R'bout	A6/ Braybrooke Road r'bout	A6/ Harborough Road / A4304 r'bout	B669 Stoke Road/Harborough Road r'bout	Rothwell Road/ High Street/ Gold Street priority junction	Braybrooke Road/ Harrington Street priority junction	Whitehill Road/ Harrington Road	Whitehill Road/ Braybrooke Road	Glendon Road/ Rock Hill junction	A6 / Rothwell Link Road
Desborough - North Option - DE/067, DE/212, DE/188 and DE/213													
Desborough - West Option - DE/211, DE/067, DE/212, DE/188													
Desborough - South Option - DE/211 and DE/210													
Desborough - East option - DE/063 and DE/210													
Desborough - Spread 1 - DE/211, DE/212, DE/188, DE/063													
Desborough - Spread 2 - DE/067, DE/188, DE/213, DE/063													
Desborough - Spread 3 - DE/212, DE/188, DE/210													
Desborough - Spread 5 - DE/067, DE/212, DE/188, DE/213													

Option	A14 J3 Northern R'bout	A14 J3 Southern R'bout	A14 J4 Northern R'bout	A14 J4 Southern R'bout	A6/ Braybrooke Road r'bout	A6/ Harborough Road / A4304 r'bout	B669 Stoke Road/Harborough Road r'bout	Rothwell Road/ High Street/ Gold Street priority junction	Braybrooke Road/ Harrington Street priority junction	Whitehill Road/ Harrington Road	Whitehill Road/ Braybrooke Road	Glendon Road/ Rock Hill junction	A6 / Rothwell Link Road
Desborough - Spread 7 - DE/211, DE/213													
Desborough - Spread 8 - DE/188, DE/212													
Rothwell - Option i - RO/085 and RO/202													
Rothwell - Option ii - RO/085 and RO/204													
Rothwell - Option iii - RO/085 and RO/206													
Rothwell - Option iv - RO/202, RO/204, RO/206													
Rothwell - Option v - RO/088a													
Rothwell - Option vi - RO/222 and RO/204													
Rothwell - Option vii - RO/222 and RO/206													

Table 7 Options / Junctions – Remaining Junctions in the network

Option	B576 Rothwell Road / Rothwell Link Road	Desborough Road / A427	B576 / Brampton Wood Lane	Rushton Rd / Pipewell Rd	Arthingworth Rd / Braybrook Rd	A427 / A6003 Uppingham Rd roundabout	B576 High St / Fox St	B576 Harborough Road/ A6
Desborough - North Option - DE/067, DE/212, DE/188 and DE/213								
Desborough - West Option - DE/211, DE/067, DE/212, DE/188								
Desborough - South Option - DE/211 and DE/210								
Desborough - East option - DE/063 and DE/210								
Desborough - Spread 1 - DE/211, DE/212, DE/188, DE/063								
Desborough - Spread 2 - DE/067, DE/188, DE/213, DE/063								
Desborough - Spread 3 - DE/212, DE/188, DE/210								
Desborough - Spread 5 - DE/067, DE/212, DE/188, DE/213								

Option	B576 Rothwell Road / Rothwell Link Road	Desborough Road / A427	B576 / Brampton Wood Lane	Rushton Rd / Pipewell Rd	Arthingworth Rd / Braybrook Rd	A427 / A6003 Uppingham Rd roundabout	B576 High St / Fox St	B576 Harborough Road/ A6
Desborough - Spread 7 - DE/211, DE/213								
Desborough - Spread 8 - DE/188, DE/212								
Rothwell - Option i - RO/085 and RO/202								
Rothwell - Option ii - RO/085 and RO/204								
Rothwell - Option iii - RO/085 and RO/206								
Rothwell - Option iv - RO/202, RO/204, RO/206								
Rothwell - Option v - RO/088a								
Rothwell - Option vi - RO/222 and RO/204								
Rothwell - Option vii - RO/222 and RO/206								

3.1.2 The following Transport Assessments were perused to establish if the junctions within the spreadsheet model network were found to be within capacity or not with the proposed associated development in that Transport Assessment:

- The Grange II, Desborough
- The Grange II, Land at Desborough North
- Land at Harborough Road, Desborough
- Land off Harrington Road, Desborough
- Land to the south of Desborough
- Rothwell North
- Rothwell Victoria Infant and Junior Schools (Transport Statement)
- Proposed Residential Development of Land South of Harrington Road, Rothwell (Transport Statement)
- Desborough North
- Proposed Residential Development on land to the South of Desborough
- Gaultney Farm, Pipewell Rd, Desborough

3.1.3 This exercise provided an indication of which junctions were an issue and therefore would be of concern with more traffic going through them as a result of the development options looked at in the spreadsheet model exercise.

