ArupTransport

Tyne and Wear Passenger Transport Authority

New Tyne Crossing

Proof of Evidence on the Wider Economic Effects

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APPENDICES (Separate Volume TWA 13A)

1. INTRODUCTION

1.1 I am Christopher James Tunnell, an Associate Director of Arup. I have a Bachelor of Science degree in economics from the University of Reading and a Master of Philosophy (M.Phil) degree from University College London. My M.Phil research was concerned with inward investment in depressed areas of the UK. I have been a Member of the Royal Town Planning Institute since 1992. I have been with Arup since 1990, although between 1994 and 1996 I acted as Principal Economic Planner for the London Planning Advisory Committee. I am currently the Arup business leader for economics and policy consulting.

1.2 I am familiar with recent trends in inward investment and the job generating effects of infrastructure and have worked for Government extensively on these issues. In the recent past I have led consultancy teams evaluating the benefits of a series of European and UK Government financial assistance programmes. This includes the most recent evaluation of the main national grant programme that supports inward investment known as Regional Selective Assistance. I was an expert advisor to the National Audit Office in their evaluation of English Partnerships in 1998. I led the evaluation of wider economic effects on the Tyneside Area, and M6 Midlands to Manchester and Multi Modal studies undertaken for the former Department for Transport Local Government & the Regions (DTLR). I also led the main land-use and urbanization study as part of the Government's ongoing review of national airports policy, which was published with the airport consultation papers in 2002.

1.3 Members of Arup's economics and planning team became involved with the New Tyne Crossing (NTC) project in 1999. I led this team and was responsible for this work from the start of the project. We were commissioned to perform an in depth economic effects study for the Tyne and Wear Passenger Transport Authority. The initial work was completed in April of 2002 and is reported in the Environmental Statement. To ensure the continuing relevance of our assessment, we have subsequently continued to monitor economic conditions and consultation responses. We have also kept under consideration the regional economic relevance of the New Tyne Crossing to the evolving development and policy context. The latter is reflected in this evidence.

1.4 My evidence focuses on the "wider economic development benefits" generated by the construction and operation of the proposed second tunnel across the River Tyne known as the new Tyne crossing. I use the expression wider economic development benefits for two reasons. First, in order to reflect the terminology used in Government Guidance on the Methodology for Multi Modal (transport) Studies (GOMMMS). Second, in order to distinguish these benefits from the national economic user benefits embodied in the transport economic assessment, and covered by Gordon Henderson's proof. More straightforwardly however, it is best to regard my focus as on regeneration or local economic development benefits. This proof also examines the wider economic benefits of the NTC to Tyne and Wear and the region as outlined in John Miller's, TWPTA, proof of evidence. More straightforwardly, it is best to regard my focus as on the probable regeneration or local economic development benefits.

1.5 Wider economic benefits are of acknowledged importance in the assessment of transport schemes following work by Government's Standing Advising Committee on Trunk Road Assessment (SACTRA). This in turn, followed their importance in influencing decisions on major pieces of infrastructure including the Channel Tunnel Rail Link.

1.6 The SACTRA committee identified and published in its report *Transport and the Economy*[1] which has identified the main mechanisms that economic performance can be enhanced by transport improvements:

- reorganisation of production, distribution and land use;
- changes to labour market catchments areas and cost;
- increased output due to lower production costs;
- stimulation of inward investment;
- unlocking sites for development; and
- triggering economic growth and subsequent multipliers.

1.7 Wider economic benefits are also one of the key sub objectives of the appraisal framework contained in the Government *Guidance on the Methodology for Multi Modal Studies* (GOMMMS guidance)[2]. This suggests that the primary focus of such assessments should be on the benefits to areas of acknowledged regeneration need.

1.8 Both the North East and Tyne and Wear face severe structural economic weaknesses, which are reflected in high levels of unemployment and in a number of key variables including activity rates, income and recent rates of new inward investment. It is subject to a number of European and National designations that reflect this position. These include the designation of Tyneside (with most of the North East region) as a European Objective 2 region meaning that it is undergoing structural economic change of European significance, as an Assisted Area under the Department of Trade and Industry's Regional Selective Assistance grant scheme and numerous programmes administered by the Government Office for the North East and the Regional Development Agency ONE NorthEast. Appendix B provides a series of maps illustrating the areas of deprivation and areas eligible for policy initiatives, and I return to examine these in more detail below.

1.9 Regional Planning Guidance Note 1: Regional Planning Guidance for the North East (RPG1) published in November 2002 also acknowledges the importance of the region's infrastructure to its economic success. Paragraph 4.14 of RPG1 states that: *"the competitive position of the North East must be strengthened. An important element of this will be to provide the appropriate infrastructure to increase and broaden employment opportunities".*[3]

The remainder of my proof is structured as follows:

- Section 2: The need for regeneration – conditions in the North East and in Tyne and Wear
- Section 3: Employment impacts during construction and operation;
- Section 4: The importance of accessibility to economic development;

[1] Department of the Environment, Transport and the Regions, The Standing Advisory Committee on Trunk Road Assessment (SACTRA). (1999) Transport and the Economy. London, HMSO. (CD49)
[2] Department for Transport. (2000) Guidance on the Methodology for Multi-Modal Studies. London, HMSO. (CD44)
[3] Government Office for the North East. (2002) Regional Planning Guidance for the North East (RPG). London, TSO. (CD19)

- Section 5: Realisation of employment land capacity
- Section 6: Conclusions: the wider economic rationale for the New Tyne Crossing; and
- Section 7: Summary of conclusions.

The analysis is supported by a series of appendices, as follows:

- Appendix A: Maps showing extent of Assisted Areas and Enterprise Zones;
- Appendix B: Deprivation maps and data;
- Appendix C: Inward investment in the north east of England;
- Appendix D: Derivation of construction employment impacts;
- Appendix E: Multiplier values;
- Appendix F: Business survey: questionnaire and tabulated results;
- Appendix G: Profile of the A1 Newcastle Western-Bypass;
- Appendix H: Land availability site map and key;
- Appendix I: Land availability analysis (Text and Table);
- Appendix J: Potential site employment capacity;
- Appendix K: Case studies illustrating how businesses and business sectors will be affected by the New Tyne Crossing;
- Appendix L: Planning policy implications of development in the A19 corridor;
- Appendix M: Research papers cited in the main text of the proof; and
- Appendix N: Summary of responses to objectors.

2. THE NEED FOR REGENERATION - CONDITIONS IN THE NORTH EAST AND IN TYNE AND WEAR

2.1 My main focus is on the Tyne and Wear area, which I consider to be the area in which the New Tyne Crossing will yield most identifiable wider economic benefits. But it is also necessary to consider the position of the wider North East region in context with the national economy. My aim is to demonstrate the overall poor competitive position of the North East region relative to the national economy, the need for further action including the New Tyne Crossing, and the importance and severity of conditions within the Tyne and Wear sub region in this context.

The North East

2.2 The North East region consists of four sub regions, largely consistent with counties or former county administrative areas. From north to south these are the county of Northumberland, the former metropolitan county of Tyne and Wear, the county of Durham and a number of unitary authorities that make up the Tees Valley. The latter including the authorities of Darlington, Stockton, Hartlepool, Middlesbrough, Redcar and Cleveland. The former county of Tyne and Wear consists of the cities of Newcastle upon Tyne and Sunderland and the metropolitan districts of Gateshead, North Tyneside and South Tyneside.

2.3 In the last two decades the North East as a whole has experienced major economic restructuring. Shipbuilding, steel engineering and coal mining accounted for nearly a quarter of employment in 1975. The last major shipbuilding yard in the region closed during the 1990s, whilst the programmes of colliery closures have left the region with only one deep coal mine. The decline has had a strong depressing effect on the regional economy due to the strength of deeply rooted local linkages and infrastructures associated with the traditional industries. Moreover, the resulting infrastructure legacy continues to present a threat to economic growth and employment prospects across the region.

2.4 Growth in service industries and the region's success in attracting new industries have reduced the impact of some of the major structural changes. These have been achieved largely as a result of the longstanding and extensive public sector intervention, including EU and national assistance and the initiatives of local authorities and other locally focused development agencies.

2.5 On a regional basis, the North East consistently has had the highest rates of unemployment in England. Moreover, since 1995 the North East's unemployment rate has been higher than that for Northern Ireland, a region that for many years has had the highest rate in the UK. Economic disparities in the North East, since 1992, when compared with both England and the UK have only increased. A similar trend is evident for regional Gross Domestic Product (GDP). The latter is a measure of the total of all the incomes earned from the production of goods and services. The North East's GDP per head remains about 15% below the UK average. In 1998 average weekly earnings in the region per employee were about 14% lower than the UK average.

2.6 Foreign Direct Investment (FDI) has been substantial enough over the past years to sustain employment levels, but continued high-levels of FDI remain uncertain given recent negative economic trends. For example, in 2000/2001 the North East attracted 30 overseas investments

(FDI) worth over £808m, which was below the 1999/2000 figure of £881m through 49 investments.

2.7 Public policies to address economic issues in North East have been evolving since the early 1960s as part of the Government's "Regional Policy". Initially, only south-east Tyneside and Wearside were designated as Development Districts under the 1960 Employment Act. But as conditions deteriorated coverage was extended in 1963 to include almost all of the area that subsequently formed the metropolitan county of Tyne and Wear. The thrust of the policies associated with these designations was industrial estate development, and direct financial assistance to industry was introduced in 1963. The appointment of Lord Hailsham in 1963 as Minister with special responsibility for the North East resulted in the preparation of a co-ordinated programme of action, led by central government, to diversify and modernise the region. Regional policy interventions in the region have subsequently continued to the present day and have included the introduction of European Community and subsequently European Union (EU) initiatives.

2.8 Currently, due to continuing disparities with the rest of the UK, the region is eligible for EU Objective 2 Programme funds. This classification reflects the fact that the area is undergoing structural economic change and suffers from problems associated with industrial decline, including a poor image and dereliction, high-unemployment – particularly long-term unemployment, an obsolete workforce, a single industry economy and unsuitable infrastructure. Significantly, the designation puts Tyne and Wear on a par with other poorer EU regions including north-eastern Spain, central Italy and many stretches along the EU's Eastern border.

2.9 The whole of the Tyne and Wear area is also classified as an Assisted Area making job creating investment eligible under the Government's regional selective assistance grant scheme. This is a national scheme, defined at two levels: Assisted Areas and Intermediate Assisted Areas, with differences reflecting the severity of economic need and the scale of grant likely to be awarded. A map showing the extent of Assisted Areas is included as part of Appendix A.

2.10 In any assessment of existing economic policy intervention in the North East, the influence of the region's six Enterprise Zones (EZs) would feature strongly, although only two sites retain this status today. A full indication of the Enterprise Zones that have been/are in existence is also included in Appendix A. Occupiers within the Enterprise Zones have enjoyed exemption from the Uniform Business Rate[4], simplified statutory planning procedures and generous tax allowances. They have as a result been among the most attractive locations for development and, partly as a function of their success, have been able to command premium rents. Premium rents have made Enterprise Zones attractive for property development. The low development margins within the region as a whole has meant that most commercial development has taken place only when some form of public subsidy was included. In particular, there has been a failure to achieve the necessary rents in these other locations to justify commercial or speculative development.

2.11 Thus, Enterprise Zones have been the major locations of growth, outside central areas, in the last decade. Enterprise Zones are time limited designations. All zones are expiring by 2006 and no new designations are anticipated. More generally, there has been a reduction in levels of public sector support for development reflecting revised "State Aid" rules from the European Commission, which aim to promote fairer competition between states by controlling the extent to which private enterprise can be subsidised by governments. Moreover, changes also reflect the

[4] The Uniform Business Rate is also called the National Non-Domestic Rate (Appendix A)

now preferred European Commission approach of addressing economic development needs by improving underlying competitive conditions, e.g. in relation to infrastructure, advisory support and labour skills, rather than through direct subsidy.

2.12 The two Enterprise Zones still in existence today, as mentioned in 2.10, encompass sites within the areas of Tyne Riverside and East Durham. Other past sites including the Team Valley and Sunderland have also featured strongly in regional development. The Tyne Riverside Zone and the former Sunderland Enterprise Zone rely on the A19 as their principal means of access.

