

Your ref:

Our ref: 21714/001/BRI/NC/APR/SG

28 August 2009

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Attn: Paul Robinson – Planning Manager

Dear Paul

RE: Peartree Northern Gateway Site, Oxford: PBA additional information submission following the 27th August 2009 Highways Agency review meeting [Issued by email only]

Thank you once again for your time yesterday to run through the revised agenda circulated by the Inspector with regard to the Matter 8A Northern Gateway (Policy CS6) rescheduled hearing sessions on 10th and 11th September 2009.

Responding to specific matters (at '3.1 Access and Highways') identified by the Inspector within the revised agenda and discussed in some detail at our meeting yesterday, we agreed to circulate further details relating to the Northern Gateway development trip generation and distribution and preliminary mitigation measures identified at this stage.

Accordingly, please find enclosed:

1. Technical Note TN002: Coarse Trip Generation and Distribution

This Technical Note sets out a coarse appraisal of the anticipated traffic generation and distribution resulting from Northern Gateway development proposals. A range of development quantum is considered and 'aspirational' traffic generation resulting from development proposals identified.

It is acknowledged that the methodology adopted at this stage remains subject to further development and refinement through the detailed transport assessment stages. However, the details set out respond directly to requests for clarification from the Inspector as set out with the revised agenda.

It is also acknowledged that the trip generation and mode share targets will remain subject to further interrogation. However, the approach adopted reflects the objectives and strategy outlined within our Preliminary Transport Strategy (June 2009).

Notwithstanding the above, we consider that the details presented do provide a sound basis for further discussion and at this stage will inform our representations made at the 10th and 11th hearing sessions.

2. Preliminary Schedule of Key Infrastructure Measures (v2)

The measures identified remain preliminary at this stage in terms of the measures proposed, the associated costings and anticipated relationship with the Access to Oxford 'Northern Approaches' and 'A34' schemes. Phases are provided to give an indication of the likely stages of delivery.

In the absence of detailed proposals identified by the Access to Oxford schemes at this stage, the information presented that specifically relates to the Access to Oxford schemes are a best estimate and require further consideration and input from the Highways Agency and Oxfordshire County Council.

Notwithstanding this, the enclosed schedule provides an indication as to how specific measures could be delivered by the Northern Gateway Consortium and/or by the Northern Gateway Consortium in partnership with the Access to Oxford proposals. Accordingly, we consider that the details presented do provide a sound basis for further discussion and at this stage will inform our representations made at the 10th and 11th hearing sessions.

As discussed at our meeting yesterday, the enclosed documents summarise extensive works undertaken by PBA on behalf of the Northern Gateway Consortium. The information set out within the enclosed follows on from works previously presented within our Preliminary Transport Strategy (June 2009) and associated submissions through the various stages Core Strategy development process.

We would like to take the opportunity to clarify that the information presented within the enclosed remains subject to ongoing development through the detailed transport assessment stages to follow. This will involve continued consultation with the Highways Agency and Oxfordshire County Council.

The purpose of this submission is to provide the Highways Agency and Oxfordshire County Council the opportunity to review this additional information in advance of the 10th and 11th hearing sessions. We would welcome any feedback / comment at this stage and we would be particularly keen to explore the opportunity to present any agreed or common ground directly to the Inspector, should you feel this is achievable within the timescales.

We have copied in Alex Woo at Parsons Brinkerhoff, Steve Hayes at Oxfordshire County Council and Tom Morris / Matt Bates at Oxford City Council to this correspondence as agreed at our meeting. By way of copy we would be pleased to discuss further with any of the recipients, although would respectfully ask for circulation of this letter and enclosures to be limited to the circulation list below at this stage.

Should you have any queries in relation to the enclosed, please do not hesitate to contact me. In the meantime, we look forward to hearing from you in relation to the above and the enclosed.

Yours sincerely

Nick Church
Principal Transport Planner
For and on behalf of
PETER BRETT ASSOCIATES LLP

Enc: Technical Note TN002: Coarse Trip Generation and Distribution
Preliminary Schedule of Key Infrastructure Measures (v2)

Cc: Alex Woo (Parsons Brinkerhoff) – letter and enclosures
Steve Hayes (Oxfordshire County Council) - letter and enclosures
Tom Morris (Oxford City Council) – letter and enclosures
Matt Bates (Oxford City Council) – letter and enclosures
Kevin Dixon (Kier) – letter and enclosures
Robin Moxon (Goodman) – letter and enclosures
Tony Russell (PBA) – letter and enclosures

TECHNICAL NOTES



Job Name: Northern Gateway Site, Oxford
Job No.: 21714
Note No.: TN002
Date: 26/08/09
Subject: Coarse Trip Generation and Distribution
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Reviewed By: Nick Church