3.1.4 The tables below provide a summary of this work by showing the total flows through each junction from the spreadsheet model for each option looked at (for the AM peak and PM peak respectively), this has then been colour coded to highlight junction capacity as found in the Transport Assessment perusal exercise (as per the key below, where any junction unshaded denotes a junction for which no Transport Assessment Information could be found):

Key	
Junction over-capacity in Transport Assessment testing	
Junction close to capacity in Transport Assessment testing	
Junction within capacity in Transport Assessment testing	

Table 8 AM Peak (08:00-09:00) Total Flow through Junction for each Option from the Spreadsheet Model (junction colour coding is as per key above) – Key Junctions identified by NCC:

Option	A14 J3 Northern R'bout	A14 J3 Southern R'bout	A14 J4 Northern R'bout	A14 J4 Southern R'bout	A6/ Braybrooke Road r'bout	A6/ Harborough Road/ A4304 r'bout	B669 Stoke Road/Harborough Road r'bout	Rothwell Road/ High Street/ Gold Street priority junction	Braybrooke Road/ Harrington Street priority junction	Whitehill Road/ Harrington Road	Whitehill Road/ Braybrooke Road	Glendon Road/ Rock Hill junction	A6 / Rothwell Link Road
Desborough - North Option - DE/067, DE/212,DE/188 and DE/213	133	45	42	9	143	52	42	58	15	39	24		132
Desborough - West Option - DE/211, DE/067, DE/212, DE/188	90	33	68	15	92	27	18	41	24	39	33		88
Desborough - South Option - DE/211 and DE/210	35	17	186	41	27	28	27	73	27		27	9	35
Desborough - East option - DE/063 and DE/210	21	5	147	32	26	24	13	89	24		24	9	21
Desborough - Spread 1 - DE/211, DE/212,DE/188,DE/063	66	24	97	21	72	23	20	68	14		14		65
Desborough - Spread 2 - DE/067, DE/188, DE/213, DE/063	100	38	72	16	99	49	46	100	20	39	29		100
Desborough - Spread 3 - DE/212, DE/188, DE/210	64	14	118	26	78	27	9	47	19		19	9	64
Desborough - Spread 5 - DE/067, DE/212,DE/188, DE/213	133	45	42	9	143	52	42	58	15	39	24		132

Option	A14 J3 Northern R'bout	A14 J3 Southern R'bout	A14 J4 Northern R'bout	A14 J4 Southern R'bout	A6/ Braybrooke Road r'bout	A6/ Harborough Road/ A4304 r'bout	B669 Stoke Road/Harborough Road r'bout	Rothwell Road/ High Street/ Gold Street priority junction	Braybrooke Road/ Harrington Street priority junction	Whitehill Road/ Harrington Road	Whitehill Road/ Braybrooke Road	Glendon Road/ Rock Hill junction	A6 / Rothwell Link Road
Desborough - Spread 7 - DE/211, DE/213	77	39	110	24	69	41	60	68	9		9		77
Desborough - Spread 8 - DE/188, DE/212	46	10			59	8							46
Rothwell - Option i - RO/085 and RO/202	127	34	24	5	10	10						27	10
Rothwell - Option ii - RO/085 and RO/204	128	35	33	7	10	10						37	10
Rothwell - Option iii - RO/085 and RO/206	129	37	50	11	13	15	3	3				60	13
Rothwell - Option iv - RO/202, RO/204, RO/206	11	5	108	24	3	6	3	3				124	3
Rothwell - Option v - RO/088a	178	55			14	14							191
Rothwell - Option vi - RO/222 and RO/204	12	7	132	29	5	10	5	5				49	13
Rothwell - Option vii - RO/222 and RO/206	13	10	149	33	8	16	8	8				72	16

3.1.5 It can be observed from the table above that the following options will add 90 or more vehicles (maximum flow in table is 191) through junctions that are already overcapacity in the AM peak:

- Desborough - North Option - DE/067, DE/212, DE/188 and DE/213
- Desborough - West Option - DE/211, DE/067, DE/212, DE/188
- Desborough - Spread 2 - DE/067, DE/188, DE/213, DE/063
- Desborough - Spread 5 - DE/067, DE/212, DE/188, DE/213
- Rothwell - Option i - RO/085 and RO/202
- Rothwell - Option ii - RO/085 and RO/204
- Rothwell - Option iii - RO/085 and RO/206
- Rothwell - Option v - RO/088a

Table 9 AM Peak (08:00-09:00) Total Flow through Junction for each Option from the Spreadsheet Model (junction colour coding is as per key above) – Remaining Junctions in the Network with flows of greater than 30:

Option	B576 Rothwell Road / Rothwell Link Road	Desborough Road / A427	B576 / Brampton Wood Lane	Rushton Rd / Pipewell Rd	Arthingworth Rd / Braybrook Rd	A427 / A6003 Uppingham Rd roundabout	B576 High St / Fox St	B576 Harborough Road/ A6
Desborough - North Option - DE/067, DE/212,DE/188 and DE/213	57	32	52	58	83	33	42	111
Desborough - West Option - DE/211, DE/067, DE/212, DE/188	32	20	9	41	91	19	68	28
Desborough - South Option - DE/211 and DE/210	162	9	18	73	27	18	186	27
Desborough - East option - DE/063 and DE/210	175		13	89	24	14	147	26
Desborough - Spread 1 - DE/211, DE/212,DE/188,DE/063	47	13	11	68	72	17	97	22
Desborough - Spread 2 - DE/067, DE/188, DE/213, DE/063	89	28	56	100	40	32	72	108
Desborough - Spread 3 - DE/212, DE/188, DE/210	145	4	9	197	77	13	118	27
Desborough - Spread 5 - DE/067, DE/212,DE/188, DE/213	57	32	52	58	83	33	42	44

Option	B576 Rothwell Road / Rothwell Link Road	Desborough Road / A427	B576 / Brampton Wood Lane	Rushton Rd / Pipewell Rd	Arthingworth Rd / Braybrook Rd	A427 / A6003 Uppingham Rd roundabout	B576 High St / Fox St	B576 Harborough Road/ A6
Desborough - Spread 7 - DE/211, DE/213	59	29	61	68	9	30	110	101
Desborough - Spread 8 - DE/188, DE/212		4			58	4		9
Rothwell - Option i - RO/085 and RO/202							27	10
Rothwell - Option ii - RO/085 and RO/204							37	10
Rothwell - Option iii - RO/085 and RO/206	6		3	3		5	16	16
Rothwell - Option iv - RO/202, RO/204, RO/206	6		3	3		5	79	6
Rothwell - Option v - RO/088a								14
Rothwell - Option vi - RO/222 and RO/204	18		5	5		13	136	10
Rothwell - Option vii - RO/222 and RO/206	24		8	8		19	115	16

3.1.6 It can be observed from the table above that the following options will add 90 or more vehicles (maximum flow in table is 197) through junctions that are already overcapacity in the AM peak:

- Desborough - South Option - DE/211 and DE/210
- Desborough - East option - DE/063 and DE/210
- Desborough - Spread 1 - DE/211, DE/212, DE/188, DE/063
- Desborough - Spread 3 - DE/212, DE/188, DE/210
- Desborough - Spread 7 - DE/211, DE/213
- Rothwell - Option vi - RO/222 and RO/204
- Rothwell - Option vii - RO/222 and RO/206

Table 10 PM Peak (17:00-18:00) Total Flow through Junction for each Option from the Spreadsheet Model (junction colour coding is as per key above) - Key Junctions identified by NCC:

Option	A14 J3 Northern R'bout	A14 J3 Southern R'bout	A14 J4 Northern R'bout	A14 J4 Southern R'bout	A6/ Braybrooke Road r'bout	A6/ Harborough Road/ A4304 r'bout	B669 Stoke Road/Harborough Road r'bout	Rothwell Road/ High Street/ Gold Street priority junction	Braybrooke Road/ Harrington Street priority junction	Whitehill Road/ Harrington Road	Whitehill Road/ Braybrooke Road	Glendon Road/ Rock Hill junction	A6 / Rothwell Link Road
Desborough - North Option - DE/067, DE/212,DE/188 and DE/213	114	71	36	24	121	44	36	50	13	29	21		114
Desborough - West Option - DE/211, DE/067, DE/212, DE/188	75	47	58	39	78	22	14	35	21	35	28		76
Desborough - South Option - DE/211 and DE/210	29	15	159	106	23	23	22	61	24		24	8	30
Desborough - East option - DE/063 and DE/210	18	12	126	84	22	21	11	75	21		21	8	18
Desborough - Spread 1 - DE/211, DE/212,DE/188,DE/063	56	33	83	55	61	19	16	56	12		12		56
Desborough - Spread 2 - DE/067, DE/188, DE/213, DE/063	86	53	62	41	86	41	39	85	19	35	26		85
Desborough - Spread 3 - DE/212, DE/188, DE/210	54	36	101	67	66	23	8	40	16		16	8	54
Desborough - Spread 5 - DE/067, DE/212,DE/188, DE/213	114	71	36	24	121	44	36	50	14	35	21		114

Option	A14 J3 Northern R'bout	A14 J3 Southern R'bout	A14 J4 Northern R'bout	A14 J4 Southern R'bout	A6/ Braybrooke Road r'bout	A6/ Harborough Road/ A4304 r'bout	B669 Stoke Road/Harborough Road r'bout	Rothwell Road/ High Street/ Gold Street priority junction	Braybrooke Road/ Harrington Street priority junction	Whitehill Road/ Harrington Road	Whitehill Road/ Braybrooke Road	Glendon Road/ Rock Hill junction	A6 / Rothwell Link Road
Desborough - Spread 7 - DE/211, DE/213	66	33	95	63	58	34	51	58	7		7		65
Desborough - Spread 8 - DE/188, DE/212	39	26			49	6							39
Rothwell - Option i - RO/085 and RO/202	109	62	21	14	9	9						23	9
Rothwell - Option ii - RO/085 and RO/204	111	63	29	19	9	9						32	9
Rothwell - Option iii - RO/085 and RO/206	112	63	42	28	11	13	3	3				51	12
Rothwell - Option iv - RO/202, RO/204, RO/206	9	4	92	61	3	5	3	3				107	3
Rothwell - Option v - RO/088a	152	93			12	12							164
Rothwell - Option vi - RO/222 and RO/204	10	4	113	75	4	9	4	4				43	11
Rothwell - Option vii - RO/222 and RO/206	11	4	128	85	7	14	7	7				63	14

3.1.7 It can be seen from the table above that the following option will add 90 or more vehicles (maximum flow in table is 159) through junctions that are already overcapacity in the PM peak:

- Rothwell - Option v - RO/088a.

Table 11 PM Peak (17:00-18:00) Total Flow through Junction for each Option from the Spreadsheet Model (junction colour coding is as per key above) - Remaining Junctions in the Network with flows of greater than 30:

Option	B576 Rothwell Road / Rothwell Link Road	B576 / Brampton Wood Lane	Rushton Rd / Pipewell Rd	Arthingworth Rd / Braybrook Rd	B576 High St / Fox St	B576 Harborough Road/ A6
Desborough - North Option - DE/067, DE/212,DE/188 and DE/213	50	45	50	71	36	94
Desborough - West Option - DE/211, DE/067, DE/212, DE/188	28	7	35	78	58	23
Desborough - South Option - DE/211 and DE/210	139	15	61	24	159	23
Desborough - East option - DE/063 and DE/210	152	11	75	21	126	22
Desborough - Spread 1 - DE/211, DE/212,DE/188,DE/063	43	9	56	62	83	18
Desborough - Spread 2 - DE/067, DE/188, DE/213, DE/063	78	48	85	34	62	93
Desborough - Spread 3 - DE/212, DE/188, DE/210	124	8	40	66	101	23
Desborough - Spread 5 - DE/067, DE/212,DE/188, DE/213	50	45	50	71	36	94