Tyne and Wear

2.13 Tyne and Wear is a largely urban area, which encompasses large areas displaying "inner urban" problems, including unemployment and various other indicators of concentrated and multiple deprivation. Its issues are typically among the most acute found in the North East region. This reflects the historic pattern of industrialisation and urbanisation, the scale of which in Tyne and Wear far surpassed and continues to surpass the areas to the immediate north and south. Tyne and Wear is still the region's main employment centre, providing jobs for both its residents and a net inflow of commuters from the wider region of more than 50,000 persons each day.

2.14 In the context of a virtual disappearance of traditional industry in Tyne and Wear, there have been several success stories of new industry being attracted to the area, most notably the Nissan car plant in Sunderland, which employs a workforce of almost 5,000. Although there is a consensus that a strong manufacturing base remains a desirable foundation for the area's economy, steps have also been taken to achieve sectoral diversification, the most prominent example being the Doxford International Business Park in the Sunderland Enterprise Zone, which accommodates 7,000 jobs and includes a number of major international service sector companies. In this trend, it is important to note that while inward investment is commonly perceived to be dominated by manufacturing, largely because of its greater visibility, there is also a very significant service component that is growing in importance.

2.15 This new service growth is important to Tyne and Wear as the area faces high unemployment, and even more damaging to the economy, long-term unemployment. In March of 2002, Tyne and Wear had a 5.5% unemployment rate, which was 2.2% higher than the UK average. Out of the total number of unemployed persons in Tyne and Wear, 43% of them are classified as long-term (over 12 months) unemployed and 18.8% of those are classified as very long-term (3 years or more) unemployed. The UK average for the percentage of long-term unemployed out of the total number of unemployed is 37.5%, well below Tyne and Wear's 43%.

2.16 Some of the UK's most deprived wards are located in Tyne and Wear, according to the Government's Indices of Multiple Deprivation (IMD) produced by the former Department for Local Government, Transport and the Regions. The most acutely deprived area lies within North and South Tyneside along the River Tyne and includes the wards close to the A19 corridor and adjacent to the tunnel. The IMD ascertains the level of deprivation by ward, and ranks each ward relative to others within the UK. The IMD ranks each ward on four different categories of deprivation; income, employment opportunities, accessibility to public services and on a combination or overall ranking, based on the previous three scores and several others. A map showing deprivation across the Tyne and Wear and the wider region is included at Appendix B.

2.17 In terms of overall deprivation most relevant to the wider economic effects of the New Tyne Crossing the Tyne and Wear boroughs of Gateshead, Newcastle, North Tyneside and South Tyneside are ranked within the worst 20%. In North Tyneside 2 wards fall within the worst 5%, and the situation is even more acute in South Tyneside where 4 wards are ranked in the worst 5% for overall deprivation.

2.18 Employment deprivation is prevalent on both sides of the River Tyne, but it is generally worse in South Tyneside. In South Tyneside out of the 8 wards closest to the tunnel, 7 wards are ranked in England's worst 10% for employment deprivation, and all 8 of the wards fall within the worst 20%. Employment deprivation is only slightly less in North Tyneside. In North Tyneside, 4 of the 6 wards closest to the tunnel fall within the worst 10% and all 6 are within the worst 25%. Employment deprivation rankings highlight the need for new jobs in the area.

2.19 This concentration of high levels of unemployment and deprivation, particularly in the riverside wards and A19 corridor, stems from several interconnected factors that link deprivation and vulnerability in the labour market to the operation of housing markets. Residents in deprived areas are heavily dependent on job opportunities. There is a need for substantial capital investment. It is also for initiatives that improve opportunities for residents to access wider labour markets, thus improving integration into the wider mainstream economy. It is important for residents of deprived areas to have access to as many opportunities as possible and mobility within the workforce is a key part of this.

2.20 As for the wider region, in recent years, a substantial amount of Tyne and Wear's economic growth has arisen from inward investment, particularly Foreign Direct Investment (FDI). More than 75% of Tyne and Wear's FDI has been manufacturing related.

2.21 Inward investment has brought significant levels of capital investment and, even more importantly for Tyne and Wear, new jobs. Inward investment has brought over £3.5 billion to the North East since 1997. Furthermore inward investment was expected to generate between 16,000 and 27,000 jobs across the North East with nearly 17,000 of these jobs located near to the A19 (Appendix C). These figures are based on a voluntary survey undertaken by Ernst & Young[5] that did not receive complete or final returns from all investors. However, this information was provided by ONE NorthEast and is indicative of investor appetite for the North East. This being said, both the level of investment and the number of jobs created could actually be higher.

2.22 Many of the investments have been located close to the A19. Some of the more notable A19 investments have come from Nissan, which actually made 7 investments since 1997, along the corridor south of the Tyne and Atmel, Equinox, Wellstream, ADI, Procter & Gamble and Merck Sharp and Dohm north of the river. The largest 10 investors into areas along the A19 have invested nearly £2 billion in capital and have generated between 7,000 and 11,000 jobs (Appendix C).

2.23 The tables in Appendix C summarise major recent investments. As is apparent on the eastern side of Tyne and Wear, many investments have been south of the river. Over the past 10 years, location behaviour has also been strongly influenced by the opening of the A1 Gateshead Western Bypass and Blaydon Bridge in 1990.

[5] Ernst & Young, European Investment Monitor (Appendix C)

Conclusions: the context for New Tyne Crossing impact

2.24 Various grant and regeneration schemes have helped indigenous businesses expand and attracted new businesses to the region, while attempted to generate the conditions necessary for self sustaining growth. However, whilst these initiatives have been responsible for significant and measurable improvement, a market-based solution to the region's economic difficulties remains elusive, as apparent across a number of indicators.

2.25 It is within this context that the relationship of the New Tyne Crossing (NTC) to the future development and its contribution to the *so far* elusive goal of self sustaining economic growth has to be considered. By self sustaining growth I mean the extent to which actions can lead to a long term fundamental change in economic fortunes and competitiveness, sufficient to enable the area to have reduced reliance on regeneration programmes and achieve market-based development solutions. I consider this to be the most relevant consideration, rather than just job creation, although, as I demonstrate, undoubtedly the New Tyne Crossing will support both.

2.26 These issues are addressed in detail through three subsequent freestanding complementary analyses. This is followed by conclusions aimed at meeting some overarching strategic questions. First, the net additional direct employment benefits that the tunnel construction and operation will provide in the region are identified. Second, in terms of the New Tyne Crossing operation, the importance of accessibility in economic development, both generally and in the Tyne and Wear context, is demonstrated. Third, the New Tyne Crossing's role supporting the provision of sufficient employment land capacity to meet regional and sub regional economic development needs is established. Fourth, it is demonstrated that the New Tyne Crossing would play a major role in generating additional induced economic activity to Tyne and Wear, relative to that which would occur without the New Tyne Crossing. These analyses are also brought together to demonstrate the extent to which the induced and spatial effects of the New Tyne Crossing address the need for regeneration.

3. EMPLOYMENT IMPACTS DURING CONSTRUCTION AND OPERATION

3.1 Construction projects give rise to direct and indirect economic effects concerning primary and sub-contractors on and off site and to local businesses. There is also scope for possible relocation of current jobs where these may be affected by construction activities. After completion, there is also employment at the tunnel itself.

Direct employment and local recruitment

3.2 Construction of the New Tyne Crossing is expected to last between 33 – 39 months, creating 2,694 person-years of employment, which equates to about 270 full time equivalent (FTE) jobs based on the HM Treasury rule of thumb that 10 years worth of employment equals one permanent job. Construction will also generate induced and indirect employment arising from the purchases of goods and services by the employees of the construction companies. My forecasts are based on a total construction cost of £138,000,000 at 1999 prices and an assumed output for construction workers of £51,000 per employee. I explain the derivation of these and other estimates in this section in more detail in Appendix D. In 2008, when the tunnel is completed it would, of course, be expected that higher prices will have increased the cost of construction, but it is reasonable to assume that the number of employees will remain about the same as construction wages rise in line with inflation.

3.3 The construction industry is well represented in the North East. The region's construction industry accounts for 4.3% of all construction employment in the UK. In 1999, there were 59,110 people employed in construction. In Tyne & Wear the total is just over 20,000, accounting for 6% of area jobs. Despite an ample supply of labour, in recent years there has been a shortage of suitably skilled construction workers but recent training is starting to rectify the problem. According to forecasts produced by the Construction Industry Training Board in Spring 2000, the number of skilled construction workers rose by 50% in the period 1998/99 to 2001/02. This project would certainly act as a catalyst for further training activities and I consider it reasonable that local workers will fill many of the jobs.

Relocation of activity as a consequence of construction

3.4 Construction is expected to necessitate relocating some of the facilities housed on the Howdon industrial yard. Currently there are 109 jobs based on the yard and situated directly in the construction path. Specifically, the Howdon site will be affected in three ways. First, the building in the path of the proposed tunnel will have to be demolished. The approximately 80 tenants in this building will all be re-housed as part of the project elsewhere on the Howdon Yard site. It is not intended that any of these jobs will be lost. Secondly, there are several tenants in another building adjacent to the proposed tunnel that will be affected during construction. They will be prone to noise and pollution effects. As such, mitigation will be required, most likely in the form of screening being erected between the premises and the construction works. Thirdly, construction will demolish a gatehouse, but no employees will be affected there. Overall, no job losses need occur as a consequence of these works.

Indirect and induced effects

3.5 During construction, additional jobs will be supported off-site, thus reflecting secondary or indirect and induced economic effects. This includes a range of effects such as additional **indirect jobs** linked to the manufacture of site supplies, and other local jobs in related construction sectors including local professional services linked to the project, e.g. design, engineering, planning and legal. There will also be additional **induced jobs** linked to the local expenditure behaviour of construction employees. The latter is likely to refer to additional expenditure in areas such as food, housing, leisure, personal services and transport.

3.6 It is difficult to specify precisely in advance the nature of construction sourcing and expenditure in any region. In this case the most reliable approach is to draw on evidence from other studies. In particular these studies identify the specific employment multipliers associated with schemes normally encompassing both indirect and induced effects. In this case I have relied on guidance issued by English Partnerships for assessing regeneration projects and a Scottish multiplier study that I consider to be the most relevant of the studies that I have been able to review in preparing this evidence. The latter in terms of the context in which these impacts will occur. This work is summarised at Appendix E. Based on the values presented at Appendix E, I would expect the regional indirect and induced multiplier value to be about 1.4. This means that an additional 40%, of the already specified 270 FTE jobs, would be created in the North East region. This equates to an additional 108 full time equivalent permanent jobs.

3.7 Although many of these specific effects are confined to the up to 3 years construction period, the sudden demand for services immediately surrounding the site may lead to improvements in the local service sector. Together with the improved, modern environment around the tunnel post construction, this should also improve the areas attractiveness to potential investors.

Operational employment

3.8 Operation of the tunnel will be based on an approximately 30-year concession period. The selected operator will need to staff local offices in addition to the staffing requirements needed by the Tyne and Wear Public Transport Authority (TWPTA). It is impossible to state at this stage the numbers of staff that the Concessionaire would employ, but they would be subject to the Transfer of Undertakings (Protection of Employment) Regulations (TUPE). It is possible that more people may be employed as a result of the increased workload. Given this uncertainty I adopt the conservative assumption that employment will remain the same.

Conclusions on construction and direct operation economic effects

3.9 My overall conclusion is that construction will directly create 2,694 person years of employment, equivalent to 270 full time permanent equivalent jobs using the HM Treasury conversion factor. Additionally, there will be a further 108 full time permanent equivalent jobs in related industries and service sectors within the local economy. There is strong potential for these to benefit the local population.

3.10 There will be some temporary displacement associated with the construction process, although this will be mitigated as far as practical.

3.11 There are also likely to be additional jobs in the operational phase associated with staffing tollbooths, security and vehicle escort services and maintenance. But given uncertainties as to how the concessionaire will operate the tunnel these are assumed, conservatively, to be the same as current employment levels.

3.12 I now turn in subsequent sections to address the indirect and induced effects of the New Tyne Crossing in operation.

4. THE IMPORTANCE OF ACCESSIBILITY TO ECONOMIC DEVELOPMENT

4.1 High quality road transport corridors define many successful economic clusters. Examples include the M8 in Scotland, the so called "Silicon Glen"; the A4, M4, M11, M23 and M25 corridors in South East England; M40/M42 and A45 in the West Midlands, and the M57 in Greater Manchester. These corridors represent the realities of industrial development in the post war period. This, in turn, reflects the dominance of transport considerations in economic development and the demise of earlier, formats of industrial town and suburb.