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Item	Subject
TO BE READ IN CONJUNCTION WITH PBA CORRESPONDENCE TO PAUL ROBINSON OF THE HIGHWAYS AGENCY DATED 28 AUGUST 2009	
1.	Introduction <p>This Technical Note has been prepared by Peter Brett Associates LLP (PBA) on behalf of the Northern Gateway Consortium and follows on from works previously presented within the PBA Preliminary Transport Strategy (June 2009) and associated submissions through the various stages Oxford Core Strategy development process.</p> <p>The purpose of this Technical Note is to set out the proposed traffic generation of the Northern Gateway site, Oxford. The note sets out the traffic generation for each land use in turn before summarising the total traffic generation within Section 7.</p> <p>This Technical Note should be read in conjunction with PBA correspondence to Paul Robinson of the Highways Agency dated 28 August 2009.</p> <p>This Technical Note sets out a coarse appraisal of the anticipated traffic generation and distribution resulting from Northern Gateway development proposals. A range of development quantum is considered and 'aspirational' traffic generation resulting from development proposals identified.</p> <p>The 'aspirational' traffic generation presented assumes the identification, adoption and implementation of a comprehensive transport strategy designed to prioritise access to the Northern Gateway site by sustainable modes. Whilst it is acknowledged that the transport strategy and associated mitigation measures remain subject to further development at this stage, it is considered that the details presented provide a sound basis for further discussion going forward.</p> <p>Accordingly, it is acknowledged that the methodology adopted at this stage remains subject to further development and refinement through the detailed transport assessment stages and approval process through continued consultation with the Highways Agency and Oxfordshire County Council.</p> <p>Notwithstanding the above, it is considered that the details presented provide a sound basis for further discussion and at this stage will be adopted to inform representations made at the Oxford Core Strategy Examination in Public 'Matter 8A Northern Gateway' hearing sessions on the 10th and 11th September 2009.</p>

2. B1 Employment

The Core Strategy for Oxford sets out a Gross Floor Area (GFA) target for employment use at the Northern Gateway site of between 55,000m² and 80,000m². In order to identify the number of trips that will be generated by this development trip rates have been calculated from the TRICS database for Business Park uses, these are set out within **Table 2-1** below. The full TRICS data output is attached at **Appendix A**.

Table 2-1

TRICS Trip Rate per 100m ²	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1	1.442	0.178	1.62	0.170	1.155	1.325

From these trip rates high and low vehicle trips can be calculated. These are set out within **Table 2-2** below.

Table 2-2

TRICS Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1 High	1154	142	1296	136	924	1060
B1 Low	793	98	891	94	635	729

These trips are based on a trip rate and mode split as obtained from the TRICS database. The sites used are a selection from around the country and the mode split for these sites is as shown in **Table 2-3** below.

Table 2-3

TRICS Mode Split				
Car Driver	Car Passenger	PT Users	Cyclists	Pedestrians
77.8%	12.7%	1.6%	1.9%	6.0%

From **Tables 2-2** and **2-3** above the number of person trips for the site is able to be calculated, these are illustrated within **Table 2-4** below.

Table 2-4

TRICS Person Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1 High	1483	183	1666	175	1188	1362
B1 Low	1019	126	1145	120	817	937

The predicted vehicle trips illustrated within **Table 2-2** have been predicted based upon sites at various out of town locations from around the country; these sites have varying degrees of accessibility to public transport and other sustainable means of transport. Oxford is recognised as being a sustainable city in terms of transport use and so it is PBA's belief that a local mode split figure should be used to predict the level of vehicle trips to be generated by the site. This has been undertaken for the B1 element of the development using 2001 census journey to work surveys. This data provides an accurate record of the origin and destination of people's journey to work by mode. This data has therefore been used as a basis for an accurate mode split of people travelling to Oxford to work. This mode split is illustrated within **Table 2-5** below.

Table 2-5

Census Data Mode Split					
Car Driver	Car Passenger	PT Users	Cyclists	Pedestrians	Other
53.7%	4.3%	17.5%	12.4%	9.7%	2.4%

Using the person trips calculated within [Table 2-4](#) and the mode split presented within [Table 2-5](#) it is possible to calculate revised vehicle trips based upon the local Oxford mode split, this is illustrated within [Table 2-6](#) below.

Table 2-6

Census Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1 High	796	98	895	94	638	732
B1 Low	547	68	615	65	438	503

3. Residential

The Core Strategy for Oxford sets out a number of dwellings target for residential use at the Northern Gateway site of between 140 and 200 units. The development team believe that the site may have capacity for between 390 and 465 units therefore the total trips generated by all scenarios has been calculated. In order to identify the number of trips that will be generated by this development trip rates have been calculated from the TRICS database for Residential uses, these are set out within [Table 3-1](#) below. The full TRICS data output is attached at [Appendix B](#).