Option	B576 Rothwell Road / Rothwell Link Road	B576 / Brampton Wood Lane	Rushton Rd / Pipewell Rd	Arthingworth Rd / Braybrook Rd	B576 High St / Fox St	B576 Harborough Road/ A6
Desborough - Spread 7 - DE/211, DE/213	50	53	58	7	95	86
Desborough - Spread 8 - DE/188, DE/212				50		7
Rothwell - Option i - RO/085 and RO/202					23	9
Rothwell - Option ii - RO/085 and RO/204					32	9
Rothwell - Option iii - RO/085 and RO/206	6	3	3		32	14
Rothwell - Option iv - RO/202, RO/204, RO/206	6	3	3		87	6
Rothwell - Option v - RO/088a						12
Rothwell - Option vi - RO/222 and RO/204	15	4	4		116	8
Rothwell - Option vii - RO/222 and RO/206	21	7	7		117	14

3.1.8 It can be seen from the table above that the following option will add 90 or more vehicles (maximum flow in table is 159) through junctions that are already overcapacity in the PM peak:

- Desborough - South Option - DE/211 and DE/210
- Desborough - East option - DE/063 and DE/210
- Desborough - Spread 3 - DE/212, DE/188, DE/210
- Desborough - Spread 7 - DE/211, DE/213
- Rothwell - Option vi - RO/222 and RO/204
- Rothwell - Option vii - RO/222 and RO/206

3.1.9 The application for Rothwell North indicates that Rothwell Link Road and traffic calming (in Rothwell Town Centre) will relieve traffic in Rothwell Town Centre. Therefore the table below has been included in this report to highlight the impact of the options on Rothwell Town Centre junctions.

Table 12 Total Flow through Rothwell Town Centre Junctions for each Option from the Spreadsheet Model

Option	AM Peak 8am-9am		PM Peak 5pm-6pm	
	Glendon Road/ Rock Hill junction	B576 High Street/ Fox Street	Glendon Road/ Rock Hill junction	B576 High Street/ Fox Street
Desborough - North Option - DE/067, DE/212,DE/188 and DE/213		42		36
Desborough - West Option - DE/211, DE/067, DE/212, DE/188		68		58
Desborough - South Option - DE/211 and DE/210	9	186	8	159
Desborough - East option - DE/063 and DE/210	9	147	8	126
Desborough - Spread 1 - DE/211, DE/212,DE/188,DE/063		97		83
Desborough - Spread 2 - DE/067, DE/188, DE/213, DE/063		72		62
Desborough - Spread 3 - DE/212, DE/188, DE/210	9	118	8	101
Desborough - Spread 5 - DE/067, DE/212,DE/188, DE/213		42		36
Desborough - Spread 7 - DE/211, DE/213		110		95
Desborough - Spread 8 - DE/188, DE/212				
Rothwell - Option i - RO/085 and RO/202	27	27	23	23
Rothwell - Option ii - RO/085 and RO/204	37	37	32	32
Rothwell - Option iii - RO/085 and RO/206	60	16	51	32
Rothwell - Option iv - RO/202, RO/204, RO/206	124	79	107	87
Rothwell - Option v - RO/088a				
Rothwell - Option vi - RO/222 and RO/204	49	136	43	116
Rothwell - Option vii - RO/222 and RO/206	72	115	63	117

3.1.10 Flows are over 90 for the following scenarios (the maximum flow is 186):

■ AM Peak

- Rothwell - Option iv - RO/202, RO/204, RO/206 for Glendon Road / Rock Hill Junction
- Desborough - South Option - DE/211 and DE/210, Desborough - East option - DE/063 and DE/210, Desborough - Spread 1 - DE/211, DE/212, DE/188, DE/063, Desborough - Spread 3 - DE/212, DE/188, DE/210, Desborough - Spread 7 - DE/211, DE/213, Rothwell - Option vi - RO/222 and RO/204 and Rothwell - Option vii - RO/222 and RO/206 for B576 High Street / Fox Street junction

■ PM Peak

- Rothwell - Option iv - RO/202, RO/204, RO/206 for Glendon Road / Rock Hill Junction
- Desborough - South Option - DE/211 and DE/210, Desborough - East option - DE/063 and DE/210, Desborough - Spread 3 - DE/212, DE/188, DE/210, Desborough - Spread 7 - DE/211, DE/213, Rothwell - Option vi - RO/222 and RO/204 and Rothwell - Option vii - RO/222 and RO/206 for B576 High Street / Fox Street junction

3.2 SUMMARY

3.2.1 Table 13 and Figure 2 below provide an AM Peak summary of the trips through the overcapacity junctions in Table 8 as well as trips through the overcapacity junction in Table 12 (Rothwell Town Centre) for each proposed option.