4.2 To examine this issue in some depth a series of specific investigations have been made. The first is a **literature review**, which examines general material on the impact of road schemes on economic development and considers more specifically the relationships between accessibility, location and investment. Existing commentary and research has also followed up through a series of **business case studies within Tyne and Wear.** The second investigation is based on a recent **survey of major agents** to ascertain their perception of accessibility's role in Tyne & Wear specifically of the A19. The third is based on a perception **survey of 100 businesses** to determine the major factors (including accessibility) that are perceived to influence location behaviour within the area. The fourth considers **the benefits of the opening of the A1 Western Bypass in 1990** to the subsequent economic development of this area.

Findings from the literature review

4.3 The literature divides into two areas. The first is concerned with the general impact of road schemes, the second is concerned with how accessibility affects the viability of development and investment. Given the specific issues faced by Tyne and Wear (identified in Section 2) and in particular the constraints of an aging industrial stock and the identified need in the Regional Economic Strategy, as put forward by ONE NorthEast, to promote development, the second can be considered to be the more relevant.

4.4 As regards the general evidence, a 1992 report by Pieda[6] into the potential economic impact of the second Severn Bridge states that the economic growth generally associated with crossings usually comprises two components - expansion of existing firms and attraction of new firms to the area. Economic impact surveys undertaken for the second Severn Crossing, found that the congestion restricted commercial activity and reduced job opportunities. These problems contributed to increased costs and reduced business efficiency in the Severn area, with businesses carrying much of the economic burden.

4.5 Work by Simon[7] on the Humber Bridge and associated regional development, found the results to be mixed. In this case established firms shed labour because the new infrastructure reduced the labour input required to produce and distribute existing output levels. However, reorganisation and new opportunities arising from integration of the North and South Bank markets enabled some firms to streamline their operations, enabling others to ultimately expand. Total employment in the sample of existing firms examined rose only marginally. At a wider level,

[6] Pieda plc. (1992) _Second Severn Crossing Economic Impact Study_. (Unpublished)
[7] Simon, D. (1984) _Results of the Humber Bridge Commercial Users Survey_, (Working Paper 183) Institute for Transport Studies, University of Leeds. (Appendix M)

however, Simon concluded that the bridge would yield significantly improved regional competitiveness spawning new firms and attracting others from outside, thus generating a more dynamic economy with reduced unemployment.

4.6 Interviews of inward investors carried out by Roger Tym and Partners,[8] in respect of research into the Thames Gateway, respondents tended to identify a complex geography of current and future inward investment that was based around a number of the key zones and nodes. These areas were felt likely to experience significant increases in inward investment and employment as a result of the crossings package. The Borough of Newham's regeneration statements all identified the river crossings as central to maintaining the general momentum of regeneration, especially in the Royal Docks area to the east of Canary Wharf, which is very close to the crossing options under consideration. Many other survey respondents also believed that any one of the suggested river crossings would help make the Royal Docks a focus for regeneration over the next 10-20 years. More strategically, the wider region was also felt to be likely to benefit, including areas such as the Lea Valley, running north from the river along the outer eastern edge of London, up to Hertfordshire. This would suggest that benefits could be spread over relatively large areas, analogous to, say the A19 corridor within Tyne and Wear.

4.7 To follow up some of these issues in terms of their relevance to the Tyne and Wear context my team has undertaken a series of business case studies following a selective approach to major businesses in the A19 corridor, and more especially, follow ups with businesses that attended some of the consultation events associated with the New Tyne Crossing proposals. The overall process of follow up was lengthy and in practice some businesses did not wish to cooperate further or be quoted directly. A summary of these case studies is included at Appendix K.

Access and development values

4.8 In terms of the more specific evidence on access, development and investment viability, the crux of the issue is the ability of access improvements, such as those provided by the New Tyne Crossing, to create more competitive and viable development and investment locations. This, in turn, enables a more effective property market that can provide the modern sites and premises necessary to sustain and develop economic activity.

4.9 One of the best measures of competitive locations are rental values because this represents the demand for these sites from prospective developers, reflecting in turn their perceived attractiveness. The level of rents also determines the extent to which development itself will be viable, because rental levels represent ongoing returns to developers from their investment in property. As I have suggested in Section 2 of my proof, drawing on the key constraints identified in ONE's Regional Economic Strategy,[9] the failure of the region to provide modern premises is also seen as one of the major constraints to business growth and overall competitiveness, and thus also to the goal of self sustaining growth. Moreover, a review of premises requirements of small and medium-sized enterprises in the North East region has concluded:

[8] Roger Tym & Partners (2000) _Thames Gateway River Crossings_, Report for English Partnerships. (Unpublished) (Appendix M)

[9] ONE NorthEast. (2002) _Realising Our Potential, The Regional Economic Strategy for the North East_. Newcastle-upon-Tyne. (CD24)

> *"an understanding of market reality and the profit motive is essential, particularly on the part of the public sector. Very little will happen unless developers can make a profit and agents can earn fees. There must be end-users. Investment money is available for development in such situations. There is currently demand from some institutional investors to buy good quality industrial sites and premises because they are seen as under-valued. Yields and the region's image are improving".*[10]

4.10 Thus, to identify whether the New Tyne Crossing will yield economic development benefits, an important issue to explore is the link between transport accessibility and rental values. This is to provide an **investor perspective** of how the New Tyne Crossing will support additional investment.

4.11 Investment is largely driven by actual or perceived returns and the level of risk associated with those returns through time. In property terms the main concern is with the "rental value" likely to be generated, where value in commercial property reflects a combination of the achieved current rental value and the market confidence of long term rental level growth, known as the yield. Property development is very sensitive to value both in absolute terms – because it determines basic viability in terms of the ability of development to cover sunken costs – and in relative terms – because property investors will not choose an area if better values are to be obtained elsewhere. The property industry is also notoriously conservative in investing only in areas where there is a track record of rental growth.

4.12 Realisation of value within a spatial context is heavily influenced by location, reflected in the traditional property adage of "location location location". In this case location refers to the innate spatial characteristics and track record of the location. In conceptual terms location is determined by a series of spatial relationships. In practical terms it is largely a function of access to other factors of production, thus prime high value locations are those with high levels of access to both markets and workforce.

4.13 I have found literature focusing on the determinants of rental value, including a recent paper commissioned by the Royal Institution of Chartered Surveyors Research Foundation (RICS). The major findings of this paper can be summarised as follows:

- major regional access points have a strong upward influence on the level of rents;
- nearness to key nodes (such as motorway junctions) will create a rent premium; and
- town centres remain other locations of high rental levels. This however, is related to urban size and importance.[11]

4.14 The key feature of all three is the role of access by both private and public transport. The point is that it is only highly accessible locations that are attractive to occupiers and investors. Therefore, by definition, improvements in access may have positive effects on values. As Peter Wyatt of the

[10] English Partnerships, (1998), Raising the Temperature, Meeting the Premises' Requirements of Small and Medium-Sized Enterprises in the North East Region, paragraph 3.6. (Appendix M)
[11] Wyatt, P. (1999) Can a Geographical Analysis of Property Values Aid Business Location Planning? IN: Royal Institute of Chartered Surveyors Research Conference, The Cutting Edge, 6-7 September 1999, University of Cambridge, UK. University of the West of England. (Appendix M)

University of the West of England has concluded in work for the RICS foundation: *"transport improvements have made land outside the centre of an urban area more accessible and thus increased its value"*[12].

4.15 A survey as far back as 1990 by Agents St Quintins[13] of 220 occupiers concluded that *"the major issues on locational choice were communications, staffing, environment and price. Top of the list on choice of location were good road communications and within any location accessibility by car".* However, these same occupiers also concluded in the same survey that *"to compete effectively, business parks will also need to attract and plan for public transport access. This benefit, when linked to others found in business parks that flexible accommodation, environmental qualities and parking will provide a magnet which potential occupiers will find it difficult to resist".* Since 1990 this trend has been reinforced. As my colleague Gordon Henderson indicates the New Tyne Crossing will yield both public and private transport benefits.

4.16 Without labouring a rather obvious point, the importance of access to recent development, especially development on industrial and business parks, can be demonstrated across the UK, and it is evident that high levels of accessibility are essential to scheme success. In the North East provision has also been dominated by provision on the A1 and A19 south of the Tyne at sites such as Doxford Park in Sunderland.

4.17 Referring to the most popular occupier locations as "hot spots" a 1998 study by English Partnerships concluded:

> *"The region's "hot-spots" are characterised by good transport links and labour supply, substantial investments in reclamation, infrastructure and site provision, development incentives and the availability of good quality premises. They tend to be concentrated in the A1 and A19 corridors as they pass through the Tyne and Wear conurbation and in some Enterprise Zone and ex-Urban Development Corporation areas. Hot spot areas include Team Valley, parts of the Newcastle and Gateshead riversides,... ... Doxford Park, ...".*[14]

Surveys of businesses

4.18 Mirroring the findings of the literature review, the relative role of access improvements in Tyne and Wear has been investigated. This comprised a survey of businesses and consideration of the specific market issue of development value using a survey of local property agents. The findings of the business survey are recorded below and those of the agents' survey in the next sub section.

4.19 A total of 100 business interviews, across the five Tyne and Wear authorities, were carried out between the 2nd and 6th December 2002. The aim was to achieve an **occupier and business perspective** on location. The overall findings can be summarised in a number of points as set out below.

- The majority of businesses interviewed (64%) were well-established companies that had been operating for 10 years or more. A further 29% of businesses were between 2-5 years and 5-10

[12] Wyatt, P. IBID. (Appendix M)
[13] Kershaw, C. (1990) Business parks or car parks? The relocation dilemma. Estates Gazette, 30 June. (Appendix M)
[14] English Partnerships, paragraph 8. IBID. (Appendix M)

years old (14% and 15% respectively). The remaining 7% had been in business for less than 2 years.

- In terms of the size of the businesses interviewed, the majority (64%) can be classified as fairly small companies with between 0-25 employees. Just over a further quarter (26%) of those businesses interviewed had either between 26-50 employees (16%) or 51-100 employees (10%). Of the remainder 5% had between 101-200 employees, 2% had between 201-500 employees and 3% had 501-1,000 employees.

- Of the businesses interviewed only 38% were found to have other offices/plants elsewhere in the UK and 12% with offices/plants internationally.

- When businesses were asked about what factors influenced their decision to locate and/or stay at their current location, the results show that the owner/ director living in the area (35%) and accessibility (26%) were considered to be important factors. Other factors identified include: 'historic accident' (20%), good transport links (18%), and local workforce (16%). Of those respondents who cited 'accessibility' it was specifically the major roads that were important for access and had been an influential factor for the location of their business.

- In terms of respondents' perceptions of Tyne and Wear as a place for 'doing business' the results are predominantly favourable, with over three quarters (78%) citing one of the following positive responses: up-and-coming region – 28%, a good place for doing business – 41%, and well served by transport – 9%.

- Transport and access are considered to be either 'very important' (40%) or 'important' (36%) to respondents' perception of Tyne and Wear as a place for 'doing business'.

- Respondents were also asked to state whether they believed that congestion was an important issue in the area, to which the results show that two thirds (66%) feel that it is.

- The results of this study also show that one third (35%) of the businesses interviewed were affected by congestion.

- Looking specifically at 'accessibility', respondents were asked to rate how important it is to the success of their business. The results certainly appear to suggest that accessibility is an important factor to the success of the majority of the businesses interviewed. More specifically, 15% of respondents said that it was key to their success, whereas 49% said that it was important and 7% said that it was moderately important.

- Respondents were also asked what they thought specifically about the A19 as a business location, to which mixed results were obtained. Firstly, 45% of respondents believed that it was a good location for doing business but this is contrasted by 21% who felt that it was too congested. Other results include 16% saying that it was a convenient location to get to by car, 11% who felt that it was a poor location, and 7% believing that it was a bad location to attract staff whilst 6% said that in fact it was a good location for attracting staff.

- Respondents were presented with five factors and were asked to rate them using a five-point scale (1 = very important and 5 = very unimportant) in terms of their importance to where they conducted their business. By exploring the mean averages for each of the five factors it is possible to see that all are considered to be important, to varying degrees, as opposed to unimportant. For example, both 'good labour force' and 'good transport links' with respective means of 1.48 and 1.89 can be viewed as the most important factors, followed by 'accessibility to place of employment and other businesses' with a mean of 2.10, 'presence of government aid' at 2.78 and the lowest mean for 'well landscaped, attractive location' at 3.03.