Table 3-1

TRICS Trip Rate per dwelling	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Residential	0.154	0.422	0.576	0.383	0.221	0.604

From these trip rates high and low vehicle trips can be calculated. These are set out within [Table 3-2](#) below.

Table 3-2

TRICS Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
High Core Strategy	31	84	115	77	44	121
Low Core Strategy	22	59	81	54	31	85
High Client Figure	72	196	268	178	103	281
Low Client Figure	60	165	225	149	86	236

These trips are based on a trip rate and mode split as obtained from the TRICS database. The sites used are a selection from around the country and the mode split for these sites is as shown in [Table 3-3](#) below.

Table 3-3

TRICS Mode Split				
Car Driver	Car Passenger	PT Users	Cyclists	Pedestrians
58.1%	21.9%	2.8%	2.3%	15.0%

From [Tables 3-2](#) and [3-3](#) above the number of person trips for the site is able to be calculated, these are illustrated within [Table 3-4](#) below.

Table 3-4

TRICS Person Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
High Core Strategy	53	145	198	132	76	208
Low Core Strategy	37	102	139	92	53	146
High Client Figure	123	338	461	307	177	483
Low Client Figure	103	283	387	257	148	405

The predicted vehicle trips illustrated within **Table 3-2** have been predicted based upon sites at various out of town locations from around the country; these sites have varying degrees of accessibility to public transport and other sustainable means of transport. Oxford is recognised as being a sustainable city in terms of transport use and so it is PBA's belief that a local mode split figure should be used to predict the level of vehicle trips to be generated by the site. This has been undertaken for the residential element of the development using 2001 census journey to work surveys. This data provides an accurate record of the origin and destination of people's journey to work by mode. This data has therefore been used as a basis for an accurate mode split of people travelling from their home in Oxford to work. This mode split is illustrated within **Table 3-5** below.

Table 3-5

Census Data Mode Split					
Car Driver	Car Passenger	PT Users	Cyclists	Pedestrians	Other
45.3%	4.4%	17.6%	16.3%	14.0%	2.4%

Using the person trips calculated within **Table 3-4** and the mode split presented within **Table 3-5** it is possible to calculate revised vehicle trips based upon the local Oxford mode split, this is illustrated within **Table 3-6** below.

Table 3-6

Census Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
High Core Strategy	24	66	90	60	34	94
Low Core Strategy	17	46	63	42	24	66
High Client Figure	56	153	209	139	80	219
Low Client Figure	47	128	175	116	67	184

4. Emergency Services

The Core Strategy for Oxford sets out a GFA target for emergency services use at the Northern Gateway site of 10,000m². In the absence of detailed proposals as to what type of emergency services provision this would be likely to accommodate, a worst case assumption has been made with the end user assumed to be entirely office-based. Accordingly and in order to identify the number of trips that will be generated by this development trip rates have been calculated from the TRICS database for B1 Employment uses, these are set out within **Table 4-1** below. The full TRICS data output is attached at **Appendix A**.

Table 4-1

TRICS Trip Rate per 100m ²	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1	1.442	0.178	1.62	0.170	1.155	1.325

From these trip rates high and low vehicle trips can be calculated. These are set out within **Table 4-2** below.

Table 4-2

TRICS Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1	144	18	162	17	116	133

These trips are based on a trip rate and mode split as obtained from the TRICS database. The sites used are a selection from around the country and the mode split for these sites is as shown in **Table 4-3** below.

Table 4-3

TRICS Mode Split				
Car Driver	Car Passenger	PT Users	Cyclists	Pedestrians
77.8%	12.7%	1.6%	1.9%	6.0%

From **Tables 4-2** and **4-3** above the number of person trips for the site is able to be calculated, these are illustrated within **Table 4-4** below.

Table 4-4

TRICS Person Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1	185	23	208	22	148	170

The predicted vehicle trips illustrated within **Table 4-2** have been predicted based upon sites at various out of town locations from around the country; these sites have varying degrees of accessibility to public transport and other sustainable means of transport. Oxford is recognised as being a sustainable city in terms of transport use and so it is PBA's belief that a local mode split figure should be used to predict the level of vehicle trips to be generated by the site. This has been undertaken for the B1 element of the development using 2001 census journey to work surveys. This data provides an accurate record of the origin and destination of people's journey to work by mode. This data has therefore been used as a basis for an accurate mode split of people travelling to Oxford to work. This mode split is illustrated within **Table 4-5** below.

Table 4-5

Census Data Mode Split					
Car Driver	Car Passenger	PT Users	Cyclists	Pedestrians	Other
53.7%	4.3%	17.5%	12.4%	9.7%	2.3%

Using the person trips calculated within **Table 4-4** and the mode split presented within **Table 4-5** it is possible to calculate revised vehicle trips based upon the local Oxford mode split, this is illustrated within **Table 4-6** below.