3.2.2 Likewise, Table 14 and Figure 3 below provide a PM Peak summary of the trips through the overcapacity junctions in Table 10 as well as trips through the overcapacity junction in Table 12 (Rothwell Town Centre) for each proposed option.

Table 13 AM Peak Trips Summary for Over Capacity Junctions

Option	Trips through over capacity junctions	Trips through Rothwell Centre
Desborough - North Option	191	42
Desborough - West Option	131	68
Desborough - South Option	108	186
Desborough - East option	110	147
Desborough - Spread 1	134	97
Desborough - Spread 2	200	72
Desborough - Spread 3	111	118
Desborough - Spread 5	191	42
Desborough - Spread 7	145	110
Desborough - Spread 8	46	0
Rothwell - Option i	127	27
Rothwell - Option ii	128	37
Rothwell - Option iii	132	16
Rothwell - Option iv	14	79
Rothwell - Option v	178	0
Rothwell - Option vi	17	136
Rothwell - Option vii	21	115

Figure 2 AM Peak Trips Summary Bar Chart for Over Capacity Junctions

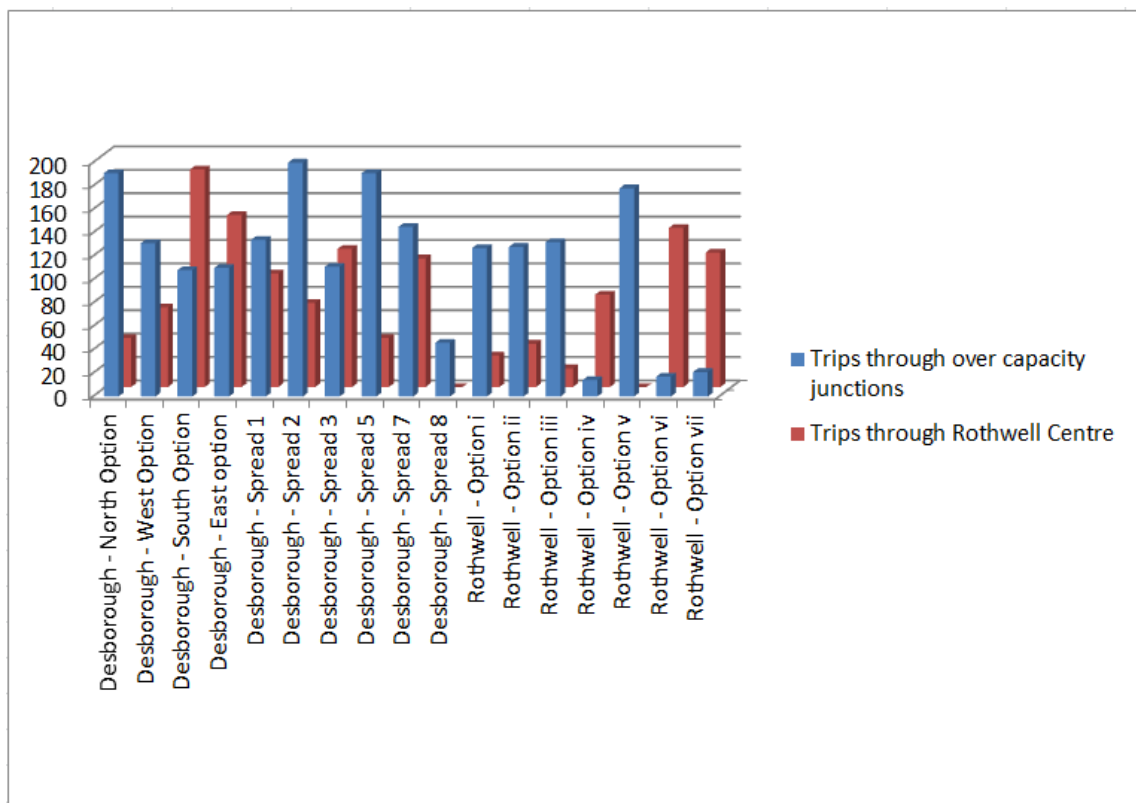
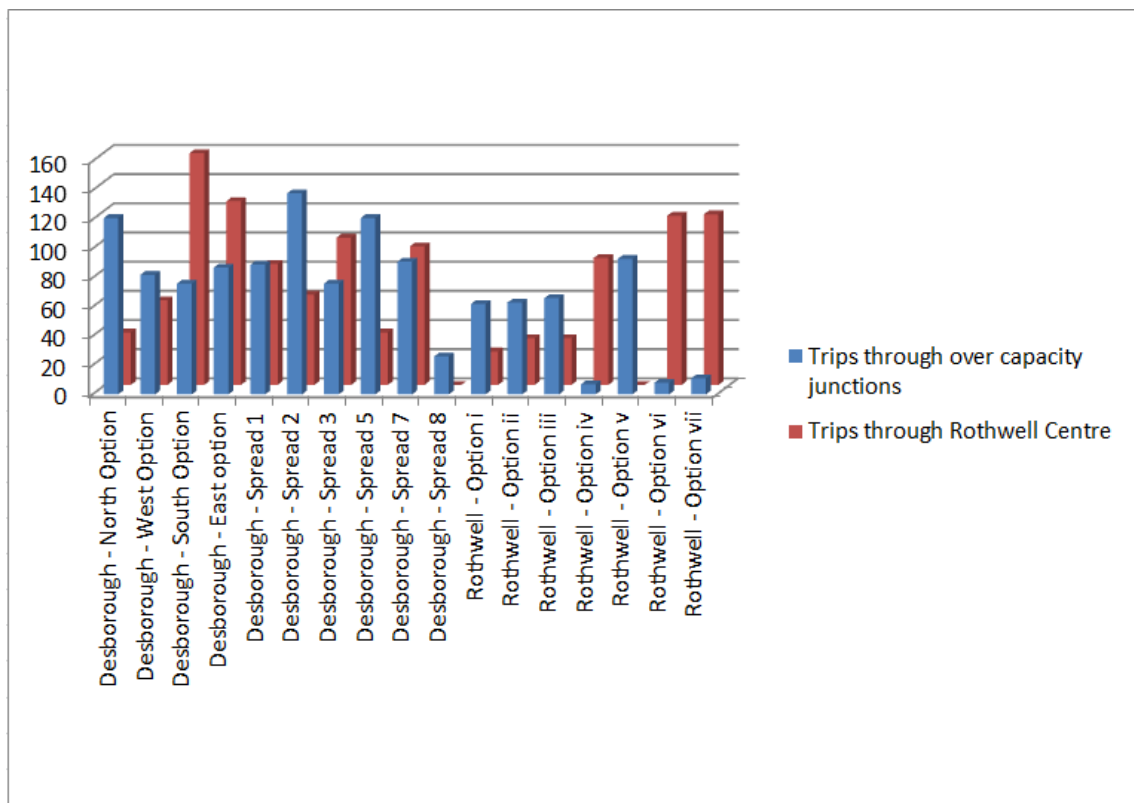