4.20 Detailed survey tabulations are included at Appendix F.

4.21 The conclusion that must be drawn from this survey is of the obvious importance of access to businesses in the Tyne and Wear area, alongside other factors such as labour and the history of individual business firms.

Property consultants' perceptions of accessibility influences within Tyne and Wear

4.22 In order to identify better the specifics of the local link between transport access and development values, we undertook a survey of Newcastle's leading estate agents were surveyed. This group clearly identified a correlation between good transport and faster industrial and office land/space turnover.

4.23 In addition to supporting a correlation between good transport and land desirability and turnover, the agents confirmed that the A1 and A19 (mostly south of the Tyne) corridors are the most sought after locations for businesses and that the further a piece of land was away from these main transport arteries the more difficult it is to turn them over. Access was perceived to be the major constraint north of the Tyne in the A19 Corridor, although it was noted that in other respects the location was attractive. The latter meant, in practice, that investors would normally choose other A1 and A19 sites ahead of A19 sites north of the Tyne, unless there were other compensating factors – such as proximity to other uses, Newcastle Airport, or favourable land deals and so on.

4.24 The agents highlighted several other related points, including:

- Location and access were considered to be the most important general factors in determining where businesses chose to locate.
- Enterprise Zones have distorted the market and these sites have achieved the highest rental levels. Most of the zones have good or reasonable access.
- All respondents suggested that good transport links within and outside of the region are extremely important.
- Financial incentives play a significant role in where businesses locate and where developments succeed. Respondents noted that development in the area has not occurred without some form of public financial incentives so far.
- Tyne and Wear is competitive in attracting inward investors due to its good workforce, competitive labour costs, good infrastructure, site availability and the presence of financial incentives. It is important to maintain and improve these regional advantages.
- At a strategic level, accessibility to the markets to the south is regarded as important. This is thought to be a reflection of the scale and location of markets, relating to those to the south, and the relatively poor quality of road networks to the north.
- Location and good access also make sites desirable to occupiers and likewise a lack of access makes a site undesirable.
- Opportunities in the A1 corridor are declining, placing more emphasis on the A19.
- Brownfield and greenfield sites are generally equally considered by potential occupiers, unless there are contamination/environmental issues associated with the brownfield site.

The experience of the A1 corridor

4.25 The A19 corridor is similar in many respects to the A1 in providing a strategic north-south route through Tyne and Wear and also in providing local connections to neighbouring areas along the route. The characteristics of the sites available for development are also similar, although the area is less established as an investment location at the current time. The A19 has been identified by local development agencies as the next major area for employment growth, with a good supply of developable sites, provided that access issues can be resolved. Generally, due to the later identification of sites, the A19 corridor would not be expected to have achieved the same levels of development as the A1. However, even taking this timescale into account, both in terms of traffic and economic development, as a whole, the A1 has been the more popular choice. Moreover, the A19 corridor has still fallen behind the A1 area despite offering sites with similar Enterprise Zone designation. In view of these factors we have sought to examine the experiences of the A1 corridor as an example of how accessibility has enhanced economic performance. Details on the background of the A1 Western Bypass are at Appendix G.

4.26 The A1 Newcastle Western by-pass was proposed in 1980 to link the A69 to the A1(M) to the south. The Blaydon Bridge was completed in 1990. The by-pass was designed to carry 50,000 vehicles per day. The final alignment involved constructing the Blaydon Bridge and a new length of road to the South providing a better connection near to Gateshead. The by-pass is 11km long, joining the present trunk roads north and south of Newcastle and Gateshead with key radial routes from the West – A69 and A696. The scheme involved relieving the Tyne Bridge and Tyne Tunnel while reducing through traffic in the city centre. The alignment follows the western edge of the Newcastle/Gateshead conurbation, from the former A69 River Derwent Bridge to the A1 North of Gosforth. The total cost of the scheme was £88 million in 1990.

4.27 The A1 corridor encompasses major employment areas south of the river including the Team Valley Industrial Estate, the oldest industrial estate in the North East. There are also several other key sites south of the river particularly the Metro Centre, one of the largest and now most successful regional shopping centres in the UK, which opened in 1987. Although the Metro Centre pre-dates the opening of the Western bypass, the bypass was largely committed when the scheme emerged and was under construction at its opening and completion of the bypass was considered necessary to the future success of the centre. To the north of the river, the environment is more built up with limited employment sites available for development. However, due to substantial public investment into reclamation and road improvements, the Newburn Riverside Park has opened north of the Tyne and is generating considerable market interest.

4.28 Overall, the Team Valley and Newburn Riverside are now regarded as two of the North East's most successful industrial estates. This success has been reflected in the property press commentaries, for example, an article in the Estates Gazette (2002) under the headline "*Goodbye to State Handouts*" comments that recent rents for Newburn Riverside are now being quoted at the psychologically significant figure of £5 per square foot and concludes from this that "*some agents and developers now believe that this breakthrough could be the spur to that rare phenomenon in the North East – speculative industrial development without any form of state subsidy.*" The same article later concluded that the *"Team Valley's success has depended heavily on its location – right beside the A1 and only a short hop into Newcastle City Centre"*. A summary of key locations later in the same article also concludes, "*industrial parks are still heavily dependent on links to the A1, highlighting the region's poor transport network*".[15]

4.29 In order to assess how accessibility improvements in Tyne and Wear influence economic development, the changes in the economy local to the A1 western bypass has been researched. This includes a profile of employment growth/loss in the wards through which the A1 runs. These wards have been amalgamated together and are termed the "A1 wards". We have undertaken an analysis of sector employment change within these wards from 1991-2000. Full details of the wards involved and the data sources are provided at Appendix G.

4.30 As might be expected the analysis of detailed employment trends in the A1 wards confirms the positive influence of the A1 on employment and investment. This positive influence takes a number of forms. Employment growth has been faster along the A1 than in the Newcastle conurbation as a whole. For example, in the period 1991 to 2000 employment in the A1 wards grew by 12.5% compared with 7.8% in Tyne and Wear as a whole.

4.31 The analysis also suggests that the A1 wards have also been remarkably successful in reinventing themselves through redevelopment of brownfield sites especially, as noted above, in the Team Valley. In statistical terms this restructuring and land recycling is highly evident. Within the A1 corridor, between 1991 and 2000, banking, finance and insurance employment grew by some 49% compared with 11% in Tyne and Wear; similarly distribution hotels and catering grew by 54% compared with 15% in the conurbation as a whole.

4.32 Overall distribution/retail is now the most important employment sector in the area, but there has also been growth in the construction, transport and communication sectors (although these sectors represent a smaller proportion of the total workforce). The Gateshead area of the bypass has experienced the most recent growth most likely because this area had sufficient available land together with a high level of accessibility.

4.33 There is now good evidence to suggest that that the capacity for further growth within the corridor is limited. As later sections of this proof examine in more detail, there are fewer and fewer available sites along the A1 and this point is reflected in market commentary. For example, the aforementioned Estates Gazette article (Smith, 2002) concludes, "*with little scope left for further development at Team Valley, however, recent schemes have been developed on the sites of older, outdated stock.*" The recently published Tyneside Area Multi-Modal Study (TAMMS) identified that the sections of the A1 Western Bypass are now carrying traffic loads in excess of their design capacity and as a consequence there is increasing congestion. TAMMS, section 3.3.1, in review of the highway network concludes that "*The A1 Western Bypass also experiences regular peak hour congestion between Blaydon Interchange to the north (A695/A694/A1114) and junction 65 on the A1(M)*".[16] Moreover, while Newburn Riverside remains the next big supply of land in the corridor, its prospects are regarded as dependent on resolution of the congestion along the A1 Western Bypass.[17]

[15] Smith, H. (2002) Goodbye to State Handouts. Estates Gazette, 6 April, pp. 83-84. (Appendix M)
[16] Department for Transport, Government Office for the North East. (2002) Tyneside Area Multi-Modal Study. London. (CD20)
[17] Kay, J. (2001) In Need of Fuel. Estates Gazette, 24 November 2001. (Appendix M)

Conclusions on the importance of access to economic development

4.34 These investigations supported the conclusion that access is important to economic development in both general terms and in the specific case of Tyne and Wear. Over the years, well accessed sites have proved to be the most competitive and sought after locations. This is a view generally shared by local agents and businesses.

4.35 To date, within Tyne and Wear, the most competitive locations outside Newcastle City Centre have been close to the A1, reflecting accessibility improvement that occurred in the early 1990s, although there is now some evidence that the capacity of the area is becoming increasingly constrained in transport and land capacity terms.

4.36 Overall, the A19 corridor is also favoured location, particularly the sites south of the Tyne. However, sites north of the Tyne, even those designated as Enterprise Zones, have been generally less successful.

4.37 In the next section I examine in more detail the circumstances of the A19 sites, and their role in meeting sub-regional requirements for employment land.

5. REALISATION OF EMPLOYMENT LAND CAPACITY

5.1 This section builds on earlier findings, and will further explore the New Tyne Crossing's role in the provision of sufficient and competitive employment land and whether this creates enough capacity to meet future regional and sub regional economic development needs. To do this the main issues that need to be addressed are: first, the extent to which sites that would benefit from the New Tyne Crossing, namely A19 sites, are required in quantitative terms to meet likely employment land requirements, and secondly, the extent to which sites in the A19 corridor are likely to be sufficiently competitive and "market ready" with and without the New Tyne Crossing.

Regional policy context

5.2 The starting point for this assessment is Regional Planning Guidance Note 1. Regional Guidance for the North East (RPG1, CD19) Paragraph 4.15 of RPG 1 says: *"The strategy also acknowledges the need for the region to create the right conditions to allow industry and business to flourish. An important element of this is the provision of a wide range of employment sites to allow existing firms to expand and to cater for the varied needs of new businesses. The region, therefore needs to maintain a portfolio of good quality, attractive employment and business sites and premises that can recognise the changing nature of the global, national and local economy, and meet anticipated rates of development".*

5.3 RPG1 identifies that in 1999/2000 there were some 887 hectares of land allocated for industrial and business development in Tyne and Wear, while 4,833 hectares were allocated in the wider region comprising 2,429 hectares in Tees Valley, 887 hectares in County Durham, 630 hectares in Northumberland and the 887 hectares in Tyne and Wear. It should be noted that all this land is "allocated" rather than available, a point that is examined in some detail below.

5.4 The RPG suggests that there is over provision of employment land in the North East region as a whole, and specifies the need for a more detailed study, through a Regional Employment Land Survey (RELS). This study will take into account market potential of the sites and the RPG also suggests that there should be a review of development plan allocations.

5.5 In practice, about half of the land currently allocated in the North East region is located in the Tees Valley, with Tyne and Wear comprising just 18% of the regional allocation. Tyne and Wear's employment land allocation is a small proportion of the total particularly given its economic importance to the region, the extent of economic and regeneration need (as identified in Section 2) and as it is home to 40% of the North East's population.

5.6 Additionally, although the regional context is one of a perceived surplus of employment land, RPG1 (CD19) identifies a local deficiency in land provision in the area of Tyne and Wear adjacent to the A19 corridor. The RPG defines this as "land to the north of Sunderland". This follows an (unpublished) study by English Partnership in 1997[18] concluding that while the North East had a reasonable supply of strategic sites (in the 20-40ha range), which could be made available to accommodate users in the short to medium term, that due to limited employment land

[18] English Partnerships (1998), IBID. (Appendix M)

provision in the sub-region spanning the areas of Sunderland, Gateshead and South Tyneside, there was a *"need for a strategic employment site in the broad location of 'North of Sunderland'"*.

5.7 Paragraph 4.29 of RPG1 indicates that this broad location straddles three local authority areas and indicates that revisions to the Green Belt boundary will probably be required. The Guidance in RPG1 also indicates that any resultant alterations to the Green Belt boundary should be brought forward in a co-ordinated manner as part of the review of UDPs for the three authorities involved. Policy EL4 of RPG1 indicates that the site should be between 40ha and 200ha and that the development brief should be based on the following broad principles:

- that development will not divert investment away from existing or future brownfield allocations;
- the site will be restricted to the development of major inward investors and prestige business cluster development of national or regional significance;
- there should be a strategy to secure high levels of public transport accessibility and use. No development should be permitted on the site until such time as improvements to public transport infrastructure and services have been undertaken or secured as part of the development;
- the viability of rail access to the site from the Leamside line has been considered;
- that any necessary improvements to the strategic and local road network required to accommodate traffic generated by the development, taking account of the likely use of public transport to the site, can be safely and efficiently accommodated. No development should be permitted on the site until such time as improvements to the strategic and local road network have been undertaken or secured as part of the development;
- that local employment initiatives to maximise the employment opportunities for residents of surrounding wards are promoted;
- that major environmental, historic and resource assets are protected; and
- that the proposals ensure the development of a strategic, woodland based landscape and recreational framework within the context of the Great North Forest.

