

BRENT CROSS CRICKLEWOOD
TRANSPORT MATRIX, MONITORING AND CONTROL
2nd JULY, 2009

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SECTION 1: INTRODUCTION

- 1.1 The highway authorities considering the planning application for the regeneration of BXC are concerned to ensure that a regime is put in place to monitor and control the transport impacts of the project over its lifetime and, particularly, to ensure that the project achieves one of its principal objectives of maximising the use of modes other than the private car. These objectives are considered particularly important given the scale of the development and the likelihood that it will be constructed over a period of at least 15 years.
- 1.2 A number of measures are already in place to regulate the performance of the proposed development and these will be explained briefly in the following section of this Appendix. In addition to those measures, however, this Appendix defines the proposed operation of a Transport Matrix, Phase Transport Reports and Reserved Matters Transport Reports which are proposed (by means of the controls in the proposed planning conditions and planning obligations) to ensure that the BXC development is carried out in a manner which is consistent with the impacts forecast within and meets the criteria for success defined in the BXC Transport Assessment (the "TA") by demonstrating that the development as it proceeds will:
- i. meet policy objectives;
 - ii. mitigate people movement effects through better public transport services and improvements to transport infrastructure; and
 - iii. only proceed within the overall envelope of forecasts and assumptions as to impacts on the transport network as set out in the TA Volumes 1-4 (which expression shall include the TA Supplementary Report (November 2008) and Supplementary Report II (March 2009)).

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- 1.3 The highway authorities have suggested that, for the scheme to be consistent with the impact predicted in the TA at all phases of the development, there should be a rigorously enforceable control mechanism preventing the development coming forward unless it reflects (to the reasonable satisfaction of the highway authorities) the full transportation characteristics and effects of the development as generally no worse than forecast for in the TA for the end state assessment (except in some respects such as for the Modal Split progressions reflecting the predicted changes in mode shift of the Development as set out in Appendix 5). To facilitate the operation of the control mechanisms, this will need to include the following:
- a) a monitoring strategy that measures all trips generated by the development (as well as travel behaviour) such as development traffic, construction traffic and the impact of overlapping phases on the road network on public transport;
 - b) an appraisal methodology that uses best available up to date BXC data from the monitoring strategy at the time of that assessment;
 - c) a report for the relevant phase or, where appropriate, the relevant reserved matters application which responds to benchmarks as defined in this Appendix to ensure that the development continues to behave in accordance with the transport characteristics forecast in the TA;
 - d) a mechanism to ensure that the transport investments being made by the applicant are appropriately integrated into the surrounding transport network satisfactorily for all modes – this will require studies to be undertaken of defined transport corridors and areas which properly connect the development to the wider transport network;
 - e) a means of ensuring that full account is taken of transport issues and a comprehensive pedestrian and cycle network is provided within the site and connecting to adjacent areas as the development progresses.
- 1.4 Specific objectives for the Transport Matrix, Corridor and Area Studies and the Transport Reports have been defined by TfL, as follows:-
- i. matching development phases to overall transport capacity;*
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- ii. *to provide an assessment tool that monitors the achievement of the sustainable transport objectives set out in the Framework Travel Plan and ensures that the impacts of the Development (measured in trips) as it proceeds are within the forecast levels as represented by the Benchmarks defined in this Appendix;*
 - iii. *ensure land is made available by the applicant for the transport needs of the scheme and ensure that the transport network provided can service the site;*
 - iv. *ensure that the transport corridors that serve the site are improved by the Developer to mitigate the impact of the development, to support improvements to network performance and sustainable transport objectives.*
 - v. *ensure public transport facilities are upgraded alongside service enhancements which are to be funded by the applicants and to be provided with Network Rail, TfL or appropriate other transport provider;*
 - vi. *promote the safety of all transport users, in particular pedestrians, cyclists, disabled people, public transport, freight and business;*
 - vii. *help to mitigate the impacts of the development on the transport network;*
 - viii. *ensure no over provision of parking supply at any phase of the development and that car parking provision is made consistently with the objectives in the TA to achieve enhanced mode shares for non- car modes.*
- 1.5 This report explains how the Transport Matrix, Corridor/Area Studies, Phase and Reserved Matters Transport Reports would meet these shared objectives.