Table 4-6

Census Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1	100	12	112	12	80	91

5. **Hotel**

The Core Strategy for Oxford sets out a target for hotel use at the Northern Gateway site of between 120 and 180 beds. In order to identify the number of trips that will be generated by this development trip rates have been calculated from the TRICS database for Hotel uses, these are set out within **Table 5-1** below. The full TRICS data output is attached at **Appendix C**.

Table 5-1

TRICS Trip Rate per bedroom	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Hotel	0.175	0.254	0.429	0.103	0.135	0.238

From these trip rates high and low vehicle trips can be calculated. These are set out within **Table 5-2** below.

Table 5-2

TRICS Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
High Beds	32	46	77	19	24	43
Low Beds	21	30	51	12	16	29

These trips are based on a trip rate and mode split as obtained from the TRICS database. The sites used are a selection from around the country and the mode split for these sites is as shown in **Table 5-3** below.

Table 5-3

TRICS Mode Split				
Car Driver	Car Passenger	PT Users	Cyclists	Pedestrians
64.9%	8.6%	13.8%	4.5%	8.4%

From **Tables 5-2** and **5-3** the number of person trips for the site is able to be calculated, these are illustrated within **Table 5-4** below.

Table 5-4

TRICS Person Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
High Beds	49	70	119	29	37	66
Low Beds	32	47	79	19	25	44

6. **Retail**

The Core Strategy for Oxford sets out a GFA target for retail use at the Northern Gateway site of 2,500m². The development team believe that the site may have capacity for between 2,500m² and 3,500m² therefore the total trips generated by all scenarios have been calculated. In order to identify the number of trips that will be generated by this development trip rates have been calculated from the TRICS database for Retail uses, these are set out within **Table 6-1** below. The full TRICS data output is attached at **Appendix D**.

Table 6-1

TRICS Trip Rate per 100m ²	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Retail	4.17	3.991	8.161	4.326	4.136	8.462

From these trip rates high and low vehicle trips can be calculated. These are set out within **Table 6-2** below.

Table 6-2

TRICS Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Floor Area Core Strategy	104	100	204	108	103	212
High Floor Area Client	146	140	286	151	145	296
Low Floor Area Client	104	100	204	108	103	212

These trips are based on a trip rate and mode split as obtained from the TRICS database. The sites used are a selection from around the country and the mode split for these sites is as shown in **Table 6-3** below.

Table 6-3

TRICS Mode Split				
Car Driver	Car Passenger	PT Users	Cyclists	Pedestrians
51.3%	12.4%	0.5%	1.1%	34.5%

From **Tables 6-2** and **6-3** the number of person trips for the site is able to be calculated, these are illustrated within **Table 6-4** below.

Table 6-4

TRICS Person Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Floor Area Core Strategy	203	194	398	211	202	412
High Floor Area Client	285	272	557	295	282	577
Low Floor Area Client	203	194	398	211	202	412

It is considered that the majority of trips using the retail facilities at the site would be pass-by trips and trips linked with other uses at the site. As a result of this and to prevent the double counting of trips for the purposes of this exercise 75% of trips to these retail uses have been removed. The resulting vehicle and person trips are demonstrated below within **Tables 6-5** and **6-6** respectively.

Table 6-5

Vehicle Trips with 75% linked / pass by removed	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Floor Area Core Strategy	26	25	51	27	26	53
High Floor Area Client	36	35	71	38	36	74
Low Floor Area Client	26	25	51	27	26	53

Table 6-6

Person Trips with 75% linked / pass by removed	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Floor Area Core Strategy	51	49	99	53	50	103
High Floor Area Client	71	68	139	74	71	144
Low Floor Area Client	51	49	99	53	50	103

7. **Trip Summary**

From the calculations above the total number of trips generated by the Northern Gateway site can be calculated. This is illustrated below in **Table 7-1** for each development scenario.

Table 7-1

Vehicle Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Core Strategy High	977	247	1224	211	802	1013
Core Strategy Low	711	181	892	157	584	742
Client High	1020	344	1364	301	858	1159
Client Low	741	264	1004	232	627	860

Within **Table 7-2** below the Core Strategy High scenario has been broken down into its constituent development parts for an easy comparison of the different land uses.

Table 7-2

Vehicle Trips - Core Strategy High	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1 Employment	796	98	895	94	638	732
Residential	24	66	90	60	34	94
Emergency Services	100	12	112	12	80	91
Hotel	32	46	77	19	24	43
Retail	26	25	51	27	26	53
Total	977	247	1224	211	802	1013

It is also possible to calculate the total number of person trips that is likely to be generated by the development. This has been undertaken for each scenario within [Table 7-3](#) and the Core Strategy High scenario has been broken down into its constituent parts within [Table 7-4](#).