5.8 This site is in addition to the current RPG 887 hectare allocation for Tyne and Wear. The RPG also suggests that the relevant UDPs should clearly identify the type of high quality development that is appropriate to ensure that the Green Belt site is safeguarded for strategic purposes, i.e.. either for a major inward investors or business cluster development of national or regional rather than local economic significance. The guidance in RPG1 also suggests that the development plans should make it clear that the allocation of a strategic site in this broad location should only be identified following stringent examination of existing allocations in this sub area and if it can be demonstrated that its development would not divert investment from existing brownfield allocations.

5.9 In transport terms, the development of this additional strategic site will have considerable significance to the New Tyne Crossing. Based on analysis in Appendix J it is estimated that a site of this scale (40-200ha) could accommodate between 5,000 and 20,000 new jobs. The NTC's role in this would be significant because it is expected that in operational terms, occupiers would be expected to require access to the north as well as to the south, e.g. to Newcastle airport, and to develop linkages with firms elsewhere in the conurbation. More significantly, given the Green Belt site's strategic nature and the regional significance of occupiers, I would expect it to draw labour from both the north and south of Tyne and Wear, particularly given the probable profile of skills and the nature of current housing markets. In short, I doubt whether the servicing requirements of the proposed strategic site can be met without A19 improvements, especially at the New Tyne Crossing, the major bottleneck in the strategic network servicing the transport needs of this site.

5.10 The scale of this potential release, up to about one fifth of the Green Belt in this location, is virtually unprecedented in the UK and shows the overriding national policy and political priority attached to maintaining a competitive inward investment offer in Tyne and Wear. In comparison with this decision, the New Tyne Crossing is in line with the relevant UDPs of North and South Tyneside[19] and opens up a number of major existing brownfield sites, which should clearly be considered ahead of Green Belt sites in line with the RPG policy approach. Nevertheless, the New Tyne Crossing is required whichever solution is pursued. The New Tyne Crossing is likely to be required as part of improvements to the strategic road network to service the development of the proposed Green Belt release, if this goes ahead.

5.11 Returning to the more general issue of RPG employment land provision and as a part of this exercise, consideration has been given to the overall requirements for employment in terms of use, as a means of verifying the RPG approach and thus the likelihood of land take up of sites that benefit from realization of a New Tyne Crossing. This has been undertaken in aggregate and specifically in relation to the individual sites in the A19 corridor and other strategic sites.

Aggregate requirements for employment land in Tyne and Wear

5.12 In terms of the aggregate requirement analysis, two separate approaches have been undertaken to establish future requirements. The first draws on work undertaken as part of the preparation of the European Objective 2 Single Programming Document (SPD), looking at experience in the period 1996 to 1999. This, in turn, draws on an earlier analysis in support of the preparation of RPG1. The second considers requirements in terms of future employment scenarios.

5.13 The analysis in the Single Programming Document shows that in the period 1996 to 1999 transactions (involving sale or long leasehold) of development land totalled 306 hectares in Tyne and Wear. This compares with 485 hectares in Tees Valley, 123 hectares in County Durham and 32 hectares in Northumberland. Transactions data is thought to be a reasonable indicator of demand given that it reflects the scale of market interest and activity in land. The analysis also suggests that within Tyne and Wear and the North East as a whole over this period there was a fall in the overall level of availability between 1996 and 1999. This leads the Single Programming Document to conclude: *"the stock of land available for development is not being replenished at a fast enough rate to compensate for transactions. Whilst some significant sites are yet to come onto the market,... the long term trend would appear to be for a contracting stock of land available for industrial/commercial development. Indeed, only County Durham and*

[19] Emms, H. Proof of Evidence and Appendix L.

Northumberland recorded net increases in availability between 1 January 1996 and 30 September 1999."[20]

5.14 In recent years, the failing of the market to provide high quality employment sites and premises has constrained business growth. This is one of the key weaknesses identified in the Regional Economic Strategy (RES) (CD24). The industrial property market has an oversupply of older floorspace, much of which is obsolete.

5.15 Most acutely, the large majority of North Tyneside floorspace is over 25 years old, which itself bears witness to the area's relative inability to offer competitive sites. However, the reverse is true in South Tyneside where over a quarter of the floorspace has been built after 1994. There is a similar story in Newcastle where the largest proportion of floorspace has been recently constructed. In Gateshead, the supply is more evenly spread in terms of age. Sunderland's pattern was very similar to Gateshead until the last 5 years, when only a further 1% of new floorspace was constructed. It is concluded from this that North Tyneside has the oldest and least competitive stock so its requirement for development of new accommodation is greater than for other areas.

5.16 To establish a future quantitative employment scenario against which these requirements can be assessed, it is necessary to assemble a series of forecast and current policy scenarios for Tyne and Wear that can ensure conformity with policy. These include scenarios set out in Regional Economic Strategy and Objective 2 Single Programming Document (CD26), together with some specially commissioned employment forecasts.

5.17 *Realising Our Potential* is the Regional Economic Strategy (RES) (CD24) for the North East, produced by ONE NorthEast, the Regional Development Agency (RDA). The RES's broad aim is to build a region that is sustainable and in which people feel proud to live and work. The Regional Economic Strategy also identifies a number of priorities and targets that must be achieved if the North East is to meet its vision for the future. These priorities are to increase Gross Domestic Product (GDP) per person and also to increase the total number of jobs. ONE's target is to increase the Region's total jobs by about 8% above the 1999 level and to create a net gain of 90,000 new jobs (in the North East region) by 2010. These targets are also identified in, and endorsed by the North East EU Objective 2 Single Programming Document, and are thus supported by the European Commission as the overarching strategic objectives for the region. Neither strategy produces separate targets for Tyne and Wear within the region, however, forecasting work commissioned by ONE North East is largely compatible.

5.18 Forecasts of anticipated employment growth in Tyne and Wear have been produced by Cambridge Econometrics (CE) as part of the Tyne and Wear Economic Strategy, commissioned by ONE NorthEast. CE forecasts a 5.6% growth in the number of jobs in Tyne and Wear between 1999 and 2010, this is equivalent to around 21,000 jobs. Additionally, Cambridge Econometrics' opinion is that growth in Tyne and Wear (at 5.6%) will be above that of the North East (at 4.3%) but below the UK as a whole (at 8.2%). This means that Cambridge Econometrics expect growth in Tyne and Wear to be about 1.3 times the rate of growth for the North East region as a whole.

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[20] Government Office for the North East. (2001) North East of England Objective 2 Programme 2000-2006, Single Programming Document, Volume1, Socio-Economic Analysis. Newcastle-upon-Tyne, Section 6.3, pp. 155-156). (CD26)

Applied to the ONE NorthEast's target of 8% suggests that growth within Tyne and Wear should be around 10.4% over this period. This is equivalent to about 40,000 jobs.

5.19 Thus, in summary, it is suggested that the Regional Economic Strategy is seeking employment growth of 40,000 jobs for Tyne and Wear, while Cambridge Econometrics is forecasting growth of around 21,000 jobs. Both forecasts refer to the period through 2010. The two forecasts are not incompatible given that the CE forecast is probably based on a continuation of existing trends and the 40,000 job growth forecast takes into account the formation (and budget) of ONE North East and its possible achievements over and above existing trend levels of growth.

5.20 Translating growth into land requirements means that assumptions have to be made about densities of employment and site coverage, and I have considered the role of likely available sites in this respect has been considered. This has been undertaken on a site-by-site basis for North and South Tyneside and a full summary of the methodology adopted and the results are included at Appendix J. The analysis suggests that the average density of occupation per person per new development site (comprising a mix of offices, light industry, industry and warehousing) is about 100 square metres per person. Thus 10,000 jobs would require about 100 hectares on average. This figure includes servicing landscaping, etc and is typical of recent developments in Tyne and Wear. In very broad terms it is also based on typical development "footprints" coverage of about 30% and average occupation densities for floorspace of 30 square metres per person. Thus I estimate that about 210 hectares of allocated land will be required to accommodate an additional 21,000 jobs and 400 hectares will be required to accommodate 40,000 jobs in the period to 2010. If RES targets are to stand any chance of being met then the 400 hectares requirement is the most appropriate basis on which to plan take up.

5.21 Not all of the future users of these 400 hectares will have similar requirements and precise user requirements cannot be identified in advance. This means that in line with widespread experience, and specific guidance in PPG 4 *Industrial and Commercial Development and Small Firms*, maintaining a wide availability of sites to meet a range of possible needs is the most sensible basis for planning. Guidance in PPG4 suggests that planning authorities should ensure that there are a variety of sites available to meet differing needs. They should also ensure that there is sufficient land available, which is readily capable of development and well served by infrastructure.

5.22 Of course, not all employment growth will require new sites. In some cases firms will be able to expand within their existing premises. However, offsetting and exceeding this effect in addition to aggregate employment growth in the economy, there will be considerable restructuring of businesses across the area involving firm closures, relocations and openings. This is a positive effect given that firms operating in modern premises are generally more competitive and less likely to relocate. It is also a process that is probably reflected in the high level of land transactions that are apparent from the Single Programming Document analysis summarised above.

5.23 On this basis the RPG allocation of 887 hectares in Tyne and Wear is not unreasonable as an allocation for the period to 2016, or in quantitative terms the Green Belt release north of Sunderland. Moreover, in the context of the initial 30 year forecast and assumed concession period for the New Tyne Crossing, it is relevant to consider a longer timeframe for employment growth and for land requirements, more generally. As seems reasonable, the longer term timeframe is ascertained by extending the Cambridge Econometrics (CE) job requirements over the 30-year assessment period. Using constant growth rates, this projects an employment requirement of an additional 64,200 newly created jobs in Tyne and Wear by 2030. It is estimated that these new jobs in Tyne and Wear will use up to approximately 700-1000 hectares of land in the period to 2030. This would certainly require virtually all of the current RPG provision including the land north of Sunderland. This is a conservative growth estimation particularly if the growth level outlined in the RES is achieved and if this level is continued over the extended time period. If these growth levels were achieved than more land may need to be allocated in order to provide a choice of sites and to remain competitive.

5.24 Thus, the conclusion is drawn that in quantitative terms to meet regional development targets, as expressed in the Regional Economic Strategy, Regional Planning Guidance and Single Programming Document, some of the A19 sites could be required in the period to 2010, and that all currently designated sites (in the A19 corridor and elsewhere in Tyne and Wear) could be developed by 2030. Furthermore, as I demonstrate below, even if additional sites are released in this period, in terms of current policy, there would be a strong policy preference for the development of A19 sites in the medium term. This is because alternative site development opportunities are likely to involve new green field releases and possibly further losses of Green Belt for development.

Results of a site by site analysis

5.25 With all analyses of employment land, the supply of land must be qualified in terms of the quality and market-realism of the land in question. However, there is no one consistent approach to measuring the quality of industrial land since there are a number of factors involved and measuring them is often based on subjective judgements. The key quality factors are location and access, current servicing provision and ownership. These factors combine to affect the types of development that are most suited to a site and later the time and, more importantly, the costs involved in preparing a site for development. As part of the work in preparing this evidence and in consultation with ONE NorthEast a review of the condition and marketability of sites in the A19 corridor and other strategic sites has been made. A map showing these sites is at Appendix H.

5.26 Based on the results of this review of land availability within Tyne and Wear for industrial and business development it is apparent that there is a high concentration of available land adjacent or near to the A19 corridor and that it is highly likely for development land to be targeted within this area. More specifically, the review found that there were nearly 1,000 ha of land allocated or potentially available for development along the A19 corridor and nearby areas (see Appendices 10 and 11). There are more sites located north of the river, and there are significantly more sites north of the river that are compliant with national policy in terms of their brownfield character and their realisation avoids pressure for use of Green Belt land and further Green Belt deletions. Undoubtedly, the market for these sites is less established, but this is potentially compensated by financial incentives to attract businesses to locate north of the river, as most financial programmes now target brownfield land in line with Government and EU policy. As a whole, consequent on the New Tyne Crossing, it is these sites that are likely to experience accessibility improvements, the consequential rental and value benefits and thus the attractiveness to investors that were identified in Section 4. These are the points deemed necessary for development.