SECTION 2: A FRAMEWORK OF CONTROL

a) Controls offered to date

- 2.1 A number of controls and initiatives are proposed in the BXC planning application to ensure that the development is properly regulated and, in particular, to ensure that the development comes forward in conformity with the assumptions, assessments, commitments and undertakings which form part of the application.
- 2.2 The development is subject to a detailed description, set out in the BXC Revised Development Specification and Framework (the RDSF) which includes appendices and Parameter Plans. In addition, detailed drawings are submitted for the design of 9 "gateway junctions" connecting the development to the surrounding highway network. Planning conditions are proposed requiring all reserved matters to be in accordance with the parameters and principles defined in the RDSF (including its appendices and the Parameter Plans), as well as those defined in the accompanying Design and Access Statement and a Design Guidelines document. In combination, these documents prescribe the nature of the development which can come forward under the proposed planning permission. For example, the maximum proposed floorspace is identified, including its breakdown between different land uses and its distribution across 9 different Development Zones within the regeneration area. Significant certainty is established, therefore, in relation to the nature and scale of the development.
- 2.3 A clear commitment is also given to the content and documentation of reserved matters applications (RMAs) to ensure that they do come forward in conformity with the BXC planning consent. Prominent amongst these controls is the specification of a high level of detailed information that will be required to support all substantive RMAs and relevant Other Matter Applications (OMA). The conditions would require each RMA and OMA to demonstrate its conformity with all of the controls and restrictions contained within the planning consent. Additionally, each RMA must be accompanied by a statement and a plan identifying how the progressive build out of the development can be reconciled with a satisfactory, comprehensive end state regeneration of the area (for details see RDSF Section 6).

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- 2.4 Parameters and principles defined in the planning application which will be incorporated into the planning permission by means of obligations and conditions define the performance of all of the principal characteristics of the development, including its characteristics in relation to heights, layout, design, landscaping, open space, energy, water, waste, drainage, estate management, affordable housing etc. In addition, a detailed framework of control is proposed in relation to transportation.
- 2.5 In particular, the RDSF sets maximum parking standards for each land use, whilst Parameter Plan 2 defines the principles of the layout of the internal highway and public transport network to complement the location of the nine gateway junctions. The RDSF provides (para 6.5) that no development may be approved within any Phase until the general location of key roads and pedestrian/cycle routes, public realm and principal open spaces has been designed and approved, to provide a framework for the disposition of development within the relevant Phase of the Development and to ensure that it is properly connected to surrounding areas and the transport network. The physical characteristics of the proposed development, therefore, are closely defined and a definitive process is put in place to ensure that the authorities will have control, within the parameters and principles defined, over the layout and specification of critical transport infrastructure within each relevant Phase of the development before the development will commence in such Phase.
- 2.6 In addition, a series of demand management measures are proposed to regulate the performance of the development. In relation to transport, these demand measures include:-
- i. provision for residential car parking to reduce over time on a sliding scale from a ratio of 1:1 in the Primary Development Package (PDP) down to 0.7 with the precise level to be determined at the RMA stage – this may include a proportion of car free housing with the agreement of the planning authority;
 - ii. charging for retail, office, residential and on street car parking, save for special needs requirements (such as disabled);

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- iii. Walking and Cycling to be specifically considered as part of the reconciliation mechanism as set out in Section 6 of the RDSF that will ensure networks proposed in detail for each phase/zone conform with coherent overall proposals and provide proper connections to surrounding areas and the wider network at each phase of the development;
 - iv. a Framework Travel Plan which sets objectives for a progressive enhancement of mode split towards public transport, reinforced by continuous monitoring and by a requirement for Individual Travel Plans (ITPs) for each plot development;
 - v. the appointment of a Travel Plan Co-ordinator (TPC) and a Traffic Management Officer to co-ordinate and reinforce compliance with the transport obligations;
 - vi. Bus Enhancement Contributions;
 - vii. a Transport Fund – to be paid to LB Barnet (LBB) under the Section 106 Agreement and to be spent by the authorities on a wide range of measures to mitigate any unpredicted impacts and to enhance the transport performance of the development;
 - viii. a contribution towards improving the corridors outside the development, specifically the A5, and pedestrian and cycle routes;
 - ix. the establishment of a Transport Advisory Group, drawn from the principal stakeholders to receive output from monitoring and to liaise and advise on the evolving implementation of the transport strategy, as the development proceeds; and
 - x. provision of on street parking controls through the progressive implementation of the development and work with the authorities to investigate and assist facilitate the extension of existing or introduction of new off site parking zones as necessary.

