

Traffic performance data from NCC-commissioned modelling of three roundabout options.
for discussion at Blue House Working Group on 12th December 2016

Notes

All results are provisional and subject to further refinement of junction designs and traffic assumptions
Delay is measured in Vehicle Hours (sum of all the minutes of delay experienced by each vehicle in the modelled period)
Queues lengths (Average and Maximum) are measured in metres
am and pm periods are the busiest hours in the morning and evening weekday peaks

3. Conventional Circular Roundabout - no tree loss (considered at BHWG on 14th November)

Revised Speed Limit		2008 am				2008 pm				2008 am queue		2008 pm queue		2008 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	51	770	43	0	108	528	116	5	9	4	6	>39 vehHr	>81 vehHr
B	Jesmond Dene Road	176	0	539	454	173	0	316	851	44	51	44	51		
C	Great North Road (S)	598	489	0	159	566	425	0	224	27	47	67	89		
D	Grandstand Road	21	433	303	0	57	506	181	0	20	40	11	17		
		4036				4051									
Revised Speed Limit		2016 am				2016 pm				2016 am queue		2016 pm queue		2016 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	75	711	81	0	140	553	99	5	6	2	4	20 vehHr	27 vehHr
B	Jesmond Dene Road	101	0	473	433	174	0	386	599	22	29	34	51		
C	Great North Road (S)	545	519	0	132	618	460	0	223	23	37	31	46		
D	Grandstand Road	22	398	193	0	43	487	143	0	9	12	9	9		
		3683				3925									
Revised Speed Limit		2031 am				2031 pm				2031 am queue		2031 pm queue		2031 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	99	843	98	0	170	670	128	53	75	9	13	>115 vehHr	>126 vehHr
B	Jesmond Dene Road	127	0	517	524	197	0	444	674	45	51	51	51		
C	Great North Road (S)	646	583	0	144	642	468	0	236	59	86	82	89		
D	Grandstand Road	28	498	235	0	45	588	174	0	16	19	20	38		
		4342				4436									

4. Rotor Turbo Roundabout - Blue House demolished, but no tree loss (to be considered at BHWG on 28th November)

Revised Speed Limit		2008 am				2008 pm				2008 am queue		2008 pm queue		2008 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	51	753	42	0	107	525	116	19	27	10	15	>55 vehHr	>44 vehHr
B	Jesmond Dene Road	171	0	527	438	158	0	285	771	45	53	51	52		
C	Great North Road (S)	599	495	0	160	620	454	0	255	19	33	27	33		
D	Grandstand Road	19	425	298	0	57	504	182	0	35	39	21	38		
		3978				4034									
Revised Speed Limit		2016 am				2016 pm				2016 am queue		2016 pm queue		2016 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	75	707	81	0	140	550	98	12	16	15	22	23 vehHr	27 vehHr
B	Jesmond Dene Road	101	0	474	435	173	0	383	592	19	23	43	52		
C	Great North Road (S)	549	518	0	132	619	454	0	223	12	19	22	29		
D	Grandstand Road	22	398	193	0	43	482	143	0	16	25	16	21		
		3685				3900									
Revised Speed Limit		2031 am				2031 pm				2031 am queue		2031 pm queue		2031 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	74	633	77	0	149	586	115	46	46	46	46	>111 vehHr	>133 vehHr
B	Jesmond Dene Road	131	0	533	544	196	0	439	662	46	52	52	52		
C	Great North Road (S)	662	599	0	149	683	501	0	242	32	46	38	47		
D	Grandstand Road	24	467	219	0	44	581	174	0	32	38	33	38		
		4112				4372									

5. Existing Roundabout Layout

Revised Speed Limit		2008 am				2008 pm				2008 am queue		2008 pm queue		2008 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	50	766	41	0	106	528	116	14	22	9	11	24 vehHr	15 vehHr
B	Jesmond Dene Road	181	0	547	466	178	0	315	862	22	26	28	37		
C	Great North Road (S)	608	506	0	159	613	452	0	249	8	10	31	47		
D	Grandstand Road	21	439	309	0	57	503	181	0	25	41	18	39		
		4093				4160									
Existing Speed Limit		2016 am				2016 pm				2016 am queue		2016 pm queue		2016 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	75	712	81	0	141	555	97	13 (20)	23 (30)	11 (10)	15 (11)	11 vehHr	14 vehHr
B	Jesmond Dene Road	101	0	477	437	175	0	386	603	13 (12)	19 (14)	15 (19)	18 (33)		
C	Great North Road (S)	553	528	0	131	621	461	0	222	7 (9)	10 (12)	13 (13)	18 (17)		
D	Grandstand Road	22	398	193	0	43	481	143	0	8 (10)	10 (13)	12 (12)	14 (19)		
		3708				3928									
Revised Speed Limit		2016 am				2016 pm				2016 am queue		2016 pm queue		2016 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	75	709	81	0	139	552	97	12	18	9	16	12 vehHr	38 vehHr
B	Jesmond Dene Road	101	0	475	437	175	0	385	602	11	16	16	23		
C	Great North Road (S)	555	528	0	132	624	465	0	223	7	10	20	35		
D	Grandstand Road	22	396	193	0	42	480	143	0	8	10	17	18		
		3704				3927									
Revised Speed Limit		2031 am				2031 pm				2031 am queue		2031 pm queue		2031 delay	
		A	B	C	D	A	B	C	D	Av(m)	Max (m)	Av(m)	Max (m)	am	pm
A	Great North Road (N)	0	99	834	100	0	170	671	130	50	57	30	36	58 vehHr	71 vehHr
B	Jesmond Dene Road	133	0	539	554	213	0	473	720	20	22	21	28		
C	Great North Road (S)	669	618	0	150	726	541	0	256	13	22	40	48		
D	Grandstand Road	28	499	236	0	42	575	164	0	20	41	41	41		
		4459				4681									

Queue lengths in brackets are those surveyed. The difference between modelled and surveyed queue lengths on Great North Road (N) during the am peak may be because modelled queuing behaviour results in more balanced queues in each lane than happens in reality.