5.27 In order to complete our land availability survey we contacted the Regional Development Agency ONE NorthEast and local councils and undertook direct surveys.

5.28 Within the A19 corridor the estimated travel times were determined and distance from tunnel of the area likely to be affected by the New Tyne Crossing. This comprises the A19 corridor between Wearside and A1 and the A189 corridor between Moor Farm and Ashington. The area is best understood when looked at in three parts: the area to the south of the Tyne, the area immediately abutting the Tyne & Wear conurbation largely lying within North Tyneside Authority and the area to the north, namely South East Northumberland. Generally, there is available land throughout the A19 corridor. A full site-by-site analysis is provided at Appendix I.

5.29 In total without including the as yet not fully identified Green Belt site north of Sunderland, there is twice as much land available for development or already being developed in the northern catchment of the Tyne Tunnel than in the southern catchment. There are only 136 ha of land south of the river compared to 364 ha of land immediately available north of the river.

5.30 In other parts of Tyne and Wear there are two major sites going forward. The first is Newcastle Great Park, which is a mixed use, greenfield, development located near the airport along the A1. The development will include housing and business park development. Eighty hectares of land has been allocated for commercial use and 2,500 houses are also expected to be built. The other strategic site going forward is the Newburn Riverside Park, which has come onto the market due to £46m of investment from ONE NorthEast, the European Regional Development Fund and the Capital Challenge programme. The site consists of 92 hectares of reclaimed land all of which has recently been connected to the road network near to the A1. Development of both these sites is well underway and they are likely to be completed and occupied within the next few years, and most likely in advance of completion of the New Tyne Crossing.

Conclusions on the realisation of employment land capacity

5.31 The land available in the A19 corridor will play a very significant role in the future economic development of the Tyne and Wear area. Land located along the A19 corridor north and south of the river could accommodate very significant employment levels. Cumulatively, based on the likely employment use of these sites, other available sites and those still in need of preparation, about 20,000 jobs could be accommodated north of the river and about 11,000 jobs south of the river. As I noted earlier, in the longer term the new strategic site identified by RPG 1 could accommodate up to a further 20,000 jobs once the policy conditions set out in RPG1 are met requiring improvements to the strategic transport network, including the New Tyne Crossing.

5.32 In a wider Tyne and Wear context virtually all this land is needed if the both trend levels and enhanced levels of growth sought in ONE NorthEast's Regional Economic Strategy are realistically to be achieved. But building on the analysis of Section 4, the development of this land is only likely to be viable if these sites can be made accessible through completion of the New Tyne Crossing.

6. THE WIDER ECONOMIC RATIONALE FOR THE NEW TYNE CROSSING

Introduction

6.1 In this section the earlier analyses are brought together to provide the overall wider economic rationale for going ahead with the New Tyne Crossing. This is done by carefully drawing together some of the findings of earlier chapters and other evidence. The analysis seeks to address a number of important strategic questions, which can be summarised as follows:

- first, what additional wider economic benefits will the completion of the New Tyne Crossing deliver to Tyne and Wear?
- secondly, what is the likely scale of these benefits?
- thirdly, by what mechanisms and processes will the overall benefits be achieved? and
- fourthly, why are these benefits relevant to Tyne and Wear?

Additional benefits

6.2 At the outset it needs to be borne in mind that the New Tyne Crossing is unique in its procurement and financing concept. It is a privately financed scheme that delivers benefits to the public. In public sector financed schemes the major consideration is often the opportunity cost of completing the scheme with finite public resources in comparison with other public works such as other transport schemes, hospitals and schools, etc. But in this case there is no such obvious comparison and it is unlikely that there would be any public investment opportunities foregone as a consequence of its completion. Of course, users will pay for the tunnel through its use, but even here, as long as the public user benefits equal or exceed the private costs, which itself seems necessary for private scheme viability (because users can choose other untolled crossings), then the economic benefits will be unambiguously additional.

6.3 More generally and leaving aside these unique circumstances, the issue of additional benefits, often labelled "additionality" has been subject to considerable debate in recent years, particularly in terms of the debate as to whether a transport scheme may offer regional benefits (e.g. North East) or sub regional benefits (e.g. Tyne and Wear) that can be distinguished from those occurring at the national level.

6.4 This is a slightly academic debate conducted by SACTRA[21] and others in that the focus is on whether those benefits captured in the standard cost benefit analysis (in this case summarised in Gordon Henderson's proof) based on the results of a standard Transport User Benefits Appraisal (TUBA) - captures benefits occurring at the regional or sub regional level. However, an important point to be made, at the outset, is whatever the outcome of this debate, this is not to deny that additional benefits exist at the regional or sub regional level.

6.5 Moreover, although so-labelled "additionality" (net additional benefits) is important as a national value for money consideration, as SACTRA themselves conclude, *"additionality is not the only*

[21] SACTRA, IBID (CD49)

relevant issue for decision-making. The distribution of the total economic impacts (i.e. gross as opposed to net[22])*, and the contribution of schemes to goals such as economic regeneration and competitiveness is also relevant.....So economic impact studies may be useful in principle both to identify any sources of additional benefits/disbenefits and to help assess the broader policy relevance of schemes".*[23]

6.6 Given this overall context, my main focus is in identifying where the main benefits of the New Tyne Crossing are likely to fall (e.g. national, regional, sub regional), particularly given the economic needs of Tyne and Wear and the implicit priority with the Government's recommended appraisal methodology the *Guidance on the Methodology for Multi-Modal Studies* (GOMMMS). In particular GOMMMS guidance emphasises the need to bring to decision makers attentions the potential benefits of a scheme to areas of acknowledged regeneration need, as part of the GOMMMS economy sub objective. Nevertheless, for completeness, I also rehearse relevant aspects of the wider debate.

6.7 The recent SACTRA investigation into Transport and the Economy[24] has considered the issue of wider regeneration economic effects in some depth. Its conclusions were that, in theory at least, wider regeneration economic effects should be captured in standard cost benefit analysis, provided that the analyses were undertaken properly and that markets were operating perfectly. The latter is, of course, a practical assumption that will never reflect reality, not least in an area such as Tyneside where there is considerable public sector intervention.

6.8 Based on this context SACTRA concluded that there were two ways forward. The first was to assume that the measurement of wider economic effects was elusive, difficult to measure and subject to some double counting with national benefits and thus they should be omitted from the assessment of schemes unless there was an overwhelming case for including them. The second, alternative approach was to move towards a much more careful and codified approach to the assessment of their impacts, which is the main approach adopted here. SACTRA regard the attractions of the former to be that "*it is low cost and encourages the Department to focus on measuring the direct transport and environmental impacts.* But they go on to conclude: "*it also has weaknesses – it fails to help Ministers quantify the impacts of schemes on economic competitiveness......It is also widely believed that many transport benefits/disbenefits are in fact transmitted by mechanisms... into impacts which may accrue to different economic agents, or different locations, from the initial beneficiaries – and that this might matter for policy".*[25]

6.9 A further area of guidance that should be introduced is from HM Treasury on the evaluation of regeneration projects and programmes[26] and the HM Treasury evidence to SACTRA[27] in 1999. This is because the guidance sets out HM Treasury's considerations for measuring additional benefits in regeneration areas. The HM Treasury position is that spatially targeted regeneration policies increase national income (and thus create additional benefits) to the extent that they

[22] Tunnell, C. point for further clarification
[23] SACTRA, paragraph 10.152. IBID (CD49)
[24] SACTRA, IBID (CD49)
[25] SACTRA, paragraph 10.92. IBID (CD49)
[26] HM Treasury. (1995) A Framework for the Evaluation of Regeneration Projects and Programmes, London, HMSO (CD51)
[27] HM Treasury. (1997) Appraisal and Evaluation in Central Government (aka 'The Green Book'), London, HMSO. (CD52)

strengthen the supply side of the economy, in particular by removing obstacles to the proper working of markets. This includes both land and labour markets, and, by definition, includes projects that improve employment prospects for the unemployed and support the recycling of previously developed land – so called "brownfield land".

6.10 Both the SACTRA and the HM Treasury approach has been incorporated into Government guidance on multi-modal transport appraisal. Implicitly adopting the SACTRA approach the guidance suggests that it is worthwhile, as an important consideration for decision takers, to identify explicitly the probable wider economic effects in cases where the scheme being assessed benefits areas of acknowledged regeneration importance. The latter are defined to include both Objective 2 and Assisted Areas that together cover the whole of the North East region as well as other defined areas of the UK. It is notable that in the overall appraisal framework the assessment of wider economic effects in these cases is given equal weight with the results of standard cost benefit analysis. There is also a precedent for using wider economic effects to justify major transport schemes, such as the Channel Tunnel Rail Link, where the benefits were judged to be to the Thames Gateway area, then known as the East Thames Corridor.

The scale of wider benefits

6.11 In assessing the wider economic effects of any transport scheme it is important to gain an understanding of the potential scale of such benefits so that within any decision making framework these benefits can be clearly weighted and considered in relation to the various costs of its development.

6.12 In Section 1 a classification of the various cases in which wider economic effects may arise, as derived from the work of SACTRA, is presented. In practice, as is summarised in Sections 4 and 5, the most obvious effects are in terms of 'unlocking sites for development' both in physical and market terms. This is, of course, not the complete story in terms of New Tyne Crossing's economic effects. It is clear from earlier Tyne and Wear experience that some other support, most likely from the various regeneration and development agencies, is likely to be forthcoming in order to kick start the process of regeneration.

6.13 In order to better address this requirement, there are two broad analyses given below that will shed some light on the related scale of benefits. The first analysis seeks to identify the scale of benefits through the user benefits appraisal, which is broadly compatible with the SACTRA "low cost" approach, as described in section 6.2. This approach makes the simple assumption that wider economic benefits are wholly included within user benefits. The second analysis attempts to complement this by drawing together a more careful and codified understanding of the scope and scale of benefit, drawing on the findings of earlier sections.

6.14 If, for the first analysis, it is assumed that wider regeneration benefits are contained within the measurement of overall user benefits as derived from cost benefit analysis, then it is possible through an examination of transport benefits, to reasonably indicate where such benefits are likely to fall. As a starting point, such an analysis is summarised below.

6.15 The standard benefits appraisal carried out and described in Gordon Henderson's evidence suggests that total schemes user benefits in terms of a standard monetary valuation and travel time savings are valued at around £240m, against costs of £138m. Conceptually these are assessed as national economic benefits and, unambiguously, they can be regarded as additional. They represent the sum of user benefits and can be regarded as the value of reduced transport costs, which in turn contributes additional benefits to the economy.

6.16 Having established additional national benefits within the SACTRA "low cost" approach, a further valid line of argument is to assess where, in geographic terms, these benefits may fall. The mechanism linking user benefits to outcomes is highly complex, because it does not affect any single economic group or sector and probably has several rounds of effects. The meaning of "rounds" is the extent to which benefits are transmitted through the economy, for instance a haulier of components may be able to pass on the benefits of reduced travel costs through lower prices, which may improve the competitive position of the manufacturer whose products utilise the component. Nevertheless, most of the discernable effects are likely to be contained within the first and second rounds. Moreover, using the SACTRA low cost approach it will be individual businesses and travellers that will benefit most through reduced transport costs. Since it is a cost effect, the benefits are a "virtual" subsidy to the economy in which its effects are contained.

6.17 In the early rounds the geographical distribution of such benefits will be dependent on the location of the beneficiaries. The starting point is thus the nature of traffic using the A19 and existing Tyne Tunnel. The main issue is the extent of through traffic as these are the users that have no direct relationship to the Tyne and Wear or North East economy. In contrast, residents and commercial users having an origin or destination in the region, or that are travelling within the region are clearly direct beneficiaries of identified user benefits.

6.18 Surveys conducted as part of the Tyneside Area Multi Modal Study, suggest that only a relatively small proportion of A19 and tunnel users are through traffic (20%). Thus, a very large proportion of the benefits, up to about 80%, will accrue in some form to users within the region. Of course, the users of the scheme will also pay for the scheme, so it is relevant, broadly, to consider only the excess of benefits over costs, e.g. £254 million costs minus the £140.6 million construction costs, so the value of these is £115 m. Thus in broad proxy terms, the estimate is that the benefits to the region may be about £80 million in travel costs savings. Taking the analogy of these savings as a virtual subsidy, this could be equivalent to an £80 million subsidy to the Tyne and Wear economy. In practice the impact of these benefits will depend on how the time saved is used. However, by way of broad analogy if £80million were spent on a regeneration programme, it would be expected to generate or safeguard between about four and eight thousand jobs based on a typical subsidy costs per job of about £10,000 to £20,000 per job. This latter range is necessarily wide because of the range of experience in regeneration programmes and differences in measurement. Nevertheless, it gives an indication of the potential scale of impact under this narrow approach.