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- 2.7 In addition to these measures, the planning application defines a series of infrastructure investments (priced in excess of £400 million) which are to be delivered as the development proceeds in accordance with detailed Delivery Programmes which will be consistent with the parameters and principles as to sequencing of operations for the delivery of Critical Infrastructure as set out in the Indicative Construction Programme. The delivery of each element of infrastructure is also linked to a defined trigger and Grampian conditions/obligations are proposed to ensure that the infrastructure item is provided prior to the opening of the development to which it most directly relates.
- 2.8 Whilst the precise programme of development has not been pre-determined, the first phase of development will be the Primary Development Package (also known as Phase 1), which is defined in Section 6 of the RDSF and which includes a number of the principal transport improvements and investments. It is anticipated that a planning condition will be imposed on the grant of consent requiring delivery programmes to be submitted and approved prior to the development of each phase so as to ensure delivery of the Critical Infrastructure to support the development consistent with the parameters and principles in the Indicative Construction Programme. The Phase Transport Reports will need to be consistent with the programme assumptions for the Critical Infrastructure from approved Delivery Programmes as relevant to that Phase Transport Report.
- 2.9 It is against this general background of control that it is proposed to explain and define the proposed operation of the Transport Matrix, the Phase and Reserved Matters Transport Reports and the Corridor and Area Studies.

b) Additional Controls

- 2.10 The Transport Matrix is explained and defined in the next section of this document.

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- 2.11 In relation to Phase Transport Reports (PTR), Section 6 of the RDSF, explains (and it is anticipated that pre-phase conditions will require) no substantive Reserved Matter Applications be approved within any Phase until the general location of primary and secondary roads, pedestrian/cycle routes (main connections as shown on Parameter Plan 003), and principal open spaces have been designed and approved. These would either be the indicative phases shown on Parameter Plan 029 or such other phases as may be approved by the planning authority in accordance with the anticipated planning conditions. This would maintain proper control by the planning authority in relation to the physical layout of the transport infrastructure and will also enable the provision of a PTR which would be required to explain and justify not only the proposed physical layout of the transport infrastructure but also proposals for its phased implementation.
- 2.12 PTRs, therefore, would be expected to explain and justify the proposed framework of transport infrastructure for each phase of the development (having regard to the outcome of the Transport Matrix) and to set out proposals for its phased implementation, in accordance with the parameters and principles contained within the RDSF. PTRs will need to be sufficient on this basis to support the detailed applications in relation to the Reserved Matters and Other Matter Applications in relation to the primary and secondary roads, pedestrian and cycle routes (main connections as shown on Parameter Plan 003 unless exclusively serving plot development) and any other appropriate transport infrastructure relevant to the zone.

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- 2.13 An overall scope for the PTRs is contained in Appendix 4, together with the proposed scope of the RMTRs but the final scope for each PTR will be agreed with the authorities, within the overall scope, to allow appropriate specific issues to be considered. As Appendix 4 makes clear, it is intended that this approach to assessment post the grant of outline planning permission would enable a structured and rational approach to be taken to the approval of transport infrastructure to be delivered in accordance with the planning permission. In particular, the PTR assessment and justification will be undertaken on the basis of the approved parameters and principles for the development within the Phase in question (including clearly stated assumptions as to the delivery of Critical Infrastructure consistent with the relevant approved Delivery Programme) recognising that design detail will fall to be considered in the RMTR, when detailed proposals are submitted for the development of individual plots, public realm, tertiary roads and junctions, local and Plot specific pedestrian and cycle routes (ie non main connections as shown on Parameter Plan 003), etc. Whilst there may be some risk of overlap between PTRs and RMTRs, the proposed scope for the RMTRs makes clear that they would not need to deal with matters already settled in the approved PTRs, if and to the extent that they were consistent with the approved PTRs.
- 2.14 The detailed scope of transport monitoring is set out in Appendix 6, based on the Framework Travel Plan and section 5 of the technical note TN42. For the avoidance of doubt, monitoring will be carried out of trips with an origin or destination within the BXC development, sufficient to address the Transport Matrix and other obligations set out in this document and in the Framework Travel Plan.
- 2.15 The parameters for car parking are set out in the RDSF. In relation to residential car parking, a sliding scale is proposed. It is proposed that the precise level of residential car parking should be determined within each PTR or RMTR (where deferred by the PTR). In considering the appropriate level of residential car parking regard shall be had to the following:-
- i. the need to achieve the progressions to mode share targets set out in the TA and the Transport Matrix;
 - ii. the need to ensure that the viability of development is not unnecessarily constrained by parking limitations;
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- iii. the capacity of transport infrastructure;
 - iv. the need to achieve a high quality, sustainable development; and
 - v. Public Transport Accessibility Levels (PTAL).

2.16 Against this background more detail is set out in the following sections on the proposed operation of the Transport Matrix, the Corridor and Area Studies and the Phase and Reserved Matters Transport Reports.

SECTION 3: TRANSPORT MATRIX

3.1 The purpose of the Transport Matrix is to demonstrate that the proposed development will continue to operate within the envelope of performance which is described and assessed within the BXC Transport Assessment. A robust mechanism is proposed which would ensure that:

- the development will at each stage progressively achieve its forecast mode share in accordance with the objectives set in the Framework Travel Plan;
- the development will at no stage impose demands or impacts on the transport network greater than those assessed at the end state in 2026 in the BX Transport Assessment (except in some respects such as for the Modal Split reflecting the predicted progressive mode shift of the Development as set out in Appendix 5); and
- transport infrastructure will be provided in accordance with actual needs (rather than simply forecast needs) generated by the development.

3.2 It is proposed that a spreadsheet based assessment is undertaken (ie the Transport Matrix) by the applicants prior to the submission of the first substantive reserved matter application within that Phase (or relevant Other Matters Application) in which reasonable transport impacts need to be considered to demonstrate that the forecast impacts of the next proposed stage of the development will be consistent with the envelope of the impacts assessed in the End State BXC Transport Assessment (except in some respects such as for the Modal Split reflecting the predicted progressive mode shift of the Development as set out in Appendix 5), having regard to the real life, monitored effects of any elements of the development which have been constructed by that time. That assessment would need to be approved by the Borough Council and TfL before the first substantive RMA could be submitted in that Phase.

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- 3.3 As with the other environmental parameters, the purpose of this control is to ensure that the development operates in a manner consistent with that which has been assessed in the EIA process in relation to the planning application and TA. In the event that the application of the Transport Matrix demonstrates, by reference to the Benchmarks defined in this Appendix, either that the development is likely to exceed the predicted impacts or failing to meet its progression toward mode share target, the applicants would, in consultation with the highway authorities have the following choices – in order to ensure that the development can proceed and operate within the predicted impacts, whilst meeting relevant mode share progression to targets:-
1. to impose additional demand management measures on the proposed development to control its performance, so as to bring the development as a whole (ie the development built thus far and that proposed in the prospective RMA) within the terms of the Transport Matrix; and/or
 2. to bring forward proposals for early delivery of infrastructure to mitigate the exceedances of impacts identified in the Matrix (and/or associated Transport Report) even if their official trigger point has not yet been reached, where this would assist in bringing the development within the terms of the Transport Matrix, as defined by the relevant Benchmarks; and/or
 3. to offer additional mitigation measures which may render the impacts acceptable to the authorities and consistent with the relevant Benchmarks; and/or
 4. to submit a revised planning application with a fresh Transport Assessment.
- 3.4 In respect of the first 3 of these alternatives, it may be appropriate for the applicants to use the BXC Transport Model, or such other model as agreed by the Development Partners, the local planning authority and TfL, together with relevant monitoring information to demonstrate that the future performance of the BXC development, with any additional measures then proposed, is likely to perform within the terms set by the Transport Matrix. The fourth alternative is likely to require a new model to be developed.
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- 3.5 In other words, this mechanism acts as a "gate keeper" preventing the submission of substantive RMA (or relevant Other Matter Application) in which transport impacts may need to be reasonably considered where the applicant cannot demonstrate that the effects of the development would fall within the effects predicted in the BXC Transport Assessment. Where the application of the Matrix demonstrates that the development will continue to operate in accordance with the TA forecasts and the benchmarks defined in this Appendix (and, therefore, permits the submission of RMAs), any mitigation measures proposed within the Phase or Reserved Matters Transport Reports, or within the Corridor and Area Studies, or through the operation of the FTP, will be limited to the mitigation measures defined in the BXC planning permission, unless the applicant decides to offer and the Council approves additional mitigation.
- 3.6 Appendix 1 contains a table which illustrates the headings and approach of the Transport Matrix. Appendix 2 contains a series of work sheets (and written narratives) which describe and define the Benchmarks for each heading within the Transport Matrix. With the benefit of the monitoring information which is committed to in the Framework Travel Plan, it is proposed that the Transport Matrix would involve examining the performance of the development so far developed, together with the forecast performance of the proposed next stage of the development to be applied for in the prospective RMA against these benchmarks. The Matrix itself is best summarised as follows:-

Table 3.1 – Details of the BXC Transport Matrix

Worksheet	Benchmark Test	Failure
T1	Introduction.	
T2 – T10	Details of Development Quantum – does the proposed RMA floorspace fall within the land use and locational parameters set out in RDSF Appendix 5?	Non compliance
T11 – T19	Total Number of Development Trips (excluding any allowance for trips from existing land uses that may be replaced) - using monitoring of any BXC development completed so far combined with trip rates used in the BXC TA for the next proposed stage of development, does the number of person trips generated by the development in the weekday AM, PM or Saturday peak hours exceed those forecast in the BXC TA for the level of development now proposed?	If the cumulative total of BXC trips exceeds by more than 10% that predicted in the work sheets for the existing and proposed level of floorspace.
T20 – T22	Total Trip Generation by Mode – considers mode split progression to target for the modelled periods. Using any monitoring information to date and forecasts for the next proposed stage of development, is the BXC weekday AM and PM peak hour mode share by car consistent with the objectives set out in the worksheet for this stage of the development?	If the proportion of BXC trips by car during the weekday AM and PM peak hours is more than 5% above the proportion predicted in the work sheet. In applying this test, consideration can legitimately be given to any success in enhancing car occupancy through car sharing or car club initiatives. This is not applied to Saturdays.
T23	Mitigation and Triggers – have the defined items of infrastructure come forward in accordance with or before the triggers defined in the work sheets and set out in greater detail in RDSF Appendix 7, having regard to the quantum of floorspace approved and now additionally applied for? Is the programme for delivery of Critical Infrastructure relevant to that Phase consistent with a) the Indicative Construction Programme (as may be updated with approval from the Council) and b) the approved Delivery Programme.	Non compliance
T24	Gateway Junction Demand – using the trip generation and mode share information above, is the BXC development forecast to	If the number of BXC passenger car unit trips passing through any gateway junction is more than 5%

	generate greater number of trips at the gateway junctions in the weekday, am, pm or Saturday peak hours than the work sheets indicate would have been anticipated for the development so far approved and additionally now proposed?	above the number predicted by the worksheets.
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T25	Construction Traffic – having regard to monitoring information and forecasts for the next proposed stage of development, does the number of construction vehicle movements generated by the development and passing through the gateway junctions conform with that anticipated by the work sheets?	If the number of BXC related construction vehicle movements passing through these junctions is forecast to be more than 10% above the maximum peak hour movements predicted in the work sheets.
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Note : The notes in Appendix 3 help to explain the application of the work sheets. The levels of sensitivity referred to above have been tested by the applicants to the satisfaction of the Borough Council.

- 3.7 It will be for the applicant to demonstrate to the Borough Council and TfL, through the use of the Transport Matrix, that the assumptions and forecasts in the TA are met, having regard to the benchmarks and parameters set out above.
- 3.8 In the event that the application of the Transport Matrix identifies a failure against the benchmarks and parameters set out above, it would be for the applicant to consider, in consultation with the highway authorities, the further application of demand management measures or the acceleration of identified infrastructure in advance of the specified triggers and to demonstrate how such measures would bring the BXC development as then proposed within the terms of the Transport Matrix. Alternative measures could also be proposed in agreement with the Borough Council and highway authorities. For instance, in the event that the application of the Transport Matrix demonstrates forecast traffic flows from the development through a gateway junction greater than those anticipated within the BXC application, the Borough Council would be in a position to:-
1. decline to accept the assessment against the Transport Matrix; or
 2. consider with the applicant whether the increased flows through the relevant junction are nevertheless acceptable; or

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3. consider with the applicant whether a relevant remedy would be to propose additional works to enhance the capacity of the relevant junction; or
 4. identify such other measures which would allow the development to proceed with satisfactory transport effects.
- 3.9 In exercising these judgements, the Borough Council would be required to act reasonably at all times and in accordance with the covenants to be contained in the Section 106 Agreement and (insofar as is consistent with their statutory duties and functions) they intend to work with the applicant to find a way of enabling the BXC regeneration to continue in a manner which is consistent with ensuring that its effects stay within the terms of those assessed in the TA or are appropriately mitigated (and subject always to other material considerations).
- 3.10 Once a Transport Matrix has been approved for a Phase the relevant developer may proceed to submit substantive Reserved Matter Applications supported by a Reserved Matters Transport Report, as necessary, which is consistent with the outcomes of the Transport Matrix.

SECTION 4: RESERVED MATTERS TRANSPORT REPORTS AND CORRIDOR STUDIES

4.1 Because of the application of the Transport Matrix as a "gate keeper", the authorities can be confident that each substantive RMA (or relevant Other Matters Application) in which transport impacts may reasonably need to be considered, will bring forward proposals that are consistent with the predicted impacts and objectives of the BXC TA, as reflected in the Benchmark in this Appendix. Against this background, it will be the role of the PTRs and RMTRs to address the detailed design and effects of the particular stage of development which is the subject of the RMA (or relevant Other Matters Application) in which transport impacts may reasonably need to be considered, having regard to the observed operation of already constructed or approved stages of the BXC development and the framework approved by the Phase Transport Reports (PTRs).

a) Reserved Matters Transport Reports

4.2 Appendix 4 to this Appendix comprises a document explaining the scope of the RMTRs (as well as PTRs).

4.3 In summary, the principal matters that will fall to be considered in the RMTR are as follows:-

- i. the scale of development proposed in the RMA or relevant Other Matters Application in which transport impacts may reasonably need to be considered and the cumulative scale of development taking into account that which may have already been approved as part of the BXC regeneration;
- ii. the detailed design of transport infrastructure forming part of the RMA, including the internal highway network, pedestrian and cycle provision, on-street parking management measures if appropriate; public realm and public transport services and facilities and how these will integrate with the wider network, having regard to the framework of transport infrastructure approved in the PTR;

- iii. the appropriate off-street parking strategy for that component of the development and proposed improvements to site accessibility via sustainable modes of travel, if and to the extent that these are not already settled in the approved PTR;
 - iv. the appropriateness of the transport infrastructure proposed in the RMA having regard to both the existing and forecast BXC trip generation and the terms of the approved PTR;
 - v. provision for the cumulative impacts of all BXC development approved, under way or applied for (including construction, delivery and servicing traffic) across all transport modes and at all junctions and links within the development site.
- 4.4 In other words, the RMTR will be expected to report comprehensively on all the detailed transport issues raised by the RMA and to demonstrate the acceptability of the proposals contained within the RMA, consistent with the terms of the outline planning permission and the approved PTR. In this way, the RMTR would complement the more strategic assessment reported in the BXC TA, the findings of the Transport Matrix and the matters settled in the approved PTR.
- 4.5 The Transport Matrix, the PTRs and the RMTRs would operate alongside and in conjunction with the separate but related mechanisms under the planning permission and the planning obligations in relation to the Transport Advisory Group, the Transport Fund, the operation of the Framework Travel Plan and the Travel Plan Co-ordinator. Similarly, the RMTR will be required to take full account of and to implement the initiatives set out in the BXC Walking, Cycling, Bus and Servicing and Delivery Strategies.
- b) Corridor & Area Studies**
- 4.6 As part of the consideration of the BXC proposals, the authorities have asked the applicant to consider improvements to the localised transport infrastructure between the site and the surrounding communities and to determine what these improvements could be by carrying out corridor and area studies. The Corridor Study will provide information to inform the detailed design process.

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- 4.7 The A5 Corridor Study should be carried out nearer to the date of commencing infrastructure works in that part of the scheme within a timescale to be agreed with the Borough Council.
- 4.8 The A5 Corridor Study will have the following scope set out in Appendix 7.
- 4.9 The detailed approach to modelling for the purposes of the A5 corridor study will be agreed with the Borough Council before it is undertaken. In principle, however, it is proposed that the existing BXC strategic transport model should be used as the basis for constructing a more specific local model. Using the existing model will retain the fundamental traffic assumptions inherent within the TA.
- 4.10 It is proposed that a Vissim micro-simulation model is formed based on the area defined in Appendix 7. The aim will be to cordon out the A5 area from the strategic BXC model and then introduce the modelling of more localised junctions and movements into the analysis. This will also enable the operational impacts of adjacent developments on the corridor to be further assessed. The traffic demand would be taken from the BXC strategic SATURN model. All major and minor junctions on this section of the A5 would be included in the simulation model. This would require full classified turning movement surveys to be undertaken at each of these junctions. The network will be taken from the SATURN model and enhanced with the introduction of local roads to achieve a suitable level of local detail. In this way the zonal detail would be increased so that local movements will be further represented. Matrix estimation will then be used to control the demand to the locally observed movement totals. The model would require a local validation, which would require counts on adjacent links and/or junctions. A journey time survey on the A5 would also be undertaken to further inform the calibration and validation processes. Forecasting with the model will be done by forecasting the relative change in demand in the A5 corridor using the BXC SATURN model forecasts, including the use of the junction adjustments as included in the TA assessments. These would be applied in a relative fashion to the local model matrix, which would allow local forecasts to be run. After that the model could be used to test various mitigation measures.
- 4.11 This work would be undertaken for the AM and PM peak periods, for development scenarios to be agreed with LB Barnet.
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- 4.12 The Area Study will examine pedestrian and cycle routes in accordance with the following scope:
- examine pedestrian routes connecting the site with key destinations related to the BXC site (i.e. Cricklewood town centre, Brent Cross and Hendon Underground stations);
 - examine cycle routes connecting the site with key destinations related to the BXC site (ie Cricklewood town centre, Brent Cross and Hendon Underground stations) and nearby existing local or strategic cycle routes (i.e. LCN routes and the A5);
 - the study would need to be conducted in close liaison with the TAG and consult local cycle groups and other key stakeholders;
 - the study area will generally be within 400m of the scheme boundary;
 - the study is expected to deliver a costed programme of potential schemes for improvements to pedestrian and cycle facilities adjacent to or beyond the site boundary, providing improved access to and/or from the BXC site.
- 4.13 The detailed requirements of future studies can be agreed by TAG (and tailored to the situations at the time) and, where appropriate, other highway authorities including but not limited to the LB Brent and the LB Camden.
- 4.14 It will be the responsibility of the Borough Council, where necessary working with other highway authorities to establish the exact form of the remediation required, in consultation with stakeholders and for the development and implementation of any infrastructure, service or management measures deemed necessary.
- 4.15 The studies will provide the Transport Advisory Group (TAG) with information that enables TAG to make recommendations to the Council on expenditure from the Transport Fund. Costs ascribed from these studies to BXC development will be met from the Transport Fund identified in the S106 Agreement specifically for this purpose.
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- 4.16 Through this combination of mechanisms and controls, the BXC application responds to the transport issues raised by the scale of the development and creates the framework for a system of appropriate monitoring and control.