Table 7-3

Person Trips	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Core Strategy High	1820	470	2291	410	1500	1910
Core Strategy Low	1325	346	1671	306	1094	1400
Client High	1911	682	2593	606	1621	2227
Client Low	1391	528	1919	471	1189	1660

Table 7-4

Person Trips - Core Strategy High	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
B1 Employment	1483	183	1666	175	1188	1362
Residential	53	145	198	132	76	208
Emergency Services	185	23	208	22	148	170
Hotel	49	70	119	29	37	66
Retail	51	49	99	53	50	103
Total	1820	470	2291	410	1500	1910

From [Tables 7-1](#) and [7-3](#) above the overall mode split by car for each development scenario has been calculated. This information is displayed in [Table 7-5](#).

Table 7-5

Mode Split by Car	AM Peak	PM Peak
Core Strategy High	53.5%	53.0%
Core Strategy Low	53.4%	53.0%
Client High	52.6%	52.1%
Client Low	52.3%	51.8%

8. Trip Distribution

In order to gain an initial understanding of the travel patterns that may occur from development on the Northern Gateway site a review of Journey to Work data for the 2001 Census has been carried out. The Census data has been interrogated to include all journey to work related trips of people living in Oxford District and for people who work in Oxford District and a summary of this information is provided within [Appendix E](#).

The journey to work data has been analysed and a manual assignment of trips conducted in order to determine the route of traffic arriving and departing the Northern Gateway site and the likely level of traffic that could be expected to use the local road network. The manual assignment was conducted based on the following assumptions:

- Data identifying those who predominantly work from home has been removed from the analysis;
- Traffic travelling to / from the north has been assumed to use the A32 north;
- Traffic travelling to / from London and the south east has been assumed to use the A40 east;
- Traffic travelling to / from the south west has been assumed to use the A420 south via A34 south;
- Traffic travelling to / from Reading and West Berkshire has been assumed to use the A4074 south via the A34 south;
- Traffic travelling to / from the south is assumed to use the A34 south;
- Traffic travelling to / from the west is assumed to use the A40 west; and
- Local traffic travelling to the Oxford district has been assigned on a ward by ward basis.

The assignment of journey to work trips for the main Northern Gateway site is illustrated in **Figures 8-1** and **8-2** and summarised within **Table 8-1** below. The employment uses on site as well as the retail and hotel uses are distributed based on the employment distribution. The residential use is based on the residential distribution.

Table 8-1

Route	Percentage Assignment of Employees Travelling To / From Northern Gateway Site	Percentage Assignment of Residents Travelling To / From Northern Gateway Site
A34 North	23.17%	12.34%
A34 South	24.82%	25.41%
A44 North	6.52%	2.43%
A40 West	7.54%	2.71%
A4144 South	3.93%	9.06%
A4165 South	0.54%	1.19%
A40 East	33.42%	46.87%

On this basis the trips generated by the Northern Gateway site have been distributed over the network. The resultant flows are illustrated within **Figures 8-3** and **8-4** for the AM and PM peak hours respectively.

For information the current traffic flows on the network are illustrated within **Figures 8-5** and **8-6**. These traffic flows were surveyed on Wednesday 31st October 2007 with the exception of the P+R junction which was surveyed on Thursday 14th October 2004.

Peartree Northern Gateway

Preliminary Schedule of Key Infrastructure Measures (v2) - based on Preliminary Transport Statement proposals (& further measures)

Prepared by: Nick Church (28 August 2009)

Reviewed by: Tony Russell (28 August 2009)