6.19 In line with the SACTRA findings, the approach of assuming all benefits are captured in user benefits is a very conservative or minimal measure of additional benefit because, it does not reflect the perceived benefits of transport schemes. Additionally, it does not reflect the actual experience of growth, and influence of accessibility on development values that are reviewed in section 4 (including the perceptions of Tyneside businesses). It is now appropriate to consider the validity of other approaches designed to identify more directly such benefits in a more careful and codified way.

6.20 In practice it is difficult to measure the exact relationship between any new transport infrastructure investment and regional development or to provide exact forecasts of benefit. Very few studies have been able to quantify satisfactorily these impacts, after the scheme has been completed, i.e. on an *ex post* scheme basis. An OECD working group has made a recent investigation into the impact of transport infrastructure investment on regional development[28]. It concluded that while it is acknowledged that transport infrastructure projects have significant impacts on the development of regional economies (and had often validly been used to justify allocating resources to transport scheme) it was only through an *ex post* case-specific empirical evaluation that such benefits could be clearly quantified. Moreover, the OECD study also concluded that while such benefits could be widely demonstrated from existing built schemes, the "observation area" for analysing the regional impact differs significantly from one scheme to another.

6.21 Thus there is also a lack of information from ex-post studies that can provide a precise basis for claims about the impact of infrastructure on regional economies and their regeneration, thus there are no direct comparators to the New Tyne Crossing. Moreover, as SACTRA concluded, by considering the scale of benefits derived from different transport improvements, "*the impacts will differ from case to case according to the structure of the local, regional economy in question, the structure of the competition in various sectors in both that area and area affected by the scheme, and the existence of imperfections in the transport sector itself*".[29]

6.22 In these circumstances the alternative approach is to build up carefully an understanding of the particular circumstances that the transport scheme is seeking to address, and to consider the significance of these. The basic point is that while transport schemes are a necessary condition for economic development to occur they are not necessarily a sufficient one. The OECD group found that existing studies suggest, somewhat intuitively, that the scale of economic impact is a function of the scale of the transport issue being addressed. The point is that, while in earlier sections, based on the detailed analysis in Appendix J to my proof, it is suggested that the A19 corridor could accommodate in excess of 50,000 jobs. This is not, of course, claiming that the tunnel will lead to the creation of all these jobs, although it may facilitate many of them. But, an informative question is how many of these jobs will go ahead without the New Tyne Crossing.

6.23 To address this last question it is necessary to consider both the current and future situations.

6.24 At the **current time**, the highly pertinent issue arises as to why available land north of the river has been attractive to some large investors yet its land up-take rates lag behind those along the A1. The slow up-take seems contradictory given that many sites along the A19 are designated as Enterprise Zones and most likely investors would be attracted to these areas. On the basis of the analysis in Section 5 many of the A19 sites are in themselves of a high quality, indistinguishable in physical site terms from those in the A1 corridor. Yet even Enterprise Zone status and other public subsidies have not been enough to deliver growth levels comparable to the A1.

6.25 As concluded in section 4, location and accessibility are key determinants of a viable business location and this is the major issue that is affecting take up here. There is a correlation between poor infrastructure that generates congestion, and the slower development of the A19 corridor. Congestion and poor accessibility breeds negative perceptions of an area. Congestion around the tunnel has restricted access to specific sites along the river and it has increased travel times to

[28] Organisation for Economic Co-Operation and Development (OECD). (2002) Impact of Transport Infrastructure on Regional Development, OECD Publications, Paris (Appendix M)
[29] SACTRA, paragraph 10.15. IBID (CD49)

others. Longer travel times and inaccessibility have negative impacts. Furthermore, if existing development has already created the current level of congestion and if the area is expected to grow, particularly as jobs and sites are needed, then congestion will be expected only to worsen. Construction of the New Tyne Crossing would remove the existing congestion and bring about a better, more connected, perception of the area. Surveys, reported in Section 3 above, confirm business concerns for improved access and the negative effects of congestion.

6.26 Steer Davies Gleave in an infrastructure benchmarking study for the East of England Development Agency reached the conclusion that: *"Where there is a lack of buoyancy, infrastructure investment may play a role if there are critical bottlenecks which prevent the realisation of potential; infrastructure may also affect perceptual maps of places.."*[30] This is also likely to be the case in Tyne and Wear with the existing Tyne crossing.

6.27 The issue of congestion itself is formally addressed in Gordon Henderson's proof. But the point is since 1995, flows through the tunnel have grown strongly and take up of land has been slow. So far this growth in tunnel traffic has been accommodated within the existing capacity of the tunnel in all but peak times, but there is clear evidence that there has been a highly pronounced spreading of peak tunnel flows and thus evidence of considerable retiming of existing trips. If slow take up is only occurring with these peak levels of congestion, the future prospects for the corridor as a competitive investment location do not augur well.

6.28 In the **future**, the New Tyne Crossing will result in a doubling of capacity at the Tyne Tunnel. Evidence from the transport assessment is that by 2021 peak traffic flows through the tunnel could be 59% higher than in 1999, even embodying relatively modest NTEM growth assumptions. By any definition, this is a significant increase in capacity and flows, which could not be accommodated at the current tunnel.

6.29 In summary, the trend is for this congestion to get worse without the New Tyne Crossing, considerably so. It seems unlikely that take up rates will increase and the balance of probabilities suggests they will lower, even in the face of land shortages elsewhere in Tyne and Wear. Thus, it is difficult to see how historic employment growth rates in Tyne and Wear can be sustained, let alone the higher ones now being sought by the Regional Economic Strategy, summarised in Section 4, be achieved. Given the predominance of trips with local origins or destinations it is expected that the growth in traffic will be sensitive to new development.

6.30 In practical terms it is of course difficult to put a firm estimate on the scale of effect, but based on a tunnel capacity of 1,600 vehicles an hour, the results of, say, an additional 1,000 workers travelling to work at peak times through the present tunnel at existing capacity (not unreasonable from, say, just a 5,000 increase in corridor employment). It becomes immediately apparent that there will be gridlock for several hours of the day. Thus in practice, it is very doubtful that in purely operational terms there will be scope for much additional job creating investment and certainly not the up to the 50,000 jobs that could be accommodated, and are demonstrably possible, over a thirty year concession period.

[30] East of England Development Agency. (2000) Infrastructure Benchmarking Study. Steer Davies Gleave. (Appendix M)

6.31 Thus in summary, it is questionable whether it is worth taking the risks to the Tyneside economy of not supporting the transport infrastructure necessary to facilitate its development.

6.32 The mechanism and processes by which wider economic effects will be achieved

6.33 In this section the mechanisms by which economic benefits will arise and be supported are considered. These relate to the corridor's priority for public funding support, the importance of inward investment, the efficiency gains from improved transport infrastructure and the benefits of tolling to sustaining wider economic benefits.

6.34 In terms of **public funding** on any reasonable criteria of need, it is likely that the A19 corridor sites will be among the highest priorities for public investment through future regeneration programme. This is because they are both required in quantitative terms (as demonstrated in Section 5) and they are brownfield. Increasingly, regeneration programmes national and EU require, as part of their eligibility criteria, that grant assisted projects are located on brownfield sites.

6.35 However, the priority of A19 sites should be qualified in terms of the extent to which the New Tyne Crossing is completed. In particular, if the New Tyne Crossing were not to go ahead, the value for money of extensive public intervention in these sites is questionable, given the accessibility constraint and the resulting effects on regeneration outputs. Thus the New Tyne Crossing is itself necessary to lever in public funds.

6.36 In terms of **Inward Investment** the OECD also found that transport may "contribute strongly" to an economy through the attraction of mobile foreign direct investment (FDI). This is because access to markets also influences where investment is targeted and that high quality access plays a role in providing access but also in presenting the region as a serious competitor in the international FDI marketplace. FDI can benefit indigenous business and the regional economy as it brings technology transfer, demand for suppliers and labour productivity growth.

6.37 Since the 1960s, Foreign Direct Investment (FDI) or inward investment has played an important role in the fortunes of the North East economy and in regional policy more generally. FDI has provided an important means of achieving employment growth and technology transfer in contexts where traditional and indigenous sectors have been weak and declining. This importance can also be demonstrated in the North East's case by comparing it with the outcome of more indigenous growth.

6.38 The North East unfortunately does not have a tradition of entrepreneurial activity but, as is well known, it has been a region with a tradition of "employee culture" where large employers within a narrow economic base have provided most jobs. It can also be credibly argued that entrepreneurial activity often itself feeds off a range of successful sectors, hence the coincidence of growth in both large and small enterprises in more successful regions through what is often termed a "supply chain effect".

6.39 There have been many regional policy initiatives, generating mixed results, to encourage a more entrepreneurial culture. However, while undoubtedly many smaller business initiatives have been well-focused and are correct as part of a balanced economic development strategy, the region continues to demonstrate a level of indigenous new business formation that is consistently below the national average and is lower than most other UK regions. More specifically, the rate of new business formation has fallen below the levels achieved in the 1980s and the number of new business registrations per capita is half England's average and a third of that found in London. The number of VAT-registered company de-registrations exceeds registrations and micro-businesses are not showing the sharp growth figures as seen in other parts of the UK.

6.40 Given the above experiences, the attraction of inward investment necessarily continues to be an important part of a balanced economic development strategy for the foreseeable future, whether or not levels are as high as those achieved in the past or whether some of the indigenous initiatives begin to achieve an improvement in new business start up trends. Given this context, the North East needs to continue to offer a competitive environment and, as stated by the RPG1, this includes an efficient transport infrastructure. A wide range of capital grants and incentives has helped foster the existing competitiveness of the region. The importance of these incentives is evident from both the scale of support and the results of regular evaluation studies. There is however, a widespread concern that many of the current incentives will reduce in value, or will no longer be available once funding initiatives cease. This includes Enterprise Zone designations expiring in 2006 and the current Objective 2 programme ending in 2007.

6.41 Foreign direct investment has undoubtedly been more successful largely through a combination of incentives, available labour and the provision of competitive, accessible and easy to develop sites. This viability has been crucial because of the intense competition that exists for such investments within the UK and with other European regions. To understand the requirements it is useful to briefly consider the forces now driving inward investment, both now, and in the future.

6.42 In the late 1980s and early 1990s FDI into the UK was mostly to secure continued market access within EU tariff walls and in the context of the creation of the Single European Market. The early and mid 1990s saw a strong flow from South East Asia, but this subsequently stalled in the context of recession there. Within the EU, Britain was also favoured for a combination of factors including an encouraging tax regime and political reception in addition to flexible labour markets and the English language.

6.43 However, against a more recent background of mature markets and limited growth prospects in many sectors, the main driver of inward investment has been a process of global restructuring and a shake-out in which the major firms are consolidating and seeking to identify the most efficient solutions to their business production or process needs. This trend refers both to manufacturing (e.g. car plants) and services (e.g. the shift from branch-based customer interaction to call and Internet centre–based operations). The UK now faces much stiffer competition for such investments as a consequence of factors, such as the single European currency, which clearly benefits mainland Europe and the rise of other competitive locations including Ireland, southern and eastern Europe. In the light of these recent trends, it is indeed likely that competition between regions will stiffen. This again reinforces the need to offer a competitive environment across all areas, including competitively accessible sites, such as those likely to be available along the A19 corridor.

6.44 Moreover, the existing relative success in attracting inward investment places the region under the influence of international economic forces and decisions over which the region can exert little control. Therefore, the region needs to create the right conditions to try to maintain the competitiveness of existing investments and retain indigenous businesses and this includes an efficient and uncongested transport network. This refers especially to many of the investments that have been secured throughout the A19 corridor, particularly south of the Tyne in locations such as Doxford. Once again this becomes more important given the ending of Enterprise Zone status.

6.45 Of the public sector support available, Regional Selective Assistance (RSA), which is administered by the Department of Trade and Industry, is a UK-wide scheme to support job creating investment and it is probably the most well-known. It is available to both inward and indigenous investors within the region. RSA has been widely provided in the North East and has typically been in the range of up to £10,000 per gross job created or safeguarded by such investments. But as a national scheme and with similar availability in several UK regions, its main role has been in securing investment to the UK rather than a specific region. Within this environment it is local factors that are most influential, the most important of which concern support for the provision of accessible and competitive sites and premises.