Table 14 PM Peak Trips Summary for Over Capacity Junctions

Option	Trips through over capacity junctions	Trips through Rothwell Centre
Desborough - North Option	121	36
Desborough - West Option	82	58
Desborough - South Option	76	159
Desborough - East option	87	126
Desborough - Spread 1	89	83
Desborough - Spread 2	138	62
Desborough - Spread 3	76	101
Desborough - Spread 5	121	36
Desborough - Spread 7	91	95
Desborough - Spread 8	26	0
Rothwell - Option i	62	23
Rothwell - Option ii	63	32
Rothwell - Option iii	66	32
Rothwell - Option iv	7	87
Rothwell - Option v	93	0
Rothwell - Option vi	8	116
Rothwell - Option vii	11	117

Figure 3 PM Peak Trips Summary Bar Chart for Over Capacity Junctions



3.2.3 The following can be observed from Table 13 and Figure 2 for the AM Peak:

- Desborough North, Spread 2 and Spread 5 Options put the most traffic through the overcapacity junctions in the network; and
- Desborough South, East and Rothwell Option vi put the most traffic through the overcapacity junction in Rothwell Town Centre.

3.2.4 The following can be observed from Table 14 and Figure 3 for the PM Peak:

- Desborough North, Spread 2 and Spread 5 Options put the most traffic through the overcapacity junctions in the network; and
- Desborough South, East and Rothwell Option vi and vii put the most traffic through the overcapacity junction in Rothwell Town Centre.