On behalf of the Northern Gateway Consortium

TO BE READ IN CONJUNCTION WITH PBA CORRESPONDENCE TO PAUL ROBINSON OF THE HIGHWAYS AGENCY DATED 28 AUGUST 2009



HARD (PHYSICAL) MEASURES					
Northern Gateway Only					
Measure	Why	Delivered By	Land Required	Indicative Cost	Phase (of 3 phases)
Highway link between the A40 and the A44 with x2 signalised access junctions	To provide site access, improved access to the Park & Ride site, enhanced public transport connectivity to the Northern Gateway site and to provide relief to the Wolvercote Roundabout	Northern Gateway	Northern Gateway site & highway boundary	£1,600,000 plus land	1 & 2
2 additional minor access junctions off A40 and A44	Site access incorporating pedestrian, cycle and public transport priority	Northern Gateway	Northern Gateway site & highway boundary	£960,000 plus land	1 & 2
Improved pedestrian and cycle routes – e.g. along the A44 approach (northern carriageway) to the Northern Gateway site	Improve pedestrian and cycle accessibility	Northern Gateway	Northern Gateway site & highway boundary	£270,000 plus land	1
Public Transport Hub / P&R improvements	Improve facilities, operation and capacity of P&R site and to integrate as key feature within Northern Gateway Masterplan	Northern Gateway	Northern Gateway & highway boundary	£1,000,000 plus land	1 & 2
				£3,830,000 plus land	
Northern Gateway & Access to Oxford					
Measure	Why	Delivered By	Land Required	Indicative Cost	Phase (of 3 phases)
Improved formal pedestrian and cycle crossings on the A44 and A40 approaches to the Northern Gateway site	Improve pedestrian and cycle accessibility and safety	Northern Gateway	Northern Gateway site & highway boundary	£500,000 contribution	1
Bus priority on the A44 and A40 approaches to the Northern Gateway site	Improve public transport journey time reliability	Northern Gateway	Northern Gateway site & highway boundary	£500,000 contribution	1 & 2
Public transport service enhancements (including cross-city movements)	Improve public transport accessibility and link to wider city locations	Northern Gateway / Access to Oxford	n/a	£1,000,000 contribution	1 to 3

Peartree Northern Gateway

Preliminary Schedule of Key Infrastructure Measures (v2) - based on Preliminary Transport Statement proposals (& further measures)

Prepared by: Nick Church (28 August 2009)

Reviewed by: Tony Russell (28 August 2009)

On behalf of the Northern Gateway Consortium

TO BE READ IN CONJUNCTION WITH PBA CORRESPONDENCE TO PAUL ROBINSON OF THE HIGHWAYS AGENCY DATED 28 AUGUST 2009



ITS	Network management improvements	Northern Gateway / Access to Oxford	Highway boundary	£500,000 contribution	1 & 2
Safe-guard land to facilitate capacity (dedicated slip) improvements to the A34 Peartree Interchange	Capacity and safety improvements at Peartree Interchange and mainline A34	Access to Oxford	Northern Gateway site	Safe-guarding land	N/A
£2,500,000 plus safe-guarding land					
Access to Oxford Only					
Peartree Interchange Junction Improvements	Relief to congestion and pedestrian, cycle and public transport improvements	Access to Oxford	Highway boundary	£8 to £10 million (estimate based on proportion of the £10m regional funding allocation) NB £62million regional funding allocation has been increased to £88million through local funding sources (therefore could £10m of £62 be assumed to be increased to c£14m – factor of 1.4 uplift)	
Wolvercote Junction Improvements	Relief to congestion and pedestrian, cycle and public transport improvements	Access to Oxford	Highway boundary		
Cuttleslowe Junction Improvements	Relief to congestion and pedestrian, cycle and public transport improvements	Access to Oxford	Highway boundary		

See next page for costing assumptions

Peartree Northern Gateway

Preliminary Schedule of Key Infrastructure Measures (v2) - based on Preliminary Transport Statement proposals (& further measures)

Prepared by: Nick Church (28 August 2009)

Reviewed by: Tony Russell (28 August 2009)

On behalf of the Northern Gateway Consortium

TO BE READ IN CONJUNCTION WITH PBA CORRESPONDENCE TO PAUL ROBINSON OF THE HIGHWAYS AGENCY DATED 28 AUGUST 2009



Broad Costing Assumptions:

1. A40-A44 highway link:

2 x signalised T-junctions (@ £200,000) = £400,000

Services diversions (@ £200,000) = £400,000

350m major access road (@ £1,500 per linear metre) = £525,000

Sub-Total = £1,325,000

20% contingency = £265,000

Total = £1.6 million

2. x2 additional site access T-junctions:

2 x signalised T-junctions (@ £200,000) = £400,000

Services diversions (@ £200,000) = £400,000

Sub-Total = £800,000

20% contingency = £160,000

Total = £960,000

3. A44 (north side) ped/cycleway

500m 3.5m cycle / footway (@ £150 per linear metre) = £75,000

Services diversions (@ £150,000) = £150,000

Sub-total = £225,000

20% Contingency = £45,000

Total = £270,000

4. Bus service extensions / subsidy

Assumes £125,000 (per annum) per new vehicle required (revenue to be returned to the developer)

Peartree Northern Gateway

Preliminary Schedule of Key Infrastructure Measures (v2) - based on Preliminary Transport Statement proposals (& further measures)