6.46 At an individual enterprise or "firm" level the effects in terms of improvements to efficiency are important aspects of benefits, because, by definition, improvements to efficiency increase the medium to long term likelihood of firms staying in business. This view is confirmed by some of the earlier studies reviewed in Section 4, e.g. in relation to the Humber Crossing and the business case studies included at Appendix K.

6.47 Lastly, it is important at this stage to consider the **role of tolls**, given their scope to mediate overall New Tyne Crossing use.

6.48 Some evidence is available on the effects of toll increases at the existing Tyne Tunnel itself. In the summer of 2001, the Tyne Tunnel increased its tolls by 25% for both light and heavy vehicles. After six-months (short-term study) the impact from the toll increase was to reduce demand by about 4%.

6.49 It is also possible to make some informed and reasonable assumptions from available income levels and the short and medium term development prospects within the area.

6.50 Statistics from the New Earnings Survey have shown that over the last three years the wages for most occupations have been higher in North Tyneside. Additionally, not only were wages generally higher in North Tyneside but also the wages were higher for the highest paid occupations. For example in 2001, managers earned 5.64%, professionals 1.4% and associate professional/technical occupations earned 6.1% more in North Tyneside. This income differential would make a tolled commute across the Tyne tunnel feasible for many users. The point here is that the most short to medium term development potential is north of the Tyne and in this case the income differential north of the Tyne is significantly high enough that cross Tyne River commutes through the tunnel will not be discouraged.

6.51 Given the detailed specifications for development of the Green Belt site it is likely that should the land be released that it would attract higher paid positions. This would likely rebalance wage levels between the two areas. In addition, the increased flexibility within the local workforce would naturally begin to narrow the wage gap between North Tyneside and South Tyneside.

6.52 As outlined in Gordon Henderson's proof, the New Tyne Crossing will also support improved public transport services. The reader is referred to Gordon Henderson's proof for details of assumptions made as to how revised tolls will affect New Tyne Crossing use.

6.53 Overall, the effects of the tolls, within the range assessed, will be positive as part of a strategy to discourage unnecessary trips and encourage the use of public transport. This would indirectly manage traffic flows as well. This will help to ensure that the A19 corridor does not suffer from the congestion levels that are now affecting the A1 Western Bypass 10 years after its opening and potentially threatening its economic success.

Addressing the need for regeneration

6.54 Economic development opportunities are especially needed in areas with concentrated social and environmental problems.

6.55 The need for regeneration in both Tyne and Wear and especially North and South Tyneside has been demonstrated in earlier sections. The area has an above average unemployment rate, much of which is long-term unemployment. North and South Tyneside have failed to regenerate and achieve self sustaining economic growth, despite central government's interventions over many years including the formation of Enterprise Zones, EU Objective 2 programmes, and ONE NorthEast's (and its predecessors) work to attract investors. Tyne and Wear has been able to attract some inward investors, which has stimulated some growth, but, as outlined in Section 2, the fundamental economic problems still persist.

6.56 Within South Tyneside the implication of our site analysis is that not all of its employment needs can be met within the Borough. This is because site availability is increasingly constrained and that given transport, planning process requirements and market conditions the potential Green Belt site north of Sunderland, identified in RPG1, is unlikely to be developed in the short or medium term. This means that there may necessarily be some reliance on the A19 sites north of the river for employment opportunities in this period. Moreover, over the medium to long term, if the land north of Sunderland is developed, there is a need to facilitate access to a full range of employment opportunities/sites in neighbouring authority areas including those north of the river.

6.57 The final draft Single Programming Document (SPD) for the North East was submitted to the European Commission in April 2000 and covers the Objective 2 programme for the period 2000-2006. It outlines opportunities and constraints and sets out four regional priorities:

- growth opportunities for business;
- routes to employment for individuals;
- renaissance of communities; and
- strategic regional investment.

6.58 One of the explicit key measures developed in the Plan is 'Improving Employability: Pathways to Work' (SPD, CD26). It highlights capacity problems at A19 junctions and the Tyne Tunnel, which cause delays to commercial traffic, as a key issue for the area in terms of access and regeneration, now and in the future.

6.59 Employment-led regeneration and self sustaining economic growth are the ultimate goals of the regional and local authorities, and the New Tyne Crossing is one part of delivering these goals. In this sense the regeneration context for the New Tyne Crossing is critical to its need-based justification. The regeneration case is spelled out in its role in improving and maintaining competitiveness thorough improving access and opening up development sites for job generating inward investment.

7. SUMMARY OF CONCLUSIONS

The need for regeneration

7.1 Tyne and Wear is an area that has significant and acknowledged regeneration need. The need is particularly acute in wards close to the River Tyne and adjacent to the existing Tyne Tunnel. These wards face some of the highest levels of unemployment and deprivation in England. Rates of new indigenous business formation are low throughout the area. Since the 1960s, the traditional economic sectors have undergone significant restructuring. Some compensating job growth has come through inward investment, which has been successfully secured in competition with other regions. A combined range of issues such as labour, site, grant availability and access have underpinned this success. However, further development and investment are required if both Tyne and Wear and the wider region are to achieve self sustaining economic growth.

Employment impacts during construction and operation

7.2 Directly, construction of the new tunnel will create 2,694 person years worth of employment, equivalent to some 270 full time permanent jobs. Additionally it will create 108 permanent jobs in the local economy in related industries and service sectors. It is anticipated that in operation at least as many staff will be employed as are at present at the tunnel site.

The importance of accessibility to economic development

7.3 Indirectly, the new tunnel will support the economic regeneration of the area by improving the competitiveness of the available development sites within Tyne and Wear. This is especially important because the market, particularly for job creating inward investment, is highly competitive both nationally and globally and location decisions are made on marginal benefits. It is the relative rather than absolute advantages of a location that determine investment decisions. Put simply, small differences determine final decisions. These decisions can be defined as conditional on three related factors, as set out below, and justified in Section 4 of this proof.

- First and crucially, from an investors' perspective, it is only high quality and accessible locations that achieve the track record of return and market values necessary to attract institutional investment in new development, and thus are able to accommodate employment. These high quality and accessible locations are invariably in city and town centres and in other locations adjacent to strategic transport networks. However, offsetting this pattern, development in city centres is often complex and sufficiently large and unconstrained sites are in scarce supply. This means that in weaker markets, such as Tyne and Wear, the scope for central development is more limited, and the larger outer sites typically meet market and occupier requirements. This means that they are the most viable locations for investors.
- Secondly, from an occupiers' perspective, it is the level of access that determines the marketability of sites – few business parks succeed without good road access, and good public transport access is increasingly important.
- Thirdly and lastly, from an operational business perspective, businesses seek good access both to meet their operational requirements and to ensure they can attract and retain staff.

Realisation of employment land capacity

7.4 An investigation of employment land availability has been made based on development plan provision, discussions with the Regional Development Agency (ONE NorthEast) and a direct survey of each site.

- First, the greater part of current employment land provision is in the A19 corridor, north of the Tyne. The RPG suggests a total of 887 ha allocated for potential development within Tyne and Wear of which my assessment suggests at least 526 ha are located within the A19 corridor North of the Tyne. About 60% of the sites in the A19 corridor north of the Tyne are brownfield in character, and thus favoured for development by national planning policy. However, Regional Planning Guidance Note 1 allows for the possibility of the release of Green Belt to accommodate a strategic investment or a cluster development of regional or national significance in an area north of Sunderland, although the precise site has yet to be identified. However, the presence of brownfield sites north of the Tyne, if easily accessed, could take the pressure off the need for early development of the Green Belt site south of the Tyne, and may help to limit the scale of any release. This is a crucial point given the explicit criteria for the release of this site as specified in RPG 1, which gives preference to brownfield site development prior to development of former Green Belt or even greenfield land.

- Secondly, the A19 sites are high quality and in terms of site characteristics and grant availability, they are similar or superior to those that have proved attractive to investors adjacent to the A1 Western Bypass and A19 south of the Tyne. However, discussions with local agents confirm that congestion and the relative inaccessibility of sites has restricted land take up.

- Thirdly, the Tyne and Wear Economic Strategy and the Regional Economic Strategy produced by ONE NorthEast contain well-founded future economic and employment growth scenarios. All currently allocated employment sites will be required if these scenarios are to be realised. The alternative land development approach would involve further compromises to national policy in the form of greenfield and Green Belt land releases, which would be difficult to justify especially in terms of the specified tests in PPG2.

- Fourthly, improved access to the A19 sites north of the Tyne is required, if the A19 sites are to be viable development locations. In strategic terms this means addressing the current capacity constraints at the Tyne Tunnel. Given the nature of investors and competition from other regions and internationally, it is unlikely that these sites will be developed without addressing these constraints. There is therefore a very significant risk that new investment and employment will be lost to Tyne and Wear. This level of risk is not acceptable or sustainable as the basis of a forward economic strategy, given identified economic needs.

- Fifthly and lastly, the capacity of the Tyne Crossing will need to be increased to meet the additional public and private transport traffic generated by the development of sites throughout the A19 corridor. In simple terms, with the existing tunnel already at peak hour capacity, the addition of just a few thousand jobs north of the Tyne would create gridlock conditions for much of the day. Additionally, up to 20,000 jobs[31] could be accommodated from any development on the possible Green Belt site north of Sunderland that would add to congestion at the existing Tunnel. This is because it would be likely to attract employees from the north, develop operational links with businesses in the north, and could require

[31] (Appendix J)

access to the Port of Tyne, Newcastle Airport and the regional scale service facilities within Newcastle City Centre.

The wider economic rationale

7.5 Overall, the tunnel will yield additional economic benefits to Tyne and Wear. It is needed to open up a number of sites for investment, for which there are no obvious or policy-acceptable substitutes. Land potentially available in the corridor can accommodate up to 50,000 jobs, which is not an unrealistic prospect given the scenarios for growth in the Regional Economic Strategy. Without addressing the current crossing constraints, a very large proportion of these are unlikely to be achieved. Additionally, the value of the benefits to users represent an implicit or "virtual" subsidy to the Tyne and Wear economy and there is no opportunity cost in terms of public expenditure. But, given the uncertainties of the market, to put a precise figure on these benefits would be arbitrary or spurious in all circumstances. In addition to these considerations, a number of factors also reinforce the importance of the New Tyne Crossing to the success of the local economy.

- First, inward investment is likely to remain a significant generator of economic activity within Tyne and Wear given that the region does not have a tradition of entrepreneurial activity. Given this context, the North East needs to continue to offer a competitive transport infrastructure. This is especially the case, given that the region shortly will lose some of its existing advantages including the remaining Enterprise Zones.
- Secondly, changes in eligibility rules mean that public sector grants are often only available for projects located on brownfield sites. This is already the case for the EU Objective 2 programme.
- Thirdly, although the crossing is tolled this will not mediate the economic development effects in either the medium or longer term. This is because statistics from the New Earnings Survey suggest that the wages to the north of the Tyne have been higher to the extent that they will help offset toll increases. Additionally, reflecting policy preferences for brownfield development and the greater development site capacity north of the river, it is expected that the post 2008 balance of flows for journeys to work would be northbound. Nevertheless over time, with the New Tyne Crossing, it is reasonable to expect that the labour markets north and south of the Tyne would become more integrated, particularly if the Green Belt site north of Sunderland is developed. Additionally, over time, the tolls are also likely to play an important role in managing cross river flows, discouraging unnecessary trips and encouraging public transport use. Thus, they will also provide a mechanism that will help to avoid the levels of congestion that have emerged on the A1 Western Bypass.

7.6 In conclusion, employment-led regeneration and self sustaining economic growth are the ultimate goals of the regional and local authorities, and the New Tyne Crossing is an important part of delivering these goals. The regeneration context for the New Tyne Crossing is critical to its need-based justification. The regeneration context is built around the need for increased accessibility to employment opportunities and improved social inclusion. The regeneration case is spelled out in the New Tyne Crossing's role in improving and maintaining competitiveness, through improving access and opening up development sites for job generating inward investment. Furthermore, failure to go ahead with the New Tyne Crossing will increase pressure upon the Green Belt and could accelerate its deletion or require that a larger deletion be made. The development sites, both north and south of the river, are also likely to be the focus for other explicit, regeneration initiatives.