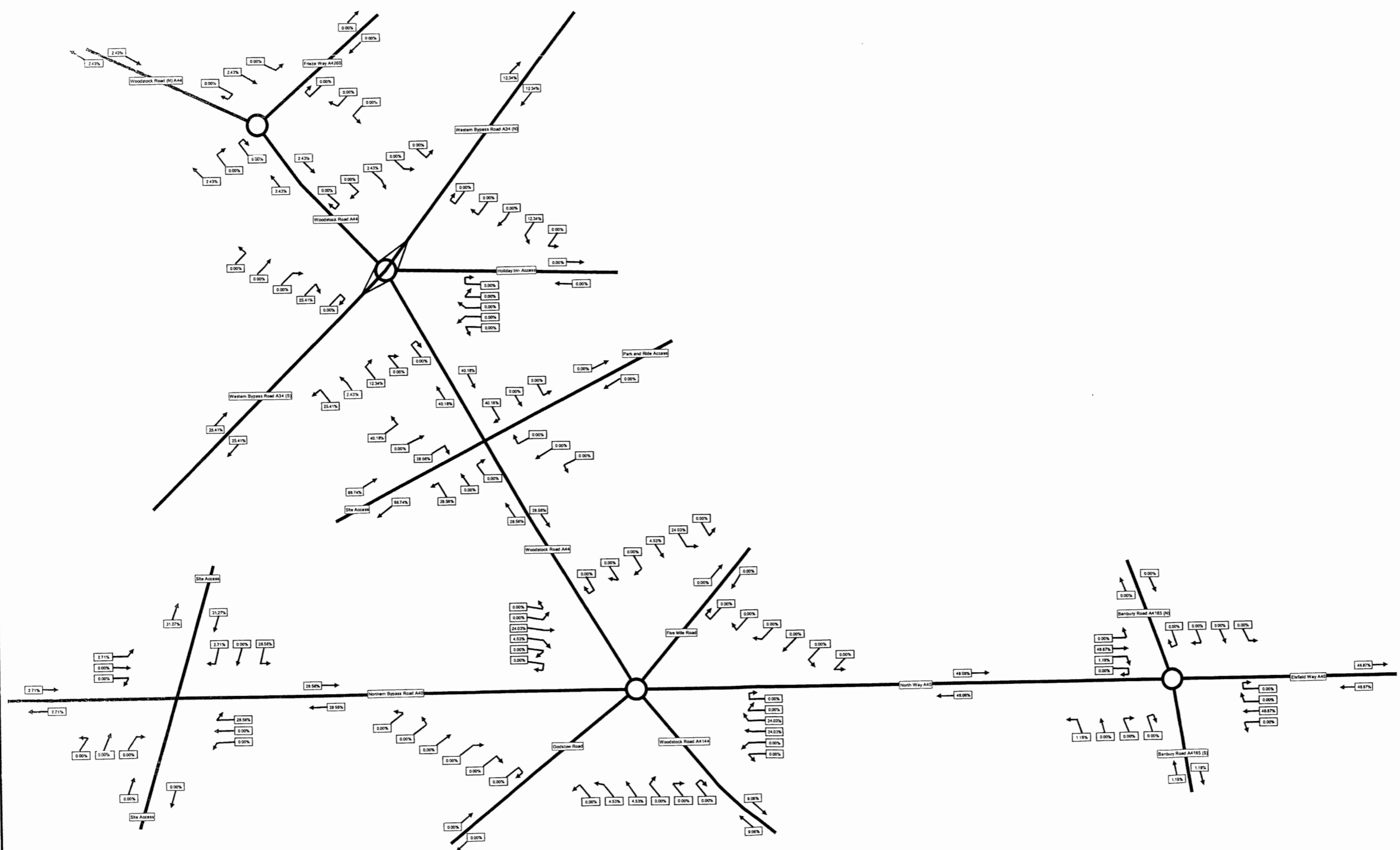
Prepared by: Nick Church (28 August 2009)

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SOFT MEASURES					
Northern Gateway Only					
Measure	Why	Delivered By	Land Required	Cost	Phase (of 3 phases)
Site Travel Planning	Deliver wider benefits and to minimise impacts on the highway network through reduced reliance on the private car. Measures to include individualised travel planning and a comprehensive parking management strategy including car share initiatives.	Northern Gateway	N/A	£1,000,000 (£250,000 start up cost plus £50,000 per annum over 15 year period)	1 to 3
Off-site Travel Planning	Deliver wider benefits and to create headroom in the existing highway network through reduced reliance on the private car. Consider targeting educational establishments to deliver targeted improvements in the morning peak periods.	Northern Gateway	N/A	£250,000 (£25,000 per annum over initial 10 year period)	1 & 2
ITS	Northern Gateway specific internet provision can be developed and integrated with development proposals to report live public transport times and traffic conditions to enable people to make informed decisions as to how and when they should travel.	Northern Gateway	N/A	£500,000	1 to 3
Local bus service extensions (potentially extending service No. 6 into site – including subsidy of service and provision of new vehicles)	Improve public transport accessibility	Northern Gateway	N/A	£1,000,000 contribution	1 to 3
Bus ticket subsidy / free bus pass	Encourage bus use for all employees and residents at the site	Northern Gateway	N/A	£825,000 (assumes 5,000 employees & residents, 1/3 rd taking up an annual travel pass at £500 each)	1 to 3
					£3,575,000



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Client: Goodman / Kier

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Drawing Title:
Residential Traffic Distribution

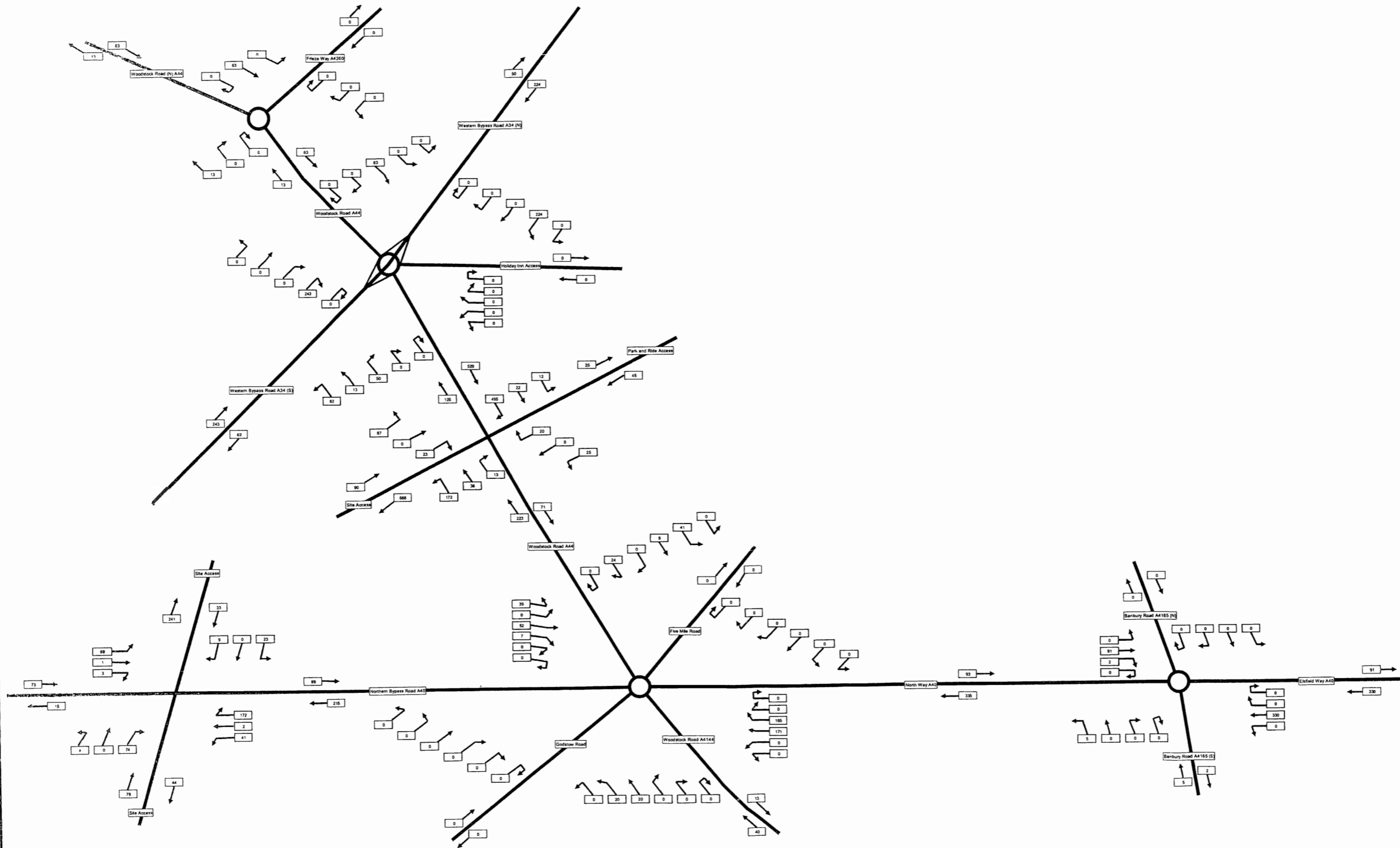
Report Title:
Technote 002 - Traffic Generation and Distribution

Version:

Date: 28.08.09
Scale: N.T.S.
Drawn: PR
Checked: NC

FOR INFORMATION

Figure 8-2



Client: Goodman / Kier

Drawing Title:

Site Traffic AM Peak

FOR INFORMATION

Date: 28.08.09

Scale: N.T.S.

Drawn: PR

Checked: NC

Figure 8-3

Report Title:

Technote 002 - Trip Generation and Assignment

Version:

