School of Environmental Sciences University of Greenwich

# UPWARDLY MOBILE: PRIVATE TRANSPORT, REGENERATION AND ENVIRONMENT IN THE THAMES GATEWAY

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# Abstract

The thesis presents case study research into private vehicle use as it relates to the process of regeneration in the Thames Gateway. In doing so, it investigates two key contemporary transport policy issues. The first is the burgeoning debate surrounding the nature and extent of the relationship between transport investment and economic activity. Secondly, it explores the ways and means of encouraging more environmentally sustainable and equitable forms and levels of personal mobility. It argues that, in their present form, regeneration strategies will undermine attempts to promote and implement sustainable transport policies in the area.

**Part One** of the thesis is a review of the theoretical literature and central government policy that focuses on the role of transportation in the regeneration process. It explores the implications of the new sustainability agenda for private car use against the background of the Thames Gateway. It concludes that the Thames Gateway offers both the physical opportunity for, and the legislative will to plan land use and transport together in an integrated manner. It recognises that the strategy needs to be capable of supporting the increased need for accessibility which regeneration requires, whilst simultaneously reducing many of the negative impacts of unfettered use of the private car. The chapter identifies a number of potential constraints on the realisation of such an approach at the delivery stage.

**Part Two** presents the findings of the first stage of the empirical research. Through an analysis of local plans and proposals and interviews with key actors, it investigates the extent to which centrally defined policy is being adopted and applied at the local point of delivery. It finds that, despite incorporation of the rhetoric of sustainability within local development plans, fundamental contradictions in terms of the principles of sustainability exist within the transport policy statements of some authorities. Furthermore, sustainable policy aims, as they relate to planning the location and transportation needs of new developments, are often not applied in practice.

**Part Three** assesses the implications of the current transport strategy on private car use in the Thames Gateway for future sustainability targets. It uses the data collected through the research from a local travel survey of car users, currently resident in the Thames Gateway area, to make projections for future car use in the context of a regenerated scenario, developed according to the present land use and transport policy framework. Future levels of CO2 emissions arising from private vehicle use are estimated on the basis of current car use, identified within the survey sample population and proportionately extrapolated to the wider population. These are set against the wider context of national figures for CO2 emissions and internationally binding government agreements to reduce these by the year 2005.

On the basis of the evidence presented, the research concludes that the projected levels of CO2 emissions arising from increased private vehicle use in the Thames Gateway, as a outcome of the regeneration process and based on a 'do nothing' transport policy scenario, run counter to the principles of sustainability.

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# List of Associated Presentations and Publications

# **Publications**

Forth-coming 1998	Upwardly Mobile: the quest for sustainable mobility in the regeneration of the Thames Gateway Karen Lucas <u>Journal of Transport Geography</u>
Nov. 1996	Social Climate Change: A precondition for Sustainable Transport Karen Lucas & Ian Skinner (UCL) <u>Transport Geography Research Group</u> , Royal Geographical Society Post Graduate Working Papers No. 2
Sept. 1995	Towards a deconstruction of "environment" in the regeneration of the Thames Gateway Karen Lucas & David Chambers (Univ. of Greenwich) <u>Policy Studies</u> Journal, Vol. 17 June 1996
June 1994	A Guide to Development Plans and Transport Policies and Proposals in the Thames Gateway Karen Lucas <u>University of Greenwich, School of Environmental Sciences</u> Internal Publication

# **Conferences & Public Presentations**

22/10/96	Thames Gateway London Groups Partnership Transport Forum Presentation of survey findings - Bexley Town Hall, London
24/9/96	Interdisciplinary Research Network for Environmental Studies 5th Annual Conference, Lancaster University - Joint presentation with Ian Skinner "Social Climate Change"
18/9/96	Transport Geography Research Group Annual Post-graduate Conference, Royal Geographical Society, London - Joint presentation with Ian Skinner (as above)
12/9/96	Thames Gateway Research Team 2nd Annual Report to local councilors from Dartford & Gravesham District Councils - University of Greenwich, Dartford.
23/4/96	London Borough of Greenwich Local agenda 21 Transport Group
4/1/96	Transport Geography Research Group, Royal Geographical Society Annual Conference, University of Strathclyde, Glasgow - "Upwardly Mobile"
15/6/95	Thames Gateway University of Greenwich Internal Conference - "Towards a deconstruction"
28/9/95	Interdisciplinary Research Network for Environmental Studies 4th Annual Conference, University - "Towards a deconstruction"
12/9/95	Thames Gateway Research Team 1st Annual Report to local councilors from Dartford & Gravesham District Councils - University of Greenwich, Dartford.

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# **CHAPTER 1**

#### Introduction

## 1.1 Aims and Objectives

The research offers a critique of transport planning and provision as it relates to the regeneration of the Thames Gateway. It explores, through a review of literature and policy the potentially conflicting relationship between government regional policies for regeneration, which aim to increase access to development sites, and local government policies which seek to reduce public reliance on the motor car as a primary means of transportation.

Three foci inform the analytical framework of the research, namely:

- the political environment which informs the policy formulation process,
- the professional environment influencing the implementation of policy,
- the broader sociological context which acts, and is acted upon by these policy measures.

It has not been possible in the research to give equal weighting to all three and its primary concerns are involved with the first two aspects but, it is argued, that these aspects cannot be adequately pursued without an understanding of the third.

The key objectives of the research are:

- 1. To explore through existing data sources the nature and extent of the relationship between transport infrastructure spending and regeneration;
- 2. To critically examine, through a review of development plans and TPPs, land use policies and development proposals for the regeneration of the Thames Gateway in the light of Planning Policy Guidance Notes 13: Transport.
- 3. To explore the extent to which issues of sustainability inform land use and transport provision in the Thames Gateway
- 4. To evaluate empirically, through a household travel survey, the potential for future sustainability in the private transport sector in the Thames Gateway by projecting future CO2 emissions calculated on the basis of the recorded average car miles of car owning households within the existing population.

# 1.2 Background to the research

The research is designed to inform a larger study which evaluates a "new environmental standard" (*DoE*, 1995) arising from the development of the Thames Gateway. The area previously referred to as the East Thames Corridor was designated by government in 1990 for major regeneration, employing the principles of environmental sustainability. The research remit for this element of the wider research was to assess the role of policy, both in the context of its formulation and implementation, in the regeneration process. It was evident

from the outset that, given the breadth and complexity of the environmental discourse as it relates to policy in the Thames Gateway (*Lucas & Chambers, 1996*), it would be necessary to focus on a specific field of enquiry. The intention was to use this specific focus to provide a contextual overview of environmental issues and policy processes in the Gateway region. Transport policy and provision was selected as a key feature of regeneration, because it reflects a number of fundamental policy principles and potential conflicts in the content of policy formulation and implementation related to development, transport and sustainability.

These were identified as:

- 1. The central relationship that transport infrastructure and personal mobility have traditionally held within government efforts to stimulate the regeneration process, deriving from the belief that increased access to an area is an essential factor in the promotion of its development.
- 2. The shift in political and planning consensus since 1989/90, from a perspective on transport which favoured policies to enable unrestrained personal car use, to one that has begun to recognise the detrimental effect of these policies on the economy, the environment and social well-being.
- 3. Growing public concern with regard to the effects of air pollution on health and the impact of traffic and traffic congestion on communities.
- 4. The introduction of central government transport planning guidelines which seek to

reduce public reliance on the motor car as a primary mode of *transportation (DoE/DoT, 1994)*.

#### 1.3 Scope and Content of the Research

Improvements to transport infrastructure have been identified as vital to the regeneration process. This is described as largely reliant on increased access to previously inaccessible development sites and, from these sites, to other economically active areas. In the case of Britain, this has usually been conceptualised as a need to extend the trunk roads network, as a result local authority transport policies and programmes in areas of regeneration often include road expansion programmes.

In recent years, however, a growing consensus has evolved amongst policy makers and local planning authorities, which recognises that increases in the capacity of the roads network, rather than solving the problems of traffic congestion, encourage increases in traffic growth (*SACTRA*, 1994). It is now generally accepted within the transport planning arena that these traffic trends are economically and environmentally unsustainable and that to attempt to meet increased demand with increases in road capacity is no longer viable. As a consequence of this recognition, demand management has re-emerged as a major element of the preferred transport planning option.

Given this policy shift, it could be argued that regeneration plans for the Thames Gateway would include policies and programmes designed to encourage a more sustainable pattern of development. Development proposals could be expected to be planned in conjunction and closely integrated with highly efficient public transport networks which are capable of containing or even reducing the increases in travel demand and thereby traffic flows which have traditionally arisen from regeneration projects.

The research has found that, in the case of the Thames Gateway, the regeneration strategy, whilst tending towards the rhetoric of sustainable development and traffic restraint, in practice often proposes development which is likely to result in increased private vehicle use.

Identification of this potential policy conflict is based on an analysis of the Thames Gateway Planning Framework and local planning authority Development Plans. Plans and proposals indicate that many of the major developments being brought forward as part of the regeneration process in the Thames Gateway are focused on the road network. It is also based on observation of a political trend in the funding of transport infrastructure projects in this country, which suggests that, in accordance with the assertions of Brindley et al (1989), new transport projects must increasingly rely on private finance to bring them forward. From this position, it is argued that current transport plans for the Thames Gateway are unlikely to prove sufficient to meet the increased demand for transport arising from its regeneration in an environmentally sustainable way.

From the perspective of the sustainability agenda, the negative impacts of transport relate *inter alia* to issues of air quality, degradation of the acoustic environment and land blight resulting from associated infrastructural development and quality of life. Early indications of the government's intention to develop policies in line with EC Directives on air pollution control and road traffic, are found in the 1990 White Paper "This Common Inheritance" and the subsequent 1990 Environmental Protection Act. These broad policy statements which have been articulated in legislation, have been developed in "Sustainable Development: UK Strategy" (*HMSO*, 1994) and directed towards regional and local government in a series of policy guidance notes.

An essential stage of the research was the evaluation of development proposals for the Thames Gateway in the context of this new sustainable transport policy discourse. This was achieved through a review of local authority Development Plans and Transport Policy and Programme (TPPs) statements. The findings of this analysis were combined with the empirical evidence gathered through interviews with selected key actors in the Thames Gateway transport planning arena. These were coupled with a household survey of car users currently resident in the area and used to support the conclusion that local authority measures to reduce public reliance on the car are fundamentally undermined by public preferences for car travel for most journeys.

These findings are in line with the latest National Travel Survey figures (DoT, 1996b), which establish that on average people in Britain travel over 3000 miles per annum by car in comparison to an annual average of 294 miles by surface rail and 217 miles by local bus. Adams (1990), offers a far higher average mileage for the car driving population at 120 miles per week. Department of Transport traffic forecasts indicate that total car miles in the UK will increase by between 83% and 142% by the year 2025 (DoT 1996a). This research takes up the argument that, in the short term at least, public preferences for the car will continue to undermine the ability of local planners to introduce more radical measures for controlling car use on new developments in the Thames Gateway. The research thereby identifies a

fundamental conflict between regeneration and future sustainability in the Thames Gateway based on the current planning framework.

National policy argues the need for an integrated land-use and transport strategy that is capable of simultaneously incorporating the need for restrained car use at both the local and regional level of planning. It must nevertheless continue to provide the levels of access and mobility necessary for economic revitalisation and regeneration of the local economy. It is argued that the introduction of a well-funded, highly efficient public transport network delivered concurrently with major development projects, is the only potentially viable method of securing these dual policy aims. The strategy will succeed, however, only if complimentary car restraint policies are introduced sufficient to provoke public attitude changes and encourage people out of their cars and onto mass transit alternatives.

However, the results of the household travel survey, conducted as one element of the empirical research, demonstrated that car users are generally ill inclined to use public transport. Despite this over-arching trend, the survey was able to identify that Inner London respondents travelled significantly less car miles in a week than those respondents living in the 'hinterland' areas of the Thames Gateway. While it has not been possible to establish the causality of these trends, it can be realistically suggested that they are most likely to be the result of both the higher availability of public transport services and the density of service and leisure amenities provided at the local level. Drawing on both the current level of and future propensity for car use among existing residents in the Thames Gateway, based on national average figures and the results of this survey, crude predictions of the future sustainability of the Thames Gateway were made. These are based on calculations of the traffic generating

potential of a current and proposed development initiatives in the Thames Gateway if cars remain the predominant mode of transport accessibility and the implications of this on CO<sub>2</sub> emissions.

The research concludes that on the basis of the evidence gathered the future sustainability of the Thames Gateway will be undermined by the increased levels of car use which result from its regeneration.

The study is presented in a series of chapters that offer both a chronology of the research process and analysis of the emerging evidence.

Chapter One offers describes the main aims and objectives of the research and provides an overview of the study

Chapter Two describes the research methodology.

Chapter Three offers an overview of the main physical and demographic trends of the East Thames Corridor/Thames Gateway and the factors that contribute to identification of the region as the focus for regeneration policy action in the South-East.

Chapter Four explores theories of regeneration and examines the role of transport in the regeneration process, using this as a basis to evaluate the position of transport in the Thames Gateway initiative.

**Chapter Five** investigates transport in the wider context beginning with identification of the urban transport problem dating from the early sixties and intensified by the incremental growth in car use and the increasing physical and lifestyle dependency resulting from mass ownership. It moves on to examine the proposals for reducing this dependency and surveys the package of measures aimed at reducing inessential car travel.

**Chapter Six** offers a review of the British legislative and policy response to this shift in the transport planning agenda. It aims to document the process of change which led to a central government policy switch from a position which promoted unfettered road building and a supply-side approach to traffic growth, towards the demand management approach which now informs much of transport planning in this country. In addition, it evaluates the extent to which the British transport policy agenda can be successfully implemented.

Chapter Seven evaluates the transportation/urban regeneration policies for the Thames Gateway at the level of implementation, through a qualitative analysis of development proposals and transport plans of its 19 constituent Planning Authorities.

Chapter Eight outlines the perspectives of the main policy-makers, planners and developers and identifies the attitudes of these key actors in the Thames Gateway Regeneration Initiative to regeneration, transport. the environment and public attitude change.

Chapter Nine combines the evidence from the previous two chapters in order to gain a more in-depth understanding of the constraining influences and other influencing factors which affect the delivery of a sustainable transport strategy as a feature of the regeneration process of the Thames Gateway.

Chapter Ten presents the analytical findings of a household travel survey of the current car use behaviour, travel patterns and attitudes to transport of 1,250 local Thames Gateway residents.

**Chapter Eleven** uses figures derived from the survey to investigate the implications for the future sustainability of the Thames Gateway as this relates to projected increases in car use as a result of the regeneration strategies and transport proposals as they are presently defined.

Chapter Twelve offers conclusions and recommendations

#### **CHAPTER 2**

## Methodology

## 2.1 Introduction

The research methodology has involved four inter-related stages. In the first instance a review of relevant literature and background policy was undertaken. This provided a theoretical framework for the empirical element of the study. It also allowed a contextual and historical understanding of the Thames Gateway policy and planning framework at the present time.

The empirical component of the research involved both a quantitative and qualitative evaluation of the current state of transport and sustainability in the Thames Gateway. The empirical work began with a detailed evaluation of the publicly available documentation relating to land use and transport planning in the Thames Gateway. This process was enhanced by a series of semi-structured interviews with key actors, involved in the planning process, within the case study area. These two approaches constituted the qualitative element of the empirical research.

A travel survey of local car driving residents was then undertaken and used, together with officially collected datasets (1991 Census of Population), to offer a

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relationship in the Thames Gateway. The inferences drawn from the information collected through these methodologies has been used to inform the final recommendations and conclusions offered by the study.

## 2.2 Literature Review

A review of literature was clearly a pre-requisite to determining an appropriate methodology for the research. The information gathered at this early stage of the research provided a theoretical background for an understanding of regeneration, transport planning and public attitudes and social ideologies of transport. From this basis, it was possible to establish the policy context for transport and regeneration in the Thames Gateway. Given the multi-disciplinary nature of the research, which straddles the environmental and social sciences, transport studies and urban planning, the literature review has been extensive and includes texts, journal articles, legislative and policy documents, newspaper and magazine articles, as well as papers in progress. Clearly, given the rapidly changing nature of the area, this aspect of the work has been an ongoing feature of the research and has been constantly updated. Inevitably, by the time the study is completed however, much of what is reviewed here will be out-ofdate and, therefore, what is offered must be seen as a "snapshot in time" for the period of Thames Gateway development up to and including June 1997.

It is important at this stage to note that two key issues emerging from the literature review which inform the methodological direction of the empirical study, namely:

- Individuals are unlikely to reduce the use of their car travel unless they can see clear evidence of viable alternatives and,
- Given the central role that the car has come to play, not only as a feature of everyday life, but also as a social symbol, considerable work still needs to be done in the area of changing public perceptions of transport.

Following the identification of these two key themes, the empirical research addresses each using separate but complementary methodological approaches. The first aspect of the research evaluates the extent to which current and future plans for development in the Thames Gateway meets with policy requirements to provide alternative forms of transport to the car as a primary means of access to new developments. The second strand of the empirical research investigates present car use activities from a sample population of Thames Gateway residents, in order to gauge the extent to which the inclusion of projected levels future residents' car use activities are likely to compromise the future sustainability of the Thames Gateway.

#### 2.3 <u>Development Plans and Transport Policies and Proposals (TPPs)</u>

Following from and building on the literature review, the second strand of the methodology involved a qualitative comparative analysis of all local authority development and transport proposals relating to the Thames Gateway and or sustainable transport. Relevant policy documents were obtained from the planning departments of the constituent authorities in the Gateway.

Transport Policies and Proposals (TPPs) were obtained from all the relevant authorities (11 London Boroughs and Kent & Essex County Councils), whilst Development Plans (DPs) were obtained from all but Barking & Dagenham (due to unavailability rather than reluctance to participate). This was a valuable element of the research process, since it facilitated the establishment of direct contacts with key officers in the transport and planning sections of the authorities. Plans were analysed individually and comparatively in order to assess the following:

- the extent to which policy statements complied with the principles of sustainability as set out in Planing Policy Guidance Notes 13 (DoE/DoT, 1994);
- the consistency of application of sustainability objectives between policy statements within individual planning authorities;
- 3. the compatibility of transport strategies between the 19 authorities involved in the regeneration of the Thames Gateway.

#### 2.4 Interviews with Key Actors

Interviews were used to test the validity of the theoretical framework of the research, to secure more up-to-date information relating to transport developments and proposals for the Thames Gateway and to establish causal explanations for the policy approach of individual planning authorities. It was found that plans were being updated on an almost weekly basis in some areas thus rendering published policy documents out-of -date. For this reason, a number of government organisations, regional and local authority planning departments and in the private sector companies, identified as having key relevance to the regeneration process within the Thames Gateway, were targeted.

In each instance, a suitable spokesperson within the organisation was identified and contacted by telephone to arrange a face to face interview appointment. Most were cold call contacts, although in some instances prior agreements had been made through Thames Gateway Forum meetings and other relevant partnerships. Interviews lasted between one to one and a half hours and were taped for later transcription. The general nature of the research was explained to the interviewee, together with an overview of research findings from the Development and Transport Plans analysis and an indication of areas of particular interest to the researcher.

The interviews were generally of an informal nature, but were sufficiently structured to ensure a degree of comparability. An initial discussion promoting question was introduced and used to gain further insight to the organisation's approach

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to transport in the Gateway. The questions were tailored in each instance to take account of the location and the political and economic position of the organisation in relation to the Gateway. Interviewees were also encouraged to state their personal opinions where appropriate.

#### 2.5 Grounded Theory Analysis

The research evidence collected through the analysis of development plans and interviews with key actors were then analysed according to the "grounded theory" method (*Glaser & Strauss, 1967*). Grounded theory analysis has traditionally been used to deconstruct the discourse surrounding certain activities or beliefs in order to expose underlying or hidden narratives and to develop theory from the observations collected through the recorded data. Although the authors did not specify a discipline area most suited to application of the method, Strauss has since used the method in the exploration of pain discourse within the medical profession. Strictly speaking, therefore, the method has been applied in this instance in a novel and innovative way on a dataset that would not normally come under scrutiny by this technique.

Glaser and Strauss describe the procedures which must be followed as comprising four key stages:

sub-categories that must be identified and then grounded in their causal conditions (the background context from they arise). The *intervening conditions* (factors which constrain *action strategies*) must then be identified for each *category* and final *outcomes* recorded.

- Development of substantive theories though the paradigm model. This is brought about by tracing narratives and complimentary and conflicting relationships and/or tensions within and between categories
- Theory testing through a return to the data. This is a repeated each time a new category is added to the data or a new relationship is identified between or within categories.
- Development of formal theories. It is not until these substantive theories undergo a final stage of re-testing against the original data that *formal theory* can be developed.

The grounded theory method will be further explored with the use of examples in Chapter 9.

## 2.6 Ward Specific Travel Survey

Having established an insight into strategic and local transport intentions for the Thames Gateway through this thorough evaluation of its policy and planning frameworks, the research turned to addressing the second element of the overall transport and regeneration sustainability equation. The likely effect of these transport plans and initiatives on car use in the area and the implication of this car use for local and regional sustainability was explored through a local travel survey. This corresponded to the fourth objective of the study, as previously outlined in the introductory chapter. It was planned to project current car use patterns in the Thames Gateway onto future scenarios on the basis of the recorded average weekly car recorded by the survey and use these projections as an environmental barometer of present plans and policies.

The literature review had identified a number of possible methods for collecting empirical data on likely public responses to transport policy and/or planning initiatives. The main methods identified were:

• Panel surveys, where a 'before' travel behaviour is tested against an 'after' scenario using either travel/activity diaries or questionnaires, most useful for testing the outcome of a single policy or investment initiative (Hensher & Smith, 1985).

- Stated preference surveys, where respondents are given a series of options and asked which would be most likely to provoke a change in their personal travel behaviour (Bradley & Kroes, 1992).
- Surveys of current travel behaviour the data from which is analysed using a counter-factual approach i.e what might or might not happen in a given scenario on the basis of predicted future trends (Bates J. et al, 1997).

The panel survey approach was rejected on the basis of both the relatively short time-scale of the project and the unsuitability of this survey method to a situation where multiple plans and proposals are operating over a large area, thereby, leaving no single phenomenon to test behavioural change against.

Although stated preference surveys were recognised as useful for exploring the relative success or acceptability of a change in travel behaviour, it was observed that they usually do so on the basis that the respondents currently preferred option is no longer available to them. In the case of car use in the Thames Gateway this scenario is highly unlikely, as it would involve a ban on cars across an entire region. The strategic policy review had also demonstrated that viable alternative transport options to the car were unavailable to residents in large parts of the Thames Gateway area. For these reasons the stated preference survey method was also rejected.

It was decided that conducting face to face interviews with respondents in their own homes would be both costly and time consuming. Self-administered, mail-back questionnaires posted to the home address were, therefore, chosen as the preferred survey design. It was felt that there would be a number of additional advantages to this approach as follows:

- The data collected would be primarily quantitative requiring information on levels of car ownership, average weekly mileage by car and other modes of transport (Social and Community Planning Research, 1980). A simple questionnaire is often the most effect way of collecting quantitative data of this sort;
- 2. The sample size would need to be large in order to collect data from a number of different areas in the Thames Gateway capable of providing a strategic overview of behaviour patterns across the region. Well designed questionnaires of this type are usually easily completed without the need for an interview and can therefore be administered through the postal system;
- 3. Both the time resource and financial administration costs would be less than those likely to be generated from either a travel diary survey or face to face interviews (Barnett, 1991);

4. Questionnaires offer a methodological approach familiar to local planners and which utilises readily available resources and information i.e. the sample is taken from the electoral register and the questionnaire can be mailed out as part of the regular communication that local authorities have with their local communities. It was felt that the ease of replication of the survey methodology would help to secure the support of the relevant local authorities during the survey process.

The survey was designed to provide data on current travel trends and attitudes to transport among the resident car driving community. Questions on the sociodemographic/economic profile of the respondent, car ownership, weekly car use by journey type, weekly public transport use, the distance travelled in a week by cycle and on foot and attitudes to transport by mode were included in the questionnaires. The questionnaire content is discussed in more detail in Chapter 7.

It was intended that current car use patterns amongst local residents in the Thames Gateway would be used to loosely predict a 2025 car use scenario on the basis of projected population, employment and development targets identified in local plans. A record of car miles was collected by the questionnaire, in place of the more usual measure of trip rates, in order that a figure for CO<sub>2</sub> emissions could be calculated. From this it would be possible to infer the potential transport impact arising from the regeneration process in the Thames Gateway on sustainability. A copy of the questionnaire and a covering letter explaining the research intention to respondents is included in Appendix II.

#### 2.6.1 <u>The Sampling Framework</u>

It was recognised that the sampling procedure in order to ensure representativeness of the wider population would need to be rigorous, firstly because the size of the sample was small in reference to the total population and secondly because participating individuals within households would be self-selecting. It was decided that the Electoral Register would provide the most accessible sampling frame for a systematic random sample selected on the basis of address (i.e. one in every kth address was selected for each group, using a randomiser on the computer) (Babbie, 1990).

The 1991 Census of Population Journeys to Work data was used as the first stage of the sampling process. There were several reasons for this decision, namely:-

- It was felt that in the normal course of events local authorities have ready access to this information and spend considerable time analysing such data at ward level to identify and predict trends within their boroughs. It has already been mentioned that part of the aim of the survey methodology was to design a process that could be easily and cheaply repeated by individual local authorities.
- Most local authorities have already identified journeys to work by car as among those most suitable for achieving modal shift. This is because they involve, in most instances, a habitual, direct outward and return route which can be

monitored and may allow for replacement by public transport or walking and cycle routes and it is precisely these journeys that the Census records.

- The Census data records journeys by modal type at ward and enumeration district level, allowing clear identification of locational trends in levels of car use. The advantage of this for local transport planners is that questionnaire responses can be triangulated with alternative transport provision and gaps or shortfalls in that provision easily identified. In this way, it may be possible for them to recognise the need to concentrate policies and programmes towards measures that will improve these alternative transport services in order to encourage local residents out of their cars. Similarly, if it is clear that a ward is well served by public transport and/or walking and cycling facilities but car use remains high, local transport planners may wish to direct their efforts towards public attitude campaigns and/or tighter parking regulations.
- It was felt that the Census data would obviate the need to gather base line data and could be used as a measure against which car use trends could be set over time.

During the early stages of the background research general trends in journey to work transport patterns and car ownership for the Thames Gateway were extracted from 1991 Census data at ward level (see Appendix III). Analysis of this data provided an initial overview of current travel patterns and enabled certain statistical inferences to be drawn. Census data analysis confirmed that in the Thames Gateway, as in the rest of the UK, where journeys to work by car in a ward were high, journeys to work by public transport were low. Census data also showed that car use tended to be more concentrated in the Kent end of the Thames Gateway and whereas people were more likely to use public transport at the Inner London end (see G.I.S. maps Appendix IV). Analysis of transport services and local amenities in the Thames Gateway on an area by area basis would suggest that the reason for these patterns are most likely to be due to the relatively poorer public transport and local amenity provision in Kent compared with inner London.

Two variables were constructed: "car user" percentages at ward level, comprising car driver and car passenger journeys and "public transport user" at ward level, comprising bus, train and tube journeys. These journey percentages were then plotted against each other (see Appendix III). Wards were then sampled in three groups, representing three distinct areas in the Thames Gateway, as follows:

• Group 1 comprised wards where public transport journeys were greater than 40% and car journeys less than 20%. These wards were located at the inner London end of the Gateway, and so, are the best served by public transport of the three. Higher numbers of residents within these wards work in Central and Inner London where tighter parking controls act as a constraint on car use. Census data also demonstrated that car and home ownership is low in these wards. This was taken as an indicator that poverty might also be acting as a constraint on car ownership. As a consequence, it was expected that *car use would be lowest amongst car users* 

in this group because they would be poorer, would have relatively good access to public transport and would experience tighter parking regulations than car users other sample groups.

- Group 2 comprised wards where car and public transport journeys were represented in approximately equal proportions. Wards falling into this group were almost exclusively located in the residential areas of Outer London, which are served by a reasonable level of public transport (primarily buses), but less well integrated with the central London transport network. Census data demonstrated that car and home ownership was higher in these wards than in Group 1, for this reason it was felt that individuals resident in Group 2 wards were likely to be more affluent. It was expected that, *public transport was probably a less convenient form of travel than the car in these wards due to infrequency of service and poor integration of the network and because amenities were less likely to be available locally.*
- Group 3 comprised those wards where the percentage of car journeys was greater that 60% and public transport journeys were less than 20%, concentrations of car and home ownership were also high in these wards. In the main, they were geographically located in the hinterland or RoSE area, where public transport services are generally poor for all journeys other than commuter travel into central London. It was felt that residents would be car dependent almost solely on the basis of poor access to viable transport alternatives and local amenities. It was expected that, regardless of income, households would see car ownership as an

see car ownership as an essential, rather than an optional requirement and were physically dependent on their cars.

Approximately 60 wards were identified in each group (see Appendix III), and were randomly sampled, to enable selection of three wards within each group type. The local authorities for each of these wards were then contacted, informed of the intended survey and offered the opportunity to collaborate (for location of selected wards see Appendix IV). It was felt that not only would their collaboration enhance the questionnaire response rate, but also that their support would be useful in gaining a better interpretation of the data gathered at the analysis stage of the research.

Eight local authorities agreed to collaborate and provided the necessary Electoral Role information, necessary for the questionnaire mail-out. It was decided to pursue the survey on the ninth ward by purchasing the Electoral Role information from the local authority that did not agree to a collaborative arrangement.

The questionnaire was mailed to 3000 households in each of the sample groups (9000 in total) together with a letter of introduction (see Appendix 2), to explain the purpose of the survey and the organisations involved. A freepost mail back envelop was also included. It was recognised that it would not be possible to employ follow up procedures for the return of questionnaires, due to budget restrictions so the initial mail out was all that was available to persuade a sufficient cross sample of respondents to participate. It was expected that approximately 10% of those contacted would participate in the survey.

No specific household member was selected, but it was stipulated that only one household member should complete the questionnaire and that this person should be a regular car user. Mail-out of the questionnaires was undertaken in three stages on the basis of three wards per month. It was felt that data processing would be more manageable on this basis, and the three-phased mail-out also allowed for the varying response times of the local authorities in granting their support.

# 2.6.2 Pilot Survey

A pilot survey was conducted on 100 car users among the staff at the University of Greenwich to test the comprehensibility of questionnaire wording, ease of response and layout (de Vause, 1996). Participating local authorities were also asked to comment on the questionnaire design in terms of and suitability and relevance of questions. As a result of this consultation exercise, several questions were reformulated and some additional questions added to the original questionnaire.

# 2.6.3 Data Analysis

Once all the questionnaire responses had been coded and data entered into SPSS, the data for each sample group was aggregated to provide a strategic analysis
for the Thames Gateway as a whole. This analysis took account of the socio-economic and demographic influences most likely to effect travel behaviour as well as the impact of environmental attitude on respondents travel patterns. Comparative analysis of the three sample groups was then undertaken in order to evaluate the role of geographical location in respondents' travel trends and attitudes to transport. The results of this analysis are presented in Chapter 7.

# 2.7 Assessing the Implications of Existing Travel Patterns for Future Sustainability

The final stage of the methodology involved an evaluation of the potential environmental impact of increases in the numbers of private cars travelling to and from proposed development sites within the Thames Gateway and the implications of this on the future sustainability of the area. The modelling process will be explored in more depth in the final chapter of the empirical section, but for clarity it is briefly summarised here.

Levels of CO2 emissions were used as a basic measure of sustainability. It would have been possible to select a number of different indicators of sustainability, e.g. mode specific energy consumption, quality of life etc. CO2 was chosen for three primary reasons, firstly, there are legislative agreements and detailed targets for the reduction of CO2 emissions within the time-span of the Thames Gateway regeneration initiative. Secondly, levels of CO2 can be relatively easily extrapolated from the journey miles data collected by the Travelling by Car Survey. Thirdly, the method for calculating CO2 emissions for vehicle miles travelled is clearly described by the in guidance on the evaluation of road schemes published by the Department of Transport (DoT, 1994). It was felt that this would make the method accessible and familiar to local authority officers who may wish to repeat the procedure.

Crude measures of future car use activity in the Thames Gateway were then calculated on the basis of current levels of car ownership as recorded by Official Statistics and average car miles as recorded in the Travelling By Car Survey. This was necessary because neither local authority nor developers are required by law to calculate the traffic generating potential of proposed developments meaning that, the necessary information for proposed developments in the Thames Gateway was largely unavailable. Three separate scenarios were modelled using this basic technique.

In the first instance, projected figures for CO<sub>2</sub> emissions were estimated on the basis of Official Government figures for traffic growth and vehicle miles to the year 2015. This represents the *base case* scenario for the Thames Gateway. In the second simulation, SERPLAN's figures for new households in the Thames Gateway, as recorded by local development plans, were used in conjunction with average current resident car mileage extrapolated from the Travelling By Car Survey to estimate CO<sub>2</sub> emissions levels in a *regenerated* Thames Gateway scenario. The third scenario estimated CO<sub>2</sub> levels in the hypothetical event that Area 1 displays no change in car ownership and use levels to the year 2000, Area 2 assumes the car ownership and use characteristics of Area 1 and Area 3 those of Area 2. This final estimation represents *best case* scenario.

#### **CHAPTER 3**

#### **East Thames Corridor/Thames Gateway**

#### 3.1 Introduction

In the initial stages of the research, it was necessary to establish the political and economic context that led to the identification of the Thames Gateway as a primary focus for government regeneration policies and initiatives up to and beyond the year 2000. It should be noted that the Thames Gateway was previously referred to as the East Thames Corridor and documents discussing the area before 1990 employed this term, reference to these documents may lead to inconsistencies in the terminology of the following chapter.

### 3.2 Profile of the Region

The Thames Gateway is geographically located in the south east of England, extending eastwards from London Docklands along both sides of the Thames Estuary, to Sittingbourne and Sheerness in Kent. From the end of the last century, the region was the manufacturing and primary industrial economic power-house of the South East. Since the Second World War, however, failure to make the necessary shift towards the new technology industries has meant that its continued economic vitality has been undermined. Many of the traditional manufacturing and power generating industries have been closed down, resulting in high structural unemployment and widespread land dereliction. The run-down appearance of much of the area is exacerbated by the introduction of poorly planned developments resulting from low investment interest. All too often in the past, the area has been set up as a soft option for high negative impact industries, in particular those responsible for providing for the energy, distribution and waste disposal demands of London and the South East. This has established a perpetuating cycle where the high visual and environmental impact of these activities have been allowed to go unchecked and have, in turn, attracted other low quality/high impact development. The overall effect is of an uninterrupted industrial zone with an accompanying harsh industrial landscape.

Currently, the population of the Thames Gateway is estimated at approximately 1,682,000. The age structure of the population is such, that the economically active sector will grow more rapidly than the general population, increasing by more than 12% by the year 2006 (*DoE*, 1993). This means that there will be an increasing demand for jobs across the region, however, unemployment levels across the region are high as a result of the decline in manufacturing industry, and under current land use patterns there are few opportunities to enhance future employment opportunities.

It is not surprising then, that perceptions of the Thames Gateway are generally poor and have dictated low levels of inward investment into the region. Nevertheless, it would be incorrect to characterise the Thames Gateway as entirely uniform in this way, as it embraces a variety of landscapes. At the London end, old commercial riverside comprising a combination of used and disused industrial sites, old gasworks and power stations, disused docks, railway sidings and marshland, constitute the majority of land uses. On the north side of the river, beyond the boundary of the A13, however, are the primarily residential areas of Barking, Dagenham and Hornchurch and the Royal Docks, which represent the largest area of derelict land in the region. Woolwich, Thamesmead and Greenwich represent the main localities south of the river in London, with the largest area of dereliction at the old gas works site on the Greenwich Peninsula (see Fig. 1).

Outside of London, the M25 cuts across the Thames Gateway at Dartford on the south side of the Thames estuary and Thurrock on the north. This area was traditionally used for mineral extraction and both sides of the river have a number of active and disused chalk quarries. The main settlements are Grays in Essex and Dartford and Gravesend in Kent and further along the estuary, the Medway Towns of Rochester, Gillingham and Chatham. At the far eastern end the Thames Gateway opens up to the marshlands and wetlands of the Hoo Peninsula and the Isle of Sheppey and the ports of Sheerness and Thamesport, an area which has increasingly provided a focus for distribution industries arising from local port activity.

The River Thames severs the entire length of the Thames Gateway, in most cases firmly dividing north from south. This has been seen to act as a significant barrier to development, the most commonly expressed now being that of the inadequate river crossing, since there are only two fixed crossing points and two ferry links across the river.

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#### 3.3 **Opportunities for Regeneration**

Clearly then, in terms of opportunities and needs analysis the region offers large quantities of potential development sites in close proximity to London, but to fully utilise this potential it needs to secure the range of employment and other economic benefits which development investment can bring. A number of South Eastern Regional Planning (SERPLAN) documents, which focus on redevelopment and regeneration of the then East Thames Corridor, have included these consideration as part of their development strategy for London and the South East.

These documents also indicate a second reason for the government's regeneration policy focus on the area. Since the mid-eighties, both economists and planners have concurred in their concern over overheated development to the west of London and have emphasised the need to revitalise the less prosperous eastern regions so as to redress the balance of investment/development attraction between the east and west. Development opportunity in the East Thames Corridor has been recognised as offering the potential for realisation of this planning aim. For example, SERPLAN's *Development Potential in the East Thames Corridor (RPC 700: Jan. 1987)* states,

"Some 500 hectares is readily available for employment generating uses and much is well located and in close proximity to the national roads network.....Not only is there land committed for development but there is labour available for employment. Furthermore, the local authorities and others concerned are anxious to see these sites brought forward......Despite these potentials, however, the ETC remains disadvantaged. This is largely because dereliction as a result of former uses remains very much in evidence. This reduces the attractiveness of nearby sites even if they are suitable in every other way. These factors make it difficult for the ETC to compete with counter-attractions elsewhere on the eastern side of the region, in particular the advantages of the LDDC area and peripheral green sites"

Thirdly, it is axiomatic that the government's announcement in the mid-eighties in support of the construction of a Channel Tunnel Rail Link was also instrumental in focusing policy attention on the region. Recognising the potential increase in freight and passenger traffic between Europe and Britain as a result of its construction, SERPLAN and the government were eager to maximise the benefits that commerce and tourism could bring to the East Thames Corridor. It was argued that, through a reduction in journey times, the Channel Tunnel could enhance the competitive position of British exports in the European market and would therefore provide a positive economic turn around for the South East (*Gibb et al, 1994*). It is suggested that providing British producers believe the Tunnel will help their businesses to penetrate European markets, they will invest in adjacent locations, benefiting Kent and the South East. It is evident that this development process could be guided and enhanced through concentrated, pump-priming investments into the area and the introduction of a comprehensive planning framework.

From this point of view, the government announcement of a major new initiative for the East Thames Corridor in October 1991 was no great policy surprise.

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Llewelyn-Davies Consultants were commissioned to provide a complete study of the development potential and capacity of the region, which was published by the DoE in 1993. The study concluded that the East Thames Corridor could provide the "raw potential for significant development" because of its large and varied land supply, good relationship to the national motorway network and the new access to Europe that the planned Channel Tunnel Rail Link would provide. The study also identified factors that it considered would act as potential constraints on regeneration, the most important of which were considered to be its low environmental standards and an overstressed transport network. Given these advantages and constraints, the document offered five different development scenarios for the East Thames Corridor and evaluated the economic, planning and environmental implications in each instance.

The base case scenario assessed the likely development pattern if present polices and economic trends continue. Scenario two looked at housing growth on currently identified sites and scenario three at housing growth on structure plan provision regardless of currently identified sites. The fourth scenario assessed the implications of moderate employment growth based on an increased share of growth in the best performing sectors. Finally, the high growth scenario postulated the implications of major international inward investment with a particular focus on the European market resulting from the potential of the Channel Tunnel Rail Link. The study concluded that,

"If the East Thames Corridor is to shrug off its current image and be transformed into London's Gateway into Europe, then there is no doubt that a guiding strategy is required......The strategy should include a set of objectives....a broad landuse pattern, being prescriptive only where it needs to be and allowing flexibility....an investment programme.....an environmental framework.....industrial relocation proposals, to guide intrusive uses to less sensitive locations.....master plans for key sites where broad guidance is not enough to bring about strategic development objectives....."

(DoE, 1993. p.100)

Following this report, the East Thames Corridor was officially renamed the Thames Gateway, in formal recognition of its new status as a regeneration area and the East Thames Corridor Task Force became the Thames Gateway Task Force with David Curry as Minister. Its first task was to develop a planning framework for the Gateway, a consultation draft was distributed to potential developers, relevant local authorities, local community groups and residents, in the summer of 1994, and a series of consultation meetings set up across the region.

#### 3.4 The Planning Principles of the Thames Gateway

The planning framework which resulted from this consultation exercise was released the following summer as an addendum to Regional Planning Guidance for the South-East (DoE, 1995). The primary thrust of the document was to establish the

scope for environmental improvement and economic regeneration to complement each other, with the aim of achieving a "new environmental standard" for the Thames Gateway. It appears that an intention of the Framework was, therefore, to inform the constituent Local Planning Authorities of the Thames Gateway of its specific environmental and development needs. It states that consideration of these be incorporated into local road programmes, environmental quality of development proposals and management of corporate functions.

Within this broad framework the main principles of the Thames Gateway regeneration initiative have been stated as the need to:-

- i) recognise the development potential of sites
- plan for mix developments which will allow more sustainable home/work/social travel relationships
- plan land-use and transport together in order to reduce the need to travel
  and reliance on private motor vehicles
- iv) avoid loss of water-front sites to non-benefiting developments
- v) make more of the region's environmental assets

Figure 2 shows sites identified as having the main development potential in the Thames Gateway. Two main centres of development are established in the document, the Royal Docks at Stratford and North Dartford, referred to as the Kent Thames-side area.



Figure 1: Map of Thames Gateway as defined by RPG 9A (DoE, 1995)

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Scale 1 : 4300

Available Site This document also identified that the Greenwich Peninsula and Barking Reach will form the focus for two new communities. Havering Riverside is cited as a suitable location for one major development such as the operations centre for a multi-national corporation. Chafford Hundred in Thurrock and Thamesmead are identified as suitable locations to form the focus for new housing developments which can service portrelated and distribution developments in the Thames Gateway. Planning permission has already been received for a major campus of the University of Greenwich, the London Science Park and Bluewater Park Regional Shopping Centre at Dartford.

#### Summary

The East Thames Corridor has been identified as providing the opportunity to take the focus of development away from the already over-heated west of London and redress investment balance towards less prosperous areas in the south east. Not only does the area offer large areas of undeveloped land suitable for employment uses but also has high concentrations of unemployment which local authorities are anxious to reduce. The chapter has demonstrated that despite these advantages the area remains disadvantaged in comparison with other adjacent regions. One of the major disadvantages of the area has been identified as its relatively poor accessibility and an already over-stretched transport network. The Thames Gateway Planning Framework states that its regeneration is to be undertaken according to the principles of regeneration. This has implications for traditional theories of regeneration.

#### **CHAPTER 4**

#### Theories of Regeneration and the Role of Transport

#### 4.1 <u>Introduction</u>

The Thames Gateway planning approach must be set in the broader context of redevelopment and regeneration theory. This chapter explores the evolution of these theories from the urban renewal and slum clearance programmes of the early seventies to the more regionally focused strategies of the nineties. It historically locates the Thames Gateway regeneration initiative within this evolutionary process and uses the particular time location of this initiative (i.e. 1989 onwards) to explain certain features of its policy principles. The chapter moves on to examine the role of transport in the regeneration process. It explores the implications of the shift in transport policy thinking for the regeneration process and evaluates the extent of the impact of this on the Thames Gateway policy formulation process.

## 4.2 <u>Regeneration</u>

Generally speaking, regeneration can be said to be concerned with a reversal of broad trends within regions or localities. These trends include the decline of local economies, reduced quality of the physical environment, slump in the local employment base and accompanying high unemployment, poverty and social deprivation. Until recently, regeneration initiatives have focused on inner city areas and have been conceptualised as local rather than regional programmes. Since the early 1990s the focus has changed towards a broader conceptualisation of the problem which includes a consideration of regional as well as local economic vitality (*Eisenchitz & Gough, 1993*). The Thames Gateway is an early example of this change of approach.

It is now generally accepted that the primary motor of urban decline in Britain, as in many other European and U.S. cities, is economic. Urban decline has been linked to major economic changes, resulting from a transition from mass-production in the manufacturing industries; requiring large numbers of low skilled workers, to a more flexible, high technology production style; requiring relatively small numbers of highly skilled workers. This has led to structural unemployment and is particularly concentrated in the inner cities. Those people who have been able to have followed the new flexible employment patterns and moved out of the inner city, those who remain have done so against a backdrop of physical decline, increased dereliction and declining opportunities. To date, initiatives to address the structural decline of these areas have met with limited success (*Eisenchitz & Gough, 1993*).

Early concern about the economic and social well being of cities dates to the late 50s and early 60s, when a number of studies used macro-economic factors affecting Britain's traditional industrial base to explain urban decline. They found that cities characterised by proximity to Victorian production and, or extraction industries, which have either greatly reduced output or disappeared entirely, were experiencing the worse symptoms of urban decline. It was concluded that high levels of poverty in these old industrial cities were a result of the dramatic reduction of available work (Abel-Smith & Townsend, 1965).

A marked feature of early sixties planning was the theme of urban renewal and slum clearance and this can be said to represent the first phase of urban regeneration programmes for Britain's inner cities. In 1968, Harold Wilson announced Labour's Urban Programme, in response to academic "cycle of deprivation" theories of the time (*Golding et al, 1988*). Polices were directed towards social programmes in the specific areas of education and employment. The effectiveness of the Urban Programme was measured in part by three Inner Area Studies conducted (*DoE 1972*).

Using Oldham, Rotherham and Sunderland, as examples of old industrial towns and Small Heath in Birmingham, Lambeth in London and Toxteth in Liverpool, as examples of inner cities, the studies concluded that little impact had been made on the decline of these areas as a result of the Urban Programme. By the mid-seventies, it was becoming clear to researchers that high unemployment in inner cities was not only a result of decline in the employment base but also a symptom of the sub-urbanisation process that had occurred in the fifties and sixties.

Large numbers of higher paid and skilled workers had moved out to new towns during this period, leaving behind high concentrations of low skilled workers, elderly people and ethnic minorities. In 1975, the Shore Committee was set up to look at the problem of Britain's inner cities. The resulting 1977 White Paper (*HMSO*, 1977) concentrated on restructuring the 1968 Urban Programme and laid great stress on the need to utilise existing central and local government policies more fully. A "holistic, mutual approach" was emphasised, i.e. all future government policy should aim to first consider its impact on the inner cities and a steady flow of resources should be directed towards areas of urban decline for a period of at least ten years.

The policies that followed set up partnerships between local authorities, as natural agencies for tackling problems and central government, as the best co-ordinator of policy and allocator of resources. Urban Priority Areas were established in Liverpool, Manchester and Salford, Birmingham, Gateshead in Newcastle and Hackney, Lambeth and Docklands in London. The dual aim of these priority areas was to preserve existing employment through the enticement of existing firms and improve the social and physical environment in order to attract new industries.

Lawless (1981), finds that the failure of the Urban Programme was largely due to continued government apathy. While professing to be following the recommendations of the Shore Report, government was continuing to give the inner cities low priority status. Between 1976 and 1980 only £195 million additional funding was made available to the urban programme.

In addition, the partnership between central and local government made the system over-bureaucratic and top-heavy. Time scales were also a primary factor, because in 1979 the Conservative party came to power with the new policy values of free-enterprise and non-intervention and a new agenda for urban renewal. The welfare and social problems of inner city populations no longer represented the main inward investment focus in areas of urban decline. The new direction for inner city policy was based on creating conditions favourable to attracting industry and business back into areas of decline. This was informed by the theoretical belief that economic benefits would filter down to other sectors of the community in due course.

From 1979, the government introduced a number of initiatives for revitalising the inner cities. In 1981, the Merseyside Development Corporation and London Docklands Development Corporation were designated by central government to secure the regeneration of derelict dock land areas. They were given powers and resources to buy and sell land and prepare sites and infrastructure to attract inward investment. By 1985 they had spent £150 million on attracting investors with little response from the private sector (*Domnison & Middleton, 1987*). The London Docklands provides an example of the "flagship" style regeneration projects promoted by Urban Development Corporations. There are two fields of thought on the merits of this initiative, its supporters tend to come from the pro-business, free-market thinkers and claim the Docklands as an example of outstanding economic success, which has created new jobs, homes and environmental amenities.

Critics of the Docklands conversely argue that unfettered economic speculation has shown total disregard for the existing population providing the type of jobs which are unsuitable to their employment skills and housing priced in excess of their financial acumen (Hall, 1989). Enterprise Zones, have experienced more success in terms of economic benefit. These are specifically designated areas within cities, geared towards bringing derelict land back into productive use by offering financial incentives, reduced and planning regulations to potential property developers. In the first two years, Enterprise Zones reclaimed a quarter of the land not previously suitable for development in their areas, at a cost of £16.8 million in rates relief, £38 million in tax relief and £78 million in public expenditure on acquisition and preparation of land. Research has shown that, during this time, 725 firms and 8,065 jobs were attracted to the first eleven zones at a crude cost of £16,500 per job (Donnison & Middleton, 1987). By 1989, there were 13 designated Enterprise Zones, however, analysis suggests their main beneficiaries were land-owners and property developers. Furthermore, benefits failed to be re-channelled into reclamation and development of large derelict sites or sites in adjacent areas. It has also been noted that the existence of Enterprise Zones has had little effect on employment and economic activity in the regions or districts in which they are located (Morison, 1987).

Despite the primary focus of 1980s urban policy on market-led strategies, not all new initiatives were property led. In 1981, prompted by the Toxteth riots, the first Task Force was established to regenerate Liverpool's inner city areas. Its remit was to develop large scale, politically visible schemes such as Techno Parks and Garden City Festivals, which could act as a catalyst for other local economic activity and provide *ad hoc* solutions to particular problems rather than seek overall strategies for change.

The Task Force operated outside of the jurisdiction of the local authority and, in an attempt to avoid bureaucracy, had no income of its own, therefore, the involvement of the private sector was crucial to the success of its projects. The backing of the Secretary of State and heavy involvement of senior officials in the Merseyside project, acted as a powerful catalyst for grassroots activity from private enterprise and voluntary sector organisations. The Task Force was particularly successful in securing new training initiatives and under-took significant derelict land clearance. It was also able to diversify housing tenure in Merseyside, by encouraging housing developers to offer shared-ownership schemes. City Action Teams and Inner City Task Forces emerged from the successes of the Merseyside Task Force. Their remit was to work in partnership with local authorities and local private industries in the setting up of training schemes, science parks and business initiatives in their local areas (Audit Commission for Local Authorities, 1989).

By 1990, the urban regeneration policy agenda was beginning to shift towards a wider and more integrated programme for finance, education, training, enterprise development and social provision than the physical regeneration programme of the 80s had included (*Parkinson, 1993*).

Contemporary models of regeneration are keen to link development investment to the demands and needs of the local economy and the social, environmental and cultural concerns of local populations. This is in part a response to the recognition that regional and local economic problems are related. In the long term, the vitality of local and regional economies rely not only on government aid and improved entrepreneurial access, but largely on the initiative and resourcefulness of their inhabitants (Morison, 1987). Hasluck (1987), argues that urban policy makers can only pursue one of three possible options:

- i) do nothing and allow decline to continue unabated;
- ii) alleviate the worst effects of urban decline through subsidisation of economic activity in these areas;
- iii) reverse the loss of jobs by confronting the process of change through direct intervention in the local and national economy.

It would appear that having tried all three options, the government is now looking to integrate their approach by utilising the more positive aspects of each, but with increasing emphasis on the regional economic context. The Thames Gateway Initiative can be said to fall into this new agenda for regeneration.

#### 4.3 Transport and Regeneration

Transport is generally characterised as playing a vital role in the regeneration process largely due to a perceived historical relationship between transport infrastructure and urban form. For example, the early railways made an impact on intra-urban land-use patterns, relying on close proximity of economic activity and high density housing which bordered on industrial zones. When main line railways were taken into Central London in the 1860s vast areas of housing were pulled down in order to make room for stations and improved road communications. These new main line trains together with the introduction of underground railways in 1863, encouraged the first major outward flow of middle class commuters to the suburbs. The 1844 Railways Act and the 1883 Cheap Trains Act extended this trend to the working classes and was reinforced by electrification of the tramway system between 1895 and 1914 (Button, 1977). More recently, increasing car ownership and use have served to promote land use and development patterns around the roads network. These observed links between transport and urban development have been used to guide the regeneration process and policies for increased growth have been combined with new provisions for distribution and access in all regeneration initiatives.

In the sixties, the urban renewal programme was combined with new road building and frequent reference made to the economic opportunities that this could provide (*Starkie*, 1982). For example, in Leeds, the restructuring of the city in 1961 also offered the opportunity to create the first urban motorway, the Leeds City Ring Road.

In their study of Bristol, Boddy, Lovering & Bassett (1986) found that the city's transport nodality, particularly after the opening of the Severn Bridge, M4 and M5 in the 1960's and 70's, served to encourage new industry into the area. They attributed the success of Bristol as a growth capital to its strategic position in the

major roads and rail networks which allows rapid access to London, the Midlands, the South West and Wales.

Transport infrastructure projects are, therefore, often seen to provide the initial impetus for regeneration, derived from a belief that increased access to an area is an essential ingredient for the promotion of its development. Trinnaman & Joan-Grange, economic regeneration consultants working on a combined study of local economic development through infrastructure projects in France and Britain, found that:

"It is a feature of many policy documents of local authorities to put transportation infrastructure for economic regeneration purposes high in their list of priorities especially in areas of high unemployment and under-performing local economies"

# (Trinnaman & Joan-Grange, 1992 p.3)

It is true to say that economic development agencies or those promoting regeneration initiatives have tended to prominently advertise transport infrastructure improvements to the area, for example, transport projects have featured highly in Development Corporation, City Challenge and Single Regeneration Budget bids. Perhaps this is because it is so visually evident that new developments have occurred alongside new ring roads, bypasses and motorways.

The transport-led regeneration model argues that property developers will be attracted by public investment in new transport infrastructure and encouraged to locate in areas of regeneration as a result of enhanced land values brought about through increased accessibility. In turn this will change the nature and/or scale of development and increase development intensity.

The introduction of new transport infrastructure is also said to bring considerable socio-economic advantages to a region, both before and after its completion. It is claimed that capital expenditure will create local jobs in the construction stage of the project and will have an income effect that will, in turn, stimulate local trade. Once the project is complete, it is believed that increased accessibility will mean that existing and new residents will enjoy greater job opportunities through wider access to the hinterland (*Cheung, 1993*). Based on the assertions of this model, the importance of transportation infrastructure to redevelopment and regeneration has continued to be generally accepted and new transport infrastructure projects generally perceived as a benefit to local and regional economies.

More recently, however, there has been an increasing tendency to question the relationship between new transportation infrastructure and economic development. A number of empirical studies claim that new pieces of transport infrastructure do not in themselves, have large effects on economic development. For example, the results of a survey on all new-build industrial premises completed between 1981 and 1991, undertaken by the Department of Physical Planning, Strathclyde Regional Council in 1991, suggested that transport infrastructure played a minor role in causing firms to relocate (*McQuaid et al, 1993*). More frequently questioned, however, is the type of

new transport infrastructure projects that are introduced into plans for regeneration and in particular the efficacy of building new roads to aid economic revitalisation in regeneration areas. These theorists suggest that while increased access and personal mobility remain an essential attribute of economic regeneration (Commission of the European Community, 1990), road-led transportation networks conflict in a fundamental way with economic vibrancy.

Whitelegg (1994), argues that in fact many economies have lost jobs as a result of increases in roads infrastructure and that the debate about road capacity and economic stimulus is based on an outdated and inappropriate conceptualisation of economic activity. In a key Greenpeace Report "Roads Aren't Working" (1994), he employed government statistics to show that there is no direct relationship between economic performance and accessibility. Comparing over 34 towns and cities, he demonstrated how towns with almost identical access to major transport infrastructure have experienced different economic trends over the past 20 years. A number of urban policy makers now argue from this position and claim that development patterns which have previously encouraged high personal mobility and heavy reliance on motor vehicles must be replaced by more sustainable forms of urban design. They argue that traditional models of regeneration which aim for rapid economic growth by attracting large scale development schemes through increases in road capacity and access into an area often do so to the detriment of local communities and the physical environment.

Truelove (1992), finds that even if more people benefit from new transport infrastructure than lose, it is always those groups that live in the poorest environments that stand to gain least. This argument is even more pertinent in the case of new roads infrastructure, as often routes are planned through areas deemed least likely to object to proposals and poorer communities with less to lose in terms of private property investments. Once the new road is in place, it is these communities that experience the worst effects of increases in noise, air pollution and severance, whilst being least likely to benefit from use of the new road due to low levels of car access. In response to this critique a new consensus is emerging in transport planning policy which argues in favour of public transport led development which follows highly integrated land use and transport planning frameworks.

Studies that investigate the broader impacts of public transport investment date from the early 1970s (*Bonnafous, Plassard & Soum, 1975*). Increasingly, they evaluate the effect of investment not only on transport use but also on the economies of local areas served by new stations and/or in transport corridors served by new public transport services. A basic assumption of these studies is that improvements to public transport services will not only lead to transport benefits, but also to increased local economic and development activity. They follow the belief that this increased economic activity will, in turn, bring about related social benefits for those people living, working and undertaking other activities in and around the areas served (*Sheldon & Brandwein, 1973*). Land use and transportation is identified as a "chicken and egg" scenario, mutually reinforced through policy interventions pertaining to urban development. From this perspective, the choice of public transport mode when planning urban areas is argued as having as much, if not more influence on the direction of development than other planning control measures such as land use zones and building density schemes. This locates the role of public transport investment as central to the urban policy making arena.

Early British examples of public transport investment impact studies include the Glasgow Rail Impact Study (Gentleman, Mitchel & Walmsley, 1983) and the Tyne and Wear Metro Study (Metro Monitoring & Development Study, 1985). These studies aimed to record changes in public transport through a series of 'before' and 'after' They represent early identification of a recognition that public transport surveys. investment not only impacts directly on patterns of travel, but also more indirectly and over the longer term, on physical and social environments. The Manchester Metrolink Impact Study and South Yorkshire Supertram offer more contemporary examples of British studies. Both studies continue to use a series of 'before' and 'after' surveys characteristic of earlier methodologies but extend these to more fully include the process of change, exogenous influences, differentiation of effect and measurements of additionality. The impacts studied included: transport (Knowles & Fairweather, 1994; Stokes, 1994); commercial and industrial property values (Law & Dundon-Smith, 1994); business operations and locations (Dabinett, Morrell & Vigar, 1994); place image & marketing (Crocker, 1994); retail (Law & Dundon-Smith, 1994; Vigar, 1995); city centre development (Townroe & Dabinett, 1994); house prices (Forrest, Glen & Ward, 1995; Antwi, 1995; Henneberry, 1996); labour market & unemployment (Dundon-Smith, 1994; Fairweather, 1994; Gore, 1996). Between them these studies demonstrate varying links between public transport investment and these additional factors. In some areas a significant relationship has been demonstrated and in others limited zero or negative impact has been shown to occur.

The findings of previous public transport investment research create a number of problems, therefore, if they are to be used to justify a public transport led model for regeneration. In the first instance, significant variations and poor comparability in results leads to continued uncertainty about the relationship between public transport investment and increased economic activity (*Antwi*, 1993). This uncertainty is, in part, due to a lack of information pertaining to causal links and dynamic processes within these studies but may also be a fault of the methodologies used. Two primary difficulties are with identification of the correct contents of indicators and calculating a causal and quantitative relationship between planned change in transport. Problems with methodology at this fundamental level may account for some of the dramatic variations in results between similar studies, for example, the property price findings of American studies (*Workman & Brod*, 1997), as compared the Manchester Metrolink Study (*Forrest, Glen & Ward*, 1995).

A second problem lies with the modal and geographically specific nature of studies that make it difficult to assess the extent to which recorded benefits are a result of the different physical and amenity characteristics of the cities studies and/or the influence of modal popularity with the general public. In the past, studies have been criticised for their use of poorly matched control areas (*Transport & Road Research Laboratory*, 1982) and more recently, the overall reliability and accuracy of the control method has been questioned (*Nelson & Sanchez*, 1997). Furthermore, in a number of studies, the duration of the research period has been insufficient to demonstrate longer-term effects.

More recently, criticisms have focused on the failure of past studies to include accurate observations of other influences which might mask or distort the underlying impacts of public transport investment and may also help to explain the variability in research findings.

American studies suggest that modal type and design of new public transport services has a significant effect on the extent to which transport benefits can be maximised, as does the efficiency and design of interchange facilities. They also find that the 'before' land use characteristics of areas around stations and the degree to which transportation provision is integrated with land use planning are important factors (*Transport Research Board*, 1996)

While a connection between public transport investment and development intensity seems likely then, the extent and significance of the relationship appears to differ according to a number of other factors. These American studies show additional land use and socio-economic benefits from public transport investment are most evident in highly accessible, non-residential areas and where a variety of other influences are present. The factors that have been identified as most likely to maximise these benefits include strong regional vision of the desired urban form and a political culture that supports public transport and delivery of a high quality public transport service. Investments that precede or coincide with regional growth and sufficient available development sites at and around stations and use of a variety of public policy tools to focus growth are also seen to be vital. From this identification of necessary additional criteria, the Thames Gateway would appear to offer many opportunities for a public transport led model of regeneration, providing the political and planning will is there to milk these opportunities.

### 4.4 <u>Transport and the Thames Gateway</u>

Given the theoretical debate on links between transport and regeneration, it is not surprising to find that issues of transportation and access have, indeed, preoccupied those policy makers and planners involved in the Thames Gateway regeneration initiative since its inception. In 1986, an Eastern Thames Corridor Transport sub-group was set up by SERPLAN to consider transportation issues for the region, in the context of an awareness that transport infrastructure inadequacies had previously negatively influenced the development potential of the region. A survey was conducted by this task force, to determine the scale and type of land provision and to ascertain the transport infrastructure needs with the aim of lifting these development constraints (SERPLAN, 1987). The study found that the relationship of the land provision with the strategic transport network was of great relevance to the apparent take up rate. Links to the M25 were seen to be of vital importance and a number of improvements to these were recommended by the study. These included construction of the Hackney to M11 Link Road, and improvements to the Blackwall Tunnel and A2, the East London River Crossing, A13 improvements and the construction of the Thames-side Industrial Route (South Thames Development Route) to the Dartford Tunnel.

Beyond the M25, a replacement A226 between the Dartford Tunnel and Gravesend and a crossing of the Medway at Chatham Dockyard together with links to the A2/M2 were also recommended. Improved passenger transport was also seen, as an equally important factor within London. The eastern part of Tower Hamlets, the South Canning Town and Beckton areas of Newham, West Greenwich and industrial sites in Bexley were cited as areas with particularly poor services. The study recognised saturated capacity and poor standards of rail services within the East Thames Corridor and proposed improvements to the East London Line, South London Line and the North Kent Line. Extension of the Docklands Light Railway south and east was also identified as potentially improving accessibility in Beckton, Lewisham and Greenwich.

Further documentation demonstrates that transport has continued to play an important role in regeneration plans for the Thames Gateway. In November 1993, a group of London Corridor Authority Leaders and Chief Executives on behalf of the East Thames Task Force compiled a study of East Thames Corridor transport infrastructure projects. The aim of the study was to identify transport schemes and development issues and assess these against certain consensus criteria, in order to set a programme for transport investment. Ten key objectives for transport in the regeneration of the East Thames Corridor were identified and subsumed under three main assessment criteria, namely development/regeneration, transport benefits and environment.

As part of the transport and development criteria, the study considered the need to serve and release the potential of development land. It focused on the need for transport schemes which would allow improved transport access to the large number of development sites scattered along the length of the East Thames Corridor, and currently constrained in their development potential due to poor infrastructural provision. The study also emphasised the need to link areas of deprivation and/or unemployment to the wider jobs market, recommending transport schemes which would allow better access for people in pockets of high unemployment within the Corridor to locations where jobs are available. It was stated that this would serve not only to help unemployment but also to expand the range and size of the labour market. It was also recommended that transport should continue to serve existing key strategic centres and encourage the promotion of schemes which contribute to the continued viability, vitality and enhancement of existing centres of historical, strategic, regional or local significance.

The study recognised the importance of securing maximum transport benefits from development, including time-savings for users, accident prevention, network revenue generation, more effective network use and schemes which could provide extra Thames crossings and improvements to interchange facilities. It was also recommended that transport schemes should aim to overcome network deficiencies in both the roads and public transport network, and counter or compensate the strong radial effect of current transport networks and better link local centres and orbital travel. From an environmental perspective, the study recommended that the transport focus should be aimed at relieving congested areas, improving traffic management and fulfilling the strategic criterion of "greenness". That is, each scheme should be assessed according a criterion of sustainability that asks whether a scheme depletes environmental capital in its net impact.

Issues of image and marketability were also identified as important by the study as were considerations for implementation, value for money, funding viability of proposed schemes. On the basis of these criteria, the study identified and evaluated twelve public transport schemes, ten road schemes and seven "other" transport proposals.

Public transport schemes included were:

- 1. the Channel Tunnel Rail Link (CTRL),
- 2. Union Metro, a purely conceptual method of linking an M25 site to Docklands and Stratford introduced by Union Railway,
- Crossrail, a new electrified line between Paddington and Liverpool Street with a direct link to Reading in the West and Shenfield in the east,
- the Jubilee Line Extension extending existing tube line services eastwards from Green Park to Waterloo and on to Stratford,
- the second International Passenger Station for CTRL, with a new station at Greenwich Peninsula and the Millennium Exhibition site,

- 6. the Chelsea-Hackney Line involving the construction of a new tube line from Fulham Broadway in the west to Leystone in the east and the East London Line providing a link between inner east London in the north and south using mainly existing lines.
- Docklands Light Railway to Lewisham building an extension across the Thames to Lewisham via Greenwich Town Centre and linking south London with the Docklands and Central London.
- The Woolwich Rail Crossing allowing a new Thames rail crossing between Silvertown and Woolwich Arsenal
- 9. line upgrade on the North London Line
- upgrading of signalling and rolling stock on the Fenchurch Street- Barking Line,
- upgrading stations and rolling stock with considerations to electrification of line on the Gospel Oak-Barking Line
- 12. new networker trains on the North Kent Line

Assessed road schemes included:-

- 1. the M11 Link Road providing links between the M11 and the A102M,
- 2. a third Blackwall crossing, a crossing between Tower and Blackwall Tunnel,
- a lower Thames crossing, the East London River crossing linking the A406/M11 in the north with the A2 south of the Thames,
- 4. improvements to the A13.

- 5. the South Thames-side Development Route, a regional scheme to improve access to South Thames Development Areas from Woolwich via Erith and Dartford, of which stage 1 and 2 are already completed,
- the Medway Towns Northern Relief Road (MTNRR) and accompanying Medway Tunnel, upgrading of the M25 East Section
- 7. improvements to the A249 to Sheerness.

In the section "other" schemes, assessments were made of :-

- 1. CTRL freight,
- 2. Thames river freight,
- 3. improved links to Stanstead Airport,
- 4. port expansions at Tilbury, Central London Wharves and Sheerness,
- 5. runway expansion for London City Airport,
- 6. a new heliport site in east London
- 7. Thames Riverbus.

The study found CTRL, Union Metro and the Woolwich Rail Crossing scored consistently well on all objectives except local environmental impact, and recommended that they be supported as projects of key significance to local regeneration and transport benefits, which should warrant special treatment in respect of funding. The Jubilee Line Extension was also identified as a key project for the London part of the Corridor, although this was also seen to have some negative local environmental impact. Crossrail was also found to score well and was a recommended project. Other rail projects considered necessary for a basic transport infrastructural backbone were the continuing programme of improvements to the North Kent Line and the Fenchurch Street/Tilbury/Southend Line.

Riverbus also scored consistently well against all criteria, relating well to development sites and strategic centres, overcoming the barrier of the river and providing environmentally friendly low impact transport facilities. River freight and Port expansion also scored well, although the latter to a somewhat lesser extent.

In general road schemes performed badly against the criteria set by the study, especially road-based river crossing projects, although it was generally considered that some form of crossing needed consideration. The M11 Link Road, Medway Towns Northern Relief Road and improvements to the M25 East Section were other road schemes that scored consistently badly across all key objectives or were judged not very significant to the Corridor. Improvements to the A13 and the South Thames Development Route emerged as the only key road-based components necessary to the transport structure of the Corridor.

In the same year, a study commissioned by the government and conducted by Llewelyn-Davies consultants also identified poor perceptions of road and rail facilities in the East Thames Corridor as an important factor in deterring inward investment in the region (*DoE*, 1993). The study identified sections of the strategic road network in the area as carrying more traffic than its design capacity allowed for. Particularly
noted were both the Blackwall and Dartford river crossings, a number of sections of the M25, the A13 at its junction with the North Circular, the Swanley By-Pass and the A2 and A20 from their outer Greenwich boundary. In Kent, the M20 between Lunsford and Sandling and the A228 link between the M20 and M2 were also noted at beyond capacity.

In terms of the rail network, the study found that the greatest deficiencies were in the periphery to centre nature of the network, providing poor radial and orbital access, particularly for local trips. In addition, it identified many commuter lines at capacity with over 181,000 passengers arriving on 270 trains from within the East Thames Corridor each day.

In line with the new thinking on transport and regeneration, the study concluded that the approach best suited to the development of the East Thames Corridor would be a combination of car restraint, particularly within the M25 and selective investment in specific transport schemes with clear development benefits. Recommended schemes include the development of the domestic capacity of the Channel Tunnel Rail Link together with incremental infrastructural improvements.

The Thames Gateway Task Force released the Thames Gateway Consultation Document in 1994. It identified the main goal for transport in the Thames Gateway as aiming " to meet the economic and social needs for access to facilities with less need for travel and in ways which do not place unacceptable burdens on the environment" (para 5.5.0., p.35). It offered that the potential for substantial regeneration allowed the opportunity to reflect the guidance of PPG 13:Transport (DoE/DoT, 1994) and plan land-use and transport together.

The document also announced a number of new road schemes designed to support development and emphasised that the transport strategy for the Thames Gateway would be initially reliant on utilising the existing capacity network.

There are however in the light of the new sustainable transport agenda, two flaws with this approach that were not considered by the report. Firstly, developing within the existing capacity of the network largely meant locating new projects around the roads network, particularly the M25. This is likely to encourage people to use their cars as the primary mode of access and is in contravention of the principles of PPG 13. Secondly, introducing increased roads capacity at the Kent end of the Thames Gateway would inevitably lead to even more car oriented development in that area and would be likely to have serious knock-on implications for congestion at the London end as a result of increased commuter journeys.

Indeed, responses to the consultation document saw transport emerging as a major area of contention among regional and local government organisations. SERPLAN (21.10.94), found that the proposals had not fully utilised the opportunity to plan developments and transport improvements together and recommended public transport schemes be given higher priority than road investments. LPAC (29.11.94),

found the document complacent in suggesting that the relationship between transport and development had been adequately addressed and protested the limited public transport accessibility of many of the identified sites. The London Borough's Association (LBA) Environment Committee also supported the view that the emphasis in the Gateway should be public transport.

LBA and LPAC stated the hope that the Thames Gateway would avoid the example of the Docklands by introducing new public transport infrastructure **prior** to development activity in order to promote sustainable transportation patterns from the outset.

Local residents also expressed concern in connection with transport through a number of community forum sessions, set up by the Thames Gateway Task Force in a variety of locations across the Gateway. During this consultation period, two officers from the Department of the Environment held several meeting in which slides of visions for the Gateway were shown and development proposals discussed with local people. Participants were asked to respond in writing to these ideas. In all, 41 letters were received from local people, 78 from community groups and parish councils and 32 from local conservation groups. Considerable concern was expressed over the increases in road traffic and thereby air pollution that would result from development which relied so heavily on the roads network for access, particularly in the Kent and Essex end of the corridor. The potential threat of the Bluewater Shopping Centre to quality of life, the vitality of local town centres and community facilities and local business was also expressed as being of concern (*Lucas & Chambers, 1996*).

Despite these negative reactions to the Consultation document, the Thames Gateway Planning Framework (*DoE*, 1995), differed very little in its approach to transport and addressed none of the concerns raised during the consultation exercise in relation to transport provision.

#### Summary

It has been identified that improved accessibility to potential development sites is vital to the regeneration process. The chapter has illustrated how theories of regeneration have moved from a conceptualisation of the need to provide increased accessibility through road expansion programmes, towards approaches which focus on the transport network as a whole. This theoretical shift has been set within the broader debate concerning the extent and nature of the relationship between transport infrastructure investment and economic development.

It has also been demonstrated that contemporary models of regeneration have moved away from the strictly market-led approach of the eighties towards strategies which aim to link development to local economic, social and increasingly environmental needs and considerations. It has been argued that, from this perspective and in the light of the debate on the role of transport investment in the regeneration process, the Thames Gateway planning strategy could be expected to break away from the traditional roads-led model of regeneration. This move should be directed towards

the development of a more environmentally sustainable and locally responsive approach to increasing accessibility and thereby promoting regeneration in the area.

However, a review of the Thames Gateway Planning Framework has shown that despite the new agenda for transport and regeneration, the development strategy for the Thames Gateway is largely focused on expansion of the road network. Documentation collected as part of the investigative consultation exercise for the Thames Gateway planning framework has demonstrated that the government's persistence with such an approach has been heavily criticised because it is seen to undermine the long-term economic and environmental sustainability of the region. It would appear that at no time during the planning period of Thames Gateway regeneration initiative was a balanced model considered using the planning balance sheet approach.

#### **CHAPTER 5**

## Transport, Land Use and Sustainability: the British Policy Context

### 5.1 Introduction

The previous chapter has demonstrated that the traditionally accepted role of transport in the regeneration process is being questioned from both a position of efficiency and due to the broader debate surrounding the environmental and social externalities of the transport system. This chapter illustrates how both these factors have been brought into focus through a burgeoning debate, provoked by increased environmental awareness within the policy arena. It explores the implicit effect of the new discourse of environmental sustainability on transport policy in Britain and traces the underlying contextual framework for the contemporary transport policy objectives stemming from it.

## 5.2 Introduction of the Sustainability Agenda

It is difficult to precisely date the earliest expressions of concern about degradation of the natural environment as a consequence of human activity. For the purpose of this study, however, a logical starting point is the 1972 UN Conference on Human Environment. This brought the industrialised and developing world together for the first time to discuss the rights of people to a healthy and productive environment. A number of meetings and discussions resulted from the Conference in the subsequent ten year period. Despite this, when the Conference met a second time in 1982 the Brundtland Commission that had been set up to report on progress and achievements since Stockholm, expressed concerns that these goals were not being met. Most notably the Commission confirmed that if the use of natural resources, pollution and poverty continued at their present rate then deterioration in future quality of life could be expected across the globe. In order to halt this decline, the Commission set out the principles of "sustainable development" and recommended that these should be pursued by all member states (WCED, 1987). Sustainable development was defined by the report as:

".... development which meets the needs of the present population, in globally equitable ways, without compromising the environment or diminishing the ability for future generations to meet their own needs"

## (WCED, 1987)

One focus of the report was the disproportionate contribution industrial world cities make to pollution through vehicle emissions. Since the publication of the Report, numerous further definitions of sustainability have been put forward. These range from *deep green* policy statements advancing the need to entirely rethink the extent to which human activity should be allowed to impinge upon the natural environment, through to use of the word simply as a catch-phrase meaning little in terms of policy adjustment and a *business as usual* approach. For this reason it is difficult to ascertain precisely what would constitute *sustainable transport policy* for the Thames Gateway.

A number of researchers engaging with this problem begin with an assessment of the overall environmental impact of transport on the natural environment. This would appear an appropriate strategy in this instance.

### 5.3 <u>The Environmental Impacts of Transport</u>

Whitelegg (1993), finds that throughout the 1980s there has been increasing recognition of the harmful effects of transport on the natural environment. The environmental impacts of transport are generally conceptualised as falling into 4 main categories; resource use, land take, air pollution and global warming and health/quality of life effects.

## 5.3.1 <u>Resource Use</u>

Fossil fuel consumption from the operation of transport constitutes the most evident source of non-renewable resource use in the transport sector, although manufacture of vehicles and infrastructure provision also place high demands on natural non-renewable resources. Government figures show a steady growth in the percentage of transport's energy use in the UK from approximately 17% in 1970 to nearly 30% in 1987. Approximately 80% of all energy used in the transport sector is consumed by motor vehicles and of this share 75% is used by cars (*HMSO*, 1988). Despite improvements in vehicle energy efficiency, increases in the total distances travelled by motor vehicles in the UK mean that energy consumption and thereby resource use is still on the

increase in the transport sector. The latest UK traffic forecasts figures from the recently established Department of Environment, Transport and the Regions (DETR) suggest that traffic in the UK will increase by 38% between 1996 and 2016 and by 60% by 2031 (*DETR Press Notice 230/Transport 14/10/97*). Vehicle miles are estimated to increase by between 83 and 146% over the same *period (Whitelegg, 1994)*. Continued resource use at this level will inevitably undermine the ability for future generations to provide for their own needs and does not, therefore, constitute a sustainable level of consumption.

### 5.3.2 Land Take

Inevitably, the provision of transport infrastructure to provide for these increases in traffic growth and travel demand requires the use of land. The more intense the increase in travel activity, the more available land is compromised. As early as 1960, the Buchanan Report showed that accommodating high levels of cars in cities was both financially and physically non-viable in most cases. Despite the refusal of many experts and the general public to accept Buchanan's predictions on traffic growth in cities, the Report was viewed seriously by government, who accepted the principle that towns and cities should be carefully planned to reflect the traffic/environment dilemma (*Starkie, 1982*).

Following the Buchanan Report, the 1970 Greater London Development Plan Inquiry stated that many built-up urban areas could not physically provide the space required to increase road capacity and therefore, bottlenecks would always remain.

In addition, it was felt that increasing road capacity would be more likely to have the effect of increasing demand than containing growth. It was argued that if the congested traffic conditions of Inner London were allowed to increase and/or spread to Outer London, there would be serious consequences for both the economic and social well-being of the capital (GLC, 1970).

The 1977 OECD Road Research Group Report expressed similar concerns. The report found that it could no longer be assumed that sufficient road capacity could be provided to meet unconstrained demand and recommended that Urban Traffic Management Systems should be introduced in major cities. These should include recognition of the need to preserve the business and social life of the city as well as addressing the disbenefits resulting from high traffic activity (OECD, 1977).

There is evidence to suggest that these early predictions have now been realised. Increasing congestion in major cities in the UK has resulted, in more recent years, in the development of out-of-town shopping centres and urban dispersal. This has exacerbated the transportation problems of the 1960s by increasing the distances travelled and reliance on the private motor car as the primary mode of transport. Increased demand has led to increased road building and road infrastructure now accounts for approximately 3.3% of the total land area of the UK (HMSO, 1994b).

## 5.3.3 Local Air Quality, Pollution and Global Warming

The principal pollutants from motor vehicle emissions are carbon dioxide, contributing over half of the global warming effect of regulated pollutants; nitrous oxides, nitro-carbons and hydrocarbons, which react in strong sunlight to form photochemical smog of which ground level ozone is a major constituent; and carbon monoxide which oxidises to CO2 and is highly toxic in confined spaces (*Whitelegg*, 1993). Other pollutants include particulates and smoke, which are found principally in diesel fumes. Volatile organic compounds are also by-products of the combustion process. These are the principle cause of the ground level ozone which accumulates in certain weather conditions and is considered to be largely responsible for respiratory problems (*Public Health Alliance, 1991*).

In 1991, road transport in London was shown to account for 33% of all C02, 22% of sulphur dioxide, 96% of black smoke, 99% of carbon monoxide, 76% of nitrous oxides and 97% of volatile organic compounds. Of these pollutants, cars were shown to contribute 56% CO2, 32% sulphur dioxide, 87% carbon monoxide, 68% nitrous oxides, and 52% volatile organic compounds (*Transport Committee 1994*).

## 5.3.4 <u>Health/Quality of Life</u>

The early 1990s saw a growing awareness among environmentalists and health campaigners of the impact of traffic pollution on health. In 1991, the Transport and

Health Study Group produced a report on the effects of transport on health which recognised that, whilst there was yet still no empirical evidence to support the extent of the effect of traffic fumes on public health, those suffering from asthma and chest complaints are particularly at risk from poor air quality in the inner cities (*Public Health Alliance, 1991*).

The wider negative social effects of the car on society, and in particular on certain disadvantaged groups, has long been recognised. As early as 1973, Hillman et al were arguing that although the car provides the most convenient form of travel for the individual, reduction in environmental quality, detriment to health and other social costs make it the least viable in terms of social equity. In addition, they identify particular social groups with low car access, but essential mobility requirements who are fundamentally disadvantaged by a transport planning system that appears to support the car in preference to other modes of transport. These include children, mothers with children under school age, old age pensioners and the disabled.

Each of these environmental and social impacts has implications for UK transport and land use planning policy. Since 1990, Government policy has gradually shifted from a position which asserted that increased transport demand should be met by corresponding increases in road capacity and towards a focus on reducing both the length and number of inessential journeys made by private motor vehicles, combined with tighter vehicle emission standards. Several factors have been influential in provoking this directional change of which International, European and local environmental concerns are most often cited as fundamental.

### 5.4 The Global Context

In 1988, the World Climate Conference in Toronto set new targets for vehicle emissions legislation. It concluded that CO2 reductions of approximately 20% of current emission rates would be needed over the next fifteen years, in order to stabilise the global climate and in the longer-term reductions of 50%. The Conference recommended a reduction in carbon dioxide emissions to 80% 1988 levels by 2005.

Road transport was identified as responsible for a steadily increasing proportion of CO<sub>2</sub> emissions within transport activities, accounting for about 30% of total energy consumption in industrialised countries (*ECMT/OECD*, 1990). As a result of this attention and the findings of a growing professional body of environmental researchers, the late 1980s saw road traffic emerging as one of the major policy concerns in urban areas across the western world.

The 1992 Rio Summit (UNECD, 1992) confirmed a growing awareness and concern about the environment with 116 national political leaders meeting to work out the implications of sustainable development for their own national policies and to report on the current progress of their environmental programmes. The Conference produced guidelines for future action, which was later translated into Agenda 21. This has now been adopted as Local Agenda 21 by participating members, and provides a framework and guidance for local governments within member states to develop and adopt the processes and programmes necessary for future sustainability at the global,

national and local level. In recognition of the considerable contribution of the transport to air pollution and global warming Agenda 21 recommended that governments at the appropriate level should:

- 1. Develop and promote cost effective, more efficient and less polluting transport systems
- 2. Facilitate access to this transport system, at all levels
- Strengthen efforts to collect analyse and exchange relevant information on the relationship between transport and the environment, with particular emphasis on emissions
- 4. Promote cost effective policies to encourage transportation modes that minimise adverse impacts on the atmosphere
- 5. Develop or enhance mechanisms to integrate transport planning strategies and urban and regional settlement plan strategies, with a view to reducing the environmental impact of transport
- Study the viability of convening regional conferences on transport and the environment

(UNECD, 1992)

## 5.5 The European Context

The number of cars in the European Community doubled and the road network almost trebled between 1970 and 1988. As a result of these trends there has been increasing concern about the effect of vehicle emissions on the environment and European quality of life. In 1990, the European Council stated that environmental protection needed to be improved in order to ensure sustainable growth across the Community (*Kramer*, 1995).

A study conducted by the Organisation for Economic Co-operation and Development (*OECD*, 1990), stated that, despite a wide range of policy options, the potential for environmental improvement within the transport sector of industrialised countries was often not fully realised. The study found that traffic management was being used to serve aims other than those of controlled car use and that taxation and road pricing were being avoided because of their political implications and the difficulty of applying the necessary co-ordination of approach. This was identified as due to the physical and ideological separation of different levels of governments concerned with planning land use and transport. The OECD strongly advised Nation States to urgently address the issue of emissions control through a thorough revision of their transport policies and programmes.

In 1992 the Commission on the Effects of the Internal Market, produced "The Environmental Dimension" The report indicated grave concern over the impact of the internal market on the transport sector, and the air pollution consequences of this (*Lomas, 1991*). Controls on motor vehicle emissions had been introduced by the EC as early as 1970. These have been progressively tightened and made specific to particular pollutants (*Directives 80/779; 82/884; 85/203 92/72 in Lomas, 1991*) and in 1993 it was agreed that all new cars be equipped with catalytic converters.

In November 1989, the European Conference of Transport Ministers (ECMT) met to discuss in detail the effects of transport on the environment. Air pollution, urban traffic management and long-distance goods transportation were discussed. The economic implications of environmental damage and environmental considerations in transport investment were also considered and a number of recommendations made, as follows:

- that governments strengthen emission controls and use best available technology to reduce noise and air pollution, whilst reviewing the use of taxation on fuel to reduce consumption
- 2. that traffic management be used to further environmental objectives in transport policy both in relation to demand management and changing modal splits and that particularly in urban areas alternatives to the private car be encouraged.
- 3. that acceptable measures for reducing the private car in urban areas should be used including enforcement and tightening of parking controls and that traffic management measures become an integral part of the urban planning process

- 4. that new dwellings or offices be based on existing or new public transport infrastructure and modes, which are more environmentally friendly, be encouraged
- 5. that infrastructure investment projects include from the outset an assessment of the direct and indirect consequences for the environment and contain evaluations of the alternatives, including railways

### (ECMT/OECD, 1990)

In 1992, a Whitebook on transport and the environment was released (COM (92) 494 in Lomas, 1991), which called for strict standards for exhaust emissions, energy consumption and noise emissions. It also identified the need to promote public transport, cycling and electro cars, in order to check the growth in transport related environmental damage. The Fifth Environmental Action Programme, released in 1993, further suggested the use of road taxes, road pricing, fuel taxes and other fiscal measures to provoke an attitude change away from reliance on private motor vehicles.

### However, Kramer finds that:

"In general, it might not be exaggerated to say only a small minority of Member States pursues a national transport policy which is respective of the environment. The attempts to increase the car, road and railway production, seem everywhere to be at the centre of transport policies, and the necessity to create the infrastructure for the ever increasing car park reduces the efficiency of environmental measures"

(Kramer, 1995 p.33)

## 5.6 The National Context

The inclusion of policies that aim to control vehicle emissions and other environmental impacts of transport into British transport policy can therefore be regarded as reactive rather than proactive. The commencement of this process can be dated to November 1989 when Britain signed a transport policy agreement with the European Council for Ministers of Transport. As part of this treaty, the UK government agreed to undertake the implementation of a full range of policy measures to reduce transport's contribution to the greenhouse effect.

It is possible to attribute a large part of British environmental policy response to the growing environmental concerns expressed by its partners within the European Community. Incremental EC Directives aimed at addressing problems of pollution and ecological degradation began to reflect in British policy statements from the late 1980s. The White Paper on the Environment (*HMSO*, 1990) is a clear indicator of this. The Rio Summit and Agenda 21, served to intensify the pressure on the British Government to produce development policy statements in line with the principles of sustainable development. Since the White Paper, there have been a large number of government documents that aim to address the problem of the environment. Transport and its impact on air quality have remained a focus throughout this process. "This Common Inheritance" (*HMSO*, 1990), provided the first clear indication of the UK government's intention to take account the environmental concerns surrounding over reliance on road transport. In the summary of government action, four policy statements for transport are offered. These are:

- to make people more aware of the environmental impact of their transport decisions by improving the fuel consumption of motor vehicles through extended MOT testing and the development of new technology
- to improve vehicle consumption by working on measures to improve fuel consumption, improving enforcement of speed limits, extending the MOT test and continuing to help develop better technology
- 3. to encourage transport choice by supporting current high standards of investment in British Rail and London Transport; to include funding consideration for light rail, promoting effective measures to make the bus more attractive and funding research to help identify improvements and additions to the transport networks which can increase choice and reduce congestion and study ways
- 4. to locate development to reduce the distance travelled and increase transport choice.

It can be identified that the focus at this stage is still on provoking change in transport trends through the overall promotion of choice and diversity.

These policy statements have been progressively updated primarily through the planning policy guidance arena and will be considered under the section "The Planning Context". However, for a more general overview of the recent government approach towards transport policy a consideration of the principal statements of Sustainable

Development: the UK Strategy (HMSO, 1994) is included. Chapter 26 of this strategy contains policy statements concerned with transport and sustainability. It first offers a framework for a sustainable transport strategy with four key objectives:

- to strike the right balance between the ability of transport to serve economic development and the ability to protect the environment and sustain future quality of life
- to provide for the economic and social needs for access with less need for travel
- to take measures which reduce the environmental impact of transport and influence the rate of traffic growth
- to ensure that users pay the full social and environmental cost of their transport decisions, so improving the overall efficiency of those decisions for the economy as a whole and bringing environmental benefits

(HMSO, 1994. p.169)

The document states that in order to achieve these primary objectives the government is taking steps to increase fuel duty on an annual incremental basis. It is also using land use policies at the local government level in order to reduce the need to travel and to encourage less polluting means of transport. In addition, it is stated that the government is developing a framework that will allow local authorities to develop demand management programmes for their area. In practice, demand management in this context, takes the form of restraint on the use of private motor vehicles, in certain areas and under certain circumstances, through measures such as parking policies, traffic management schemes and priority road networks.

The progressive governmental shift towards measures which directly restrain car use, particularly for inessential local journeys, is partly reflected in the government's sustainable development strategy and can also be said to result from the Royal Commission Report on Transport (*HMSO*, 1994). The Report has been seen as radical by many in that it recommends that a new consensus should be sought about what constitutes a sustainable transport strategy. This assertion by the Commission takes a particularly hard-hitting approach because it comes after the introduction of several increasingly interventionist policy statements on transport by the government. It is difficult to avoid the conclusion therefore that the Report believes new government measures to be far from adequate in dealing with the problems the present transport system pose for the environment.

Within the Report, the responsibility for current transport trends are blamed on successive government policies which have encouraged the growth of out-of-town development and led to increased dependence on cars to the detriment of other modes of transport. Spatial spread has been compounded by changing social trends, such as increases in female labour and longer active life-spans, to further encourage car

dependency. Suggestions for reversing these trends and achieving a more sustainable transport system are provided in Section 6 of the report. The Commission advise that a central aim must be to make inhabitants self-sufficient in their local areas whilst ensuring that for those journeys which are still necessary public transport is used (Paragraph 6.37).

In total 110 recommendations are made in the report, which the Commission stress compliment and reinforce each other and should therefore be acted upon in their entirety if they are to effectively reverse the environmental impact of the present transport system. Most noteworthy is Recommendation 45, which calls on the government to supplement PPG13 with a specific framework for transport planning. Recommendation 51 is also of note, offering that all significant planning applications should contain an analysis of their transport implications. Both these recommendations suggest that, in the eyes of the Royal Commission, the government has not gone far enough to in stating transport policies that will protect the environment and ensure future sustainability in its transport systems.

Partly in response to this Report and the general concerns expressed over transport among the experts, Dr. Brian Mawhinney, the then Secretary of State for Transport launched the government's National Transport Debate in 1995. The published response to this debate (*Secretary of State for Transport, 1996*), recorded a growing awareness of traffic problems but divergent views on how to tackle them. It highlighted the conflict between growing public demand for improved access and mobility and community concern over environmental and health impacts of traffic. The Report outlines a number of policies aimed at reconciliation of these differing pressures. As has been previously stated these can most easily be traced through a series of regional and local planning guidance notes dating from the late eighties, a review of which constitute the next section of this chapter. However, May 1996 saw the election of the Labour Party and although this has had little current effect on UK transport and land use policy, it is relevant to briefly explore the ways in which Labour policies differ from those previously offered by the Conservative government.

The Labour strategy for transport was laid out in the 1996 document "Consensus for Change: labour's transport strategy for the 21<sup>st</sup> century". The document recognised the growing economic, social and environmental concerns about transport and set out its basic policies on transport. These are based on the idea of an integrated transport network capable of taking into account all modes and the differing needs of areas. The policies offered in the document propose a gradual shift in the balance of transportation costs away from the private car and towards public transport. This is to be brought about through the introduction of new taxation and charges on transport. The emphasis for road transportation is to limit the construction of new roads to schemes that either enhance safety or small links that increase accessibility for local business and communities and/or protect environmentally sensitive areas. The main focus of the Labour strategy is, therefore, on demand management of the existing roads network and increasing the proportion of travel by public transport. The document proposes that the funding for this will come through a review of the existing largely unsuccessful Private Finance Initiative, the present failure of which is attributed to lack of a clear framework. In the absence of such a framework at this time, it is difficult to evaluate the potential of the Labour strategy.

## 5.7 The Regional and Local Context

It has been demonstrated that through the early part of the 1990s government policy steadily shifted towards an approach which placed the primary responsibility for controlling the environmental impact of the transport system and improving its present and future environmental performance, on local planning authorities. Government planning guidance notes have increasingly included references to traffic management, reduced car use and the integration of land and transport planning to reduce the need to travel. The research has isolated those that have fundamental implications for transport within the context of the Thames Gateway regeneration initiative.

# 5.7.1. PPG 12: Development Plans and Regional Planning Guidance, February 1992

The predominant aim of PPG 12 was to bring together a number of new guidance notes pertinent to the local and regional planning process. In referring to transport the document directs that:

"The authority's annual Transport Policy and Programmes document (TPP) should be consistent with the transport proposals and policies in structure and local plans, and should be cross-referenced to them"

(DoE, 1992. para.5.29)

PPG 12 provided the first clear policy indication that government transport policy was moving in the direction of an integrated land-use and transport planning system. Having first identified travel patterns as a key factor in CO2 emissions, paragraph 6.12 recommended that new development be guided towards locations which reduce the need for car journeys, reduce the distance travelled or which permit the choice of more energy-efficient public transport as well as cycling and walking.

The document also recommended that local authorities make full use of space in existing urban centres whilst resisting "town cramming" They are advised to relate development in close proximity to public transport networks and plan developments that attract trips in locations that can act as transport nodes. It is recommended that housing should also be located so that it minimises car use for journeys to work. Public and private parking in town centres should be limited and appropriate interchange facilities between major public transport networks encouraged. The document also recommends that facilities to assist walking and cycling be encouraged and that local planning authorities include the integration of environmental considerations into all policy appraisals and development plan preparations.

These recommendations formed the foundations of the government's sustainable transport strategy. More specific guidance for the implementation of this strategy was offered two years later in PPG 13. It is worth noting that between the release of PPG 12 and PPG 13, the government had already informally received the much publicised recommendations of the Royal Commission (see above). Despite this, guidance contained in PPG 13 differed little in its recommendations from those

contained in PPG 12 and essentially ignored the emphasis on the stronger restraint measures for controlling private car use put forward by the Royal Commission Report.

### 5.7.2 PPG 13: Transport, March 1994

PPG 13 was aimed at reduction in the length and number of motorised journeys through encouragement of alternative and more environmentally friendly transport modes to bring about reduced reliance on the private car. The document states that this can be achieved by planning land-use and transport together and introducing a package of complimentary "carrot and stick" measures to provoke a modal shift in transport patterns. Local Planning Authorities were instructed to adopt policies in their development planes and TPPs, which aim to:

- 1. promote development in urban areas at locations which are highly accessible by means other than the private car
- 2. locate major generators of travel demand in existing centres which are highly accessible by means other than the private car
- 3. strengthen local centres and aim to protect and enhance their viability and vitality

- 4. maintain and improve choice for people to walk, cycle or catch public transport rather than drive between home and facilities
- 5. limit parking provision to discourage reliance on the car where there are other alternatives

## (DoE/DoT, 1994. para 1.8)

The package approach to transport planning has also been incorporated in the principles of PPG 13. In 1994, local planning authorities, dissatisfied with the transport funding system established by the 1985 Transport Act published their urban transport policy document "Changing Gear" (*AMA in Coleman, 1994*). It recommended the introduction of a "package approach" to funding, whereby local authorities could bid for a variety of measures together and would be assessed for funding according to the degree to which proposed measures offered an integrated approach to transport. The West Midlands local authorities were used as a pilot for the package approach in 1992 and Circular 2/93 provided government acceptance of this system for the funding of urban transport proposals (*Coleman, 1994*).

The "package approach" aims to incorporate integrated land-use and transport planning into the Transport Policies and Programmes bidding process in order to encourage more environmentally sustainable modes of transport to the private car. PPG 13 recommends the inclusion of car parking controls (both public and private, on and off-street), increased provision for pedestrians, increased provision for cyclists, traffic management schemes, encourage improvement of public transport services and facilities and the introduction of Park & Ride schemes within these packages.

Although PPG 13 would appear therefore, to offer a fairly comprehensive set of measures for local authorities to adopt in their Development Plans, it is flawed at the level of implementation. A fundamental weakness is the absence of specific attainment targets for the proposed measures, making incremental assessment of local authority environmental efficiency improvements to the transport network problematic, if not impossible. Also absent at the present time, is any time series evaluation of central government's funding performance towards alternative transport proposals. Effectively, this means that it is difficult to assess the level of financial support that local authorities feel they will receive from the centre for these initiatives. In addition, general policy statements of the kind put forward in PPG 13 are incapable of addressing the specific traffic problems experienced in some regions, neither do they include consideration of the implications of this policy shift for local economies.

Any policy is only as effective as it is implementable. The responsibility for implementing policies in the Thames Gateway is divided between a variety of organisations at the regional, sub-regional and local level. Although the 1990s have seen a re-emergence of strategic planning, guidance remains tentative and passive rather than progressive. There is also general evidence of considerable conflict between regional and local government and central government administration (Wannop, 1995), particularly in London and the South East. It is impossible therefore, to consider the

full implications of implementing regional and local planning guidance in the Thames Gateway without including consideration of the political context in which it is placed.

One aspect of this political context is the abolition of the Greater London Council in 1986, which has left London without a publicly accountable strategic planning authority. In the absence of the GLC both SERPLAN, LPAC and local planning authorities in the South East have struggled to assert the influence of local government against centrally imposed and often locally unwelcome growth strategies for the region. The consultative role that these advisory bodies offer have generally been ineffective in controlling the planning and policy agenda for London and the South East. It is possible that in the future, with the new labour government's proposals for a Greater London Authority, many of these strategic planning problems will be more directly addressed and new planning strategies.

For the present, the planning strategy for the region is guided by two key documents; RPG 9: Regional Planning Guidance for the South East and RPG 3: Strategic Guidance for London. In addition the RPG 9A: the Thames Gateway Planning Framework offers a supplementary strategy for regeneration in the South East.

## 5.7.3 <u>RPG 9: Regional Guidance for the South East, March 1994</u>

RPG 9 updated previous regional guidance and in theory, should reflect the views of both SERPLAN and the 33 Unitary London Authorities as represented by LPAC. In practice, although the desire for development compatible with the objectives of sustainable development and reducing the need to travel is stated as a key policy objective for the region, growth targets in excess of the limits recommended at the local level continue to be pursued. There are two main objectives for transport in the South East. Firstly, to provide safe and efficient transport to aid accessibility, and secondly, to reduce growth in car use and take account of the rising environmental and economic costs of transport in the South East. RPG 9 finds that the East Thames Corridor offers an opportunity to contribute to the government's environmental objectives by *optimising the relationship between development and existing and proposed transport provision*.

## 5.7.4 RPG 3: Strategic Guidance for London Planning Authorities 1996

In the absence of a strategic planning authority for London and concerned over the government's failure to offer a transport strategy for London, LPAC published "Advice on Strategic Planning Guidance for London" in 1994, with the support of all 33 London Boroughs. The main strategies outlined in this document can therefore be said to represent the over-riding consensus concerns of London Planning Authorities in relation to land use, transport and the economy in Greater London. Of particular concern was the future viability of London as a World City, following an earlier LPAC

commissioned investigation (LPAC, 1991). Transport was identified as a central component of the threat to London's present and future economic viability. The document emphasised the need to reduce the amount of travel and dependence on the car by improving public transport and making other modes more attractive and to reduce the pollution of London's environment by reducing the adverse effects of transport.

The policy focus of the document is on the maximisation of access to new development by public transport, walking, cycling and water transport. The report called for increased government support of road restraint policies through pricing mechanisms, complementary to local authority objectives. Road pricing was popularly identified by the London Authorities as the most effective restraint measure for private motor vehicles journeys and LPAC urged the government to introduce this mechanism across all primary routes in London.

An update to the 1989 Strategic Planning Guidance for London was finally produced in 1996. Review of the document shows that it echoes the 1994 LPAC document in its assertions that the efficiency of London's transport network is essential to the economic viability of the capital and that current congestion is a major obstacle to this efficiency. Road pricing is not however, seen fit as the primary mechanism for controlling congestion in the capital. On the whole, the transport guidance offered in the document progresses little from that outlined in PPG13 and failed to address the specific traffic problems faced by a car dependent capital city with an under-financed, inadequate and increasingly decrepit public transport system. The document promised a more detailed transport strategy for London would follow. This was duly produced by the Government Office for London and the Department of Transport in the same year. The document offered five key objectives for transport in London:

- 1. to maintain and enhance the quality of London's international transport links
- 2. to enhance the quality of commuter services by rail and underground
- to promote greater use of less polluting forms of transport, subject to the need to maintain competitiveness
- 4. to facilitate access to the central business district and ease of movement within them
- 5. to plug major gaps in the road and rail network

The report concluded that international and regional connections into London are good and that large investments have already gone into the infrastructure of the rail and underground network, making them more efficient. Further future investment is promised via privatisation, public subsidy and private finance initiatives. This it is claimed will help to promote modal shift away from cars and onto public transport. It is stated that people are unlikely to voluntarily modify their own travel habits in the interests of the wider good, however, and the need for educational and promotional campaigns is recognised. It is felt that local authorities and transport operators are best placed to take action in this area. Improvements to the strategic road network is identified as continuing to be necessary and ensuring that the Red Route is operational by 2000 remains a key target of the capital's traffic management strategy. The document warns that use of car parking restraints to reduce commuter car use must be approached cautiously if severe economic and environmental disbenefits are to be avoided.

#### Summary

This chapter has shown how the sustainability agenda has progressively impinged on the transport and land use planning process in the UK. The chapter has demonstrated the way in which, in response to the environmental concerns of the International and European communities and pressure group activity in the UK, central government planning policy guidance has incrementally moved towards demand management in order to control the impact of transport on the natural environment. A review of UK transport policy at the level of central government has shown that the key policy focus is aimed at the integration of land use and transport planning. Since the early 1990s central government has made policy recommendations to local planning authorities to reduce car reliance through the planning system. The implicit consequence of this policy strategy is that internationally agreed and legally binding targets for reductions in CO2 emissions have become almost solely the devolved responsibility of local government.

The following chapter will examine the five principal instruments for reducing car emissions and thereby demonstrate the implementational problems involved in the adoption of a local government led strategy.

## **CHAPTER 6**

### The Implementation of a Sustainable Transport Strategy

## 6.1 Introduction

It has been demonstrated that, at the conceptual level, UK policies for transport have embraced the new sustainability agenda. The stated method for achieving a sustainable transport strategy is through the transport and land use planning system at the local government level. A vital consideration in policy evaluation is the extent to which its aims and objectives are deliverable at the level of implementation. This chapter identifies the five primary instruments for reducing the environmental impacts of private car use. It goes on to examine the potential of local authorities to successfully deliver a sustainable transport strategy through the exploration of what are identified as two key constraints. These are, firstly, organisational restraints within the legislative and financial framework of the UK planning system, and secondly, the attitudinal restraints dictated by individual preference for the car.

## 6.2 Measures for Reducing the Environmental Impacts of the Car

A review of the relevant literature demonstrated that proposals for reducing the environmental impact of private car use date back to the early 1970s and have changed little in scope since that time. The measures proposed fit broadly into five approaches; the use of technological advances, fiscal policies, traffic management, land-use planning and public attitude change. It is not the intention of this research to explore these approaches in great detail but an overview of the measures proposed is considered useful at this point.

### 6.2.1. Technological Advances

Technological responses to the transport problem focus primarily on pollution control or mitigation and fuel energy efficiency. Attempts to control the discharge of these pollutants into the environment have resulted in a government commitment to incremental increases in vehicle emission standards. The application of increased standards has encouraged vehicle manufactures to consider levels of vehicle emissions and emission reduction technology such as catalytic converters in new cars together with the development of lean burn fuels. The effect has been that new cars are, in general, more fuel efficient, run on lead free petrol and emit lower levels of certain pollutants into the atmosphere than their equivalent counter-parts of ten years ago.

The technological approach to air quality management is best studied in the Californian and Los Angeles models. Since the 1960s, California has used four successive programmes of vehicle inspection and maintenance to control incidents of photo-chemical smog. The annual estimated cost of the current programme is set at \$450 million and despite improvements to air quality, there are doubts that it achieves sufficient reductions in vehicle emissions. Studies have shown that enforcement of standards is difficult and random roadside checks indicate a high emission standards

failure rate despite passing an official "smog test" only ninety days previously. The suggestion is that drivers tamper with vehicles before and after testing in order to bypass lower engine performances experienced in correctly adjusted vehicles (*Barrowcliffe*, 1995).

It has been argued that emission control increases the price of new cars and may also decrease power and economy. As is seen by the Californian example, it is also difficult to enforce. Furthermore research suggests that even dramatic improvements in vehicle emission standards will be insufficient to improve air quality in the long term. Given the growth rates for traffic envisaged by the Department of Transport, it is argued that any benefits from technological changes will be swallowed up by increases in traffic levels (*Khan & Blumhof, 1992*).

Another technological approach has been the exploration of the potential for using alternative fuels in the design of pollution free vehicles. However Schipper (1995), argues that in the present global market there are no fuels whose costs compete with the marginal cost of producing oil and that this has encouraged slow design innovation amongst car manufacturers. The most popular alternatives experimented with to date are methanol from coal and ethanol from grain. In the case of both, the environmental impact of producing sufficient quantities is significant.

Gas turbine engines also have their problems in that they gain most in terms of efficiency and power at very high temperatures. To date car manufacturers have been
unable to develop engine components that can resist high operating temperatures at a low enough cost. Vehicles which run on hydrogen suffer from the difficulty of designing small vehicles with sufficient compact storage to allow for the quantity of hydrogen needed to power a car for the average journey requirement, whilst also remaining compact enough for today's market preferences. Electric propulsion vehicles may provide the best option for better air quality because local emissions can be reduced to zero, while emissions for making electricity can be more easily controlled at source in power-plants specifically designed for efficiency and high levels of environmental control technology. California has already introduced legislation to secure that at least 2% of all new vehicles will be "zero emission vehicles" by 1998, but there are no plans to pursue such a strategy in the UK at the present time.

While emission controls policies and alternative fuels offer the potential for cleaner air, and thereby, address many of the major environmental and health concerns surrounding the impact of motor vehicles, they do not solve the problem of the impact of providing road space to accommodate predicted increases in car ownership and use or, for controlling current or anticipated congestion. It is evident that the only policies which can address these issues are those that attempt to reduce public reliance on the motor car and encourage people out of their cars and on to less environmentally damaging modal alternatives. A primary concern in this policy area has been with more accurately pricing car journeys to reflect the external costs of car travel.

## 6.2.2 Fiscal Policies

These fall under the collective headings of indirect taxation and direct pricing mechanisms. In the case of the former, there is already a system of indirect taxation on motor vehicle ownership and use in the form of vehicle purchase tax, vehicle registration tax and taxes on motor fuels. In Britain new cars are subject to VAT at 17.5% and a special car tax at 5% on five sixths of the listed price, all cars must be licensed annually and a standard lump-sum fee is charged in the form of Vehicle Excise Duty. In addition all motor fuels are subject to VAT and are, over and above this, currently taxed at 5%, with a government commitment to annual increases (Crawford & Smith, 1994).

Direct pricing mechanisms charge drivers for their road use, usually in the form of tolls on motorways and major roads. At the time of writing, approximately 30% of European motorways are tolled. Other frequently debated forms of direct road pricing are electronic road-use pricing systems.

The introduction of road pricing was one of the key recommendations made by the Royal Commission on Transport, however, the government currently rule out road pricing as a viable working option in the UK. They argue that although the academic literature on road pricing is extensive, actual experience of its application is extremely limited. The crude nature of currently available technology is used to argue that attempts at introduction of such measures would undermine the success of such schemes. It is true that attempts to introduce a smart-card system in Cambridge town centre in 1992 were found to be unworkable due to problems of a technological nature (*Hughes & Ison, 1992*). More radical measures to control car use through tolling and cordoning have, however, been attempted with some success in Singapore. Policies to restrain the use of private motor vehicles in the inner city through cordoning, road pricing and pricing policies for car ownership has resulted in a virtually car free city where local citizens are entirely reliant on public transport, licensed taxis, cycling or walking (*Fan, Menon & Olsezewoki, 1992*).

On the whole, however, fiscal measures to control car ownership and use have not been popular with the general public. It is also recognised that they tend to place a disproportionate burden on low-income groups. In considering the potential contribution of fiscal policies on the regulation of air pollution, Crawford and Smith (1994) find that this will only prove an efficient mechanism if the overall effect is to reduce the total number of vehicle journeys. They assess that this effect will be achieved only if considerable increases to the current public transport system are introduced. They concur that the social equity implications of many road pricing policies are prohibitive, having considerably greater impact on lower income car user groups.

## 6.2.3 Land-use Planning

Proposals which recommend using the land planning system to control demand for transport come from a recognition that the pattern and location of developments influence the overall number of journeys travelled and hence vehicle emissions. The

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work of Newman and Kenworthy (1989) has demonstrated how cities with lowdensity patterns of development and with a high dependence on motorised mobility show high energy consumption and hence higher vehicle emissions.

Bach (1995) points out that the effects of operating an integrated land-use and transport planning system can only be evaluated in the long-term, but suggests that, optimistically, a saving of 10-15% in fuel use could be achieved by land-use changes at the city-region level over a 25 year period. He finds, however, that both local planning authorities and developers have been slow to act on policies to integrate land use and transport planning, with the greatest attention focused on the location of retail developments and a shift towards concentrating retail proposals in existing town centres.

A longer-term evaluation of the success of integrated land use and transport planning can be gained from a study of the Netherlands policies, which were introduced in the early eighties. Now some ten years on its direct impact on reducing traffic growth is being questioned. Dutch planners have found that since the introduction of integrated land-use and transport planning, traffic growth has not been reduced and that spatial spread is also still a planning problem both within the country as a whole and also within cities (Maaike Galle, National Spatial Planning Agency, The Netherlands, 1995). It has been argued that a key factor in the success of the land-use planning approach is public acceptability. This includes the acceptance of planners, developers and investors as well as the general public. This is because the policy implies a need for changes in behaviour and individual aspirations, away from recent trends that have tended to demand increasingly decentralised and car-reliant development, towards an increased focus on development in existing centres and accompanying higher densities. The new policy agenda requires planners to bring forward development policies and programmes which cut a thin line between freedom of choice and demand management. It also requires developers to accept that the cheaper development option of out-of-town green-field sites must be abandoned for more expensive redevelopment of brownland, derelict and contaminated land in locations that are highly accessible by public transport and/or walking and cycling. In addition, the public must accept that leaving the front door and hopping straight into the convenience of their cars should not always be their first transportation choice.

It is generally recognised that these attitudinal changes will only be brought about through the application of complimentary traffic management measures which aim to restrict car use in certain circumstances and encourage other forms of less environmentally damaging transport options.

## 6.2.4 Transport Management Measures

These are primarily applied at the local level and involve a "carrot and stick" approach and include the introduction of increased pricing in public car parks, tighter enforcement of on-street parking restriction and regulations, reduced levels of car parking facilities both on and off-street and simultaneously introduce traffic management measures. These would aim to direct traffic onto appropriate routes (e.g. through traffic onto primary roads), reduce traffic speeds in residential areas and provide a hierarchy of road use which places essential vehicles, buses, cyclists and pedestrians above private vehicles, should be introduced. In addition, there should be negotiations with service providers to improve the facility and image of alternative forms of transport. The aim of a traffic management approach is to make the car a less viable option within certain locations and thus provoke a modal shift.

Early case studies of the application of integrated urban traffic management strategies have demonstrated traffic management can have a significant influence in reducing individuals' reliance on the motor car within the central area of major cities. OECD (1977) cite several successful examples. In Reading, the introduction of a revised traffic network together with bus only access in the main shopping precinct and reduced off-street parking resulted in an annual congestion saving of approximately £750,000. Amsterdam, Gothensburg, Besancon and Stockholm were also cited as successful examples of integrated urban traffic management.

## 6.2.5 Education

Most theorists agree that success of all the above strategies relies heavily on public acceptance and thereby co-operation. To this purpose there is an increased recognition of the need to re-educate the public to a new level of awareness about the negative impacts of car use, particularly in major cities. Several counties in the UK have already pioneered a variety of campaigns aimed at encouraging people to switch some of their car journeys to less environmentally damaging modes of transport. A number of strategies have been promoted, including use of media advertising, local discussion groups and meetings with public bodies.

Examples of the most successful of these are Hampshire County Council's three year "Headstart" campaign started in 1994 and Hertfordshire's "Travelwise" campaign launched in 1993. It is difficult, however, to fully assess the success of these campaigns at this early stage, but they do suggest a potential role for councils within the field of attitudinal and behavioural change.

Other initiatives directed at affecting public attitude changes currently being tested involve partnerships between major local employers and local authorities and are aimed at addressing journeys to work. Southampton and Nottingham City Councils are two local authorities developing "Green Commuter Plans" with local employers. The initiatives involve the introduction of management policies for employees car use to and from the place of work through reductions in the number of free car parking spaces combined with improved bus services and the introduction of changing and

storage facilities for those cycling to work. Clearly, provoking public attitude and behavioural change is a new policy area and therefore these early programmes and strategies will need considerable monitoring and refinement before their overall contribution can be established.

## 6.3 Constraints at the Level of Implementation

Peake (1994), finds that the challenge for policy makers and planners is how to choose the best combination of measures from the options and alternatives put forward given the social and political uncertainties surrounding many of the measures for reducing car use. He argues that implementing these measures may be perceived as a threat to consumer choice, personal freedom and access whilst meaning higher transport costs for many people. Transport efficiency policies should, therefore, be carefully integrated with wider economic and social objectives.

Hall (1989), argues that in London the main problems are with enforcement of existing regulations, resulting in a failure to keep the main traffic arteries open and undermining bus and cycle lane initiatives. He also argues that fines should be more prohibitive, with higher charges, greater likelihood of a ticket and licence revocation on failure to pay. Button (1993), also investigates this issue of traffic management efficiency, suggesting that dependability, permanence, adaptability to economic growth, incentives for maximum effort, equity, value for money, political attractiveness

and minimum interference with private decisions all play a part in determining the implementation potential of transport efficiency measures.

The previous chapter outlined the preferred UK policy options for the delivery of a sustainable transport strategy. At the present time, these reject the road pricing option and leave technological innovation in the hands of industry. This leaves a combination of integrated land use and transport planning approach, combined with improved traffic management strategies and public awareness campaigns as the current way forward for controlling private vehicle use in the UK. In the absence of a nationally determined transport plan, delivery of this transport strategy is left in the hands of individual local planning authorities. Although it is recognised that some overall coherence is brought to transport and land use planning through the Development Plan and Transport Policies and Proposals system, it is argued that the final result is fragmented and poorly supported through the legislative process.

There are a number of fundamental constraints on the delivery of a sustainable transport strategy using this approach. These can be broadly categorised as resulting from three over-riding factors:

- 1. the organisational constraints within the legislative, financial framework of the planning system;
- 2. public attitudes and;
- 3. the role of the car

The main issues arising from these influencing factors and their implications for the delivery of a sustainable transport strategy by local authorities in the light of these constraints will form the focus of the remainder of this chapter

## 6.3.1 Organisational Constraints

It is generally recognised that there is usually relatively little scope to affect travel patterns through the normal planning process. This is because under normal circumstances a maximum of approximately one percent of land can be identified for re-planning in any one year and many areas are confined to fixed land use patterns. In addition, urban form often hinders the introduction of dedicated public transport routes, cycle lanes and pedestrian precincts and, in the case of the Thames Gateway, the River Thames has also already been demonstrated to offer considerable constraints on the introduction of new transport infrastructure.

In addition to these basic physical constraints, provision of an efficient and integrated land use and transport requires high levels of inter-departmental cooperability. This is not only needed within and between government departments and at the national, regional and local level of government, but also in a privatised transport system between local authorities and transport operators. Imrie (1994) has demonstrated that in practice, there is still considerable conflict between central government departments and between the different levels of government based on their differing policy objectives (*Imrie, 1994*). The recent integration of the Departments of Transport the Environment, into the newly formed Department of Transport, Environment and the Regions under the current administration, may serve to reduce some of these inter-departmental conflicts at the national level of government. The continued absence of a national transport strategy means, however, that many of the tensions which he identified as existing between the different political factions at the regional and local level of government may still need to be addressed and resolved.

Even if policy does become more integrated at the policy-making end of transport legislation there are also a financial and legislative constraints at the level of implementation. Arguably, the last 15 years or so have seen a time of increased centralisation with power being taken away by central government (*Stoker, 1995*) and the powers of local government to influence local transport have become considerably less than they were fifteen years ago. At both the regional and local level, policy must be set against a background of reduced government spending, increasing focus on private sector finance for major transport infrastructure projects and deregulation and privatisation of the public transport network. Regional and local councils must attempt to engineer centrally determined transport policy to fit local need within the financial constraints of central funding.

Within this context, while local transport planners may clearly understand the deficits in the local transport system, it is often difficult to prioritise improvements in these areas over and above the need to meet strategic transport requirements. This is particularly the case in a system where transport provision is largely in the hands of a deregulated, privatised sector and where funding is in short supply and often ring

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fenced for specific projects. In the absence of public finance for new transport projects the emphasis has been on winning private backing to bring individual schemes forward. Transport infrastructure projects are expensive, requiring large sums of pump-priming money and are unlikely to produce returns within the financial time-scales of most private companies. Private investors are therefore reluctant to come forward and when they do so are likely to prefer road projects which do not require any further major investment once they have been completed, to public transport options which accrue significant additional running costs after completion. This means that many public transport projects, vital to the implementation of an integrated an more sustainable transport network are often delayed, shelved or even abandoned.

At the level of local planning, two further constraining influences arise, firstly, many environmental problems have long time horizons which are outside of the local development plan time-scale. Secondly the potential of local authorities to reverse many of the environmental impacts of transport is surrounded by a considerable degree of uncertainty in that in most instances these effects appertain to issues of air quality which are outside of the spatial remit of local planning boundaries. Thirdly, raising the finance to independently meet the costs of impact minimisation at the local level is also outside the legislative remit of local planning authorities.

In the broader political context, the local electoral system is based on obtaining positive, quantifiable effects from policy every four or five years, and balancing this with the demands of an economic system that is based on even shorter time horizons, the conflict is clear. Long term sustainable policies result in long term solutions and

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long term results, whereas democratic elected local governments require short term results, hence the two agendas are often incompatible and this has a tendency to limit the scope of actual decision-making to 'safe' issues. Effectively, this means catering towards perceived public preferences such as increased car ownership and increased consumer choice. It is argued by legislators, that without the support of public opinion this re-evaluation is political suicide and therefore non-viable.

## 6.3.2 Public Attitudes

A recurring theme within this chapter has been the role of public opinion and the potential constraint that current public attitudes to transport present. The 1995 British Social Attitudes Survey (*Stokes and Taylor, 1995*) demonstrated that 80% of respondents considered the two most pressing problems in the transport sector to be pollution and congestion. In their surveys, Jones & Haigh (1994), found that, nationally, traffic congestion, air pollution and road accidents were rated as serious problems by 80-90% of adults and traffic noise and loss of land by 70%.

However, the 1995 Attitude Survey, also found that, while the public were generally in favour of increased spending on public transport and the introduction of alternative transport facilities such as cycle lanes and pedestrian areas, they were less inclined to favour measures aimed at directly restricting car use. Jones (1995), has suggested that these differences in attitudinal findings may have an implication for people's perceptions of who causes the problem and what role they might personally play.

His suggestion would seem to be borne out by a recent European attitude survey (*UITP*, 1991), which included a series of questions about public support for measures to improve traffic conditions in city centres. In each case, a higher proportion of policy makers supported the measures than members of the public. The survey recorded that creating more pedestrian areas received 75% average support, ranging from 82% in the former East Germany to 57% in Denmark, whereas tighter parking controls received an average of only 57% support. Jones has found that this pattern is repeated in survey results in the UK, with generally more support for policies that provide alternatives or supplements to the car and less support for those policies which place direct charges or penalties on car users. He concludes that one can take a cynical or optimistic view of these results, the cynical view being that people will only support measures which they hope will affect other people's car use, but not their own.

Optimistically, he suggests, these results could indicate a public willingness to change travel behaviour given viable alternatives. The key criteria for success in reducing public reliance on private motor vehicles inevitably lies in achieving public attitude change and thereby travel behaviour. Jones (1995) argues that if the car driving public are to accept the need for change in their travel behaviour they must first accept that there is a problem. They must then understand the nature of the problem, and finally they must accept it is the responsibility of each individual to take action to address the problem.

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An interpretation of the NIMBY effect suggests that the most effective strategies to effect behavioural change will be those that recognise that individuals are more strongly motivated when issues become personalised to them. Indeed, Jones argues that a major hurdle for future policy lies in establishing in drivers' minds the direct link between their behaviour and traffic-related problems. As was previously noted, the general public perceive traffic-related problems to be less serious locally than nationally. This is likely to encourage the view that it is someone else's problem. Secondly, even if people accept the problem as their own, they may feel that any changes they may make in their own travel behaviour will be insufficient to have an effect

In many ways these findings reflect the principal dilemma which has confronted transport and urban planners and policy makers in most major cities since the seventies. On the one hand is the recognition that unfettered car use threatens both the social and economic viability of the city, whilst on the other hand comes the knowledge that attempts to control that use will be largely unpopular with the public and therefore politically untenable.

The important role the car plays in modern day society obviously has a fundamental influence on the current state of play. The final section of this chapter argues that contemporary society is not only physically but also emotionally dependent on the car. It takes the position that policy maker and planners alike must recognise the car as the powerful social icon it has become and need to more fully include consideration of this most dominant constraint on the introduction of comprehensive car restraint measures at the local level.

## 6.4 The Role of the Car

Originally, the car was promoted as a luxury commodity which allowed those who could afford it privacy, autonomy and prestige. Early car ownership was primarily a privilege of the upper classes costing between £250-£1,000 at a time when the average wage was approximately £2 per week. However, the Model T considerably undercut other makes, costing £150 and bringing car ownership into the price range of the professional classes. As new roads were built to accommodate the increase in personal motorised travel more people moved into the countryside and towns began to merge with villages to accommodate new demands. The problem of urban sprawl had begun.

Local authorities have been attempting to control migration from central areas since 1945. Planning has always played a primary role in this process. For example, tools such as the "green belt" policies of the 1960s were used to contain development, whilst instigating redevelopment programmes in city centres and providing increasingly heavily subsidised public transport. Despite these measures, personal travel has continued to increase and car ownership prevails as the most popular way of meeting these increased travel needs. In 1960, car ownership was 5.5 million, by 1970 it had risen to 11.5 million. These trends have continued to gain momentum, Adams (1990), finds that the average person in Britain travels 120 miles per week and car ownership in this country now stands at 22 million (*DoT*, 1996) and it is clear that cars have now become the dominant form of transport.

Widespread car ownership obviously provides the political and legislative franchise for government spending on the road network. The roads lobby in this country, consisting of a strong alliance between the road construction industry, road freight hauliers, the AA and RAC and bus and coach operators, has successfully campaigned for incremental improvements to the roads network. Meanwhile, falling demand for public transport makes it difficult to justify public transport infrastructure and service spending on the basis of direct cost/benefit comparisons.

Increases in the capacity of the roads and access by road, together with improvements in car design and efficiency have encouraged more and more people to own cars and use them for more of their journeys. The advantages of a door-to-door transport service and the relatively rapid and flexible nature of car travel, when compared to other modes of transport, has helped to reinforce the popularity of car-ownership. Individuals have increasingly located in homes that are further away from their place of work and to participate in other practical and social activities which for reasons of distance or time, necessitate car use. Donnison (1974), finds that in those advanced industrial societies where access to the car is afforded by the majority of the population, the car has transformed the built environment so that people travel further to work and other amenities and more journeys are made by car. The consequence of these trends is a society that is structurally and economically dependent on the car.

In addition, the invention and subsequent mass ownership of the motor car has transformed individual and social expectations of transportation and personal mobility. The car is now considered an integral part of most people's lives and is inextricably linked with the fundamental economic and social systems of the age. Its flexibility and convenience make it the most efficient form of personal transport, whilst constant design improvements and hard-sell advertising make it one of the most sought after consumer products in most societies.

Indeed, for many people the car is not only essential to their economic survival but also evokes an important emotional or psychological response. Black's psychological study on the car provides an early indication of this kind of attachment. Black found that,

"Under hypnosis at the unconscious level, technical details of the car were largely ignored.....all subjects stressed the significance of "freedom" associated with car ownership"

#### (Black, 1966. p64)

It transpired through the study that this sense of freedom found expression in a number of associations, which included the conflicting emotional experiences of warmth and homeliness and excitement and expectancy. The car was also readily assimilated as a symbol of sexual prowess, supplying images of both strength and power. Jackson's more recent research on the benefits and disbenefits of car commuting (1992), also demonstrates this psychological attachment to the car. In the study, benefits were divided into four aspects; benefits to the individual, comfort aspects, control aspects and power aspects. It was found that one of the main perceived benefits of the car over forms of transport was that it was seen to provide the driver with a private world, safe from intrusion by others and is closely related to the "peace" element. This peace element included not only peace from fellow travellers but also from family, the work place and the daily stresses of life in an urban environment. The car was also seen as a form of enjoyment, more than half the sample said that they enjoyed driving to work. The sample also perceived their cars as providing them with feelings of power, control and autonomy and closely linked to these feelings, a potential outlet for aggression. Over-taking was cited as a particular area of satisfaction and enjoyment.

Pharoah (1994), further explores psychological car dependency finding that people with exclusive use of a car may habitually rely on it to a greater extent than can be explained by locational or personal circumstances alone. He claims that total Physical dependence, explained as including personal circumstances such as age, income, dependants, locational circumstances, i.e. proximity of destination and existing transport circumstances including availability and accessibility of alternative modes of transportation, describes no more than a fifth of the population.

At a more theoretical level, Baudrillard (1990), argues that manufactured objects such as the motor car, lend themselves to mental deconstruction which allow

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the user to ascribe functions of the object to themselves thus producing a strong emotional bond between the object and its user. The symbolic appropriation of the car's functional attributes allows the individual the opportunity to invest his/her own ego into its structural detail. In other words, the speed, flexibility, design innovation, style and power of the car become attributes of its driver and in part explain its position as one of the most powerful symbols of social status of our time. Baudrillard goes on to claim that consumption has become the chief basis of the contemporary social order. It argues that through popular primary consumer objects, such as the car, advertisers sell lifestyles and identities to the consumer, thus consumer choice represents the production of a series of codes and signs through which the whole of society communicates and assigns the individual a place within it. In this way, the car is no longer simply an object to be owned, but a statement of the identity of the owner and those who do not own cars speak just as loudly of their identities.

Baudrillard is often criticised for his polemic stance and a lack of empirical evidence with which to support his theories. In addition, the relative influence of advertising and the media on the behaviour of groups and individuals is often contested. Despite these doubts, it is clear from the promotional advertising material of car manufacturers that image and identity are seen as powerful selling points and that advertising themes often refer more to the identity aspirations of the driver than to the car itself. "Search for the hero inside yourself ...... because there's no such thing as an average person" is the latest call from Peugot in the promotion of their new 406. While the new Rover 100 series advertising campaign states "looking elegant was never easier". The Japanese "Proton Persona" was advertised with a woman

claiming in one advert "judge me by the company I keep.....the Proton Persona" and in another advert for the same model, "I'm only interested in a long term relationship......the Proton, a reliable persona".

Personified relationships between people and their cars are a regular theme of advertising campaigns, with the car replacing the unreliable husband/boyfriend or boring wife/girlfriend. The car is often seen to represent a source of solace when all else fails, as in the *"if only everything in life was as reliable as a Volkswagen"* campaign. Sex also still provides the advertiser with a powerful selling tool and a number of car advertisements refer to the enhanced "pulling power" of their driver or the seductive powers of the car itself. Bayley, claims that when it comes to advertising there is no question what sells a car best are not its technical attributes or gadgets, on the contrary, he finds the most important thing a car can have is "personality". He goes on to suggest that,

"The seat of our relationship with cars lies below the belt as opposed to above the collar ...... What we really get with a car is a relationship with a machine, sometimes one that matures into an enduring affair"

#### (Car Magazine, April 1995)

Adelson (1992), expounds the theme of the car as an extension of the self but although he finds that its image emotionally endures as a symbol of freedom in our society. He identifies our relationship with the car as love/hate, the individual may love the freedom of the open road and the luxury, autonomy, flexibility and privacy the car allows, whilst simultaneously hating congestion, smog and road building which eats into the countryside. It is by constructing these disbenefits as "other", he suggests, that we convince ourselves they are outside of the consideration of changes in our personal use. We dislike the way in which cars are used and how they shape settlements and yet we want to continue to use them without restraint, whilst those who for a variety of reasons, chiefly financial, do not own cars continue to aspire to do so.

Public attitude surveys tend to confirm this analysis. Niblett & Brown's conducted a study on travel behaviour in the South East (1994). They stated that in several surveys of the general public's attitude to modal choice carried out in different parts of the country, it was clear that in most areas people are "very firmly wedded to their cars even where an alternative exists, and regard any alternative as only for others" An RAC survey conducted for Mori (RAC, 1991), found that taken as an average only 10% of annual driving was considered "not at all important".

## Summary

This chapter forms the final section of the literature review. It has identified five key theoretical approaches towards the aim of achieving a sustainable approach to transport. Within the chapter the varying likely success of each of these approaches has been examined and evaluated on the basis of the empirical evidence of published case studies. In addition, the argument has been put forward that there are three primary potential constraints on the implementation of the chosen UK approach.

The previous chapter identified this as essentially based on the integration of the land use and transport planning process, implementable at the local level of planning through the development plan and transport policies and proposals system. The potential flaws identified with this approach have been categorised. These range from physical constraints within the existing urban form through to the present availability of public and private finance to fund alternative transportation provision and the degree to which developers, investors and the general public are prepared to accept the introduction of car restraint measures. It has been argued that at the highest level of planning, greater inter-departmental integration is needed to support such a strategy, together with stronger legislative and financial commitment on the part of central government, to the delivery of these policies at the local level.

The argument has also been made that fuller explicit recognition of the fundamental constraint that public attitudes and aspirations towards car ownership and use place on the implementation of car restraint policies and measures is needed at all levels of the policy-making and policy delivery structure. A review of public attitude surveys and studies has been used to add empirical validity to this argument. On the basis of the evidence collected by these studies, the review concludes that while the public identify pollution and congestion from road traffic as a pressing problem of our time, individuals are in general unwilling to accept a personal role in the cause of such problems.

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The research promotes the opinion that this reluctance is largely due to the fundamental role that the car plays within contemporary society. It has been argued that this goes far beyond the practical considerations of mobility which form the focus of central and local government strategies to reduce car reliance because the car now symbolises the social aspirations of our time. Theoretical and experimental research evidence has been used to explore this 'emotional' car dependency argument. The research advises that it is on the basis of this that the implementation of policies for controlling car use must be evaluated.

The arguments that have been developed through the review of literature and policies needed confirmation at the empirical level. The research identified that there was little available empirical analysis of the planning process in the Thames Gateway as it relates to private car use. In addition, there was no evidence of an environmental audit of the likely outcomes of the regeneration initiative. In the absence of such information it was necessary to evaluate the evidence of primary data.

## **CHAPTER 7**

# Transport and Regeneration in the Context of Sustainable Development: Thames Gateway Planning Policy Analysis

## 7.1 Introduction

Having offered a theoretical contextual analysis of transport, regeneration and established that this has undergone a fundamental re-evaluation in the light of the contemporary discourse on sustainability, it is appropriate to turn to the empirical section of the research. The policy review has demonstrated a gradual shift in policy towards statements that encourage local planning authorities to integrate land use and transport planning in order to reduce the need to travel. In addition, PPG 13 states that public reliance on the private car as a primary mode of transport should be reduced through a number of car restraint measures.

It is only at the level of implementation, however, that it is possible to fully evaluate the success of this policy shift. The previous chapter has developed a position that argues that there are a number of fundamental constraints on local authorities to successful delivery such policies. This chapter is intended as an evaluation of the viability of implementing this new transport approach using the Thames Gateway as an empirical case study example.

The Thames Gateway has been selected as a pertinent case study because its regeneration provides the rare opportunity to plan transport and land-use together through the development process on a wide enough scale to have a considerable impact. In addition, the

political will to deliver such a strategy in the region has been identified as a primary guiding principle within the Thames Gateway planning framework. A significant proportion of transport spending has also been allocated to this area of the South East over the past ten years in order to provide the necessary infrastructure to encourage inward development investment. It has already been identified, however, that traditional models of regeneration focus on a roads-led approach, which would implicitly suggest an increase in road traffic activity and thereby private car use. A key focus of this element of the research was, therefore, to appraise the transport policy recommendations of RPG 9A and analyse the extent to which they are consistent, at the level of implementation, with the transport planning guidance set out in PPG 13.

The best source of publicly available land use and transport planning documentation at the local level is provided by local authority development plans, and (in the case of transport planning authorities only) annual Transport Policies and programmes (TPPs). The research focused on Kent's and Essex's Structure Plans at the regional level of planning, the Local Plans of the six participating District Councils at the local level and the Unitary Development Plans of the eleven participating London Unitary Authorities. These local development plans are prepared on a ten yearly basis and detail the long term planning aims and objectives of local planning authorities, as well as their policies and programmes for implementation of these plans. The data generated from this analysis was used to identify the extent to which policies and were consistent with the principles of PPG 13 and RPG 9A and/or why and how they deviated from an integrated land use and transport planning approach, both internal to each plan and between plans. This evaluation was then extended to include the annually prepared Transport Policies and Programmes (TPPs) of the two regional and eleven unitary planning authorities (the District Councils are not responsible for the preparation of TPPs because they are not highway planning authorities). This enabled an overview of the current state of funding of proposed transport schemes, as well as projections of future bids and helped in the evaluation of the future outcome of individual scheme proposals. Finally, to provide an up-to-date "insider insight" into future plans and developments in the Thames Gateway, a series of interviews were held with local authority planning officers.

The evidence collected from these three primary data sources was then used in appraisal of a number of specific flagship development and transport proposals within the Thames Gateway. The conclusion of this chapter draws out the main conflicts, gaps and shortfalls between PPG 13 and RPG 9A at this local level of planning, the policy statement of the local planning authorities involved identified by this analysis and provides a number of causal and contextual explanations for these.

## 7.2 Analysis of transport polices and proposals as defined by Development Plans

The Thames Gateway planning partnership incorporates nineteen local authorities, split primarily between London and Kent with one authority in Essex (see Figure 3). The London end is represented by eleven London Boroughs, each having Unitary status. They are responsible for the production of ten yearly Unitary Development Plans and annual Transport Policies and Proposals.



Figure 3: Map of Administrative Boundaries of the Thames Gateway Planning Authorities

Outside London, the Thames Gateway comprises six District Councils, five of which are the regional planning responsibility of Kent County Council and one, Thurrock, Essex County Council. County Councils are responsible for producing ten yearly Structure Plans and annual Transport Policies and Proposals for their regions. District Councils within these regions, produce more area specific Local Plans also on a ten yearly basis.

It is recognised that a number of factors make comparative analysis between plans problematic. In the first instance, no one borough resides entirely within the boundaries of the Thames Gateway and several are included by virtue of only a small percentage of their total area falling within the identified boundary for the Thames Gateway. For this reason, the plans of some boroughs take on greater importance than of others due to the scale and level of redevelopment for which they are responsible. Secondly, the absence of a strategic planning authority for London creates an institutional planning imbalance between the London and Kent and Essex ends of the Thames Gateway, the former inevitably subject to a more fragmented approach.

Thirdly, the lengthy preparation time and different time scales of the plans mean that policies and statements may in some instances pre-date planning guidance notes concerned with transport and sustainability issues. Finally, plans were found to be at different stages of the central government registration process i.e. draft, deposit, adopted.

All plans offered statements of key strategic planning objectives to be operationalised through up to and beyond the year 2001, but these differed greatly in format, extent and content, ranging from a single statement indicating the over-riding planning approach to extensive summaries of the entire plan. At this level of strategic statementing, it was found that eleven of the eighteen authorities mentioned some aspect of transport management as a part of their key/strategic objectives. Ten authorities aimed to promote regeneration and or foster economic growth through redevelopment as a strategic objective and fourteen authorities made general references to sustainable development and/or protection and enhancement of the natural environment through the development process as part of their strategic objectives. A more penetrating analysis of the documents found that, although all plans included a separate section on transport that covered polices and proposals in more detail, these were also often presented using different styles and levels of specificy, e.g. some offered a set of general transport policy statements whilst others referred to objectives under the category of each mode.

In general, most boroughs used sustainable transport rhetoric, showed an awareness of environmental issues and were responsive to the planning principles outlined in PPG. All boroughs recognised to some degree the problems of congestion and pollution from road traffic in their areas and aimed to implement policies to reduce the problem, for example. Simultaneously, however, many authorities were still also promoting policies that ran counter to the sustainability aims of PPG 13, e.g. increases to road and/or parking capacity.

Some aspect of transport management was mentioned by eleven of the eighteen authorities as a part of their key/strategic objectives. Ten authorities aimed to promote regeneration and or foster economic growth through redevelopment as a strategic objective and fourteen authorities make general references to sustainable development and/or protection and enhancement of the natural environment through the development process.

# Figure 4: Thames Gateway Authorities' Strategic Transport Policy Objectives

POLICY	ТУРЕ	B E X L E Y	G R E E N W I C H	H A C K N E Y	H A V E R I N G	L E W I S H A M	N E W H A M	R E D B R I D G E	SOUTHWARK	T. H A M L E T S	W F O R E S T	THURROCK	E S E X C. C.	KENT C.C.	D A R T F O R D	G I L I N G H A M	G R A V E S H A M	R O C H E S T E R	S W A L E
Direct development towards locations where transport			~	~		~				~	~		~		~				
Minimise need to travel	LAND USE		-	~					~			-	-		_	-	$\square$	+	
Improve integration & use of public transport				~	~	~	~		~	7	~				~			╡	~
Introduce traffic management measures					~		~	~	~	~	~	~	~	~	~	~		7	
Reduce the adverse effect of road traffic		~						~	-									╡	$\neg$
Restrain car use	RESTRAINT	1	~				~											1	
Encourage removal of inessential freight									~										
Encourage priority road network for essential users					~	$\checkmark$			~			~					~		
Make fuller use of River & waterways for ransportation	INFRASTRUCTURE				~		~		~	~		~							
Provide an integrated transport system which is efficient and effective											$\mathbf{\mathbf{v}}$								
Provide adequate access for essential traffic and help foster commercial & industrial growth											~					~		~	
Support improvements to trunk roads					<                                                                                                                                                                                                                                                        			$\mathbf{x}$					~	~	~	$\checkmark$	$\mathbf{Z}$		
Overcome existing traffic problems through road improvements				~			~					~	~	~		~	~	~	
Oppose new roads											~								
Regulate parking		~		>												_			/
Ensure good levels of access & parking in new developments	PARKING				~							~			~				
Provide adequate parking within environmentally acceptable levels									~										
Optimise use of existing of existing transport network	ECONOMIC	~	~																
Maximise social benefits			~							$\checkmark$									
Improve environmental quality	ENVIRONMENTAL		~							<b>~</b>	✓						·		
Encourage use of public transport whilst discouraging use of private inessential transport			~				~												
Change public attitudes											~								
Improve safety and comfort of pedestrians and cyclists		~	~	~	~		~		~	~	~			✓	✓		~		/
Improve safety and comfort of disabled & less mobile	DISABLED						~												

Twenty-four discrete policy statement categories were identified within the strategic transport policy objectives of the development plans as illustrated by the matrix in Figure 4. It can be seen from the table that policies to improve the integration and use of public transport, improve the safety of pedestrians and cyclists and introduce traffic management measures were the most often recorded strategic transport objectives. Traffic management policies and improved integration and use of public transport were also popular policy statements. This appeared to indicate that, at the level of key transport objectives, a consensus exists between authorities that recognises the need to introduce a sustainable approach to transport planning in the Thames Gateway. Underlying this consensus, however, were policies that sought to make improvements to the capacity of existing roads and/or overcome existing traffic problems through road improvements. This approach appeared to run counter to the principles of reduced road reliance indicated in PPG 13.

It was noted that as policy statements became more specifically directed towards implementation strategies, they became less consistent both within and between plans. Policy differences were most often divided on a geographical basis, for example, Kent and Essex were strongly in favour of new road building schemes, seeing them as essential to the regeneration process. London boroughs were generally opposed to these schemes, however, because of their traffic generating potential and their extremely limited ability to increase the capacity of the road network, due to the density of urban form. Conflicts also emerged in the context policies directed towards town centre parking provision, with several authorities aiming to restrict provision whilst others, by contrast, aimed to increase it. This pattern was less obviously divided between London and RoSE authorities and more often a reaction to perceived town centre competition from an adjacent authority. The next level of analysis was concerned with more general statements of transport policy as contained in the 'transport' sections of the development plans. A second matrix was constructed and a further forty-eight discrete policy strategies identified and tabulated (see Figure 5). The statements that aimed to introduce traffic management schemes, support new rail schemes, improve public transport interchange facilities, support development of local cycle routes, introduce pedestrian facilities only/priority areas and take account of cyclists and pedestrians in new development, minimise environmental impact of traffic, support measures to discourage non-essential road users and oppose major new roads were seen as compatible with the aims of PPG 13. The statements that would tend to increase road traffic e.g. promoting the construction of, or additional capacity, on existing roads were taken to be incompatible with the aims of PPG 13.

Figure 5 demonstrates that the smallest number of authorities supported policies aimed directly at car restraint. Statements directed at increased car parking controls were also generally avoided. Policy statements in support of improvements to public transport, outside of the support for new rail schemes identified above, were generally not well supported either.

Policies to improve the integration and use of public transport, the safety of pedestrians and cyclists and to introduce traffic management measures were the most often stated. Twelve of the eighteen authorities included this aim as one of their strategic transport objectives.

## Figure 5: Thames Gateway Authorities' Transport Statements

POLICY	TYPE	BARK & DAG	B E X L E Y	GREENWICH	H A C K N E Y	H A V E R I N G	L E W I S H A M	N E V H A M	R E D B R I D G E	S O U T H W A R K	T. HAMLETS	W F O R E S T	T H U R R O C K	E S S E X C .C	KENT C.C.	D A R T F O R D	G I L I N G H A M	G R A V E S H A M	R O C H E S T E R	S W A L E
Promote construction of highways			~	~		~		~					~	7	7	7	7	7	オ	7
Provide additional road capacity on existing roads	1					~	~		_				~	~	7	7	1	7	オ	7
Design roads to meet future increases in traffic	PROMOTE					~			_				<		~				+	-
Encourage orbital routes/bypasses	ROADS			~		~			~							-1			-+	_
Provide rear access roads for service vehicles	1					~									_		~	-1	オ	-
Reduce development in areas without direct access to primary roads network	1		$\checkmark$				_											-7	$\neg$	-
Press DoT to provide traffic flow facilities	1				~												_		$\neg$	
Refuse development that would generate traffic above design flows			~			_			-				_					-	-+	
Make best use of existing infrastructure	ECONOMIC			~												-		-1		-
Developers to contribute to transport provision								$\mathbf{}$									~		オ	
Link major transport generators with current transport network			1	~				~		$\checkmark$									$\neg$	
Encourage implementation of an integrated transport strategy	TRIP REDUCTION											1				~	$ \uparrow$	-	-	
Locate new development to reduce length & frequency of journeys			1		1		~			$\checkmark$	~	~		~		-			-+	
Introduce traffic management schemes	TRAFFIC		7	~	~	~	7	~	<	$\checkmark$	-	$\checkmark$	~	~	~	~	~	-1	オ	$\neg$
Direct traffic away from traffic sensitive areas	MANAGEMENT							$\checkmark$			~					7	~		オ	
Prioritise road network away from cars											~				-	_			$\neg$	
Oppose major new roads	OPPOSE ROADS		-		7		~	~		~	~	~						-	-	
Make adequate provision for car parks						~			~				~	~	~	~			-+	
Provide additional car parking space at British Rail Stations	INCREASE PARKING		7			1		_				~				-			+	
Encourage parking on edges of town centre	FACILITIES								_						1	~				
Discourage long term parking in town centres									~						~				-1	
Introduce Designated Controlled Parking Areas	RESTRICT							~											-	_
Restrict new car parking provision	PARKING				~			~			$\checkmark$								1	
Control on street car parking			~				~	~		~	~	~	~		~					
Ensure all significant development is well located for public transport services											~	~				~			1	
Coordinate public transport provision	ENCOURAGE						7										1		7	$\overline{}$
Improve public transport interchange facilities	PUBLIC		1	7	7	7	~			~	~	~	<	1		7			-1	
Operate bus priority measures	TRANSPORT					~				$\checkmark$	$\checkmark$									
Plan for bus operators in new road design			1	1																
Reduce access to bus within 250m deficiency							~				<									
Oppose reduction in capacity of British Rail Network			1	~																
Support rail schemes				$\checkmark$	1	1	~	~		$\checkmark$	~	$\sim$	~	$\checkmark$	1	1		1		
Encourage alternative modes of transport to car	ENCOURAGE						~	<												
Encourage passenger travel by river	ALTERNATIVE				1	~		<		$\checkmark$			~			~				
Encourage community transport	MODES OF						~			$\mathbf{\nabla}$										
Encourage freight by rail	TRANSPORT							~		~	<				1					
Encourage freight by river				1	1	1		<ul> <li></li> </ul>			<ul> <li></li> </ul>		~							
Provide secure cycle parking facilities					1						~	1			~	1	~		1	
Support development of Strategic Cycle Route Network	IMPROVE		1		1			~	$\leq$			$\checkmark$								
Support development of local cycle routes	PEDESTRIAN &		1		1		1				-		~	1	<u> </u>	1	1		1	
Take account of needs of cyclists and pedestrians in new developments	CYCLE FACILITIES		1	1	1	1			~	-	~				_1		1		1	
Introduce pedestrian only/priority areas							$\checkmark$	$\checkmark$		~	$\sim$	$\checkmark$		$\square$			$\checkmark$	1	<u> </u>	1
Assess developments for trip generation	REDUCE										~								$\square$	
Reduce environmental impact of new infrastructure provision	ENVIRON- MENTAL											11			1			1		
Minimise environmental impact of traffic	IMPACT		7				7	~			7	7							-	
Support measures to discourage non-essential road users	RESTRAIN						~				~								1	
Refuse development for traffic generating purposes	CAR USE		-7		1		-								~				-	
Reduce need to commute through diversification and increase in local jobs base					1				~				~				$\Box$			

Another area of consensus was traffic management and again, twelve authorities aimed to introduce better traffic management programmes. Ten authorities recorded an aim to improve the integration and use of public transport. The popularity of these three statements within plans appeared to indicate that, at the level of key transport objectives, a consensus exists that recognises the need to introduce a sustainable approach to transport planning in the Thames Gateway.

Running counter to this approach, eight authorities offered policies that sought to make improvements to the capacity of existing roads and/or overcome existing traffic problems through road improvements. This approach appeared to be in conflict the principles of reduced road reliance indicated in PPG 13. From the matrix, it is possible to identify that both Kent and Essex County Council were still promoting increases to the roads network in their Structure Plans. This means that District Councils under their jurisdiction are by default also committed to this approach in their Local Plans. It creates a divide between the Kent/Essex approach to transport in the Gateway and the London approach where boroughs were seen to be more likely to promote a public transport led strategy.

It was noted that as policy statements became more specifically directed towards direct implementation strategies they became less consistent within each plan and often offered conflicting statements and displayed fundamentally different transport policy agendas in key areas relating to issues of sustainability between authorities. Differences in approach continued to be most often divided on a geographical basis, e.g. between London and Kent and Essex authorities. Conflicts also emerged in the context of parking provision, with several authorities aiming to restrict provision whilst others, by contrast, aimed to increase it. While these general policy statements were able to offer a flavour of the problems associated with integrating land use and transport planning both within and between authorities, further appraisal was needed in order to evaluate the extent to which policies were being implemented on the ground. It was found that, while all authorities had followed the directive of PPG 12 to include transport policy statements in their local development plans, none of the plans offered an internal evaluation of the transport implications of development proposals. This is a recognised general flaw within the restructuring of the planning process and became the focus of a scoping inquiry for the Royal Town Planning Institute early in 1997.

In order to establish the traffic implications of development proposals within the plans, it was necessary to painstakingly explore each section of the entire development plan (e.g. housing, leisure, employment) and loosely evaluate the transport implications of outlined proposals against current and planned transport provision. In many instances, apart from the general statements already identified, many of these transport sections contained few specific details of existing and planned provision and this information had to be obtained elsewhere (i.e. from TPPs, vision documents, OS maps, site specific plans, interviews with planners etc.). From this wider investigation it emerged that many of the proposed development projects put forward as part of the regeneration strategy appeared to run counter to the government objectives for sustainable land use planning within the capacity of existing infrastructure and service provision. For example, a number of sites were promoted on the basis of proximity to the M25 and/or the existing trunk roads network for access despite current levels of congestion and air pollution on these routes.
Transport Policies and Programmes (TPPs) offer annual updates on local transport strategies that cannot be included in development plans due to their current ten year life-span. Unitary Authorities and County Councils are both responsible for the preparation and submission to the DETR of TPPs, but District Councils are not required to prepare or submit TPP documents. The 1997/8 TPP submissions for the eleven London Unitary Authorities and for Kent and Essex County Councils were the most up-to-date documentation available at the time of this analysis.

All eleven London Unitary Planning Authorities and Kent and Essex CC's TPPs were referred to for the years 1995/6, 1996/7 and 1997/8. Several of the planning authorities, namely Hackney, Lewisham, Redbridge, Tower Hamlets, Waltham Forest and Essex CC, did not offer Thames Gateway specific policies and programmes at all. In the case of Hackney, Lewisham and Waltham Forest it can be surmised that because they are not involved in the primary Thames Gateway development programme and have relatively little land available for redevelopment they also have a minimum requirement for increased accessibility. Tower Hamlets also fits into this category once it is established that the main opportunities for redevelopment in the borough fall under the planning jurisdiction of LDDC who make independent plans for the Docklands. It was seen that the main focus for transport programmes in Essex was to the North and South East with no specific plans for Thurrock, this is in part a response to Thurrock's move towards Unitary Authority status. The schemes that were identified in the TPPs as either currently funded or seeking funding within the

#### Thames were:

<u>Roads</u>

- Dartford Northern Bypass and South Thames Development Route allowing increased access to Thames-side in Bexley, and Kent Thames-side development sites as well as providing improved strategic road links between the Kent and SE London ends of the Thames Gateway (public sector funded).
- 2. The A13 to Barking Reach and Rainham Marshes allowing access to 800 acres of development sites in Barking and Dagenham and access to land south of the railway for commercial development in Havering (public sector funded).
- 3. A102/M11 link and the Third Blackwall crossing to relieve congestion to Docklands and the Royal Docks (public sector funded).
- 4. Medway Towns Northern Relief Road improving access to development sites at Chatham Maritime, Gillingham Business Park and Rochester Waterfront and providing a link with the M2 (public sector funded).

It should be noted that the A102/M11 link road, the third Blackwall Tunnel crossing and the M2 link were all among those schemes rejected by the East Thames Corridor Task Force recommendations for the Thames Gateway.

# Public Transport

- 1. Jubilee Line Extension serving Bankside and Canada Water/Surrey Quays in Southwark, the Millennium site on the North Greenwich Peninsula and providing an interchange with the Channel Tunnel Rail Link at Stratford (predominantly public sector funded).
- Docklands Light Railway Extension to Lewisham serving Greenwich Town Centre and linking development sites at Creekside in Deptford and the Millennium site with Greenwich and Lewisham town centres and Docklands (private sector funded).

It should be noted that neither the recommended Woolwich Metro Link or local schemes to serve areas of development in the Thames Gateway are mentioned as bid items in the TPP documents, although initial proposals are made to scope some of these schemes at the London end.

# Other proposals

- Single Regeneration Budget bid 1995/6 to review all transport schemes at the London end of the Thames Gateway, examine the scope for funding and identify schemes suitable for private finance - leading to the development of a sub-regional transport programme (public sector funded).
- Development of a light transit system for the Thames Gateway at Havering riverside and Barking Reach with possibility of extension to Lakeside Thurrock (non-funded).

3. Development of a light transit system for the Thames Gateway at Kent Thames-side (nonfunded).

London Transport have produced a map which identifies not only all existing and proposed transport schemes but also demonstrates the expected level of development in each of the main areas of regeneration. This is the most comprehensive summary of the information that is available in development plans, TPPs and vision documents and has been reproduced here as a point of reference for the remaining sections of the chapter (see Figure 6).

All road and rail links identified on the map are already completed. It is expected that the Docklands Light Railway Extension will be fully operational by Spring 1999, the Jubilee Line Extension and the Channel Tunnel Rail Link by the year 2000. The Thames Gateway Metro, detailed in red on the map, is currently an unfunded scheme as are all "possible key feeder routes.

The map also demonstrates possible circular links between Dartford, Stone, Greenhithe, Swancombe, Northfleet, Gravesend and Ebbsfleet form the Kent Thames-side public transport network, discussed in section 6.4.10. In addition, nineteen major development proposals are identified for this central section the Thames Gateway, seven of which are north of the River Thames and the remainder on the south side of the River.



Figure 6: Map to show existing and proposed transport schemes as they relate to development proposals in the Thames Gateway

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# 7.4 Analysis of site specific plans

It would appear that, in the short to mid term, the majority of proposed developments in the Thames Gateway will be served primarily either by the existing transport system or by schemes which are already at their development stage. By the year 2000, the existing public transport system at the London end of the Thames Gateway will be greatly enhanced by the Jubilee Line Extension. The Extension will run from Stratford via Docklands to the West End and the DLR Extension to Beckton in the east and Lewisham in the South East. Given car ownership levels and existing levels of congestion on roads that are unlikely to receive increased capacity, it is reasonable to suggest that development at the London end of the Gateway will not significantly worsen present traffic conditions and may indeed serve to encourage further public transport investment in these areas.

At the Kent end of the Gateway there is a more pressing concern in connection with over reliance on the existing transport network. This is particularly pertinent in the Kent Thames-side area where development plans identify regeneration activity to be of a far more intense nature than elsewhere. Several major flagship proposals have been put forward, a number of which have already received planning approval and some of which are near completion. In order to better understand the transport implications of these individual development proposals in the Kent-Thames-side area, the research turned to site specific development proposals as outlined in the Kent Thames-side vision document (1996). This document identifies that at present over 17,000 people commute into the Kent Thames-side area, approximately 23,000 commute out to London and beyond and 13,000 to Bexley, Bromley and the rest of Kent. It is expected that new developments in the area will greatly increase travel into and out of the area as follows:

#### 7.4.1. The London Science Park at Dartford

Proposals for the Science Park comprise of four components in the area north of Dartford Town Centre; the Joyce Green Hospital site, Littlebrook Lakes, the Dartford Campus of the University of Greenwich and The GlaxoWellcome Foundation site. Plans for the complex are based on the principles of energy efficiency, good access by public transport, flexibility and robustness and innovation. It is proposed that the development will be mixed use, with housing, shopping and leisure facilities for students and staff provided on site. Plans also aim to ensure that the Science Park is fully integrated with the existing urban fabric of Dartford. A series of cycling, pedestrian and public transport routes that connect beyond site boundaries to Dartford Town centre, the GlaxoWellcome site and Crossways Business Park have been included in the development proposals. In their evaluation of transport provision to the site, David Lock Associates, consultants on the project, found that although national and international transport links with the area are excellent, poor local links to the national system and to Dartford Town Centre act as a constraint on access by public transport. The document states that realisation of a sustainable transport vision for the project rests on proposals for the Woolwich Metro being developed by Network South East, London Transport, LDDC and local planning authorities. Until these public transport proposals receive the funding recognition to make them operational, the London Science Park will rely on private car use as the primary mode of access (David Lock Assocs. Ltd, 1994). It is estimated that the science park could eventually generate in the region of 5,000 jobs on site and in the locality and will make provision for 10,000 students, 2,000 of whom will reside on site.

## 7.4.2 Crossways Business Park

95,000 sq.m. of this mixed use distribution and business development is already occupied. The development also includes two major hotels and the Dartford International Ferry Terminal, now referred to as Thames Europort. When completed it will provide a total of 281,000 sq.m. for mixed use development and is the largest single planned site of its kind in the UK. It is located close to the new Queen Elizabeth II Bridge just off the M25 and is currently only accessible by private vehicle.

# 7.4.3 Bluewater Shopping Centre

The development is modelled on a bigger and better version of Lakeside Thurrock and Meadow Hall in Sheffield. The 150,000 sq.m. of Bluewater Shopping Centre will contain over 300 shops, a multiplex cinema, a fitness centre and a number of restaurants. The centre is due to open in spring 1988, creating approximately 5,000 new jobs and will cater for thousands of visitors each day. Dartford Council hope that improvements to the A2 will ease traffic flows once the centre opens and are currently negotiating a designated bus route to service the development with Kentish Bus.

## 7.4.4 The Ebbsfleet Framework

Ebbsfleet Valley has been identified as the location for the CTRL International Passenger Station and accompanying Urban Village and is seen to provide a particularly important focus for the regeneration of North Kent. Planners hope to be able to develop the area in a manner that will ensure both its environmental and economic sustainability over the next twenty to thirty years. In transport terms, this includes an aim to use Ebbsfleet as a counterbalance to the current demand for central London based commuting, by encouraging new local employment initiatives. Dartford and Gravesham Borough Councils together with Kent County Council adopted a series of objectives for Ebbsfleet Valley in November 1994 which include:

- a fully integrated International and Domestic Passenger Station complex
- convenient road, rail and bus interchange facilities
- hotel, conference, retailing, exhibition and leisure facilities
- business development
- new housing

Planners intend to integrate this development with existing developments and other local areas of regeneration through the provision of two new major roads; the South Thames Development Route and an east/west route linking Ebbsfleet with Eastern Quarry and Bluewater Shopping Centre. The document states that, even with this additional capacity, the roads network will not be capable of meeting all the travel needs of the Station and believe that development levels will be reduced if reliance is placed on access by private car. For this reason, they are promoting development of the Thames Gateway Metro public transport concept.

The Rail Link Bill has already made provision for 9,000 car parking spaces on land adjacent to the Station. This is likely to be split between 6,000 international long stay spaces and 3,000 domestic short stay. Planners hope to divert the Rail Link promoter from a surface car parking option, which they believe would make it difficult for Ebbsfleet Station to realise its full potential as a new commercial centre, and suggest alternative arrangements be made:

- segregation of international and domestic parking onto different sites
- enhancing public transport provision to reduce the need to drive
- using a multi-storey option for domestic parking
- locating international parking facilities away from the Station closer to the A2
- reducing car parking demand through pricing policies

Despite these proposals for reducing reliance on the private car, planners have calculated that public transport trips, currently representing 20% of total trips, will need to double by the year 2020. A large part of realising this aim will depend on strategies for changing public attitudes towards transport. It is a requirement of the document that all future developments in the area provide a travel assessment showing the volume of movement, the extent to which the existing network can accommodate this movement and proposing ways in which any excess demand will be catered for. Residential developments should cater for a parking standard of one space per dwelling, with visitor parking allowances in a multi-storey facility. The area will be planned in a manner that will encourage cycling and walking. In the short term, buses will continue to provide the only viable public transport alternative to the car (Dartford & Gravesham BC & Kent CC, 1996).

# 7.4.5 Eastern Quarry

This is one of a number of partly disused sites from the activities of Blue Circle Cement. It is planned for predominantly residential use in the long to medium redevelopment programme of the area. Current access to the site via Southfleet Road is limited.

# 7.4.6 Greenhithe Waterfront

The area available for development stretches for approximately one and a half miles along the bank of the Thames. A mixture of residential and business uses are being proposed for the area including a new urban village which links with parts of the Swanscombe Peninsula. Currently public access to the area is very limited, with sole access via the A226 London Road.

#### 7.4.7 Swanscombe Peninsula

At present much of this area is for farming and extraction uses, with two point limited access via London Road. The area is planned as the location for a new urban village of approximately 3,000 residents.

# 7.4.8 Northfleet Embankment

The area is currently dominated by heavy industry including the Scotts Paper Mill, a Blue Circle Cement extraction site and the former Northfleet Power Station. A section of the South Thames Development Route was completed in the area in 1988 and now provides the primary access route. The local authority recognises that redevelopment of this area will be gradual. It is planned primarily for residential development.

It is clear that all eight of these key developments will be major trip generators either as a function of local residents' and employees' travel or of visitors coming into the area to take advantage of facilities and amenities. By the year 2020, 15,000 new homes and an estimated 60,000 new jobs are planned for this section of the Gateway. Presently the proposed development areas are accessible almost solely by private motor vehicles. Development plans and TPPs identify that a number of new roads and improvements to the existing roads network have occurred over the past ten years. Despite this, it is expected that the extra road space that these improvements provide will be at the level of maximum capacity by 2011. For this reason, planners state that the success of the development proposals identified for the area is highly dependent on two major public transport proposals. These are identified as the Woolwich Metro Link and the Kent Thames-side. It has already been noted that neither scheme is funded to the present time.

#### 7.4.9 Woolwich Metro Link

London Transport produced a project definition document for the Woolwich Metro in January 1997 (see Figure 8). It offers the idea of a tunnelled rail crossing which would link the North London Line from the Royal Docks in Stratford with the North Kent Line at Woolwich Arsenal. This would make it possible to run new services across the Thames. The core service would provide six trains per hour between Stratford and Abbeywood and could be extended to Dartford with some additional work, thereby, linking Thames Gateway developments in East London with those in the Kent Thames-side area. The funding analysis of the scheme, has demonstrated it to be non-self-financing, however, and external funding or a public grant would be necessary. The scheme is highly dependent on the Government's River Crossings strategy. Given continued government commitment to the scheme, London transport state that it could be operationalised by 2003/4 (London Transport, 1997).

# 7.4.10 Kent Thames-side Metro

In recognition of the Government's emphasis on partnerships between the private and public sectors as the successful way forward for the regeneration of urban areas, the Kent Thamesside partnership was informally set up in 1993 to formulate a planning strategy for the Kent. It comprises Dartford and Gravesham Borough Councils, Kent County Council, the University of Greenwich and Blue Circle Cement, who work together with David Lock Associates on specific projects and issues connected with regeneration. Together they have developed a vision document that includes a strategy for transport, based on a public transport led model. The document finds that unless positive action is taken to reduce the demand for car commuter journeys to London, the vision of a sustainable future for the Kent Thames-side area will not be realised. The document stresses the need to plan land use and transport systems together and to provide employment and leisure facilities closer to where people live. In order to reduce reliance on the private motor car, the document advocates preparation of an integrated transport strategy based on less need to travel, more journeys by public transport, the promotion of local facilities and high quality public transport interchange facilities. It recommends that this should be combined with a set of policies that encourage use of public transport and discourage unnecessary use of the car. In order to achieve these objectives, the document offers four public transport aims in the area:

- significant upgrading on existing rail lines
- a new system of modern trams
- a comprehensive feeder bus network
- high quality transport interchange facilities

In addition, it is stated that planned development should be focused on the public transport network and the document emphasises the need to plan new developments with public transport access in mind from the outset. No funding is available for these proposals at the present time.

#### Summary

Analysis of local authority documents held within the public domain demonstrated that the rhetoric of PPG 13 had largely been adopted within the transport statements embodied in development plans, however, a number of statements were identified which were in direct contravention to the principles of PPG 13. In addition, conflicts were identified between the policy statements, and between the transport strategies of the individual authorities.

At the level of implementation, it has been possible to identify that the policy principles for integrating land use planning and transport in the Thames Gateway, although often outlined in vision documents were often not being secured in practice. The outcome of this is that major traffic generating developments are being brought forward in the absence of corresponding public transport services in areas that are currently accessible almost solely by private motor vehicles.

It was, however, difficult to determine from the available documentation, why planners should be following such a strategy. In order to try and develop a causal and contextual understanding of this apparent conflict it was considered necessary to speak directly to the planners and developers involved. The following chapter is a report of this fieldwork exercise.

# **CHAPTER 8**

# Causal and Contextual Explanations for the Conflict between Policy Rhetoric and Policy Action

#### 8.1 Introduction

Having identified conflicts between the principles of PPG 13 within and between the planning strategies and programmes of individual local authorities within the Thames Gateway, semi-structured interviews were conducted in order to develop contextual and causal explanations for this. Over a two-year period fourteen representatives from key organisations identified as highly involved in transport policy-making, planning and development process within the Thames Gateway, were approached and interviewed. Interviewees included one representative from the Government Office for London (GOL) and one for the Government Office for the South East (GOSE), the chief transport planner for Kent County Council (KCC), transport planners from four local authorities, two transport consultants, a planning manager from a major development investor in the region and a planning manager from a major local employer.

These organisations were chosen because it was felt that their views would reflect the most up-to-date thinking on transport planning in the Thames Gateway as it relates to development and regeneration from as broad a perspective as possible. The interview questions were developed to explore the main findings of the policy analysis and thus provide the theories and arguments that were evolving from the research with additional validity. The data would also be used to offer some causal and contextual explanations for analytical outcomes.

The main points arising from these interviews are reported in an order which follows the hierarchical structure of the transport planning system (i.e. beginning with the regional policy makers and policy advisors through regional planners, local planners, planning consultants and ending with representatives from the business community) and not necessarily in the order they were conducted. Where it seemed appropriate to do so, interview questions were restructured and updated in the light of the new evidence gathered during the fieldwork exercise.

It became clear from the outset of the interview programme that planning in the Thames Gateway has been divided between Kent and London (also incorporating Thurrock), although in recent months this divide has begun to breakdown with the entry of Dartford Borough Council into the Thames Gateway London Groups Partnership. For ease of reporting this separation between Kent and London has been maintained. Further discussion of the constraints of this divided approach in terms of planning a strategic transport plan for the Thames Gateway is offered in the concluding section of this chapter.

#### 8.2 The Government Office for the South East

At the highest level of transport planning within the Kent end of the Thames Gateway region, GOSE is responsible for the overall policy direction of strategic transport in the South East. At the opening of the interview, issues relating to RPG 9A and potential conflicts between regeneration of the Thames Gateway and the sustainability principles outlined in PPG 13 were raised. From the outset, GOSE made it clear that policy-makers are still coming to terms with changes in the transport planning paradigm,

"To some extent we're finding our own way at the moment in the light of considerable changes in transport ...... there has been a perceptual change in government policy over the last few years and we are still coming to terms with that. We know what we want to do but we don't yet know how to achieve it."

In terms of the Thames Gateway GOSE, saw its role as working in partnership with organisations in the Kent end of the region, e.g. Kent Thames-side, and were particularly concerned about the effect of development on the trunk road system in the area. GOSE expressed agreement with the suggestion that, broadly speaking, current development at the Kent end of the Thames Gateway were anomalous with the principles of PPG 13, partly as a result of past planning decisions and legislation,

"You have planning permission running around the system for out-of-town shopping centres which you can do nothing about because you cannot apply these things retrospectively ...... There is a debate going on about Ebbsfleet and its car parking facility, however, it is not a debate the government can get directly involved in ..... we have already committed ourselves to the car parking, having worked out the legislation for that sort of thing"

It was implied that for other reasons, GOSE confirmed government commitment to

developing the public transport system in the region, however, and did not rule out the possibility of government funding for new public transport infrastructure projects such as the Kent Thames-side Metro. It was made clear that this would be dependent on joint funding initiatives with the private sector.

The role of Blue Circle Cement, as a primary landowner and developer in the Kent Thames-side area, was emphasised as of fundamental importance to development and transport provision. This was highlighted in two ways, firstly, the influence which the company has over the way in which land is being developed and their intimate involvement in the planning process and secondly, their potential as a key investor in the area.

GOSE did not see itself as having a direct role in shaping transport at the local level and made it clear that local authorities should act as the innovators of solutions to the transport problem. It was suggested that the package bids approach to local transport could offer a solution in terms of increased provision, but that values underpin their success,

"To what extent are we prepared to make changes which can help us to fight the battle of air pollution but will reduce your personal mobility?".

Road pricing was mentioned as a possible way forward, but was offered as problematic for technical reasons and also because the effects it would have were unknown.

#### 8.3 Kent County Council

At the next level of transport planning in the Kent end of the Thames Gateway are KCC, who are responsible for implementing transport policies set at the strategic regional level. The interview KCC took the form of an information gathering exercise and so questions were asked informally, often with reference to maps and other documentation immediately to hand, about a transport strategy for the Thames Gateway.

It was apparent from the interview that, although public transport is on the policy agenda for the Kent Thames-side area, KCC are still following a predominantly roads-led approach to solving problems of access and mobility in the area. It was explained that KCC see the Thames Gateway at the Kent end as divided into three separate sectors for transport provision, Kent Thames-side, the Medway Towns and Swale. In Swale and the Medway Towns roads represent the future transport model for the area and have been designed to meet predicted trends in traffic growth up to and beyond the year 2000. KCC consider that roads are also important in the Kent Thames-side area, with new developments and regeneration heavily reliant on the South Thames Development Route but it is hoped that a high quality public transport system will supplement the roads network. KCC feel that the problem with funding new public transport projects to serve the area at the moment is that development intensity is insufficient to justify the cost.

"We have the Union Metro proposal but it would cost millions just to extend the line out to Ebbsfleet and that money is not available from the government any more and private finance is very reluctant to get involved" This statement contradicts the position of GOSE who appeared to believe that public funding could be made available for such a scheme provided it was on the basis of a joint initiative with the private sector.

Despite the rhetoric of support for public transport improvements in the Thames Gateway, it was made clear that KCC believe that regeneration of the Thames Gateway is not possible without new road building and in the short-term the primary mode of access to new developments will be by car,

"There is a Catch 22 if you like, the Thames Gateway needs development at any price and so what the developers want is what they get. Planners could refuse but there is the risk of appeals and loss of business. The more development is planned around the roads, the more difficult it is to offer any viable alternatives to the car"

# 8.4 Dartford Borough Council

To represent the transport planning position at the local level an interview was conducted with the chief planner for Dartford B.C. who are jointly responsible with Gravesham B.C for planning the Kent Thames-side area of the Gateway.

Dartford appeared to be following a two pronged approach, reducing the need to travel by planning for mixed-use development wherever possible and introducing new public transport access to development sites as part of the development process. One of the main problems to the introduction of more sustainable alternatives to the car was seen to be public attitudes,

"We've got two generations of people whose mentality is to go out of the house and get into the car, kids today don't walk"

The problem is conceptualised as two-fold, commercial and behavioural. On the one hand, planners can develop new car-free cities that encourage walking but wonder whether will people be prepared to abandon their cars for this new and safer environment and whether the policy will be commercially viable. On the other hand, they hope that if you offer people the opportunity to locate their home/work/ leisure activities in close proximity to each other they will choose this option rather than continue to live and work in different locations. Dartford BC believe that, at the present time, local residents have a poor awareness of transport related issues. Publicly available documents may create some level of awareness but it is difficult to generate further publicity when the nature and extent of future public transport provision is still so uncertain,

"Once we have a transport strategy in place we will be able to sell that concept to people and to business and prospective inward investors and convince them that it will work, in the sense that it doesn't gridlock every Monday morning at 8.30"

Dartford BC evidently take the issue of public transport provision very seriously, opting for higher housing densities on sites in the Gateway, in the hope that such developments will be more amenable to public transport. They have managed to secure Single Regeneration Budget funding for a feasibility study on the Union Metro proposal and have already safe-guarded transport corridors for this purpose on a number of sites, e.g. Bluewater Shopping Centre, London Science Park. Dartford BC see the provision of a high quality public transport system as essential to the regeneration process because it will allow for greater scale of development and will be more efficient at sustaining growth. In order to encourage public transport provision to Bluewater Park, they have negotiated a deal with Blue Circle Cement and Kentish Buses whereby all employees will travel to and from the site by bus. Effectively this provides the core of a public transport service and has meant that Kentish Bus have been prepared to buy fourteen new buses on the back of the deal which can then be used to run a shoppers service to the site.

## 8.5 David Lock Associates

David Lock Associates (Planning Consultants) have been commissioned by the Kent Thames-side group (a partnership between Dartford and Gravesham local authorities, the University of Greenwich and Blue Circle Cement) to carry out a study on Ebbsfleet International Passenger Station from the point of view transport and its relationship to the Kent Thames-side area. It is from this study that the Union Metro idea first emerged, with the idea of building upon the very localised impact of the Channel Tunnel Rail Link (CTRL) and providing loops and feeders to draw other new developments in the Kent Thames-side area into a public transport network. During the interview with a representative from the organisation, it became clear that Blue Circle is a lead player in this approach. David Lock Associates saw them as unusual as a company in the level of commitment they show towards planning issues in Kent. In part this is a result of an adopted long term strategy that recognises that in order to maximise the value of their land holdings in the area they must be proactively involved in plans for regeneration in the region.

David Lock Associates place the role of CTRL in the broader context in terms of strategic and local public transport services, focusing on the domestic aspects of the service provision. Currently the focus of the line is on international travel, but Connex South eastern have won the franchise for domestic services on the line and the Bill allows for time tabling for a certain level of domestic service in the future. David Lock Associates have estimated that approximately eight domestic train paths can be scheduled, allowing for a shift of passengers from the currently over-crowded North Kent Line onto CTRL during peak travel times and additional stopping services through parts of the Thames Gateway. With the addition of loops and feeders into the service, extra future provision could have an impact on adjacent areas such as Thamesmead and Woolwich.

London Transport, in collaboration with the London Docklands Development Corporation, is also currently investigating the possibilities of a new public transport link crossing the river at Woolwich. This would help to integrate services between the Kent and London ends of the Gateway by picking up on a high speed interchange with CTRL and also by linking in with new growth areas in the Thames Gateway transport corridor.

David Lock Associates made it clear that developers at Bluewater Shopping Centre are all too aware of the need for and values of an efficient public transport network to service the site, "How many more people could you add into it (Bluewater) and over a period of time the drive time being eroded because the road system gets congested, but its catchment can be extended because it has an international passenger station which is also an hour from Lisle .... with a short localised link"

One of the points that David Lock Associates emphasised in the interview, however, was that public transport access to an area does not guarantee its success. They felt that it is still unclear the extent to which public transport investment can stimulate the local and regional economy of localities, quoting examples of areas where despite adequate public transport access regeneration has failed to occur. This position concurs with the criticisms of this approach arising from the theoretical analysis of policies offered by this research.

On the subject of financing new public transport projects, the general feeling was that there was still some way to go before private finance would be forthcoming on such initiatives. Companies still have a problem with issues of competition and efficiency when comparing public transport to private cars and often do not see a role for themselves as transport providers. At the present time, many companies in the area have not been forced into a position where staff access to the workplace is a problem. In the longer term, it was felt that companies would come to recognise the importance of public transport from a position of self interest and as the effects of the sustainability debate filter through into company policy, issues of transport would become an accepted norm as part of company policy.

#### 8.6 <u>GlaxoWellcome</u>

The interview with the estates manager of GlaxoWellcome provided a good illustration of a major employer in the Kent Thames-side development area who felt that neither issues of regeneration or future transport planning directly concerned their policies or operations. In this way the interview served to reinforce the views of David Locke Associates. In terms of transport, the company's main aim was to create a link between the workplace site and the Dartford Northern Bypass in order to avoid the town centre. From a commercial point of view, it was argued that the emphasis should move away from major road building and towards link roads from the primary road network to commercial sites in the area.

GlaxoWellcome did not envisage a time when it would become a major financial contributor to transport provision, except in terms of paying tolling charges to use the roads network or to provide access roads to company sites. Most of the workforce do not currently travel to work by public transport, despite the proximity of Dartford Station to the work-site, and it was considered unlikely that future services would cater for this group,

"We are the biggest employers in Dartford and we've only got 2,500 employees ..... in order to make significant differences to public transport you are going to need an awful lot of money and even our company is not going to be looking for those huge constant transport systems ...... they might make some contribution towards them but they would have to have some benefit for their employees" It was clear that GlaxoWellcome see themselves as a multi-national company located in the region and drawing its workforce from it but not actively involved in it. From this perspective, local transport and development issues were generally conceptualised as outside of the policy remit of the company and the impression was that if things got too bad they would simply relocate.

## 8.7 <u>Blue Circle Cement</u>

The interview with Blue Circle Cement came from a diametrically opposite position, in that they very much conceptualise themselves as a company with a history and a future in Kent. The position of GlaxoWellcome is, therefore, quite different from that of Blue Circle, who are clearly more actively involved in the day to day planning activities of the Thames Gateway. Inevitably, their interest is not purely altruistic, with over 2500 acres of land holdings, most of which are in the Thames Gateway and representing approximately 70% of the administrative area of Dartford, their involvement is at least in part based on self interest. Their head of planning and development was keen to point out, however, that this interest stretches beyond that of straight forward profitability, the changing structure of the workforce and the nature of employment in the area also has an influence on their pro-active approach.

The interview identified that until the early 80s Blue Circle saw land as a waste product of its industrial processes. The company decided that, as a result of the scale of their land holding and the changing nature of the production process, they had to take a more planned and long term approach. As a result of this decision, the 1980s were spent putting together policy at the Structure and Local Plan level to enable the company to safeguard its future up to and beyond the next century and signified an abandonment of the traditional corporate short-termist strategies of many large industries.

Blue Circle like to think of themselves as having a good relationship with the local planning authorities in their area, which has developed from an interactive relationship built up over the past ten to fifteen years. In some respects, they feel that the time-scale and boundary constraints imposed upon the local planning system frustrate their long termist approach.

"For instance, we tend to take a twenty to thirty year view of our land holdings ..... (some planning authorities) ...... can find that quite threatening because they tend to deal with a world where the borough stops at the borough boundary and a world where planning stops at 2010/11, wherever their horizon is, and we are sometimes beginning to talk to them about long term dreams and aspirations...... and they say 'we can't really talk to you, we don't know how to talk to you because it's not in our local plan"

The issue of planning across administrative boundaries re-emerged in reference to the London end of the Gateway. The company position is that artificial boundaries are being created in terms of a planning a strategic transportation system for the Gateway between London and Kent Thames-side by the planning system. They find it difficult to see how people can be successfully persuaded to leave their cars at home when even sectoral planning has boundaries that stop at a certain administrative line. It is hoped that in the near future GOL and GOSE will work together to close these boundaries so that Dartford, which is only fifteen miles outside of London, can be better integrated with the capital's public transport network. It is the belief of Blue Circle that this is the only way the Thames Gateway can really work on a sustainable transport basis.

Another frustration for Blue Circle from a planning perspective, is the time lag on determining planning applications. Their aim is to have developments ready in time for the opening of Ebbsfleet Station in 2001/2, this allows only six years to establish planning, build, provide infrastructure and occupy developments. Blue Circle's commitment to providing non-road based transport to and from developments further complicates the process and in part explains their eagerness to move forward on the formalisation of plans for the area.

When asked why they are so prepared to consider a financial involvement in the provision of public transport in the area, their spokesperson explained that although transportation is an important issue it is only one element of what they are trying to do in North Kent.

"The other thing that's never been done before really is to carry out a development (Kent Thames-side) on this scale in the area of sustainability...... your question has to be seen in the context of that uniqueness ..... you then move on to ask a different question, how does Blue Circle emerge in that context. Well I suppose there are two elements, one is if there is a business to be made out of public transport, then quite clearly it is something as a private sector animal one could consider it as a business...... The second element is....... you could say the development will contribute to a significant element of a transportation package, so then Blue Circle is implicitly involved in the provision of transportation." The company felt that unless commercial development in Kent Thames-side is taken forward on the basis of an efficient public transport network it will be physically constrained in its ability to trade in the long term. The level of transportation growth in the area can not be accommodated by the road network and the intense competition from other regions means that transport efficiency in the longer term could influence the level of inward investment into the area. In terms of sustainability though, it was felt that the scale of new development is relatively insignificant in its potential contribution to modal shift from cars to public transport. They argue that, from this point of view, it is the existing population that is more in need of new public transport infrastructure than new comers to the area.

"This is something that is lost sight of, you've got an existing population with needs to travel in an area that's relatively difficult to travel and we need to look at that situation as well as the new situation"

On questioning, public attitudes were seen as an area of potential future concern, in that it was felt that while people broadly recognise traffic congestion as a problem they are reluctant to give up their own car use. The opinion was that public transport is not always a desirable option and that unless a higher quality of service is offered people will be unwilling to make the necessary modal shifts. Time and cost were considered to be the two primary factors in determining people's modal choice but, in the case of buses, issues of information and social acceptability also emerged possible deterrents.

#### 8.8 Government Office for London

Moving to the London end of the Thames Gateway, GOL represents the policy making head of the hierarchy in terms of transport planning. It had been made clear in the interview with GOSE that, although there is now some interaction between departments on transport planning issues relating to the Thames Gateway, no formal structure exists for collaboration between the two Departments and consequently each largely operates in isolation from the other. Each Department is, however, informed by the same Central Government policy guidelines and, therefore, follows a similar strategic approach to regional transport planning issues. For example, GOL also broached the subject of road pricing as a possible solution to congestion. The Department's position is that the political implications arising from the introduction of such measures could be potential suicide at the present time and that other lower cost measures for controlling car use are the preferable way forward. The suggestion was that local authorities should be proactive in initiating locally appropriate measures such as increased parking charges. GOL felt that did this particular approach would not be appropriate in areas of regeneration.

One of the main problems for planners aiming to open up new areas for regeneration in London was cited as river crossings. It was felt that more river crossing would spread the load across the network and avoid unnecessary trips between bridge thus easing congestion. When questioned as to whether this increased capacity to the road network would serve to encourage more cars onto the roads it was stated that this could be controlled through the introduction of tolling, charging people indirect proportion to increased time-savings. Given the respondents earlier statement which questioned the viability of road pricing, it would appear that a contradiction is occurring between theory and practice at this primary planning stage.

GOL took the position that roads and public transport cater for different markets with different objectives, both equally important to the regeneration process and thus it is equally necessary to improve the infrastructure of each.

"I think there has to be a recognition that you can't just say 'you can't have one, only the other'. It doesn't work like that because people have to have choices, unless you completely remove the choice of people having a car and being able to use that car, then you can't solve the road problem overnight....... What we are looking for is to produce the balance, so that people use the car when they need the car but they have a viable choice in terms of a public transport system."

The issue of the planning time-scale was referred to as a problematic factor in the introduction of a more sustainable and integrated system, in that transport planning usually works on a five year basis, whereas permission for, for example, housing usually only takes two years. This was offered as the primary explanation for present development in the Thames Gateway, which is currently being driven forward using the existing trunk road network as a result of this imbalance between transport and land use planning timescales. GOL felt that in the future the introduction of a number of major public transport projects currently in their planning or construction stages would serve as the predominant form of access to new developments at the London end of the Gateway, e.g. the Jubilee Line Extension, Docklands Light Railway Extension and the domestic service on the Channel Tunnel Rail Link. It was felt that these new services would prove successful in turning the

development focus away from the roads network and have also have a strong influence on reducing private car use. It was pointed out that, in the longer term, London Transport are carrying out a series of twelve corridor studies into intermediate modes which focus on interchange facilities and gaps in the current public transport network which could be acted upon. In general terms, GOL's position was that on the basis of recently recorded trends, London was unlikely to see a great deal of increased traffic growth and there would in fact be a gradual slowing down of new traffic on London roads in the future.

The main problem in London was seen to be with local short, inessential car trips and changing the way people think about travel. Parking was also seen as an important issue in Central London but not in the Thames Gateway where being able to use a car to travel to new developments was cited as one of the instruments for encouraging the regeneration process. It would appear, therefore, that the Thames Gateway is allowed to reside outside of the policy remit of PPG 13 as a "special case".

# 8.9 London Planning Advisory Committee

The second interview in London was with the transport advisor at the London Planning Advisory Committee (LPAC). LPAC have no legislative powers or policy making status but are responsible for liaison with London planning authorities and to offer advice on government planning guidance to these authorities, reporting back on concerns and issues arising from national policy.

In the interview questions were asked with direct reference to the LPAC Planning

Strategy for London (1994). In this document, LPAC take the position that there should be no new road building in London, areas of regeneration are, however, excluded from this policy position. It would appear that this position is informed by developer responses to PPG 13,

"When I speak to developers about PPG 13 they say that before they would accept its guidelines they would prefer to use up all their prior commissions or refurbish current holdings or failing that move out of the country or even out of the business. They are really not in favour of measures to reduce car use."

LPAC are critical of the transport approach advocated by the Thames gateway Planning Framework because identified development sites are poorly served by public transport provision. They point out that even where proposals for public transport schemes do exist, they are, in the main, unfunded. This means that access to main development areas in the Gateway is generally poor and virtually impossible by public transport e.g. the Royals, Barking Reach, Havering Riverside. Where new mixed development sites are proposed, LPAC is not optimistic about the effect that planning land use and transport together in this way will have on car use. The suggestion was that development, housing, leisure and shopping schemes would be secured well before commercial schemes. The implication of this was that the primary aim of reducing the need to travel would be lost as new residents would be unable to carry out home/work activities at the same location and traditional commuter travel patterns would be well established before work would become available locally. For this reason, the LPAC position is that more direct measures need to be taken to control use of the car in London, reaffirming road pricing as a primary issue. Concern was expressed that the government had failed to positively respond to the consensus opinion of London planning authorities on this issue. It's usefulness was seen not only in terms of controlling congestion but also as a way of raising capital to cover the short-fall in government investment into public transport and other facilities for alternative modes of transport to the car.

At the level of local planning, transport planners from three London planning authorities were interviewed, Greenwich, Lewisham and Redbridge. Interviews had been sought with all the London Boroughs participating in the Thames Gateway London Groups Partnership but the remaining authorities declined on the grounds of time limitations. Reported evidence can therefore only provide a flavour of the transport issues arising from the Thames Gateway at the local level, but have been included as useful for exploring some areas of specific concern.

# 8.10 London Borough of Greenwich

The London Borough of Greenwich is heavily involved in transport planning at the London end of the Gateway. This is partly due to the position of their chief transport planner who is also chair of the Thames Gateway London Groups Partnership Transport Sub-Committee and partly because of the relatively large area of land earmarked for redevelopment within its administrative jurisdiction. The Council considers regeneration and public transport development as complementary policy areas and are generally opposed to road building as a solution to current traffic congestion problems in the borough. Both Greenwich and Woolwich town centres suffer from their individual transport problems, in Greenwich it is identified as principally that of through traffic. The Council is still in favour of the by-pass option, believing that would allow through traffic to be diverted from the town centre and enable it to be closed to cars. At present the government does not plan to fund the cost of this and, therefore, plans have been put on hold.

The main constraints on introducing more sustainable transport systems were identified as being the lack of a co-ordinated approach and fragmentation of the system resulting from privatisation of services. It was felt that this approach encourages a focus on individual service issues and detracts from broader and longer term strategic objectives for London as a whole. Air quality was used as a way of illustrating this point,

"It's not just a local issue that's the problem, you can't resolve the problem of air quality just by moving the traffic around, (you) move the problem around that is all ...... it needs to be looked at as a sectoral problem and not just as a matter of shunting traffic from one place to another"

Public attitudes were again highlighted as an important factor in the introduction of more sustainable mobility,

"The public perspective is certainly moving away from roads, there is no question about that, to more sustainable networks, greater concern for environment, but when it then comes to specific proposals there is always going to be an issue in terms of direct personal impact"
It was suggested that it is the role of local planning authorities to deal with this type of public reluctance through brokerage. Greenwich are optimistic about future transport trends, it is felt that the Jubilee Line and Docklands Light Railway Extensions will have a radical effect on local travel patterns.

In the short to medium term the Millennium Exhibition is likely to have a significant impact on Greenwich and other surrounding areas. Colin Buchanan & Partners were commissioned by Millennium Central Ltd to develop a transport plan for the Exhibition which received approval in Spring of this year. An interview with one of their consultants was obtained just before the document was made publicly available, he explained that the plan is specifically aimed to follow the principles of sustainability and the idea that visitors should travel to the Exhibition by means other than the private car. It is expected that the high profile nature of the project will mean that funding will not prove problematic and will act as a flagship for private finance public transport initiatives. Nevertheless increased traffic on major approach roads to the Greenwich Peninsula is likely to have considerable impact on the wider area over the eighteen months that the Exhibition runs. Coaches alone will account for a considerable proportion of increases traffic into the area with more than 30 per hour expected to arrive via the M25 and A2 through the Blackwall Tunnel. In addition many of the car parks are located in areas of London which will encourage car use into central areas and/or where there are already severe congestion problems throughout most of the day. This suggests that while the site itself may be sustainable in terms of transport access, its traffic generating effects will have considerable implications for other areas. It could therefore be argued that the Millennium Site Transport Plan reinforces arguments made in the LB Greenwich interview that sustainable transport cannot be on a site-specific basis. These criticisms were confirmed in an interview with the chief planner for Lewisham, whose administrative boundaries border Greenwich at several points in the area's strategic transport corridor.

#### 8.11 London Borough of Lewisham

The L.B Lewisham confirmed the traffic problem likely to arise from the Millennium Exhibition as a major cause for concern. They feel that despite the economic advantages to their area the Millennium Exhibition will bring, who see the proposals for a Park and Ride car park at Catford Stadium as representing a contentious issue,

"Cars shouldn't be coming that far in and there should be a cut off point at the M25. The authority has made its views know to the consultants, we're not in favour of that proposal, the roads are too narrow and congested."

In general, through commuter traffic from the A2 is seen as the borough's main traffic problem. In consultation with local residents, the borough has found that people are not in favour of increased road capacity. The Council claim that physical barriers often prevent the introduction of a new roads hierarchy that would facilitate the demarcation of new bus and cycle lanes in the area and encourage less use of cars. The long lead in times of new public transport schemes are also seen to act as a constraint on the encouragement of more sustainable transport strategies. In the absence of viable alternative modes the council feels under pressure from local traders to maintain high levels of car parking provision in the town centre. Finding the financial resources to make local traffic management improvements was also identified as a problem. The council has therefore developed policies which focus on the promotion of public transport and cycling and work with its largest employer, Citibank, on identifying employees public transport needs in order to more successfully negotiate with local operators.

#### 8.12 London Borough of Redbridge

Moving north of the Thames but still within the boundaries of the Thames Gateway corridor, LB Redbridge are actively involved in the London Groups Partnership. They see it as a major priority for the development of local economic activity and employment in the borough. It is felt that Stratford Station will improve transport links with the Central London network and help to link the area to activities south of the River. LB Redbridge does not believe that Thames Gateway developments will make traffic any worse because primary roads running through Redbridge are limited.

Public attitudes were again identified as acting as a major constraint on the introduction of more sustainable transport initiatives,

"People are quite ingenious in their own way and if they want to shop by car, it doesn't matter what the government tell them...... The real way to do it is to make it better from their own interest for people to travel by public transport than by car and have dedicated bus lanes throughout so that the buses go past the queues of cars with people sitting in them ...... You need a lot of road space to do that, which we haven't got in London everywhere, but we've got areas where there could be more and the Bus Priority Network is filling in now with more lanes, so we are definitely getting somewhere, but it will take time."

#### 8.13 Thurrock District Council

Thurrock Borough Council is probably the most geographically marginalised planning authority in the Gateway in that it is the only Essex borough to be included and does not fit neatly into either of the Forums in terms of transport planning. It is formally a member of the London Groups Partnership but has more in common with many of the Kent district councils as far as transport issues are concerned. A large part of the problem in dealing with transport has been getting funding for new initiatives from Essex County Council who have prioritised North Essex in their structure plan. The Council feels it is badly in need of a new local access road in order to address the traffic problems generated from Lakeside Thurrock Regional Shopping Centre.

"The place has been far more successful than anyone thought of providing for and the impact has been far greater than we anticipated, so that the whole area has become a transport nightmare ........ We now have Chafford Hundred Station which Chafford built at their own expense to service the housing estate, and offered Capital Counties, the Lakeside developers, to come in on it, they declined, they wouldn't put any money into it and so there is no direct access to Lakeside from the train station even though you can see it from the window"

When asked whether he saw a conflict between sustainability and regeneration, Thurrock's Principal Planning Officer was in agreement in the case of retail and shopping centres. Thurrock believe that for their economic well-being there will be a need for further road building in the area to alleviate the traffic problems around Lakeside, but feel that this should be strictly limited to junction improvements, danger spots and a local road link. They feel that Bluewater Shopping Centre has an advantage because it is being built in the light of the sustainability debate and can benefit from hindsight.

While Thurrock DC feel that people are reluctant to leave their cars at home for some journeys, they believe that a flexible rapid light transport system serving new developments in the Gateway could attract people out of their cars, particularly if this was advertised as a visitor attraction in its own right. Tighter car parking controls were not seen as a viable solution to the traffic problem, however, because the Lakeside experience has convinced local planners that inadequate parking capacity only leads to illegal and irresponsible parking. They now believe the only way forward is to price people out of their cars whilst simultaneously investing in high quality public transport.

#### Summary

The data collected through interviews with planners and other agents of change helped to identify a number of factors which influenced the decision making and thereby the implementation process. These ranged from the general limitations placed on policy makers' and planners' action strategies and included the following:

• Compatibility and co-ordination of transport strategies across authorities. The enormity of

the area covered in the regeneration proposals makes strategic planning difficult, this is further complicated by the different institutional responsibilities of the numerous planning agents involved, and the absence of a single planning authority for London.

- The historical and political anomaly of the planning system, two separate planning processes occur at this sub-regional level. Over and above the existing two-tiered planning structure new quangos have been formed with the specific remit of promoting the Thames Gateway. Two forums divide this responsibility between them., the London Groups Forum, responsible for development of the London Boroughs and Thurrock and North Kent Success, responsible for Kent Thames-side, the Medway Towns and Swale. Although the designated chief officers of each forum receive instruction from the Secretary of State for the Environment, the groups have neither the financial means nor legislative powers to force the direction of transport provision in the region. Several smaller partnerships are being developed within the area. These include the Thames Gateway Development Group and Kent-Thames-side, the Millennium Exhibition group, South London Groups Partnership, London First, English Partnerships, to name but a few. All have their own policy agendas for the Thames Gateway which often conflict with a strategic and/or more sustainable less car reliant approach to transport planning.
- In transport planning terms, the planning process is further muddled as a result of the power divide between funding; the responsibility of which resides solely with central government, and planning; the divided responsibility of central and local government. The planning of all rail infrastructure remains a privilege of central government, as does the primary roads network. Local road schemes and minor transport works are the

responsibility of strategic planning authorities, however, the predominance of funding for these proposals is obtained through annual bids to central government in the form of Transport Supplementary Grants. The financial scenario dictates that, in practice, local planning authorities have extremely limited control over transport infrastructural development in their areas. Many of these conflicts can be explained by the British transport funding structure, which is based on a top-down model, whereby, individual local authorities must bid each year for additions to their transport infrastructure. Traditionally, these bids have excluded bids public transport funding, the legacy of which is still being felt in Transport Supplementary Grant (TPP) applications.

- Most transport services decisions are fundamentally out of the control of local planning authorities, who must negotiate with private operators over routes, levels of services and facilities.
- The different time spans of the various Structure Plans, Local Plans and Unitary Development Plans held between the Thames Gateway authorities strategic planning problematic.

The interviews were also able to demonstrate other factors more specific to the situation in the Thames Gateway itself, which were hindering the planning and introduction of a strategic and sustainable transport network in the Thames Gateway:-

• The Thames Gateway Planning Framework emphasises the need to utilise the capacity of existing infrastructure, thereby focusing short to mid-term development on the road

network and encouraging primary access by private motor car.

- A large amount of government money has already been spent on improving the roads network particularly in the Kent region of the Gateway, whilst public transport has experienced long-term under-funding and government funding is unlikely to increase significantly in the future. This means that local authorities must largely rely on making use of the present system or negotiating with the private sector to fund transport projects. Whilst the private sector may be persuaded to fund a car park or a road which links them to the primary road network, they are reluctant to involve themselves with costly and potentially non-profit-making public transport schemes.
- Many transport planners are traditionally from highway engineering backgrounds and reluctant to accept the efficacy of abandoning the roads programme in favour of what they see as less commercially viable alternatives. In a situation where regeneration is at the foreground of the policy agenda this uncertainty is of greater significance because the unwillingness to risk losing inward investment is enhanced.
- The present Thames Gateway population is heavily reliant on jobs in Central London and to a lesser extent Dartford and the Medway Towns. They are used to living long distances from their place of work and using their cars to commute. Old habits die hard and creating more local jobs is no guarantee that local people will be employed in them. Roads will continue to be seen by the public as the most efficient and probably the cheapest mode of transport for delivering people in Kent and Essex to their place of work. In London increases in public transport fares will encourage many to continue to use their cars where

possible. Planners must, therefore, continue to support roads as the most viable form of fundable transport provision.

- Policies that aim to provide facilities locally in order to reduce the need to travel fail to recognise that in Thames Gateway there is little spatial distinction between town centres. Similar attempts made by planners in the Netherlands to reduce the need to travel have failed to have a marked effect on trip miles over a 10 year implementation period. It was found that unless a town's population is isolated by distance, local facilities did not prevent people from choosing to shopping, send their children to school, make health visits etc., elsewhere.
- Local authorities responsible for their local economy and heavily affected by competition from other regions, find it difficult to resist the planning preferences of developers, who consider their transport option based on short-term success rather than long-term sustainability and will simply locate elsewhere if their needs are not catered for. This is exacerbated by the regeneration agenda in the Thames Gateway.

The programme of interviews generated some explanatory narratives and facilitated a deeper understanding of some of the constraining factors faced by local authorities in their implementation of an economically and environmentally sustainable local transport strategy. It was clear that a more complex, integrated and contextually based methodology would need to be applied to the data, however in order to make it possible to fully evaluate the underlying causation of the identified conflicts and tensions that were emerging from the data.

The grounded theory method, as described in the methodology section, was identified as a useful analytical tool for identifying underlying consistencies and conflicts in the narratives that were emerging from transport planning policy and practice. Application of this method and its outcomes are described in the following chapter, which aims to amalgamate divergent narratives from the previous two chapters in order to formulate a causal explanation for the emergent conflict between regeneration and sustainability.

#### **CHAPTER 9**

#### **Grounded Theory Analysis**

#### 9.1 Introduction

Analysis of the local plans and policies generated by individual planning authorities in the Thames Gateway provided a rich qualitative data source. This was added to by the subjective data gathered through the interviews with representatives of key organisations. The sheer volume of the total data generated made comprehensive comparative analysis problematic but it was also the intention of the research to move beyond a crude description of the policy and planning agenda. The difficulty of analysing subjective data in a rigorous manner in order to reach beyond the merely descriptive is generally recognised by researchers and analysts alike. Few analytical tools, which capable of systematically extracting the hidden narratives and agendas on a large qualitative dataset, are available and often the researcher must be content with offering little more than a descriptive account of events.

The grounded theory method was identified as potentially suitable for such a task. It was felt that by slightly adapting the method to suit the dataset it would be possible to provide a deeper causal explanation of the policy agenda for private vehicle use in the specific context of the Thames Gateway. This chapter, therefore, represents a pulling together of the research outcomes of the planning analysis and interview fieldwork elements of the research.

# 9.2 Outcomes from Application of the Grounded Theory Method

The methodology has demonstrated that the grounded theory method involves four kev stages. The first stage demands the development of discrete categories and identification of their relevant properties. In this instance, the identified transport policy aims of local authorities were used as categories. Each category has a series of properties and subcategories which must be identified. For example, if the aim is "to improve public transport", as demonstrated in Figure 7, then the properties or context of this policy aim must of necessity be concerned with issues of efficiency, cost, reliability etc and this must be applied to all sub-categories or elements of the public transport system i.e. buses, trains, the underground network. Each category, or policy aim must then be grounded in its causal condition, or the background context from which it arises. In this instance this was taken to refer to the wider issues arising from policy and legislation which might act as a catalyst for a policy aim to become identified. Glaser and Strauss's intervening conditions were taken as appertaining to the factors which constrained a local authority in the operationalisation of a policy aim, e.g. financial resources, level of existing infrastructure etc, Action strategies were taken to mean all the possible policy instruments a local authority could bring into play to realise a policy aim regardless of intervening conditions and finally, outcomes were identified as the most likely outcome of current policy once all other identified factors and scenarios had been considered.





The grounded theory coding process illustrated in Figure 7, was continued for each transport policy aim which had been identified through the local authority policy and development plan analysis and taking account of background information gathered during the literature review. Interview data were used to supplement where no written data was available. In this way a matrix of all the statements plus their contextual scenario was developed (see Figure 8).

The next stage of the method involved the identification of complimentary and conflicting relationships and/or tensions between policy aims. These were recorded on the

# Figure 8: Grounded Theory Matrix

OUTCOMES	<ul> <li>Fragmented attempts to guide development towards identified sites increased building in locations with high levels of access to roads network.</li> <li>No indications of reductions in levels of car use</li> <li>Tendency for journeys by car into and across borrough to rise as a result of new developments</li> </ul>	<ul> <li>Jubilee Line Extension</li> <li>DLR Extensions</li> <li>Strategic Bus Route Network in London</li> <li>Strategic Bus Route Network in London</li> <li>Kentish Bus service to Blue Water Shopping Centre</li> <li>Most development accessible by road only</li> </ul>	<ul> <li>More comprehensive knowledge of pollukon levels but limited attempts or ability to reduce at local level</li> <li>Increased support for public transport alternatives, particularly in London boroughs</li> <li>Widespread support for introduction of road-pricing among London horoughs</li> <li>Greater emphasis on car restraint as part of development process among London</li> <li>Support increases to road capacity and increases in car parking facilities as part</li> </ul>	<ul> <li>or to concerpturent process</li> <li>Slow increase in pedestrianised town centres introduction fragmented</li> <li>Uneven application of stricter parking controls making some town centres more attractive than others for car users</li> <li>Out-of Town Centres retain and increase popularity</li> </ul>	<ul> <li>Increased capacity to Priority Route Network</li> </ul>	<ul> <li>Not Known</li> </ul>	<ul> <li>Little success to date atthough possibility of commercial river bus operator coming forward</li> </ul>	<ul> <li>Inclusion as a policy statement in Development Plans</li> <li>Reviews of local transport system on more holistic basis</li> <li>Greater recognition of elements of an efficient and efficient transport system</li> <li>I'ransport strategy fragmented and under-mined by wider implications</li> </ul>	<ul> <li>Increases in read network</li> <li>Fragmented response from developers</li> <li>Increased traffic congestion</li> </ul>	<ul> <li>Most viable way of improving access and opening up sites in funding terms in Interesses in capacity of roads network.</li> <li>Potential increases in traffic growth across region</li> <li>Undermines car restraint policies</li> </ul>	<ul> <li>Uneven introduction of restrictions but some bronegits still increasing car parking levels in their increasing car infined impact on controlling car use Urpopular with public therefore high tendencies to side-step new controls tendencies to side-step new controls</li> </ul>	<ul> <li>Heavy retiance on roads network leading to likely increases in public retiance on cars</li> <li>Commercial developers becoming more integrated into planning decisions</li> <li>Some acceptance for responsibility of providing alternative transport to car among some developers</li> <li>Some improvements to public transport services in areas of new development in terns of model choice</li> </ul>	Little impact to date, some new bus routes	<ul> <li>Increase in pedestrian town centres</li> <li>Limited increase in cycle lanes and parking facilities</li> <li>Poor public perception of safety aspects of cycling and walking, resulting in low take-up of new provision</li> </ul>	• Not Known
ACTION STRATEGIES	<ul> <li>Integrate transport policies into local plans</li> <li>Include transport considerations at planning committee meetings</li> <li>Identify suitable potential stres</li> <li>Negotiate with developers</li> </ul>	<ul> <li>Negotiate with public transport operators</li> <li>Apply for increased funding for public transport inprovements to central government</li> <li>Form alliances with other local authorities to devise package bids</li> <li>Encourage developers to negotiate with service providers for improved public transport services to new sites</li> </ul>	<ul> <li>Introduction of traffic calming measures on residential streets</li> <li>Polltrion montoring</li> <li>Discussions of air quality management strategies between local authorities</li> <li>Attempts to identify source of traffic problem</li> </ul>	<ul> <li>Introduction of bus and cycle priority on strategic routes in London</li> <li>Stricter parking controls and enforcement</li> <li>Lovel of parking facibities reduced in some areas as part of planning process boroughs</li> <li>Introduction of car-free areas</li> </ul>	Overnight lorry parking ban in London     Support improvements to Profity Route     Network     Support construction of by-passes	• Not Known	<ul> <li>Proactive allocation of waterfront sites with mixed river-front uses</li> <li>Promotion to private sector finameters</li> <li>Protection of existing river use activities</li> </ul>	<ul> <li>Non-implementable by local government atome</li> </ul>	<ul> <li>Bull for central government finding for improvements to roads network.</li> <li>Duelop "finture visions" documents for improvements to public transport system</li> <li>Liaise with other Gateway authorities to develop ideas to notadage bids</li> <li>Encourage developers or participate in provision of adequate transport access to any site.</li> <li>Rely on ability of existing infrastructure a cope with increases in travel demand</li> </ul>	<ul> <li>Large roads element in TPP bids</li> <li>Local atmonities Liaise with commercial developers to read road projects not included in government programme</li> </ul>	<ul> <li>Introduction of new parking restrictions protouchy trations in London and in come town centers</li> <li>Resident parking tchemes</li> <li>More parking tchemes</li> <li>More parking ticket is send by local authority tratific wardteg</li> <li>Decreases in on-street of parking in town centres</li> <li>More public car parks operange pricing policies</li> </ul>	<ul> <li>Focus development on existing roads network.</li> <li>Focus development around public transport nodes</li> <li>Negotiate with developers over locational choices and attempt to for partnerships</li> <li>Negotiate with public transport operators to provide increased/better services to new development locations</li> <li>Attempt to change public attitudes</li> </ul>	Promotion of policies which reduce impact of traffic in residential areas Increase in local travel surveys Increase in local travel surveys Increase on By-passes Focus on By-passes • Focus on By-passes • Tendency to prioritise local need over regional transport need	<ul> <li>Introduction of pedestrian and cycle facilities</li> <li>Improved information on cycle and pedestrian routes</li> <li>Signing for Strategic Cycle Route Network</li> </ul>	<ul> <li>Public consultation</li> <li>Awareness campaigns</li> </ul>
INTERVENING CONDITIONS	<ul> <li>Level of existing transport capacity</li> <li>Location of transport and planning departments within local authority may make working together physically difficult</li> <li>Willingness of different department to cooperate with each other</li> <li>Willingness of developers to be guided on location</li> <li>Availability of suitable sites within control of Availability of suitable sites within control of the authority within control of the site site sites within control of the site site site site sites within control of the site site site site site site site sit</li></ul>	<ul> <li>Level of control of local authority over actions and decisions of service providers</li> <li>Availability of funding</li> <li>Level of access to funding</li> <li>Level of existing services</li> </ul>	<ul> <li>Road traffic often generated outside local area of control</li> <li>Traffic generating facilities often located outside of local area of control</li> <li>Implementation problematic because of traffic levels</li> <li>Technological fixes outside jurisdiction of local authorities</li> <li>Ability to include new infrastructural solutions limited by funding structura</li> <li>Pollution control ineffective if fackled as a local problem</li> </ul>	<ul> <li>Uneven introduction among different authorities of car restraint policies use of car for access may lead to loss of local trade</li> <li>Road capacity, congestion and por air quality often prevents effectiveness introduction of alternative forms of travel</li> <li>Poor public perception of alternatives to car</li> </ul>	Insufficient capacity on appropriate routes     Congestion levels on Priority Route     Network     Network     Level of control over freight operators     Difficulty of defining "essential"	<ul> <li>Difficulty of identifying essential users</li> <li>Availability of alternative routes for insessential drivers</li> <li>Limited possibility of success is implementation in absence of alternative travel options</li> <li>Counter-effect on controlmag rat-running</li> </ul>	<ul> <li>Lack of public sector funding/subsidies</li> <li>Lack of existing service providers</li> <li>Journey times</li> <li>Competition for vaterfront sites with luxury housing projects</li> </ul>	Condungtion of interventing conditions in all other offeening statements	<ul> <li>Funding forway fon improvements to roads network</li> <li>Sites developed for uses that suggest major traffic parteration</li> <li>Accord by alternatives to an instited</li> </ul>	<ul> <li>Punding</li> <li>Congestion</li> <li>Pollution</li> <li>Political activism against road building</li> </ul>	<ul> <li>Low of parking offered uncover in different control</li> <li>Enforcement expensive and difficult to implement</li> <li>Can encourage people to abandon local centres in faveur of locations with better parking tabilities</li> <li>Developers still expert to provide large car parks</li> <li>Difficult to control preately owned parking facilities</li> </ul>	<ul> <li>Level of control over individual choice, public transport service provider action statistics and developers location preferences</li> <li>Retention of local economic competitiveness</li> <li>Public preferences for cars</li> </ul>	Level of council information on traval needs     and trends of local community     Travel demands of strategic travellers routing     Intrough borough     Need to consider wider costs of local     transport policies     Effectiveness of lobby of different interest     groups	<ul> <li>Available finance</li> <li>Ability to offer viable facilities with current levels of traffic</li> <li>Public attitudes</li> </ul>	<ul> <li>Lack of formula for attitudinal change</li> <li>Central role of car in society</li> <li>Difficulty of offering viable comparable alternatives</li> </ul>
SUB-CATEGORIES	<ul> <li>Capacity of road network, rail infrastructure and public transport services</li> </ul>	<ul> <li>Bus lattes</li> <li>Interchange facilities</li> <li>Through tickeing</li> <li>Intrased funding for services and infrastructure</li> <li>Improved efficiency</li> </ul>	<ul> <li>Better technology</li> <li>Traffic management</li> <li>Invreased popularity of by-pass plans</li> <li>Speed control</li> </ul>	<ul> <li>Inconce denicentives for car use</li> <li>Offer incentives for use of alternative modes of transport</li> <li>Mate car us less socially acceptable as a primary mode of personal transportation</li> </ul>	Continue L ndon lorry ban     Wispituwath/nength restrictions on roads     Smalley delivery vehicles     Freight wwater/rail	<ul> <li>Himergenury services</li> <li>Essential delivertes</li> <li>Essential car users</li> <li>Service providers</li> <li>Public Transport</li> </ul>	Suthable delivery/per access     Economic viability     Name of waterfront development at     approprie use     Journey times     Public transport networking opportunities	Integration     Evaluation     Evaluation     Incremental improvements	Increases to transport infrastructure     Road /rail	<ul> <li>Only guaranteed source of revenue funding within 156 system</li> <li>Roads preferred infratructural profision choice of rea-doced infratructural profision</li> <li>Many transport plumme, deng muents retain road construction as fummary area of expertise</li> <li>People wish to continue to use can and many support road potentracion</li> </ul>	- Implementation Entroplement Program	<ul> <li>Friority use Improved public transport services and modernisation schemes and modernisation schemes introduce ange high capacity vehicles and less low capacity vehicles</li> </ul>	<ul> <li>Social divisions in borough</li> <li>Distribution of current modal choice</li> <li>Health and safety</li> <li>Access</li> <li>Pollution , noise and severance</li> </ul>	<ul> <li>Pedestriam town centres</li> <li>Pedestriam Routes</li> <li>Cycle Routes</li> <li>Cycle Lanes</li> <li>Cycle parking facilities</li> </ul>	<ul> <li>Local/national concern</li> <li>Perception of the problem</li> <li>Recognition of own role in problem</li> </ul>
PROPERTIES	<ul> <li>Integration of transport and planning departments within local authorities</li> </ul>	<ul> <li>Finan transport system holistically to incluor coads and public transport considerations in decision making process Include improvements to provision of public transport as pair of development process</li> </ul>	<ul> <li>Global war ung</li> <li>Global war ung</li> <li>Dise of green space to road-building</li> <li>Real ratio accidenti</li> <li>Sever use from roads</li> <li>Congestion</li> <li>Rat-running a residential street</li> <li>Noise pollution</li> </ul>	cong distance travel     Lan commerce     Terret     Terret     Terret     Stopping     Domerce     Contract     Cont	Through freight that file directed towards Priority Road Network	<ul> <li>Remove incessential traffic through constrants on use</li> <li>Direct incessential traffic coto secondary roads network</li> </ul>	<ul> <li>Publicly funded schemes</li> <li>Privately financed schemes</li> <li>Freight</li> <li>Passenger</li> <li>Tourism</li> <li>Private transport options</li> </ul>	<ul> <li>Could include almost ary action strategy which includes consideration of all aspects of local transport povision</li> </ul>	Cool with sites currently non-viable due to lacual fracess to main transportation motion it.	<ul> <li>Traditional local transport policy line</li> <li>Overcome elisting traffic problems with improvements to roads network</li> </ul>	<ul> <li>Control of on and off-street parking</li> <li>Parking pricing policies</li> <li>Parking pricing spaces</li> <li>In town centres and ht stations</li> <li>Provision of parking facilities as part of development process</li> </ul>	<ul> <li>Plan developments near to existing transport network</li> <li>Increases to service provision withon increases to infrastructural spendid is</li> </ul>	<ul> <li>Plan transport system, so benefit greatest number at people within borough derive/maximum overefits for local area front development process</li> </ul>	Local air quality     Safety     Access     Facilities	<ul> <li>Social ideology</li> <li>Aspiration</li> <li>Individual psychology</li> <li>Personal circumstance</li> </ul>
CATEGORY	DIRECT DEVELOPMENT TOWARDS LOCATIONS WHERE TRANSPORT CAPAGITY EXISTS OR CAN BE PROVIDED	LIPROVE INTEGRATION AND USE OF PUBLIC TRANSPORT	REDUCE THE ADVERSE HEFECTS OF ROAD TRAFFIC	RESTRAIN CAR USE	ENCOURAGE REMCVAL OF DUESSENTIAL FREIGHT	ENCOURAGE PRIORITY ROUTE NETWORK FOR ESSEMTIAL USERS	MAKC FULLER USE OF THE LIVER FOR TRANSPORTATION	PROVIDE AN TRORTEN TRANSTORT SYSTEM VHICH IS EFFICENT AND EFFECTIVE	PROVIDE ADEQUATE ACCESS FOR ESSEVITAL TRAFFIC AND HELP FOSTER COMMERCIAL AND HULD STRIAL GROWTH DUDUSTRIAL GROWTH	SUFFORT IMPROVEMENTS TO TRUNK ROADS	REGULATE PARKING	CPT MISE USE OF EXISTING TRANSPORE	MAZIDIAISE SOCIAL BENEITTS	IMPROVE SAFETY AND CONFORT OF PELESTRIANS AND CYCLISTS	ATTITUDES
CONTEXT	<ul> <li>Tradition of transport and planning departments within local authorities and central government working separately</li> </ul>	<ul> <li>Incremental decreases in public use of public transport system leading to decreases in funding and accompanying decline in service provision.</li> </ul>	<ul> <li>Increased public awareness of negative environmental effects of road traffic</li> <li>Political concern over economic effects of congestion</li> </ul>	<ul> <li>Car restraint identified by central government as most effective way to reduce pollution and congestion</li> <li>Recognition that introduction of control measures on car use will be mopopular and therefore politically sensitive</li> </ul>	<ul> <li>London lorry ban</li> </ul>	<ul> <li>Central government policy as a result of concerns over congestion levels</li> </ul>	<ul> <li>General decline in river transport since early sixtles</li> <li>Falure of Greenwich River Buss</li> <li>Westminster Council's transfer of waste haulage contract from river to road</li> </ul>	<ul> <li>Non-specific ideal scenario which must be translated intho appropriate action strategies if it is to have any worth as a policy statement</li> </ul>	• Regeneration of the Thames Gateway	<ul> <li>TPP/TSG funding system</li> <li>SACTRA Report and 18th</li> <li>SACTRA Report and 18th</li> <li>Royal Commission Report</li> <li>Predicted traffic growth</li> <li>Announcement of reduced government spending on roads programme since</li> <li>1994</li> </ul>	<ul> <li>New legislation since 1994 that allows local authorities to operate their own parking perally system</li> <li>A recommended policy action of PPG 13: Transport</li> </ul>	<ul> <li>Government spending cuts</li> <li>Thamse gateway Planning Framework Guidance Notes: RPG 9.A</li> </ul>	<ul> <li>Cost efficiency</li> <li>Local accountability</li> <li>Local Accountability</li> <li>Local Activity</li> <li>Loca</li></ul>	• PPG 13: Transport	<ul> <li>PPG 13: Transport</li> <li>Structural and emotional car dependency</li> <li>Number of inessential local journeys made by car</li> </ul>



matrix hand using red to identify conflicting aims and blue to identify congruent aims. Grounded theory method refers to this process as the *operationalisation* of the process. By developing narratives through the pathways identified by conflicting and congruent policy aims and outcomes theories of causation emerged. Grounded theory refers to hypotheses at this stage of the process as *substantive theories* and recommends that it is not until these substantive theories undergo a final stage of re-testing against the original data, i.e. the Development Plans and Transport Policies and Proposals that *formal theory* can be developed. In practice it was found that the four stages described by Glaser and Strauss overlapped considerably and were interactive rather than discrete stages.

A final matrix was developed in order to summarise the narratives and theories which emerged from this process (see Fig. 9).

The diagram shows provision of 'an adequate, efficient and integrated transport network' as a fundamental transport aim, because it was a demonstrated as a policy aim of all authorities. This can therefore be taken to represent the core transport objective for the region. The grounded theory analysis also made it explicit that local planners are constrained to operate within the confines of the needs and opinions of their local electorate and the resources that are available to them. This allowed identification of a 'local need' narrative. Policies that aimed to 'reduce the adverse effect of road traffic' could be clearly seen to arise from this narrative.





It was also apparent from the policy statements recorded by the analysis that, in addition to meeting local needs, local planning authorities must also consider their own policy objectives against the wider needs of the region in which they are located. The analysis identified the primary focus of regional policy as the aim to "regenerate the Thames Gateway". This was identified as the 'regional need' narrative. Although these local and regional narratives need not necessarily be in conflict, grounded theory analysis was able to draw out underlying tensions between these two key transport policy aims within the context of the Thames Gateway. This is because the local need has led to local authorities towards a tendency to introduce policies that aim to reduce the use of private cars, while the regional need has meant that local authorities have tended to seek increased access to, and thus development of, previously inaccessible locations primarily through extensions to the roads network. The absence of sufficient additional public transport infrastructure and service provision to these new locations leads to a primary means of access by car and is thus in direct contradiction with polices which aim to reduce private car use.

The use of grounded theory method also helped to clarify a number of other underlying policy positions. For example, policies to improve the integration and use of public transport, improve the safety of pedestrians and cyclists and introduce traffic management measures could be linked with the local need narrative to reduce the impact of traffic. Similarly, the policy position of the majority of Inner London Authorities towards increases to capacity of the road network and road building could be identified in the context of local need. Policies to improve in public transport were also congruent with the primary local need to reduce the adverse effect of road traffic. On the other hand, policies that aimed to overcome traffic problems through road improvements and increases in capacity to the trunk road network were seen to be most often justified in the context of the regional need to provide increased access to potential development sites for the purposes of regeneration.

#### Summary

Application of the grounded theory method of qualitative analysis led to the generation of a number of underlying policy narratives as they apply to the aims of PPG 13 and regeneration of the Thames Gateway. It was identified that because many of the proposed developments in the Gateway are located in areas where existing public transport access is poor and proposals for future improvements are constrained by lack of finance, the regeneration process will tend towards the generation of large increases in private vehicle use in the area. As a result of these findings, it is suggested that the Thames Gateway regeneration initiative is, in its present form, in direct contravention of the guidelines set out in PPG 13. In this way, a fundamental policy conflict between the aims of sustainable transport, as detailed in PPG 13 and policies for regeneration, as detailed in the Thames Gateway Planning Framework (RPG9A), has been identified by the research. This conflict has implications far beyond those of immediate planning, because it will establish travel patterns that will undermine both the economic and environmental sustainability of new developments in the longer term.

The interviews section of the analysis demonstrated that planners place considerable

emphasis on public attitudes to transport and the need to change these attitudes over time so that more sustainable travel behaviour can ensue. In the absence of public finance for major new transport infrastructure to major development sites in the Thames Gateway, planners must increasingly depend upon private finance initiatives to bring forward new initiatives. The experience of DLR in Greenwich has shown this to be notoriously difficult to secure in the case of public transport infrastructure. At best it extends the already lengthy time period over which new public transport initiatives are brought forward and at worst prevents them being realised altogether. Meanwhile, major traffic generating developments go ahead accessible solely by road, and thus, in the main, private car. The narrative that emerged from the grounded theory analysis suggests, therefore, that the opportunity to provoke modal shift is being seriously undermined, if not entirely missed. Planners are left with little more than piecemeal traffic restraint measures with which to discourage car use and in competition with the far more powerful media discourses promoting car dependency, these are unlikely to have much impact.

Having established a major conflict between regeneration and sustainability in the transport planning and policy discourse of the Thames Gateway, it was considered important to explore the impact of the proposed model on the future sustainability of the region. This necessitated the collection and evaluation of a data that could act as an indicator of sustainability in terms of personal travel in the region. The outcome of this data collection and evaluation process are reported in the following two chapters. The first presents the findings of a survey of the car use patterns of existing local residents and the second uses annual measures of car miles extrapolated from this survey to project a future car use scenario on the basis of current development proposals.

#### Chapter 10

# Transport and Regeneration in the Context of Sustainable Development: Thames Gateway Travelling by Car Survey

## 10.1 Introduction

To this point the research had been able to identify a move on the part of planners and decision makers in the Thames Gateway towards a policy and planning discourse that recognises the need for a reduction in individuals' reliance on the car as a primary means of access. The research had also been able to identify that at the level of delivery level the opportunities to implement a more sustainable approach to transport with a greater emphasis on public transport provision in the regeneration process often fail to be realised.

Interviews with representatives from organisations central to the redevelopment of the area have served to highlight an over reliance on the possibility of changing public attitudes towards car use despite the absence of adequate alternative transport services. The literature and policy review identified that there is in general a shortage of empirical data on present travel behaviour in the area and that no attempts have been made to calculate the traffic generating implications of proposed developments on the future sustainability of the Thames Gateway.

The focus of this research has been on personal car use as a measure of sustainability in the Thames Gateway. In order to explore the potential strategic environmental impact of future personal travel and car use arising from the regeneration programme further, it was considered necessary to conduct a household survey of resident car drivers. It was intended that the data collected on the travel patterns of existing resident car users could be used to calculate a future "regenerated"

scenario, on the basis of local authority projected figures for new households as an indicator of total travel across the region.

A total of 9,000 questionnaires were distributed in nine randomly selected wards which were stratified into three groups according to expected level of car use on the evidence of the 1991 Journey to Work dataset, as follows:

- Group 1 = public transport journeys were greater than 40% and car journeys less than 20%.
- Group 2 = car and public transport journeys approximately equal
- Group 3 = car journeys were greater that 60% and public transport journeys less than 20%

The sample was randomly selected from each borough's Electoral Register, as described in greater detail in the methodology chapter. The questionnaire was addressed to 'the occupier' with an accompanying letter explaining the reason for the survey and specifying that one regular car user in the household (not necessarily the head of household) should complete the form. In this way, it was hoped that a cross section of car users would participate.

General information on household size, composition, tenure, level of household car ownership and income was collected, as well as on the personal characteristics of the respondent in terms of age, gender, ethnicity, disability (or impaired mobility), personal income and occupational status. Information was also collected on the respondents' personal weekly travel in terms of number of miles travelled by mode and journey purpose. In addition, a number of attitudinal questions were asked on ease of travel without access to a car, public transport amenity in the local area of residence, the driving experience and the quality of the environment. A copy of the questionnaire and accompanying letter is reproduced in Appendix II.

The intentions of the questionnaire were twofold. Firstly, to elicit information which could be used to calculate levels of car use across the sample groups and to better understand the extent to which individuals used and/or were prepared to use other modes of transportation. Secondly, to evaluate the effect of other factors, namely age, gender, attitudes to the environment and geographical location on levels of car use.

#### 10.2 The Sampling Framework

The literature suggests that a poor response to postal surveys is highly likely, especially where no follow-up reminders are sent. The survey aimed to achieve a returned sample of 10% of the initial mail-out in each sample group. This would generally be considered a low percentage of achievement, but there were insufficient resources to allow follow-up letters. Babbie (1990) suggests that 50% would be an acceptable response rate after several reminders have been sent but responses as low as 4% have been experienced. However, the importance of a good response rate is mainly emphasised to avoid response bias in the sample and Babbie recommends that a demonstrated lack of response bias is far more important than a high response rate. For this reason, it was important to identify a sampling framework that would ensure a representative sample.

Initial analysis of the journey to work data from the 1991 Census of Population at borough level was used to establish general car use trends, which would be used as indicators of representativeness in the final sample. The census was able to demonstrate that the access to a car in the Thames Gateway region is generally low compared with the national average. Currently approximately 70% of households in the UK have access to at least one car (Potter, 1997), whereas the 1991 Census showed that just over half the population of the Thames Gateway population had access to a car. These below average figures were largely attributable to the Inner London Boroughs. Analysis at ward level showed that the distribution is not homogenous within boroughs. Even within boroughs with extremely low access to a car (less than 40%), certain wards have high access (greater than 90%). The reverse is also true for boroughs that on average show high level access to a car.

BOROUGH	% WITH	% CAR	% PUBLIC	% CYCLE/
	CAR		TRANSPORT	WALK
BARKING & DAGENHAM	57.08	54.23	35.08	8.24
BEXLEY	73.37	48.16	37.88	13.67
GREENWICH	56.40	43.16	41.06	11.35
HACKNEY	38.30	5.80	45.01	15.48
HAVERING	74.00	53.36	35.67	8.83
LEWISHAM	52.87	36.84	48.82	10.20
NEWHAM	46.48	33.30	50.69	12.52
REDBRIDGE	70.07	48.84	40.65	7.99
SOUTHWARK	42.05	28.27	49.26	17.21
TOWER HAMLETS	38.47	26.86	46.73	23.16
WALTHAM FOREST	57.07	42.94	43.37	11.36
THURROCK	75.44	67.89	22.35	10.42
DARTFORD	72.84	63.79	21.17	11.98
GILLINGHAM	71.68	63.18	21.35	15.56
GRAVESHAM	73.11	66.75	20.49	10.46
ROCHESTER-U-MEDWAY	72.92	67.79	16.10	13.67
SWALE	74.35	67.28	11.65	15.89
AVERAGE FOR GATEWAY	59.45	49.32	34.55	12.82

Table 1: Journey To Work, Residents 16 Plus (10% Sample)

All 1991 Census of Population data was obtained under license from the ESRC Dissemination Unit, Manchester University

In relation to mode of transport, the census demonstrated an extremely strong negative correlation between journeys to work by car and journeys to work by public transport within wards, i.e. where public transport journeys were low car journeys were high and vice versa. This suggested that where car use for journey to work was high the demand for public transport during the peak period was negligible. It is therefore likely that public transport provision in these areas is poor.

Geographically, public transport use declined the further the ward was located from Central London whilst journeys to work by car increased. This suggested that London populations as a whole are habitually used to travelling by public transport for some journeys than their Kent counter-parts. These trends are most likely to be linked to levels of public transport provision in the Kent-end of the Gateway.

An evaluation of journey to work by car on the basis of socio-economic group showed that skilled manual and service sector workers had the highest percentage of journeys to work by car in both Kent and London boroughs and unskilled manual and agricultural workers the lowest. Comparisons at ward level between access to a car and tenure also demonstrated strong positive correlations, suggesting that income is a strong determinant of car owner-ship in the Gateway. This implies a hidden or suppressed demand for car ownership resulting from high levels of poverty and unemployment within certain areas of the Gateway region.

It was, therefore, considered probable that increases in the jobs base for skilled manual and service sector employment will result in higher levels of car ownership. It is also likely, particularly in the light of the arguments presented in the previous chapters that as car ownership increases so too will levels of car use.

Although analysis of the Census data allowed a broad understanding of travel trends in the Thames Gateway, there were a number of issues which analysis of this data was not able to address. This is because the Census data is limited in the following respects:

- General trends do not necessarily correspond with trends at the individual level.
- 2) Many of the responses apply to heads of household only.
- Data is collected only on the journey to work and disregards journeys for other purposes such as shopping, leisure.
- 4) Journeys to work account for only 30% of peak time traffic
- Variety in journey type such as combination journeys using different modes of transport cannot be identified.
- 6) Only the most commonly used mode is recorded
- 7) Journey distance is not recorded
- 6) No qualitative information regarding attitude, choice, etc. can be recorded.

In response to these evident inadequacies, and to obtain a more representative picture of current travel trends, it was decided to undertake a survey of car users currently resident in the Thames Gateway area. This was seen as providing an important extension to the previous research stage and towards drawing conclusions from the arguments and narratives that emerged from the policy and plan analysis.

# 10.3 Describing the Sample

Of the 9,000 questionnaires disseminated, 1,280 were returned, of which 55 were spoiled and 1,225 valid included representing a 14.2% response rate. The level of response varied between wards, ranging from 9% to 20.5%. This meant that the sample groups differed slightly in size with Sample 1 representing 31% of the total, Sample 2, 32% and Sample 3, 37%. It was recognised that although this represented a greater level of response than was originally expected given the absence of reminders, it was still a relatively low response rate, which could have implication for the representativeness of the sample. It was therefore, considered extremely important to establish the proportional representation of responses on the basis of key dependent variable such as age, gender and socio-economic group. Data from the 1991 Census of population was used for this comparison\*

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	Returned	%	Included	%
Total Sample	1280	14.2	1225	13.6
Group 1	398	13.3	378	12.6
Group 2	416	13.9	395	13.2
Group 3	468	15.2	448	14.9

\* For the remainder of the analysis the reader should note that where percentages do not total to 100%, this is due to item non-response.

It was found that the majority of respondents came from households that comprised between 1 to 4 persons and that 32.1% of the total sample had children under the age of 18 years living with them.

Household Composition	% Total Sample	% Sample 1	% Sample 2	% Sample 3
1 person	17.6	28.2	12.7	12.9
2 people	39.4	44.2	33.2	40.8
3 people	13.8	9.2	19.5	12.6
4 people	18.9	11.1	23.9	21.1
More than 4 people	6.2	5.0	6.2	6.6
With child/ren under 18	32.1	22.4	39.8	33.5

Table 3: Composition of households in total sample and sample groups

Of the total 57.5% respondents were men and 40.5% women. When broken down into the sample groups men represented 53.9% of Sample 1, 56.3% of Sample 2 and 61.4% of Sample 3 and women 44.2%, 41.1%, 36.8%, respectively. Sample 3 was, therefore, significantly different in its gender composition to Samples 1 and 2. The sample was not, therefore, equally represented in terms of gender, in that 20% more males than females responded. However, this must be considered in the context of the proportion of female drivers to males within the population. Currently the National average for women who drive is recorded at 41%, making the survey sample proportionately representative.

# Table 4: Gender distribution of sample

Gender	% Total Sample	% Sample 1	% Sample 2	% Sample 3	% Census	
Male	57.5	53.9	56.3	64.1	47.6	
Female	40.5	44.2	41.1	36.8	51.5	

In the total sample, 3.8% of respondents were aged between 17-25 years, 27.4% were between 26-35 years, 25.5% were between 36-45 years, 20.9% between 46-55 years, 10.6% between 56-65 years and 11.4% were over 65 years of age. This meant that 73.5% of respondents were between the ages of 26-55 years of age. These age groupings were repeated in the sample groups with 72.5% of respondents in Sample 1 falling between the ages of 26-55 years, 74.3% in Sample 2 and 71.2% in Sample 3.

The sample was, therefore, also unevenly distributed in terms of age, with approximately 70% of respondents falling between the ages of 26 and 55. However, DoT Transport Statistics 1993 demonstrate that car drivers are more likely to fall into this age range, with 60% of the population over 70 having no access to a car. The sample can therefore be said to reflect the broader age/car driver trends of the wider population.

Age Category	% Total Sample	% Sample 1	% Sample 2	% Sample 3	% Census
17 - 25	3.8	3.4	3.8	4.2	11.3
26 - 35	27.4	32.6	25.6	24.6	20.0
36 - 45	25.5	24.5	26.9	25.1	14.2
46 - 55	20.9	18.4	22.6	21.5	11.2
55 - 65	10.6	10.5	11.4	10.0	10.5
65+	11.4	10.3	8.9	14.6	32.9

Tabl	<u>e 5:</u> A	Age	distri	butions	within	total	sample	and	sample	groups
		_							00000000	SICUPD

In terms of aggregate household income, 60.7% of the total had annual incomes of over £20,000, 22.9% of between £10,000 to £20,000 and 10.1% of less than £10,000. Figures for household and personal income could not be compared with the 1991 Census of Population because this variable was not part of the collected dataset. Levels of household incomes for the sample were recorded as follows:

Table	6:	House	hold	income	in	total	sam	ole	and	sam	<u>ole</u>	gro	ups
	_				_								

Household Income	% Total Sample	% Sample 1	% Sample 2	% Sample 3
£20,000+	60.7	73.2	58.1	52.3
£10,000 - £20,000	22.9	15.5	22.8	29.3
£ Under 10,000	10.1	7.6	11.9	10.6

Personal income was shown to follow slightly different ratios within the total sample, with 38.8% earning over £20,000, 29.6% between £10,000 to £20,000 and 22.1 less than £10,000. Within the sample groups, however, personal income was seen to follow similar percentile trends to those for household incomes:

Table 7	7: I	Personal	income	in	total	sample	and	sample	groups
-					_				

Personal Income	% Total Sample	% Sample 1	% Sample 2	% Sample 3	
£20,000+	38.8	57.4	33.0	26.6	
£10,000 - £20,000	29.6	20.0	30.2	37.3	
£ Under 10,000	22.1	16.6	24.9	24.4	

Sample 1 could, therefore, be said to represent the most affluent group in terms of both household and personal income, whilst Sample 3 was the least affluent group.

These trends were also reflected in the percentages for job type, with Sample 1 representing the group with the highest level of professionals and managers, and Sample 3 the lowest level of these job types and higher levels of skilled manual and unskilled workers. In general, however, it could be seen that the majority of respondents are involved in higher salary, skilled employment activities, with 60% of the total sample in white-collar work:

# Table 8: Employment characteristics of total sample and sample groups

Job Type	% Total Sample	% Sample 1	% Sample 2	% Sample 3	% Census
Professional	37.1	55.3	32.5	25.7	5.5
Manager	14.4	13.4	15.5	14.4	15.6
Non-manual	8.6	2.9	10.2	12.0	40.6
Skilled Manual	9.6	4.2	9.4	14.4	15.6
Unskilled	3.0	1.6	2.8	4.4	4.7

In comparison with the Census figures for employment type, respondents in the sample were seen to be disproportionately represented in the professionals category and under-represented in terms of non-manual and skilled manual workers. Unskilled workers were also under-represented in all but Sample 3. If Census figures for the percentage of the population with access to a car by job type are also taken into consideration, however, it is possible to see that nearly all those working in the 'professionals', 'employers' and 'non-manual' job type categories have access to a car. In contrast, those employed in the skilled manual and unskilled categories have lower access. This may be accounted for by the low survey response rates in these categories.

	Table 9: Access to car b	y employment typ	pe according to 1991 Census
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Professionals	99.3
Employers	92.2
Non-manual	99.2
Skilled Manual	84.5
Unskilled	52.3

Home ownership was also seen to be much higher in the sample population than those levels recorded by the Census data, with 57.9% of home ownership in the population as a whole compared to 83.2% in the sample population. This trend remained true across the sample groups with the greatest level of disparity in Sample 1. Since home ownership and car ownership are highly correlated within the Census data, the survey response is probably reflecting this relationship, i.e. those respondents who qualify for the survey as a result of their car use are more likely to be home owners. However, it was noted that caution would be necessary in the interpretation of attitudinal responses in the survey as a result of biases in the data towards more affluent residents within the Thames Gateway area, as affluence has been shown to have implications for aspiration and 'value'

	Tabl	<u>e 10</u>	<u>Nature (</u>	of tenure	distribution	in total	sample	and samp	le grou	ps
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Tenure Type	% Total Sample	% Sample 1	% Sample 2	% Sample 3
<b>Owner Occupied</b>	22.8	20.5	22.8	24.6
Mortgage	60.5	53.9	67.3	60.1
Private Rented	7.7	13.2	3.3	6.9
Public Rented	7.3	11.8	3.8	6.7

# 10.4 Data on Car Ownership

By the nature of the survey design, which although disseminated to randomly selected households in a ward requested completion by regular car users only, all those respondents who were included were regular car users. In response to questions on car ownership and use, it was expected that 100% of the sample would have regular access to at least one car and would use a car for a number of journeys on a regular weekly basis. This was indeed the case with 66.8% of the total sample having access to at least one car, 28.8% to two cars and 4.7% to three or more cars. This percentage varied slightly between the sample groups as demonstrated by Table 11.

Table 11: Patterns of car ownership in total sample and sample groups

Car Ownership	% Total Sample	% Sample 1	% Sample 2	% Sample 3
One car	68.8	76.5	66.2	57.9
Two cars	28.8	20.8	29.4	35.0
Three or more cars	4.7	1.6	3.8	6.9

The data showed that 71.9% of people owned their first car as opposed to using a company car, hiring), of these, 38% had purchased outright. Of those respondents with a second car 72% also owned them, 35.5% of which had been purchased outright.

Total recorded car mileage on both first and second cars was normally distributed, with the greater percentage of car mileage recorded in the range of 10,000 and 100,000 miles. Of all cars indicated 90.9% were fuelled by petrol.

Table 12: Car mileage distributions in total sample

Mileage	Under 10,000	10-50,000	50-100,000	100,000+	
Car 1	10.7	36.7	33.6	7.2	
Car 2	10.4	48.4	33.9	7.2	

# 10.5 Data on Car Use

Table 13 demonstrates that the majority of respondents had been driving for more than ten years, with 48% indicating they had been driving for twenty years or more, 30.9% between 11-20 years and 14.9% between 6-10 years.

Total average weekly mileage by car was recorded as 153 miles. Of these weekly car miles, journey to and from work were seen to account for 35% of all miles. Leisure journeys made the second highest contribution to total miles travelled, representing a 29% share. Journeys for work accounted for 22% of total weekly miles by car, shopping for 8%, the school run for 1.5% and trips for other purposes 7%.

Table 13: Means and standard deviations by	<u>/j</u>	journey	ty	/pe :	<u>for</u>	total	sam	<u>ple</u>
--------------------------------------------	-----------	---------	----	-------	------------	-------	-----	------------

					Std.
	N	Minimum	Maximum	Mean	Deviation
Years of Driving	1197	1	63	22.09	12.75
Total by Car	1076	0	8068	160.76	284.06
Journey to Work	1178	0	8000	56.62	250.45
Journeys for Work	1186	0	1000	31.22	96.23
Leisure Trips	1112	0	700	43.13	57.72
Shopping Trips	1118	0	700	12.36	25.00
School Trips	1181	0	200	2.08	10.30
Other Trips	1151	0	500	10.66	36.63
Total by Public Transport	1190	0	700	23.13	62.03
Pub. Tran. to Work	1211	0	350	13.77	44.26
Pub. Tran. for Work	1216	0	600	4.85	37.00
Pub. Tran. Leisure	1210	0	350	2.76	14.78
Pub. Tran. Shopping	1213	0	200	.80	6.50
Pub. Tran. School	1221	0	50	.17	2.30
Pub. Tran Other	1217	0	50	.42	3.07
Total by Foot	1180	0	68	8.01	9.68
Walk to Work	1218	0	40	1.21	3.73
Walk for Work	1220	0	60	.92	4.11
Walk Leisure	1197	0	60	3.47	6.38
Walk Shopping	1206	0	40	1.34	3.05
Walk School	1220	0	30	.34	1.83
Walk Other	1212	0	30	.58	2.25
Valid N (listwise)	1036				

Distribution for total car miles was widely spread around the mean however, with a standard deviation of +/-284 around the 160 miles per week average figure. Of all respondents, 22.5% travelled under 50 miles per week, a figure which was taken to

represent a low weekly mileage. 22.9% travelled over 200 miles per week, a figure which was taken to represent a high weekly average on the basis of the national average figure of 10,000 miles per annum. The remaining car users were divided between those who travelled between 50 and 100 miles per week, the lower mid-range (24.4%) and those who travelled between 101 and 200 miles, the higher mid-range (30.1%).

The figures below demonstrate that very few respondents travelled less than 10 miles per week (2.5%) and that the majority did not use their cars at all for work related journeys, school runs journeys and trips for purposes other than those specifically identified in the questionnaire. Just over half the respondents used their car for the journey to and from work, whilst more than three quarters of all respondents used their cars for leisure and shopping trips.

Nature of Journey	None	1-10	11-	51-	101-	200+
		Miles	50	100	200	Miles
			Miles	Miles	Miles	
Total Weekly	0	2.5	20.0	24.4	30.1	22.9
To/from work	45.9	7.0	20.8	13.4	7.0	5.9
For work	70.6	5.7	11.0	5.5	3.2	4.0
Leisure	17.1	20.5	39.2	15.2	6.7	1.3
Shopping	17.7	54.4	26.7	0.9	0.2	0.1
School Run	88.9	6.4	4.1	0.6	0.1	0
Other	76.8	6.2	12.5	2.7	1.2	0.5

Table 14: Total	weekly miles	by	journey	type

On the whole, the majority of respondents appeared to be car reliant for most journeys and the data indicated low use of other modes of transport. For example, while 30.4% of respondents owned a bicycle, only 20% used these on a weekly basis and 94.9% said they travelled less than 5 miles a week by bicycle. Respondents were recorded as travelling an average of only 8 miles per week by foot and 28.2% specifically stated that they did not walk anywhere in an average week, whilst 65% said they walked less than ten miles in a week. This averages out at less than a mile and a half a day. The greatest proportion of walking trips were for leisure (43.3%), followed by journey to work (15.1%) and work related activities (11.5%).

Use of public transport was also low, with weekly averages recorded as 23 miles, and 64.7% of the total sample indicating that they did not use public transport at all. It could be seen that, of those who did use public transport, the majority of trips were for the journey to work (59.5%) and for work related activities (20.9%), only 11.9% of total miles by public transport were recorded for leisure purposes and 6.8% for all other journey types.

Total miles by public transport and total miles by car were highly positively correlated within the data, suggesting that people using public transport tend to be those people who travel more over all. This may be due to geographical relationships between home/work and leisure activities. Walking and public transport use were also highly positively correlated, suggesting that journeys by public transport included an element of walking. The trends in modal split between public transport and car use were reflected in expenditure on transport within the data set. On average respondents spent £15.92 on petrol in a week compared with £4.23 on public transport.
# 9.6 The Effect of Independent Variables on Car Use

Age, gender, household and personal income, tenure, and number of children in a household were identified as the most likely factors affecting car use and were, therefore, selected as independent variables. Spearman's rank correlation was used to carry out a correlational analysis, as values in the independent variables were represented by ordinal codes. Total weekly miles travelled by car, public transport and foot were used as the dependent variables. Broad trends were identified as follows:

• Age

Age was found to be negatively correlated with both household and personal income and positively correlated with tenure, i.e. older respondents were more likely to live in "owner outright accommodation" and lower age groups more likely to live in rented accommodation. There was no significant relationship identified between age and total miles travelled by car, but there was a strong positive correlation between age and leisure miles by car. These trends are likely to reflect the absence of journeys to and from work and work related journeys in the aggregate figure for total car miles amongst retired respondents in the sample and increases in leisure time for this group. Older people were seen to be less likely to travel by public transport but to travel more miles by foot, in particular for purposes of leisure and shopping.

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• Gender

Gender was negatively correlated with age and personal income, therefore women in the sample were more likely to be younger and on lower incomes. Correlations also showed that women travel significantly less than men by all three modal types i.e. car, public transport and foot. Correlations showed that women are less likely to travel to work by car and when they do so make shorter trips.

Household Income

There were strong positive correlations between household income and total miles travel by car, public transport, and foot and those on higher incomes spent more on travel, suggesting that those on higher incomes tend to travel longer distances for all journey types.

Personal Income

Personal income was highly correlated with household income but, while a strong positive relationship between personal income and total miles travelled by public transport was identified, no such relationship existed between personal income and total car miles. This suggests that within high income households there are individuals in the sample who use public transport for some journeys despite their access to a car. These public transport journeys were demonstrated to be primarily for the purpose of journey to work and leisure trips. A positive relationship between journey to work by foot and personal income was also identified.

## • Number of Children

A positive correlational relationship was identified between number of children and total miles travelled by car, while miles travelled by public transport and by foot significantly decreased with increases in the number of children in a household. However, when data for household with children and those without were compared it was not possible to establish that the presence of children in a household had a significant effect on journeys.

Having exposed initial demographic relationships in the data, stepwise multiple regression was used to establish a hierarchy of impact for these independent variables on the dependent variables of total miles by car, public transport and travel by foot.

Regression analysis demonstrated an extremely low R square reading for with each of these factors individually explaining less than .01 of the variance in total car miles. Multiple regression using including all variable still only produced 0.26 explanation of variance and is highly problematic because of multi-colinearity between the variables.

### 10.7 The Effect of Environmental Attitude on Car Use

It was hypothesised that there would be a negative relationship between in the data between levels of environmental concern and car use. Chi square was used as a suitable measure for analysis of attitudinal data to explore these relationships. Respondents were asked to rate their level of concern according to three categories, not at all concerned, slightly concerned, very concerned in the case of each of the following:

- access to the countryside
- deforestation
- acid rain
- air quality
- global warming
- the hole in the ozone layer
- loss of countryside
- loss of wildlife
- noise from traffic

Table 15: Attitudes to car related environmental issues, total sample

	Not Concerned	Slightly	Very Concerned	
		Concerned		
Access to Countryside	9.0	30.6	60.3	
Acid Rain	10.0	45.1	42.4	
Air Pollution	2.0	26.4	71.6	
Deforestation	5.1	25.9	66.8	
Global Warming	9.2	45.1	45.7	
Loss of Countryside	3.0	21.4	74.2	
Loss of Wildlife	3.4	22.5	74.1	
Traffic Noise	11.8	43.8	42.6	
Hole in Ozone Layer	8.1	41.3	48.0	

On the whole, respondents recorded high levels of concern on environmental issues; this was particularly apparent in connection with local impact, i.e. loss of countryside/wildlife, air quality and access to countryside, and less so on more global environmental issues i.e. acid rain, hole in the ozone layer, global warming.

The number of responses allocated according to levels of car use in chi-square tests of attitudes to air pollution, deforestation, global warming, and traffic noise of which the former is of particular interest in relation to this study, were seen to demonstrated significant differences between observed and expected values, as follows:

- Air pollution = .013
- Deforestation = 44
- Global warming = .006
- Traffic noise = .023

Correlations showed the relationship to be a negative one, that is as car miles increased concern about these environmental issues decreased and regression analysis confirmed that none of these factors explained variance in car miles above and R square value of .001.

## 10.8 Attitudes to Transport and Car Use

A second hypothesis was that there would be a relationship between attitudes to transport, i.e. driving, cycling, walking, use of public transport, and patterns of car use. The data showed that, on the whole, respondents enjoyed driving (76.7%), but the majority did not consider themselves car enthusiasts, i.e. 69.3% responded in the negative to this question.

Respondents were first asked how difficult they perceived different journeys would be without the use of a car. 25.8% said that the journey to work would be very difficult, 16.1% said it would be difficult and 26.5% said they would find this journey relatively easy. 66% of respondents said they would find shopping difficult/very difficult without the use of a car and 68.5% would find leisure trips difficult/very difficult without a car.

Those respondents who had indicated that the journey to work would be very difficult/difficult without the use of the car were asked to indicate what they felt made the journey particularly difficult. Of the 409 who responded (as applicable to the criteria for this question), 21.3% identified distance from their home to public transport facilities as the principal factor, 15.4% distance of work from public transport facilities, 22.5% multiple destination journey, 23.7% poor interchange facilities and 17.1% the cost of alternatives.

Respondents were then asked what improvements to public transport which would encourage their greater use. They were asked to respond "yes or no" to a variety of measures. Of the total sample, 53.3% agreed that cheaper fares would encourage them to use public transport more, 52.2% said that more frequent services would have this effect, 46% indicated increased reliability, 42.4% more direct services, 19.3% closer to home provision, 16.7% thought that cleaner vehicles were important,

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14.5% better staffing and 15.1% thought that other measures, besides those indicated, were needed.

Respondents were asked what made walking and cycling particularly difficult. Of the 748 that responded, 25.5% felt that poor road safety represented the greatest deterrent, 20% said that time constraints presented the greatest problem, 18.3% were worried about personal safety, 13.8% said they were prevented because of poor air quality, 13.4% said they were prevented by the weather, and 5.9% said that poor cycling and pedestrian facilities stopped them. Just over 4% registered other reasons why they did not walk which in most cases was recorded as being either for reasons of poor health or old age.

When asked if they were in favour of a number of traffic management measures generally promoted by local authorities as ways to reduce car use and encourage travel by means other than the car, responses were as follows:

Table 16:	Attitudes to	traffic	management	measures.	total	sample

Traffic Management Measure	Yes	No	Don't Know
More bus lanes	82.5	11.4	6.0
More cycle lanes	82.3	10.8	6.9
Increased parking restrictions on main roads	83.3	10.6	6.0
More pedestrian town centres	82.8	10.5	6.4
Residents' only parking zones	58.3	28.1	13.6
Traffic calming	51.1	40.3	8.6

The data indicated that while respondents are generally in favour of improvements to public transport, cycle and walking facilities, they are less supportive of measures to reduce car speed and flexibility on the road.

Finally, respondents were what they most and least liked about driving, results were as follows:

Table 17: Most like about driving

	%
Freedom	17.1
Relaxation/Pleasure/Control	13.8
Convenience/Reliability/Flexibility	12.7
Instant access/Door-to-door	12.0
Personal Space/Privacy/ Avoid public transport	11.8
Independence/Self-reliance	10.4
Sight-seeing/Exploring/Getting out/Access to countryside/The open road	10.2
Comfort/Safety	7.5
Time/Money Saving	5.5
Nothing	5.3
Thrill/Speed/Impulse/Power/Status/Everything	4.4
Carrying loads/passengers	4.0

Surprisingly freedom, relaxation, pleasure and control ranked higher on the list of "likes" (an aggregate of 20.95), than the practical considerations of convenience, reliability and flexibility 12.7%. Even when this percentage is aggregated with other practicality-based responses such as instant access and door-to-door service, recorded levels of 'lifestyle' and 'practical benefits' differ little. Indeed, if these perceived benefits from driving are broadly broken down into 1) attitudinal factors/influences and 2) system performance measures, it can be seen that there is little difference in the total contribution of the two factors (N.B. independence/self-reliance has been included in both categories, as it is unclear whether this is strictly referring to system performance

or attitudes)

# 1) Attitudinal Factors/Influences

Freedom	17.1
Relaxation/Pleasure/Control	13.8
Personal Space/Privacy/ Avoid public transport	11.8
Independence/Self-reliance	10.4
Thrill/Speed/Impulse/Power/Status/Everything	4.4

# **TOTAL %**

57.5

# 2) System Performance Measures

Convenience/Reliability/Flexibility	12.7
Instant access/Door-to-door	12.0
Independence/Self-reliance	10.4
Sight-seeing/Exploring/Getting out/Access to countryside/The open road	10.2
Comfort/Safety	7.5
Time/Money Saving	5.5
Carrying loads/passengers	4.0
TOTAL %	62.3

# Table 18 : Least like about driving

	%
Congestion/Traffic jams	68.2
Other drivers/Bad drivers/"Road rage"	28.4
Parking controls/Traffic calming measures	12.2
City/Motorway/Night/Bad weather driving	8.0
Pollution/Environmental damage	7.9
Road works	7.1
Stress/Fear of accident/breakdown/crime	6.7
Cost	5.5
Poor road conditions/facilities e.g. signing	4.0
Nothing	1.5

It could be seen from the recorded responses that respondents least factors which compromised their freedom of movement and/or driving flexibility. Only 7.9% recorded included considerations of the impact of driving itself in their "dislikes" (i.e. pollution/environmental damage), despite previous registering of high level concerns about air pollution (71.6%) in the environmental attitudes section of the questionnaire. The inference is that while respondents are aware of and very concerned about the environmental impacts car use in their local areas and more generally aware of and concerned about global environmental impacts related to car use, they do not equate these impacts with their own personal car use patterns.

It is evident, however, that an individual's decision to use a car for all or particular journeys is not simply a matter of choice, the data has demonstrated that respondents consider access to, efficiency and cost of alternative modes important factors in these decisions. Public transport is usually identified as the most practical alternative for most journey types and for the majority of people, conversely, poor public transport provision and access is most often cited as the single most influential factor constraining individual reductions in car use. Access to public transport and public transport services levels generally improve in areas with higher population densities and deteriorate in low-density areas i.e. rural locations. For this reason, it was expected that those car owners in the survey with better access to public transport, i.e. centre wards, would be less car reliant than those with poor access to public transport i.e. periphery wards. In order to test this hypothesis, the three sample groups were compared to determine whether geographical location has a major influence on car use and attitudes to transport.

## 10.9 The Effect of Geographical Location on Car Use

Clearly the areas in which people live would be highly likely to affect both their willingness and ability to substitute car journeys with other means of transportation. Sample 1 had been selected from wards in Inner London where public transport provision is relatively reliable, accessible and integrated in comparison with the Outer London and RoSE areas from which Samples 2 and 3 were selected.

Spearman's correlation was used to determine possible relationships between geographical locations and the independent variables of age, gender, household income, personal income and tenure. This was possible because the different sample groups broadly corresponded to Inner London, Outer London and RoSE splits. Sample 1 representing Inner London, Sample 2 Outer London and Sample 3 the RoSE areas.

Significant positive correlational relationships were indicated between location and age (i.e. older people tended to be more concentrated in Sample 3), children in household (i.e. more households with children were located in Sample 3) and tenure (i.e. people in Sample 3 were more likely to own their own home outright).

Significant negative correlational relationships were identified between location and household and personal income (i.e. those in Sample 1 tended to have higher levels of household and personal income than those in Sample 3) and gender (i.e. women were more concentrated in Sample 1). It was important to bear these distributional trends between samples in mind when considering the importance of the influence of geographical location on car use and attitudes to transport in the data.

Using partial correlation, geographical location was then tested against total car miles, total miles travelled by public transport and total miles by foot, controlling for these independent variables. Results indicated that positive correlations persisted between total car miles and geographical location when these other influences had been excluded. It was therefore considered relevant to pursue the influence of geographical location on car use further.

Chi square analysis demonstrated highly significant differences between sample groups and total car miles, total miles by foot and total miles by public transport. These differences were confirmed by an analysis of variance test, which gave variance in total car miles between sample groups an F value of 6.97329 (p = .001), variance between samples in total public transport miles an F value of 13.28252 (p = .0001) and variance in total miles by foot an F value of 6.80818 (p = .001).

Correlations showed that these relationships were positively correlated for total car miles, and negatively correlated for miles by public transport and foot, that is total miles by car was lowest in Sample 1 and highest in Sample 3, whilst the reverse relationship applied to total miles by public transport and foot. These relationship trends confirm the influence of geographical location on car use as hypothesised but present a conflict in the previous analysis which suggest that because Sample 1 is the highest income group it will also demonstrate the highest level of car use.

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Through investigation of line graphs plotting total car miles against household income in the case of each sample group, it could be seen that while geographically locations determine overall level of car use, affluence is a still a principle factor in influencing these levels within each sample group.

# Figure 10: Graph to demonstrate miles travelled by income levels in sample groups



Similar trends were identified for factor of gender, i.e. women consistently travelled less miles by car than men in all groups, however, women in Sample 1 and 3 were seen to travel more miles by car than those in Sample 2.



# Figure 11: Graph to demonstrate effect of gender on car use in sample groups

In terms of age the trends were more complex, graphs plotting the relationship between age and total car miles in the total sample demonstrated that between the ages of 26-65 years respondents tended to maintain approximately the same levels of car usage. While Samples 1 and 3 were seen to broadly reflect this tendency, Sample 2 demonstrated high levels of car use among the 17-25 age group relative to the other age integers.



Figure 12 Graph to show car use in sample groups by age

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It would, therefore, appear that young people on the edges of cities are more car-reliant than their counterparts in the inner cities and in the periphery.

The results of the regression analysis indicated that while Sample 1 travel significantly less miles by car in a week than those in Samples 2 & 3 and Sample 2 also travels significantly less miles by car than Sample 3, geographical location is an insufficient explanation of total car miles per week

It would appear that those in higher income households consistently travel more miles by car than lower household incomes and women consistently travel less miles by car than men in all three geographical locations. The influence of age on car use when considered in the context of geographical location is less clear, minor fluctuations in the level of car use were found in those respondents aged between 26-65 years. Under 26 and over 65 years demonstrated significantly lower levels of car use. In Sample 2 the 17-25 age group demonstrated high levels of car miles per week relative to the other age integers. This tendency may be as a result of a number of unknown factors, such as levels of local youth amenities and employment in the local area, or poor alternative transport provision.

Finally, as certain environmental concerns were seen to have a significant influence on respondents' total weekly car miles, namely air pollution, deforestation and global warming, it was considered relevant to include an analysis of variance in the level of concern between the sample groups. Kruskal Wallis 1-way anovas were used for this purpose, as environmental concerns were not normally distributed and tests needed to be carried out on more than two groups. Significant differences in the mean rank of the samples were identified in the case of air pollution and global warming.

Sample 3 showed significantly lower environmental concern over air quality than the other two groups (Significance = .0387; p = .005). This implies that those respondents living in inner city wards, where air pollution from traffic is particularly high, are more concerned than those living outside the London area where air pollution from traffic has a less immediate detrimental impact. Car miles are also lowest in Sample 1 and highest in Sample 3, it could, therefore, be suggested that those suffering the worst effects from air pollution will be less likely to contribute to it. This connection cannot, however, conclusively be proved within this study.

Global warming was seen to have significantly different mean ranks between all three groups (Significance = .0244; p = .01303), with Sample 2 recording the highest mean rank and Sample 3 the lowest mean rank. It is difficult to offer an explanation for this outcome.

### <u>Summary</u>

The conclusions drawn from a statistical analysis of car travel using distance travelled by car per week as the primary dependent variable, were that no single factor could be considered to have an significant influence on total car miles. Household income and gender were highly positively correlated with car miles but were not sufficient so as to explain the total variation in car miles across the sample groups. The analysis also demonstrated geographical location to be highly correlated with total miles driven in a week, in that the sample drawn from wards in Inner London drove significantly less miles than other groups and the Outer London sample drove significantly less than the respondents in the RoSE sample. Regression analysis illustrated that geographical location was an insufficient single explanation of total car miles.

These findings may be the result of other factors such as age, where the effect on car usage is less obvious. It was apparent from the analysis that respondents over 65 years consistently travel less miles by car across the sample largely due to the absence of work related journeys. The effect of this trend was made statistically less significant by the relatively high weekly car mileage of the 17-25 age band in Sample 3. The multi-colinear relationship between age and income and gender and income make multiple linear regression analysis problematic and mean that while all these factors may work together to influence total number of miles individuals travel, it is difficult to identify their combined effect.

The analysis also demonstrated that those with greater concerns about air quality and global warming and deforestation also drove less miles in a week, although it was not possible to determine whether this factor could be considered to independently contribute to low car miles.

### Chapter 11

# The Sustainability Implications of Existing and Projected Future Car Use in the Thames Gateway

### 11.1 Introduction

Although the data collected through the Travelling By Car Survey provided insufficient evidence to determine a single primary influence on car use, the survey provided sufficient information on miles travelled by car to extrapolate car use amongst the wider population of the Thames Gateway and to use this evidence to project future car use. This chapter describes the data sources and process that were used to undertake these calculations and discusses the implications of the outcomes of these projections for environmental sustainability. It is recognised that these calculations can provide no more than a crude estimate of the effect of car use on the environmental quality of the Thames Gateway and are intended as an initial indicator only. Detailed modelling and analysis beyond the scope of this research would be needed if the full effect of present development proposals for the regeneration of the Thames Gateway on car use, and thereby environmental quality, are to be fully understood and mitigated.

# 11.2 Data Sources

Calculations were done on the basis of the three sample group areas i.e. Inner London wards, Outer London wards and RoSE wards falling within the administrative boundaries of the Thames Gateway. The total population of the Thames Gateway was taken to be all those currently residing in households located within these wards. The 1991 Census of Population was used to provide an estimate of the total households currently falling within this description and to determine levels of car ownership within household for the three identified areas.

Average car miles for this population were based on those identified through the Travelling By Car Survey according to the three sample groups. On the basis of the car ratios to people in households also identified by this survey, car ownership was considered to be a measure of number of drivers in households i.e. two car households were also taken to be two driver households. Although it was recognised that multiple drivers within households may not themselves have the same level of car use, the average figure used was considered to have already controlled for the variation in use within households as respondents had been shown to be reasonably representative of the wider population. It was therefore considered that total car miles already represented a weighted average.

Calculations of a projected number of households in the Thames Gateway were based on the estimates provided by the local authorities themselves as identified through the development plan analysis stage of the research. Levels of CO<sub>2</sub> emissions were based on the figure provided by the DoT in their Evaluations of Road Schemes (1994) and adjusted according to speed on the basis of DETR average vehicle speeds for the year 1997. Total CO<sub>2</sub> emissions from cars have been calculated in the case of each area as follows:

TOTAL NUMBER OF CARS x AVERAGE MILES PER ANNUM ACCORDING TO AREA x CO2 PER MILE (KILOTONNES)

# 11.3 Existing Use

On the basis of the above formula, CO<sub>2</sub> emissions arising from private vehicle use amongst the Thames Gateway resident population have been calculated at an approximate total output of 1759 kilotons. This represents roughly one twentieth of the 1994 UK total.

## Table 19: CO2 Emissions from Existing Use

	House- holds	1 Car	2 cars	3+ cars	Average Miles p.a.	Total Miles p.a.	CO2 per mile	Total CO2 (KT)
Area 1	472321	226714	85018	18893	7020	3183065683	191	608
Area 2	433282	203643	134317	38995	7072	4167271613	158	658
Area 3	250377	115173	87632	27541	9568	3569454633	138	493

# 11.4 Future Use on the Basis of Existing Trends

On the basis of projected figures for new households to the year 2011, as identified by local authorities in their development plans, and a "do nothing" scenario for car use patterns, total CO2 emissions arising from private vehicle use for the year 2011 are projected as being 1986 kilotons. This represents a 12.8% increase on current levels.

	House- holds	1 Car	2 cars	3+ cars	Average Miles p.a.	Total Miles p.a.	CO2 per mile	Total CO2 (KT)
Area 1	527421	253162	94936	21097	7020	3554395603	191	679
Area 2	468482	220187	145229	42163	7072	450822397	158	712
Area 3	302077	138955	105727	33228	9568	4306506377	138	594

Table 20: CO2 Emissions from Future Use in a "Do Nothing" Scenario

## 11.5 Future Use Adjusted

Projected figures for future use were adjusted on the basis the hypothetical situation that the introduction of new public transport provision and car restraint policies in the Thames Gateway area would be sufficient to provoke a change in the level of car use to the extent that Area 1 would continue in its present car ownership and use patterns, Area 2 would adopt the car ownership and use patters of Area 1, and Area 3 those of Area 2.

	House- holds	1 Car	2 cars	3+ cars	Average Miles p.a.	Total Miles p.a.	CO2 per mile	Total CO2 (KT)
Area 1	527421	253162	94936	21097	7020	3554395603	191	679
Area 2	468482	224871	84327	18739	7072	3180580516	158	503
Area 3	302077	141976	93644	27187	9568	3930770921	138	542

## Table 21: CO2 Emissions from Future Use (Adjusted)

### <u>Summary</u>

In the event of such a scenario it is estimated that CO<sub>2</sub> emissions would be reduced by 2% of their present levels and could prevent 11.6% of the rise in predicted future levels. It has already been noted that a number crunching exercise of this nature can only be used as an indicator of trends and it is recognised that these projected figure do not take account of a number of factors. In the first place, journey speeds may change as a result of increased congestion and this would lead to higher concentrations of CO<sub>2</sub>. Conversely, congestion may serve to suppress car use, particularly at the London end of the Thames Gateway and around the Kent Thames-side area where the existing road capacity will have reached its full capacity.

It is also likely that, given the regeneration scenario, household composition will change. Increased affluence will lead to increased car ownership and use on the basis of current car ownership trends. This would obviously increase the projected figures for emissions radically. Furthermore, new public transport alternatives may become available over the considered time period and this could lead to modal shift. Nevertheless, the projected figures do serve to illustrate the magnitude of the transport and sustainability problem in the regeneration of the Thames Gateway. The government are currently committed to an international agreement which promises to reduce CO2 emissions in the UK by 80% of their 1988 levels by 2005. The Thames Gateway accounts for 5% of all CO2 emissions from car use at the present level of private vehicle use. On the basis of these calculations this could rise by nearly 12% by 2011, as a result of the Thames Gateway housing development policies alone. In order to reduce current emissions levels by 2%, policy makers and planners would need to develop strategies to control private vehicle use to the extent that Outer London residents assume the car use characteristics of their Inner London counterparts, while those living in Kent and Essex would need to emulate Outer London use patterns. From previous analysis, present policies clearly fail to match the rigour of these requirements.

### CHAPTER 12

### **Conclusions and Recommendations**

### 12.1 Summary

The programme of research discussed in this document was designed to evaluate policies directed towards the achievement of a 'new environmental standard' for the Thames Gateway through the regeneration process. The particular focus of the research was transport policy as it relates to new and existing developments in the defined study area. The impacts of these policies were explored through a variety of methodological approaches, and by exploring current patterns of travel and attitudes to transport within the area.

The research aimed to explore the potentially conflicting relationship between regeneration, which tends to increase travel demand, and policies to reduce reliance on private motor vehicles. It has argued that for the regeneration process in the Thames Gateway to be sustainable by the government's own definitions, as advocated within the planning framework for the region, new development should be focused on a comprehensive and efficient public transport network which is also linked to the existing urban fabric and the travel needs of local communities.

Through a review of the early policy documents, produced to explore the potential for regeneration in the East Thames Corridor, this study has confirmed identification of the region as a logical geographical focus for development attention in the south-east of England up to

and beyond the year 2010. It concurs with the four primary reasons affirming the suitability of this planning approach, put forward by these documents. These are:- overheated development to the west of London; proximity to the capital's centre; the abundance of under-developed/derelict sites across the region; and, a desire to maximise the development benefits likely to arise from the Channel Tunnel Rail Link.

Through an analysis of the policy literature, the study has demonstrated that inadequate transport access to vacant sites resulting from poor infra-structural provision has, in the past, and continues to, act as a major constraint on the development potential of the region. For this reason, improvements to the transport network of the area have been identified programme by policy makers and planners alike as of primary importance to the regeneration process. The research concurs with this evaluation of the present transport scenario in the Thames Gateway.

The research has argued that in order to understand the full travel demand implications of new developments in the Thames Gateway, plans and policies should be evaluated in the broader context of redevelopment and regeneration theory. The literature review established that transportation investment has often been seen to play a primary role in the regeneration process. Traditionally, new transport infrastructure has been seen to act as a catalyst for increased economic activity in the areas it serves and consequently publicly funded transport projects have been used as the major 'pump-priming' impetus for regeneration. Despite the uncertainty surrounding the nature and extent of the link between transport infrastructure investment and increased economic activity, it is difficult to imagine how regeneration of the Thames Gateway could be brought about in the absence of new transport infrastructure as so many of the proposed sites are in remote locations and poorly served by transport links. The policy review established that issues of access and mobility have remained central to the Thames Gateway regeneration strategy. The research has demonstrated that policy-makers, planners and developers believe development and redevelopment of key sites across the Thames Gateway to be largely dependent on the provision of new and enhanced transport links across the region. In addition, the policy review recorded a recognition among these 'agents of change' that the transport network serving the Thames Gateway must provide, not only the possibility of increased distribution and access to and from newly developed sites; thereby improving their trading abilities, but must also serve to secure improved integration of these sites into the region's existing transport network.

Regeneration, in the context of the Thames Gateway, has been defined within the study as the need to bring about a reversal of the region's physical, environmental and socioeconomic decline. The Thames Gateway initiative has been conceptualised by the research, as a unique departure from the traditional regeneration model in the UK. The reason for this is twofold. Within the Thames Gateway planning framework there is an emphasis on the inclusion of a broader framework for revitalisation, beyond purely economic considerations i.e the need to raise environmental standards as part of the development process. Secondly, the framework for regeneration is set within a regional, rather than the traditional local urban context. The first of these departures, whilst superficially compatible with traditional programmes for regeneration, does present something of a problem for previous transportation models as they relate to the regeneration process because it identifies the development process in the Thames Gateway as part of the new sustainability agenda.

The research has demonstrated that, in response to this sustainability agenda, the discourse that informs current transport policy has shifted from a position which advocated a supply-side, "predict and provide" approach, towards a belief that demand management is necessary, in order to control and eventually restrain inessential car use. In the past, however, British regeneration initiatives have been largely promulgated via increases to the road network in the relevant areas identified for redevelopment. The new transport policy discourse recommends measures that aim to divert the predominance of personal travel away from cars and into more economically, socially and environmentally sustainable modes of transport and questions the perceived wisdom of 1980's roads expansion programmes. Currently, policy provides that land use and transport planning should be integrated in ways which reduce the need to travel by providing home/work/amenities in close proximity to each other; and in direct locational relationship to the public transport network. This effectively implies that if the Thames Gateway regeneration initiative is to meet its aims to bring about development which is capable of raising the environmental standard of the region and fulfil the criteria of sustainability outlined in RPG 9A, it must review its approach to transport provision and accessibility.

One feature of the research, therefore, has been to explore the potential epistemological dilemma this new transport policy direction presents for traditional models of regeneration. It has been argued that the new challenge for contemporary regeneration strategies, such as the Thames Gateway, is to find ways to secure high levels of development benefits without the need to increase the roads network. The literature review identified that some transport economists now suggest that the link between roads and prosperity was always a tenuous one. Indeed, Whitelegg goes as far as to argue that expansion of the transport

infrastructure does not necessarily increase the development potential of an area, conversely it may reduce it in some instances. More generally, it has been argued that, while new roads may not be essential to increased prosperity, redevelopment and regeneration is still highly dependent on improved transport links. It is hereby argued that, in the instance of the Thames Gateway, this is a more tenable hypothesis to adopt.

The research has taken the position that, in the case of the Thames Gateway, there is an essential link between increased access and regeneration. In the light of the recent critique on roads and prosperity offered in the literature review, however, the research argues that this should not be based on a roads-led approach. It advocates an acceptance that demand management of the road network is vital if the negative economic and environmental impacts of congestion arising from major new traffic generating developments are to be controlled. From this perspective, it is argued that transport plans for the Thames Gateway should be focused on providing a network of public transport alternatives, well integrated with existing and planned developments. The research has illustrated that this approach is also advocated by all major regional and local policy-making institutions involved in planning the area (e.g. SERPLAN, LPAC, ALA).

The research does, however, recognise both the political and financial dilemmas that the implementation of a public transport led model of regeneration presents. A review of public transport impact studies has shown that insufficient empirical evidence exists at the present time to support claims of clear causal links between public transport infrastructure improvements and increased economic and regeneration activity in the areas served. From this point of view, large public investments in new public transport projects in the Thames Gateway are both economically and politically risky. The research has also demonstrated that private finance for public transport projects is notoriously difficult to secure (e.g. DLR Extension to Lewisham and the limited Olympia and York involvement in the JLE).

The study has argued that in most circumstances there are four primary constraints on the implementation of sustainable transport policy. These have been identified as:-

- the relatively small opportunity for redevelopment of urban areas;
- the insufficiency of the public transport network to provide adequate development opportunity;
- the lack of available finance to improve the existing transport network;
- evident public reluctance to accept public transport as a viable alternative to the car.

It has also been argued that attempts to introduce more sustainable patterns of transport (i.e. a reduced need to travel and reduced reliance on private motor vehicles as the primary mode), is further undermined by the powerful discourse that exists within the media and the more general lifestyle aspirations of the public. The argument has been advanced that this discourse serves to reinforce public preferences for private motor cars over other forms of transportation. The result is that, despite a general and increasing public recognition that car dependency has numerous negative impacts on the structure of society, the local and global environment, the urban fabric of our cities and 'quality of life', there is a huge reluctance to give up or reduce car use.

Through review of literature, the research has described a physical dependency on the

car which stems from the rapid and flexible nature of car travel when compared with other modes. In a society where demands on time are heavy, many individuals feel they would be physically incapable of managing the many duties expected of them without the use of their cars. In addition, the car has transformed the built environment so that people are able to travel further between home, work and other amenity locations. Meanwhile, developers and providers of amenities have chosen to locate on out-of-town, green-field sites which can cater for primary access by car. The consequence of these trends is a society that is economically and structurally dependent on the car and this has been termed *physical* car dependency.

Aside from this physical dependency, the research has used theoretical and empirical examples to argue an *emotional* or *lifestyle* car dependency also exists. The research takes the position that, in the light of this emotional dependency, it will be extremely difficult to persuade the general public into more sustainable patterns of travel. For this reason, the research argues that regardless of improvements to the efficiency and scope of public transport provision, car users will continue to prefer their cars because of the status, power and privacy they offer. An over-arching recommendation of the research is that far more consideration of this emotional dependency should become an explicit part of any future transport policy and implementation strategies.

On the basis of this background analysis, the empirical research involved evaluation of implementation of sustainable transport policies in the Thames Gateway using existing government policy definitions of sustainability within the transport sector as recorded by PPG 13. The evaluation demanded the development and refinement of a two-stranded research approach. The first of these has been an investigation of the adequacy of public transport

provision to proposed developments identified as potentially high traffic generators, through a qualitative analysis of local development plans. The second element of the empirical study involved the collection and evaluation of the travel patterns, behaviour and attitudes of local car drivers resident in the Thames Gateway area, by means of a household travel survey.

Local and regional development plans for the Thames Gateway were used to provide background data for the first strand of the empirical research study. A number of background factors within the planning frameworks outlined in these plans were identified as running counter to the implementation of a sustainable transport and regeneration strategy in the Thames Gateway. At the most basic level, both the present level and structure of transport funding denies the possibility of bringing forward the necessary new and improved public transport infrastructure required to provide sufficient access alternatives to the car. The problem here has been identified as three-fold; in the first instance cut-backs in the level of public funding in all aspects of social provision make the prioritising of transport spending difficult to justify. This problem is exacerbated in the instance of transportation in that, it is not seen as an essential civil amenity by the majority of the tax-paying public. The importance of funding existing and new public transport networks is, thereby, down-graded in the light of what are seen as more pressing public concerns about the need for increased health and education spending.

Secondly, the government's focus on private finance initiatives to provide the necessary funding for public transport projects is problematic. Transport infrastructure investment is generally regarded by the business world as a poor investment because it demands the commitment of large sums of money at the inception stage of a project, alongside

profit projections that are unlikely to be realised in the short-term. In the case of public transport schemes, this is also occurring in against a background of diminished demand.

Thirdly, the relatively low levels of development intensity at the Kent end of the Thames Gateway mean that public transport does not currently provide the most cost-effective option. It has been suggested that current passenger demand would be insufficient to generate the level of services needed to make either them, or the developments they serve, financially viable.

Running alongside these financial constraints, the current planning system was also identified by the research as incompatible with the aims to plan public transport and land-use in an integrated fashion. This is because the lead in time of transport projects are far longer than those of other developments, the planning time-scale for most major transport projects is approximately ten to fifteen years, whereas obtaining planning permission for buildings usually takes between one to five years. This means that in order to ensure that the necessary transport infrastructure is in place in time to serve major new developments, such as those being built and planned for in the Thames Gateway, long-term forward planning is essential. This means that in a situation where central and regional government expectations for the transport needs of an area change, the planning system is insufficiently flexible to respond to the new situation. The result is, therefore, a non-prescriptive transport planning framework responding to the location decisions of developers rather than directing development towards a transport network planned to serve development sites.

The research has identified that the Thames Gateway is representative of such a

scenario. Its regeneration was originally based on access provided by the M25 and major improvements to the roads network in Kent. Planning permissions were given for major traffic generating developments on the basis that planned improvements to the road network would provided the necessary additional capacity to absorb increases in travel demand in the area. Since this time, the 'new consensus' in transport has emerged and it is now realised that if the Thames Gateway is to remain economically viable and environmentally sustainable into and beyond the next century, access to amenities and attractions in the corridor cannot be solely roads-based. Due to the lengthy lead in times needed for the introduction of new transport provision in the area, however, development has been allowed to go ahead following the originally planned roads-based transport model and planners now aim to retrofit public transport alternatives as and when funding can be secured.

The policy analysis element of the research has therefore demonstrated that it is primarily as a result of these past planning decisions that new developments in the Kent-Thames-side section of the Thames Gateway will be served primarily through the major increases to the roads network. These new roads, largely planned on the back of the Channel Tunnel Rail Link, are, however, only capable of providing adequate capacity at the Kent end of the Thames Gateway to meet increases in travel demand until approximately 2010. Interviews with planners and policy-makers carried out as part of this research, confirmed the view that the initial stage of the regeneration process in the Thames Gateway has been dominated by the M25 because planning permissions for many of the projects pre-dated the new sustainability discourse laid down by PPG 13. The research concludes that car restraint policies applied retrospectively to these developments as they are currently proposed, will do little to control the increases in the number and length of private car journeys, because they are based on the fragmented and short-term strategies of individual planning authorities and are thereby incapable of taking account of the strategic demands of the region as these relate to issues of sustainability.

The research finds, therefore, that while the reasons for continuance of a roads-led model for regeneration at the early stages of the Thames Gateway regeneration process is understandable, it creates considerable tensions for sustainability. It should be emphasised that an explicitly stated aim of the Thames Gateway Planning Framework was to bring about a 'raised environmental standard' through the development process.

The research has identified that a great deal of emphasis is placed by planners and policy-makers alike on a shift in public attitudes to transport and subsequently travel behaviour. For this reasons the empirical research has placed considerable importance on current travel patterns and public attitudes towards transport in the Thames Gateway. Through the dissemination of a 'Travelling By Car' survey among a sample of car owning residents in the Thames Gateway, the research aimed to explore the extent of physical car dependency amongst car users. It also sought to examine lifestyle elements of car dependency and the extent to which car users in the Thames Gateway are resistant to use of public transport for some or all journeys as a result of this.

In order to control for the influence of the inadequacy of the existing public transport network in some parts of the region, the sample was stratified into three groups representative of differing public transport conditions in the Thames Gateway; Inner London, Outer London and the Regions. The survey aimed to gathered data to test the hypothesis that, regardless of significant improvements to the public transport network in their areas, car users aspirational dependency would make them resistant to modal shift.

The survey was able to demonstrate that all respondents were heavily car reliant for most journeys, but respondents in the Kent and Essex areas of the Thames Gateway are particularly so.

On average, respondents were seen to travel approximately 160 miles a week by car with journeys to and from work accounting for 35% of all trip miles, closely followed by leisure trip miles which accounted for 29% of total miles travelled. Use of public transport was shown to be consistently low across all three sample groups with approximately 65% of the sample not using public transport at all.

These research findings would suggest that, while car ownership is currently low within the Thames Gateway, those who do own cars are dependent on them for most journeys and demonstrate relatively high levels of car use compared with the national average (driving over 7,000 miles per annum compared with a national average of approximately 5,500 miles). In the context of a regeneration scenario, where increased affluence will tend to lead to increased car ownership and a correspondent increase in car use, the patterns of travel behaviour and attitudes to transport of the existing population as demonstrated by the sample, do not bode well for the future sustainability of the Thames Gateway.

Data on total journey miles from the Travelling by Car Survey and projected figures for new dwellings from local authority development plans were used to estimate the
sustainability implications of projected car use, on levels of CO2 emissions. Just under a 12% rise in CO2 levels was estimated as arising from these current policies and as current CO2 emissions in the Thames Gateway represent approximately 5% of the UK total from this source, this increase is judged to have serious implications for the future sustainability of the region. Calculations on the basis of adjusted levels of ownership and use sugggest that planners and policy-makers will need to undertake a radical (if not draconian) programmme of car restraint across the region to achieve present government agrees targets for CO2 reduction.

### 12.2 Conclusions

The research, therefore, concludes that the considerable increases in traffic which will arise from improved car access to and on-site car parking facilities at presently proposed developments in the Thames Gateway, is in direct conflict with the stated sustainability policy objectives. It is anticipated that they will lower, rather than raise the environmental standard of these areas. Furthermore, because it is more difficult to make retrospective adjustments to travel behaviour than to establish sustainable mobility as part of the de novo development process, these new transport journeys will present considerable problems for the introduction and use of public transport networks at future stages of the regeneration process.

The policy analysis stage of the research led to the conclusion that increases to the road network, will serve to undermine the aim to reduce reliance on the car. It is concluded that a regeneration process based upon a roads-led model, is therefore, in direct contradiction of the sustainability aims of PPG 13. In the short to mid-term, this model describes that being

applied in the regeneration of the Thames Gateway.

In the mid to long-term scenario, vision documents, site specific transport plans and interviews with planners, transport consultants and developers actively involved in planning the future for transport and regeneration in the Thames demonstrated that integrated land use and transport planning and the provision of highly efficient public transport services to new developments in the Thames Gateway is treated as an extremely serious issue by transport professionals. This review demonstrated that a number of detailed and often innovative documents currently exist, which aim to offer comprehensive access and mobility by public transport in the Thames Gateway in the longer term.

Examples of these proposals included the Kent Thames-side Metro, Havering Riverside Tram and the Ebbsfleet Urban Village and the Millennium Exhibition Transport Plans. Interviews also have identified that both the Thames Gateway London Groups Partnership and Kent Thames-side are undertaking studies to identify potential gaps in the present public transport network on a strategic basis, with a view to developing further public transport proposals to address weaknesses in the present network.

The research has, however, been unable to identify clear statements of funding intention for the majority of these initiatives. Empirical evidence suggests that congestion would have to considerably worsen before most developers and investors would be prepared to take an active responsibility for public transport financing. The study concludes that one of the major factors informing this position is a popular belief amongst the private sector that alternatives to the private car are so unpopular any attempt to introduce them would result in "economic suicide" as people would prefer to trade/work elsewhere rather than abandon private modes of transport and travel by public transport.

Statistical analysis of the survey data led to a number of conclusions about patterns of car travel and attitudes to transport within the Thames Gateway and would tend to confirm this opinion. The outcome of the survey would suggest that, regardless of the availability of public transport alternatives, far greater car restraining policies are needed than currently exist or are proposed, before residents and visitors will consider leaving their cars at home. These restraint measures must be applied evenly across the Thames Gateway, otherwise car users will simply transfer their activities to areas where they are applied less rigorously. The conclusion is that policy-makers and planners still have a long way to go in finding politically acceptable, equitable and legally enforceable ways to establish new and sustainable mobility. This is particularly pertinent in the south-east where travel patterns are so complex and home/work/amenity transport interactions so dispersed.

Responses to qualitative questions about driving contained in the survey made it possible to confirm that choosing to travel by car is as much informed by lifestyle as physical considerations. References to freedom, power, control, thrill, privacy and status were raised by respondents and were seen to have as much influence on the choice of car as the preferred mode of transport as more practical considerations as door-to-door service, better access etc.

There are, however, a number of key issues that the survey was incapable of recording but which would strengthen the arguments presented by this research. In the first place, a number of major new public transport services will become available to residents of the

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Thames Gateway over the next few years, namely the Jubilee Line Extension, the Docklands Light Railway Extension and the domestic service on the Channel Tunnel Rail Link. In order to better understand the nature of and extent of both physical and lifestyle car dependency in the area, it would be appropriate to monitor the impact effects of these projects on patterns of travel, public attitudes to transport and business investment and location decisions in response to the new infrastructure. Future research should aim to offer empirical evidence on the relationship between public transport investment and increased economic activity. In addition, it should aim to explore relative public acceptability of different modes of public transport services and the effect of improved service quality, frequency and reliability on patronage through the utilisation of empirically robust research designs.

Secondly, more focused research is needed on the effectiveness of transport awareness campaigns in alerting car users to the problem of transport and sustainability. In the absence of significant increases to the level of funding for new public transport projects in the Thames Gateway, a regional travel awareness campaign may prove to be one of the few available action strategies for reducing car use left to local planning authorities

The research concludes that the planning framework for the Thames Gateway will be incapable of delivering a sustainable model of transportation in the short to medium term. It has failed to take up the opportunity to plan land use and transport together in a sustainable manner, but it is questionable that this opportunity ever existed. The research has demonstrated that the planning framework for the Thames Gateway suffers from the legacy of a 1980's model of transport planning, based on the belief that demand for private car use should be met with increased supply through road expansion projects. The outcome of this approach has been the development of major flagship projects linked to the roads network, which will tend to increase private vehicle use as the primary mode of access. Planners and policy-makers in the Thames Gateway must now attempt to mitigate the negative environmental effect of these earlier policy decisions in order to meet the aims and objectives of a new sustainability agenda.

The research has shown that these 'agents of change' already recognise the need for this policy shift. It is the opinion of this research, however, that far too much reliance is being placed within the new policy agenda, on the ability to change public attitudes to transport and thereby travel behaviour in the absence of prescriptive policies and programmes to bring about this desired change. Eliciting mass social behavioural change is a notoriously difficult process, as has been demonstrated by previous public health campaigns to overcome problems such as drink driving and smoking. By comparison, the ill-effects of over-dependency on private vehicle use is less directly damaging to the drivers and will need far more powerful measures The research has demonstrated that these measures are generally unavailable to to control. local authorities, and planners are expected to bring about major social change with unevenly applied, piecemeal policies. These are particularly inadequate in the instance of major regional redevelopment and restructuring where internal competition for development often means that one local authority will relax its pre-development environmental requirements in the interest of meeting targets for inward investment and increased employment activity and to prevent developers moving to another borough with their scheme. In the absence of a strategic level of planning for the Thames Gateway, which prescribes clear environmental evaluation criteria for the acceptance of proposed teams, which would include consideration of their strategic traffic generating potential, it is difficult to see how the Thames Gateway can promote a strategic programme for sustainable development.

Public policy linked to utility provisions and services, delivery of such a programme is constrained by the level of available finance in the immediate term. People are unlikely to voluntarily choose to transfer from their cars onto more sustainable mass transit alternatives in the absence of an integrated, efficient and high quality public transport network. Provision of such a service is particularly important in an area which strives to increase its level of economic activity through increased development because of the reliance of regeneration on access to new markets. In the Thames Gateway, significant gaps remain in the public transport network, both between London and Kent and internally to development areas such as the Kent Thames-side area and the riverside at Havering. New development areas are also poorly linked to existing communities. If a sustainable transport future is to be secured in the Thames Gateway, public transport infrastructure spending must be seen as a principal requirement of this aim. In addition, individual local authorities' car restraint measures should be reviewed strategically and a programme devised which can be applied evenly across administrative boundaries in order to ensure consistent and comprehensive delivery.

### 12.3 <u>Recommendations</u>

In many ways the potential of this research has been in identifying the essential preconditions necessary for the introduction of a sustainable transport and regeneration strategy in the Thames Gateway in order to stimulate and provoke policy-makers and planners to review the existing transport strategy for the region and to refocus the development focus towards a public transport led accessibility model. The recommendations of the research are as follows:

- 1. A consensus must be established between national, regional and local policy makers on the definitions of and implementation strategies for a sustainable transport strategy and most importantly between the planning officers involved in the Thames Gateway, so that consistency of approach can be applied;
- 2. The artificial administrative divide between the London and Kent end of the Thames Gateway should be dissolved and transport planning committee for the region established with a remit to strategically assess the transport network, identify major gaps in public transport provision and secure funds to address shortfalls in provision.
- 3. New funding strategies for transport need to be found in order that public transport alternatives can be brought forward, in particular the Woolwich/Union Metro, Kent Thames-side public transport network and Havering Riverside proposals should be given priority funding. A possible solution to this dilemma could be to introduce a pricing mechanism which directly charges companies, who derive considerable indirect benefits from the public transport network, for the transport infrastructure which services their business.
- 4. All developments in the Thames Gateway should evaluated according to their strategic traffic generating potential using targets for reductions in CO2 as a convenient indicator of sustainability and future development proposals rejected if developers cannot bring them forward according to sustainability targets for access

- 5. All policies with traffic generating implications (i.e. employment, housing, leisure) as outlined in the Development Plans of all nineteen Thames Gateway planning authorities should be included in the sustainability evaluation of the Thames Gateway as above.
- 6. Once the transport implications for sustainability of regeneration policies and programmes have been established, incremental targets for reduction in CO2 emissions should be set and monitored according to a specific reduced car use criteria identified sites.
- 7. Car restraint policies should be devised and targets applied evenly across Thames Gateway authorities so that a more level playing field needs can be established, in this way developers who are prevented from bringing forward traffic generating projects by one planning authority realise there is little or no advantage in locating elsewhere to avoid car restraint policies and the general public will be less able to relocate their activities in order to avoid these restraints.
- Planners must establish processes which more easily facilitate partnerships and alliances between local authorities, major developers and public transport operators to ensure more integrated and improved accessibility by public transport.
- 9. Mixed use development should continue to be encouraged so that people carry out their work/home/amenity activities in close proximity to each other but it must be recognised that, once a development has been allocated as mixed use, individual elements cannot be brought forward i.e. the housing component of the development should not be allowed

to progress in the absence of other development uses and vice versa

- 10. Direct incentives to work inside of the area of residence should be found in order to encourage people make more sustainable home/work location decisions. For example, the London Weighting Allowance could be restricted to include only those who live and work in the Greater London area and the savings to employers used to fund improvements to the public transport system in London.
- 11. A re-conceptualisation of car-ownership and use is a primary pre-condition to the success of both incentives and disincentives to reduce car use. Car travel needs to be seen as an occasional luxury allowing the predominance of urban areas to be set up as car-free zones and eventually car-free cities. It must be recognised that this is highly unlikely to occur given the over-riding influence of capitalism on western ideology.

The research has made it clear that the theoretical framework for planning sustainable transport and regeneration in the Thames Gateway is in place but in order to convert the theory into practice and prevent an 'upwardly mobile' car use scenario arising from the regeneration process a pro-active approach is needed. It would appear that reluctance to adopt a hard-line approach on the part of planners and policy-makers is well founded. This arises from the pressure on local planning authorities to secure increased inward investment in the immediate term and the lack of public acceptance of the practical measures that would make such policies politically viable. In addition, there is little government legislation to directly support planners in their efforts to introduce car restraint measures making implementation extremely difficult for any local authority. In the case of the Thames Gateway these difficulties are exacerbated because of the specific policy remit to bring about regeneration.

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# Appendix I

Interview transcripts

### **INTERVIEW 1: DOT GOVERNMENT OFFICE FOR THE SOUTH EAST, 28.2.96**

RPG 9A: Thames Gateway states that it is to be developed according to the principles of sustainable development, in terms of transport PPG 13 refers to reducing reliance on private motor cars and reducing the need to travel. However, the main development proposals of the Gateway, particularly in the Kent-Thames-side area are principally only accessible by roads, public transport is poor in the area. These developments are all major trip generators, I'm thinking in particular of Bluewater Shopping Centre, London Science Park, Ebbsfleet and Crossways Business Park and accessible almost solely by car. How can the current transport strategy be justified, environmentally and economically?

I head a small team that covers the transport team of Kent. To some extent we're finding our own way at the moment in the light of considerable changes in transport. Up until a couple of years ago, our main job was to look after the trunk roads, that's not what we do any more because the Highways Department deals with that. So the role we're doing is managing from a central department, we do some work with local authorities, especially on their TPPs. As far as wider initiatives go we see ourselves as partners, contributing the DoT view.

In terms of the Gateway we work in two ways, we are involved with Kent Thames-side and we represent the Highways. We have particular concern about what the proposals will mean for trunk roads and the other is a territorial concern over the Gateway as a flagship in the area we cover. As far as the Thames Gateway goes is essentially being seen as a flagship and therefore we do need to be seen to promote public transport as far as possible. We feel keen to try and get land-use and transport strategies which will try to meet the objectives which Ministers are setting.

We have actually supported a study which is currently underway with Dartford, Gravesham and Kent County Council on Land-Use and Transport in the Kent Thames-side & Ebbsfleet. Much of RPG 9A is pitched at a very general level and this study will serve to be more specific.

My personal view about the problems with Bluewater, is that you're absolutely right. There are things which are anomalous with PPG 13 in the Gateway plans and Bluewater is one of them. Another example which is even more difficult to is justify is the blueprint for the International Station at Ebbsfleet, which at the moment provides for a rather large number of car parking spaces and that indeed was one of the fundamental deals with Union Rails that allowed it to be part of the CTRL project. Ministers were very keen it should happen here, with all the local regeneration and so on. I think now with Ebbsfleet the position is complicated because there are now two very big players in the game, the Branson Consortium which is going to rebuild the railway and Blue Circle.

There is a bit of tension there at the moment with Blue Circle and the local authorities, their planning application for Ebbsfleet which they turned in a couple of weeks ago is a very broad outline of their plans for development in the Ebbsfleet area. Because Blue Circle are such a big player in the game they almost function as a planning authority in their own right. It sometimes feels like they own Kent and I think Dartford and Gravesham have been reluctant to see the pace forced as to what development might look like, by Blue Circle. They themselves have only just finished the consultation on that vision document.

As far as Bluewater is concerned, the issue of shall this huge regional shopping centre go ahead, is a dead one, it will happen. PPG 13 when it came out two years ago, a lot of people said "Oh what a lovely idea". However, it would have been an even lovelier idea ten years ago. You have planning permission running around the system for out of town shopping centres which you can do nothing about because you cannot apply these things retrospectively. Bluewater pretty much precedes PPG 13 and it is an open question, what would have happened if PPG 13 had been around when the proposals for Bluewater came along? I think it would have been very tempting to still go along with it actually.

There is a debate going on about Ebbsfleet and its car parking facility, however, it is not a debate in which government can get directly involved. In a sense, we have already committed ourselves to the car parking in having worked the legislation which provides for that sort of thing, so to some extent that is going to be a matter of commercial negotiation between Blue Circle in terms of alternative provision for their part of it and the railways which has got its commercial vision, and we shall have to see what

emerges from that. Much as I would like to say, "Look, we don't want that sort of traffic attractor here, especially in terms of domestic attractors to the station, I don't think there's much chance that we will get involved.

Looking to the future, I think there is much more scope and I think the government is interested, as the other parties are, in asking what can be done towards providing something which is more sustainable. The two things which are being done is the Transport and Land-Use Study by Kent Thames-side and includes Ebbsfleet. The premise for that study is that if you look at that development which is approximately 30,000 houses and take the conventional traffic generation that comes from that, you probably couldn't get a road network that can cope with that, even if you do complete the STDR route and therefore you've got to look at public transport and you got to look at it in two ways. How can you have public transport which can get there and how can you get development which is suitable for public transport? And I think siting as well, so far not much attention has been given to siting.

There is a commitment, everybody needs something that will work, the government needs something because its a regional development strategy, local government if they want the development for jobs and so on, Blue Circle clearly want something to work because they want the strong connection with industry.

The routes that are there will not solve the transport problem and I don't think there's any possibility of us funding additional roads, other than perhaps the A2. That brings me to your comment about there being no money available for the Kent Thames-side transport vision. In recent public transport spending the department has taken quite strong cuts, for roads too, but I don't think you can rule out the chance for public funding but we would expect that some sort of public transport system, not necessarily a light rail system but probably that, would be needed in order to get the development to work. We would expect to see quite considerable amounts of private sector funding for that, in ways that this has been done before in Manchester and Croydon. In the North Kent area, it should be easier to get the private sector to back us because it knows it needs it. Blue Circle is quite intimately involved in what local authorities are doing and knows the position with government funding.

In the short term, road pricing is an idea which the government has toyed with for some time and I think that in terms of urban areas we can't get away from it forever and it is more of a question of adopting the right policy. Informally, I think that people have accepted within the Department and even within the treasury that the money raised should go to finance local public transport. But that's very much in principle and we're not at the stage where road pricing is about to be brought in.

Meanwhile we look to local authorities to come forward and say these are possible ways of easing things. What we have, and its been a success of sorts, the package approach to local transport, I think we should be seeing a package bid coming in for the area. In terms of buses, we would hope that planners will come up with that sort of local strategy, I mean its not the sort of thing we can come up with here. Another thing we will be looking at, in terms of the local area at will be what are the appropriate parking standards for the area and again that's difficult.

The government interest has been away from what is happening at the moment and what can be done for the new set of developments. Development is on such a big scale that its not worth giving up at the moment because there's still a lot we can do, but its the developers that have the money.

There has been a perceptual change in government policy over the last few years and we are still coming to terms with that. We know what we want to do but we don't yet know how to achieve it. There is still a tension in the Conservative party between preservation and free market supporters.

In reaction to the Royal Commission on Environmental Pollution Report there has been a national transport debate, the Department, not unreasonably said, that it was an incomplete document because it didn't really talk about the economic and lifestyle effects on what it was proposing. As an environmental audit it is a cracking piece of work. There are two kinds of question which the Department have to consider, one is a question about values - to what extent are we prepared to make the changes which can help us to fight the battle of air pollution but will reduce your personal mobility? The other is what sort of effects will road pricing have? Later this year we are going to be publishing responses to that debate and then the government needs to make its mind up, what is it going to do.

The DoE and the DoT get on much better now and work more closely together. The impetus for that has been the integration of the regional offices. We do work together and PPG 13 is a joint document. In terms of regional planning guidance there is now the integration at the regional level which does allow.....l don't think we're completely there in as much as I don't think government set itself the full objective of staffing itself up properly, but we are getting there.

We will certainly get a transport and land-use strategy for Dartford and Gravesham in April or May coming from the study that we have part funded and Chris Kane at the Office for London and I agree that we need to work closer together on this in the future.

### **INTERVIEW 2: DOT GOVERNMENT OFFICE FOR LONDON, 1.3.96**

RPG 9A: Thames Gateway states that it is to be developed according to the principles of sustainable development, in terms of transport PPG 13 refers to reducing reliance on private motor cars and reducing the need to travel. However, the main development proposals of the Gateway, particularly at Barking Reach and Havering Riverside, are principally only accessible by roads, public transport is poor in these area. In addition, regeneration proposals in Kent are likely to increase commuter traffic into London, together with associated air pollution and congestion. How can the current transport strategy for the Gateway be justified, environmentally and economically and is regeneration dependent on increased access by road?

One of the principle components of Kent-Thames-side development is that this is not a commuter town based on housing, the idea is to build some sort of balanced community so that homes are closer to jobs. You don't get the perfect world, so that everyone lives close to their job, a number of people are going to decide that is a nice place to live even though they still commute into town and I don't think you can be so prescriptive about where your labour markets are. Inevitably there will be some sort of commuting, but I suspect that if that approach to development takes place then it will be not as severe as it might have been given previous models. That is also the approach that is being adopted by other local authorities, at Barking Reach and Havering Riverside.

The Chafford Hundred scheme has been going for quite a long time and has got a bit of history to it, it was started in the days when building new roads, and this is only 3 to 4 years ago, was government policy. "New Roads to Prosperity" and all those sort of documents that were around then and advocated an expansion of the roads programme, there has been a complete about turn. For anyone to say that the government has not taken matters concerned with the environment seriously is unfair and there is clear demonstrable evidence that it has. No doubt there is probably another agenda as well, in terms of the finance being available for projects, although it is becoming clear that the Private Finance Initiative is slowly beginning to be successful, where a number of significant projects are now being funded so that the need for public funds is being addressed.

I maintain an amount of scepticism as to whether there is going to be a growth in congestion, or a growth in the number of vehicles trying to get into and out of the capital. Forecasts rely on historical trends and I think we may be at the stage where we have started to breached some of the environmental capacity barriers. Car ownership in London is stabilised and quite frankly most roads are at the stage where you cannot put any more cars on them.

One of the things we did in this department to reverse the current level of car use in congested areas was congestion charging. It was abandoned because there are very substantial technical problems around instalment, there is no scheme anywhere in the world that has got off the ground yet, that works. It all very well saying we'll put something in, but if some people are being charged incorrectly, and some people aren't being charged at all even though they are using the facility, you will end up with massive problems in terms of adverse publicity and complaints about the system. You could end up with somebody being charged a couple of hundred pounds for a road they haven't even travelled on because the gantry on the road have read the number incorrectly. The government sees that this is not a viable option until after the end of the century, and it seems to me that this is not an unreasonable position. One of the things I have as part of my job is to monitor developments elsewhere, technical developments, to see whether things come forward to allow that to happen.

The other thing is that if its not done properly it could kill you politically, I mean its not going to be popular, and that doesn't necessarily mean that it shouldn't be done and I don't know the extent to which ministers have taken the political element into consideration. Singapore have a scheme which has been contracted to Phillips, who should have it up and running by about 1998 and we will obviously take a strong interest in how that operates because there are bound to be teething problems. The government has got a motorway tolling programme which it hasn't begun testing yet and will be brought into effect again by 1998. There are a number of other countries tackling the same issues and it is these institutional administrative aspects which are the most important.

That doesn't mean to say that there are not other options for reducing car use, which are taking away the destination, increasing car parking charges and those are lower cost initiatives which local authorities already have a lot of power to effect.

I'm not talking about doing this in regeneration areas, I'm talking about doing it in very highly congested parts of London. Greenwich is an unusual example and it is really the road configuration which causes the problem, the fact that it sits across 2 important radial routes into London and with the Blackwall approach it has one of the main river crossings. One of the main problems of course is river crossings because there is not enough crossing capacity, so everyone is having to trawl in to trawl back out, or they have to go across Dartford and travel back in. If you've got better bridge capacity, it would spread the load across the network better, that doesn't mean to say it would necessarily encourage more journeys, and that is one of the objectives when you try to discuss with people who, quite rightly, have concerns about a physical crossing, in a particular location, that there are benefits to spreading capacity. Providing what you don't do is just suck in more cars, which is why we're looking at things like tolling, using the principle that if you want improved capacity you have to pay for it, if you want to travel at a peak time you would have to pay a higher figure than if you travelled at an off-peak time.

The Priority Bus Route alone will not deal with all the people who want to travel on all the routes. It doesn't for example, one of the primary interests of regeneration is attracting jobs and business, to a certain degree, depending on where they are on the network you can get people to work on buses, but you can't move goods by buses, you still need the road capacity. It is a simple fact that, I suspect if you put a vacant brownfield site next to 3 bus routes and you put a vacant brownfield site next to a junction of 2 significant roads, I know which one would be built first and in a sense what you are trying to do is influence decision makers to take a different view of public transport as opposed to roads transport.

Commercial sites, you've got to be able to get your vans etc. in and out, dense office accommodation and public transport is a much more viable proposition, which is why you get the sort of conglomerations that you've got around London Bridge, Canary Wharf. The demand for traffic in those situations is significantly less. If you look at the car parking to floor space ratios there really quite high, about 1 to 800 sq. ft., now if you tried to build a business park with those densities, you'd never let a square foot, it would need 1 to 250/200 sq. ft. They are very much more dependent on DLR and the Jubilee Line, which is why these projects are going ahead.

In a sense public transport and the roads, they address different markets, different objectives and I think there has to be a recognition that you can't just say you can't have one only the other. It doesn't work like that because people have to have choices. Unless you completely remove the choice of people having a car and being able to use that car, then you cannot solve the road problem overnight. Not only is it politically non-viable, it would be indefensible, I mean you wouldn't get anyone who would do it -I just don't think its a practical proposition in a modern economy. What we are looking for is to produce the balance, so that people use the car when they need to use the car, but they have a viable choice in terms of a public transport system and they don't need to use the car. In Outer London of course there is a greater need to use the car because the density of the public transport network is much less out there because the density of development is less. It is inevitable that you will get a higher proportion of journeys in Outer London taking place by car and that's a larger part of where the Gateway is. The inner part of the Gateway is getting a very good public transport network. You've got JLE, DLR extension, CTRL station at Stratford, quite a substantial number of bus routes. What you don't get, is when you get out to places like Barking Reach, Havering, Thamesmead and start getting out to Dartford, apart from the heavy rail connections that you've got, and the local bus routes, I don't think that you do have this quality of public transport. This is why a large part of these areas are being looked at by London transport at the moment, who are doing 12 intermediate mode corridor studies. The idea is they look at public transport modes and the way in which they can inter-change better with each other to make public transport journeys more viable. Its a long term thing.

It is difficult to co-ordinate in the world of privatised services but the thing that can be said in favour of privatisation, is it is bringing in private money that would otherwise not have been spent. If we raised this money in the public sector, we would have to raise taxes or prioritise this money over other areas of spending and there is simply not the availability of resources to spend. By doing it in the private sector, you can attract money which would otherwise not be available and therefore schemes which are going ahead are reasonably plentiful. £2 billion on JLE, £2 billion CTRL, £1 billion on underground, DLR is

going to happen shortly, Crossrail which the government has indicated its committed to, its just announced Thameslink 2000 that's another £6 million. There is quite a lot of money being spent in London on transport.

I take a very pragmatic approach to schemes which is can this work within the given environment. My job is not to have a broad perspective, to look at options for securing new schemes within a broader framework of regional and national politics, because it's London it's a national political issue. That is why a lot of people will have a lot of interest in the London Transport Strategy, which is being undertaken at the moment.

Air quality will gradually improve, nothing in transport ever happens quickly and in fact you really need to be looking at a minimum five year time scale to see anything of any significance change. You can get planning permission to put up houses inside 2 years, to build a new trunk road takes a long time, ten years, so in a sense you work on different time scales. This is what you have, we're trying to drive along regeneration strategies and you're having to rely at the moment primarily on existing networks. The networks will sustain only so much regeneration, and if you want to get more regeneration, and you do in as much as it's better to build here where we've got lots of derelict land than build on lots of green land in the west. But to do that you have to make these sites as attractive in accessibility terms, then you've obviously got to improve transport. If you look at Canary Wharf, a lot of the development in terms of jobs, the new roads encouraged people to look at Docklands in a way they wouldn't have done before. If you'd left it as before, I'm not sure you would have got **any** development.

If you include a new development within the network the traffic that has to get to it will displace traffic going elsewhere and that displaced traffic will go onto other roads, as happens in Central London, a lot of those roads are at capacity so there may be nowhere else for it to go, in which case I suspect trips stop happening and I suspect that part of the trends we're seeing in terms of the gradual slow down in the amount of new traffic on London roads is as a result of this.

The Jubilee Line links up a whole series of sites in Greenwich and Southwark and new sites to the transport network. DLR brings Lewisham into that network.

There is a report out, the TAVIL Report, which challenges the fundamental premise that traffic problems in London result from through journeys and commuting. The greatest proportion of journeys are either locally generated, people getting in their cars to drive down to the shops, or they are substrategic, i.e. travelling 3 or 4 miles. The actual proportion of traffic which is commuters coming in from outside London is relatively small. 85% of commuters coming into London travel by public transport. One of the things congestion charging has shown us is that just trying to tackle the commuters is not the issue, if you've got someone who jumps into their car 4 or 5 times to make a mile journey during the day, he's making five times as much congestion as someone who travels that same 5 miles but only does it once a day. Its those sort of people which you try to encourage to use public transport, but the big terrible commuter actually travels by train.

A commuter has a choice to travel by car and have journey times which are longer than train times and all the associated parking problems or to travel by train. Most of the time they make behavioural decisions to use the train. The main problem in London is the tendency to nip down the road in the car. If you have to pick up a heavy parcel then you need the car, but not for all journeys.

I suspect if you are working in the outer parts then its not so easy by public transport and you would need a car. Orbital travel is awkward, which is why the new river crossings are so important, not just for people in cars but also for public transport. This is why we're looking at the Woolwich Rail Crossing which will link the Kent Line with the North London Line and a multi-modal crossing at Gallions Reach, which will allow you to would allow you to put either a guided bus route or a tram scheme, which would then provide the North-South movements which isn't there at the moment. To actually start linking the existing radial networks either side of the river. I don't think you can underestimate the barriers the river creates.

River transport is also an area which needs developing. There is an argument which says why should we fund something which doesn't balance with cost benefits but there is a proposal now that puts

forward a case for a self-financing tourist service which can also serve the public transport system. Journey times are a problem, if there is a facility there for those who want to use it then it will work.

Dr. Mawhinney started a processes of thinking about how we travel and move around, asking if we need to move around as much and what is the best way of doing it, how do we make those choices. In a democracy you are not going to get something which imposes upon you not to drive your car. What you say is by all means drive your car but if you do so you understand that it will cost you twice as much as using something which is less convenient but is there as an alternative. It is how that is done which is fundamental.

I don't think parking is the issue in the Thames Gateway, you have to be careful because there is a temptation to make it 1 space per 100 sq. ft. and that's not right because what you're then doing is overbalancing. In Central London, you've got to look at parking, making sure that it's residents who use it, but you can't give resident discounts because then it's residents driving around creating all the congestion. In the Thames Gateway, it is part of the attraction to be able to use the car in that it helps off-set the disadvantages in terms of inaccessibility by public transport. The balance you've got must shift from what you've got, from a very well provided central core area in terms of public transport, to a much less well provided for area where road transport has a greater role to play. Geographically that's an important strategy, the other strategy is in terms of the network, whereby you try to focus long-distance strategic journeys onto trunk roads, but choking off that traffic from using local roads, so that the only traffic that uses local roads is local traffic. At the moment there is not very much differentiation and enhancing that differentiation is an initiative which we are looking at in terms of how you do it. That will have benefits in terms of the residential environment, air quality etc. because you will be taking through traffic off local roads. You are trying to change the whole way the public think, which is an incredibly difficult task and will take a long time to effect.

### INTERVIEW 3: LONDON PLANNING ADVISORY COMMITTEE 11/11/95

## How does LPAC view transport and transport policy in the context of the London part of the Thames Gateway regeneration initiative?

LPAC aims to address the East/West development division by bringing into use redundant sites in East London. By 1994 sustainability aims were also being included, which said that major sites should have a public transport led approach. Policy T21 (LPAC, 1994) says that except for regeneration there should be no increase in roads capacity and even when roads are built for development they should be roads with bus lanes and cyclist and pedestrian priority.

### Can you see any problems in the transport provisions for the Thames Gateway?

The proposed rail programme for the Gateway is regionally based, Thameslink and Crossrail are regional schemes but what we need are more London based schemes. In the main the proposed schemes are not funded and access to public transport in the main development areas of the Thames Gateway is quite poor. Of course there is the Jubilee Line.

### What does LPAC see as its main priorities where the Thames Gateway is concerned?

To see that the present provision is properly funded, but the problem is that central government fail to come up with adequate funding.

#### How do you imagine that development will take place?

All the proposed sites will probably not go forward and development will be slower than the Thames Gateway Planning Framework suggests. Even on mixed development sites, housing schemes and leisure and shopping schemes are likely to go forward first and then there will be the phasing in of more commercial development. The focus on Ebbsfleet for the International Passenger Station has caused a real problem for London because where there is major transport infrastructure and no station you get environmental blight, hence the importance of Stratford. The recommendation now is that the infrastructure to allow for a station at Stratford is built as part of the CTRL scheme. Supporters believe that the station can then be built at no cost to CTRL at a later stage.

### Do you imagine that development of the Thames Gateway will worsen London's traffic problems and what do you think can/should be done to combat congestion in the capital?

For London, road pricing was the preferred option and it's not often that you can get all those boroughs to agree but it was recognised that road pricing could raise the equivalent of £3 billion and that is more than the whole of the SE revenue. This money could then be used for transport investment in London, which is badly needed. It is going to be very difficult to encourage developers to work within a sustainable transport framework.

When I speak to developers about PPG 13 they say that before they would accept its guidelines they would prefer to use up all of their prior commissions or refurbish current holdings or failing that move out of the country or even out of the business. They are really not in favour of measures to reduce car use.

As well as this, both the Bus priority Network and London Cycle Network are behind schedule. With the cycle network, it was decided to designate the route but then it's up to each authority to bring developments forward. Certain mandatory requirements were made good quality road surfaces, direct routes, marked distinctions for lanes where possible, car parking controls and enforcement, signing which works strategically. It's a bit unfortunate that many authorities have marked the routes without bringing any other measures forward.

### INTERVIEW 4: HEAD OF PLANNING AND DEVELOPMENT, BLUE CIRCLE CEMENT 20-5-96

### How do Blue Circle view the TGRI?

I suppose there is a degree of self interest in it, in NW Kent alone we own just over 2500 acres much of which is in the Thames Corridor and then clearly self interest, but then on the other hand, surprisingly to some people, there is quite a corporate sensitivity of its land holdings and of its attitudes towards its community and there is a very real desire to bring forward the land and I suppose try to right the wrongs of the past. There is a recognition that the employment situation is going to change in an area which has historically relied on cement making and paper making and ship building and those industries in the main are no longer there, obviously we've still got Northfleet Cement Works, but the employment is only a very small element of what it was say 50 years ago. Paper making has virtually died out or what there is on a very much smaller scale and again the facilities that there are employ very few people and ship building is still there if you look for it, still there on a very small scale, there are a lot of indigenous skills in Gravesend which are actually very important to ship building, but there has got to be new industries coming in. We do take an unusual view of planning, in that we are extremely pro-active and we are often able to take the planning system in ways which has never thought of before in the past. Partly, if you just look at Kent, in terms of the borough of Dartford we are about 70% of the administrative area of Dartford Borough, which does mean I think, that you do find a company on that scale of land holding performing quite differently to a conventional commercial company.

#### How does the company see itself within the development framework?

Blue Circle is quite a strange animal, in that it came to planning quite late, really because a great deal of the mentality, so much it would seem for a lot of British Industry, it saw itself and to a great extent still sees itself as a manufacturer of heavy building materials and home products. In a sense land was almost a waste product, it needed land to carry out certain functions and in a sense when it had finished with those functions it then regarded its land holding almost as a liability and it didn't really understand what to do with it and probably to some extent what it did with it wasn't very good anyway, leaving it as it was mostly, I guess now the environmental lobby would thank us profusely, the amount of land that we have left, but as far as I'm concerned I'm not entirely certain if that is misplaced or not. What it did do, in the early 70s, development with a small "d", restoration, environmental projects and planning emerged out of the company and from being behind the field, probably in the early 80s, in terms of British Industry, we became one of the foremost leaders in the sense of planning. The government came out not that recently, as you know, to say that planning had to be a planned out system and in the very early 80s the company ad already adopted that philosophy. It took the view, its ability to "plan" became very sophisticated and we had already decided that the land holdings we had and the scale we had them in, we already had to be in there ensuring that policy was in place before we ever proceeded with any planning applications and a great deal of our work in the early 80s was actually putting policy into place both at Structure Plan and Local Plan level and for instance the Tonbridge and Malling Local Plan was published in February this year with an East Bank Strategy for the Medway and that strategy was first discussed with Tonbridge and Malling in about 1981/2. So very long lead in times and in a sense we have stuck our neck out because the delivery time frames that we have committed ourselves to go way beyond conventional corporate short-termism.

#### How would you describe your relationship with the local authorities?

I would like to think as a generality, that we do generally speaking have a good relationship with the local authorities, particularly in Kent, probably some better than others, but that's not out of a personality difference, purely because our relationship with them, for instance Dartford and Gravesend, I suppose we speak with them almost on a daily basis, Tonbridge and Malling, I guess its on a weekly basis, Rochester its probably a fortnightly basis and Swale about a monthly basis, so you get different cycles and you get different linkages. I would like to think they respect us for our pro-active and holistic approach, that said, in certain cases we do breed fear. For instance, we tend to take a 20-30 year view of our land holdings, Dartford and Gravesend can understand that and cope with it more, Tonbridge and Malling can, sometimes someone like Rochester can find that quite threatening because they tend to deal with a world where the borough stops at the borough boundary and a world where the planning stops at 2010/11, whenever their horizon is, and we are sometimes beginning to talk to them

about long term dreams and aspirations and a Lower River Crossing and the effect that will have on the area, and they say, "We can't really talk to you, we don't know how to talk to you, because it's not in the Local Plan", and you say, "If it was in the Local Plan we wouldn't be talking to you but surely if we've got ideas about the future you as a local authority must have ideas about where you want to see Rochester in 20-30 years time because if you don't have a grasp of the future there is no way you can actually plan the next five years". That's quite a different way of looking at things.

On Ebbsfleet, we and the local authority are broadly at one, we are broadly in agreement about where we want things to go, we are broadly in agreement in terms of our commitment to the area and in terms of what we want to see out of it for new and existing communities. There is no doubt about it, Ebbsfleet has put under a lot of stress and strain, it has caused quite a serious hiccough in our close working relationship with the two boroughs (Dartford and Gravesend), because we were coming at this from differing angles. The local authorities, quite rightly, wanted to ensure that they had a framework fully in place, fully liaise with the local community, fully endorsed by their planning committee before they received a planning application from us and I can fully understand that. We, on our part, were placed in a very difficult situation because we fully understood and respected that position, our position was, and I think to some extent the local authorities understood this, was that we needed to get something down on paper, you remember we made that application February (framework published March), we knew that the government were going to announce the successful bidder for CTRL and we felt it was very important to try and shape that debate because without that, at the bottom line, the builder of the line is only interested in building the line and the station. Union Railways, their primary concern was to get the Bill through parliament and get a line built. What we didn't want was someone like London and Continental Railways coming along, us making our application and them saying, "Well we had no conception when we undertook this project that this was what was planned for Ebbsfleet and we're not sure how we can cope with that, or we don't want to cope with that". Secondly, the time lag and this isn't a criticism purely a factual comment, that although the local authorities promise expedited applications, the reality is that at the moment, particularly in Dartford, planning applications are taking extraordinarily long times to determine, for very good reasons, but as a matter of fact they are. We are aiming to a time frame that we actually want to get some development up and opened and occupied at or around when the station is opened in 2001/2. If you work back form that, although that's actually 6 years from now, that is a very short time to get a new area established and built and infrastructured and occupied. To a high degree of reluctance, because the thing was not done lightly and we understood to some extent even more than some of the senior officers for instance, the really grave concerns that some of the Councillors had, but reluctantly we came to the view that we had to proceed with Ebbsfleet because of those two reasons if nothing else. I think we're all really recovering from that and building bridges and mending relationships and I suppose to some extent at the end of the day, it is in one sense some good coming out of it because there are those that have criticised the close relationship with Dartford and Gravesham and for there to be an event in which both sides differ and demonstrate publicly that we're not in each others pockets, it's probably no bad thing in any event. Although, at the time, people didn't see it like that, but it does demonstrate that the whole thing is not a cosy cartel and that there is friction and differences on some issues.

### Given the level of proposed development in North Kent in the next 10-15 years, does Blue Circle consider that transport provision is adequately catered for?

No, there's complete common ground on that and we are about to commence a government sponsored SRB project into transportation and utilities. The work is to understand the long term transport aspirations or development needs of the area and to try and provide it on a sustainable basis, which means that we will be trying to find possible non-road solutions and to try and understand how one copes with this in a world where there's going to be minimal amount of government money.

#### Why should private enterprise fund these transport initiatives?

There's different layers, almost like a GIS system, where do we start? If you go back even beyond transportation, because transportation even though it is a major issue or element is not the final thing. If you go back to real basics, what we are trying to do in N. Kent is something that has never been done before. We are trying to bring forward a development, in terms of topography about the size of Swindon, in terms of the built form, bigger than the London Docklands, we're probably just under the size of Milton Keynes in terms of ultimate aspirations, but all those other projects were done with

massive amounts of government funding and had some form of development corporation. We haven't got that facility, we're not even going to have a Unitary Authority, so in effect the parties are forced back to Kent Thames-side or something similar, where we've got to try and produce it from a partnership between the two boroughs and Kent C.C. ourselves. The other thing that's never been done before really is to carry out a development on this scale in the area of sustainability, so in a sense we are breaking new ground very significantly.

Your question has to be seen in the context of that uniqueness, broadly speaking, without being political with a P, there's no doubt about it that the Labour Party now are probably no different from the Conservative Party about six years ago, so they are both wedded to the non-use of government money, the pro-use of private money and apparently, at the moment, minimal interference in the local situation, so I don't think if we have a Labour government we can plan for a magic tomorrow. You then move on to ask a different question, how does Blue Circle emerge through that context? Well, I suppose there are two elements, one is that if there is a business to be made out of public transport, then quite clearly it is something that as a private sector animal, one could consider it as a business, now that doesn't mean to say we have to run Blue Circle Metro, it may be that if there's a viable business out there, we can hand it on to Kentish Bus, if you can put a red ribbon around NW Kent and say, "There is an enormous existing population, there's going to be some new people and provide for them a transportation system". The second element is, if it's not a business, or even if it was a business, the second element is, you could say the development will contribute to a significant element a transportation package, so that if the transportation is being funded out of the development then Blue Circle is implicitly involved in the provision of transportation. What we are now in the course of doing is to try and ascertain what we are talking about in terms of public transport, the need for it is fully understood, its provision relative to routes on the ground is now broadly understood, the next question are as to whether it's a bus, minibus, guided bus, what costs and also it may be that in day one you purely provide a minibus then in a years time you provide trams. The other thing I think people miss out in the discussion is that, although the development being proposed is quite large, relative to the existing population it's actually quite small, i.e. it wouldn't really matter, I mean what we're introducing is 25-30,000 people to the area, but there's already 120-130,000 population there and in a sense it's they that need the public transport system more than the newcomers. The newcomers are going to increase on a geometric scale, so in the first 5/6 years the newcomers are going to be de minims. This is something that gets lost sight of, you've got an existing population with needs to travel in an area that's relatively difficult to travel and we need to look at that situation as well as the new situation.

### How did you come to recognise that it is important to look at public transport and sustainable transport?

Although we came to planning quite late, our sophistication in understanding planning is pretty good. In our view unless we go for something like a quality public transport system you can't physically develop on the scale that's being envisaged by the vision because the existing highway and infrastructure and to some extent even the existing public transport system, just will not physically accommodate the growth in transportation that's required and if you are going to try and market, not just our own holdings, the Science Park, the University Campus, the people coming down, the competition in these areas and particularly for inward investment is so intense that unless you can provide, not exactly total solutions, but unless its convenient people are simply going to find alternative locations and people will, there's no doubt about that. It partly also comes back to trying to create a U-turn without the infrastructure, people have to establish priorities, the development will obviously produce a certain amount of cash over time which can be used for all sorts of purposes, in the main a lot of the land that we're starting with at the moment has got negative land value, so your ability to slosh money around is very constrained compared with if we were developing greenfield sites. We can do quite a few things, and again the local authorities understand this quite clearly now, what we can't do is write or fund everything so we can go down the public transportation route but then if we're not careful K.C.C Education will come and say the development needs 3 new Senior Schools and 20 new Junior Schools and then the Health Authority says we need 1 new hospital and 6 new ambulances and 3 sets of shifts to run that, then the Fire Service come up exactly the same route. You can't fund the whole lot, so to some extent society, in the form of the local authorities has got to determine priorities and I guess it's going to be a fairly abrasive process because each one will regard their priorities as being at the top of the pile. There are going to be some agonies of heart out of that process and we are going to ideally have to take a fresh view of Section 186 obligations. The Channel Tunnel is one of the best example we've got to

draw on, in terms of transportation facilities it is patently successful, but it is actually financially unsuccessful in that it had to put up so much cash up front that it can never actually service the interest on it. It tends to be like that, so much of payments under a Section 186 agreement tend to be up front, now you physically can't do it otherwise you'll never catch up. What you can do is, mid-term or towards the end of a development, there could be bucketfulls of cash, so there is a bridging finance problem. You may cope with this in different ways, you might say we won't get our tram system until 20 years time what we'll do in the short terms have minibuses and taxis. Unfortunately that is not painting the right quality image connected with public transportation system so there is a whole host of sub-problems. You see Dartford Town Centre and Gravesham Town Centre we could infrastructure that on a tram system or something but it tends to stop there (at the edges of the town centre). You've got Eastern Quarry and Blue Water Park, now we can deal with those relatively easily within our situation but these are also the new communities, you've got the existing communities of Dartford and Gravesham and also you've got settlements on the virgin chalk spines here at Swanscombe and Northfleet, but its the retrofit that is difficult. We've had some meetings with the local people to raise the debate, the subtle difference between car use and car ownership and it depends Laos as to what planned level of congestion society is prepared to combat. If you talk to people in terms of development they'll say the traffic system is horrendous and then if you say to them, "How are you going to get from the meeting?" and they say "We're going to drive" and you say, "Why is that?" and they say, "Well it takes five minutes and the buses take quarter of an hour". It's partly state of mind, its also how well the car is catered for and how adequately we operate the public transport system, what level of congestion we are prepared to accommodate. It quite interesting in London, I know the public transport system in some ways is better, but quite a lot of journeys from here people will use the tube rather than even a cab because you know you can get from here to Tower Hill on the tube in 20 minutes door to door, o.k it's not particularly attractive, it's reasonably safe, reasonably clean but you know you can do it in 20 minutes, whereas in a cab it might take you 20 it might take you 40 and I guess its partly that, when the balance starts being finely tuned.

### Tell me about Blue Water Shopping Centre and the transport provision for that.

Blue Water is not now strictly a Blue Circle project, it's also now being brought forward by Lenleys and whilst we keep a track on what they are doing the intricacies of what they are doing I'm not fully aware of . I know that they are not only liaising with Kentish Bus but also a number of bus and coach companies because there is a local sphere in which you need public transport but also it will become quite a draw on a country-wide basis. We are also making provision within the site for the retro-fitting of a tram-line. You may not be able to see it on site, but in the plans they are providing for it by maybe taking out the car park or you've got a landscaping belt, but you know you can run a tram-line through it and have the landscaping each side. We are looking quite seriously at how all that will link up. We may, as Blue Circle in our own right, provide a public transport link into Ebbsfleet, Eastern Quarry and Blue Water Park. It's still early days but that shows how serious we are involved, one of the activities we are looking at is almost going ahead on our own. We can do this under existing planning permission, once you go beyond this you are into the public planning domain, but even within that there are possibilities, say for example Crossways (Business Park), there are tramways being planned, or being retro-fitted back into Crossways, so we can take up parking and put back trams and Swanscombe there are planning proposals on Swanscombe which haven't seen public light yet, and probably won't until the end of this year, but we are also looking at a public transportation corridor through there and how one might coagulate development around public transportation nodes.

### How do you think we can change public attitudes so that people are more inclined to leave their cars at home for some journeys and do you see Blue Circle as having some role to play in provoking that attitudinal change?

It is a very difficult issue, one of the concerns that we have , and I suppose we are all guilty on this on both sides of the fence, but there is a danger, a lot of the London aspirations of the Gateway tend to stop at the M25. The London team are not thinking of taking a link to Blue Water or Lakeside Thurrock, or maybe the Woolwich metro coming down and stopping at Gravesend or another rail crossing coming in and going on to Dartford or Blue Water Park and in a sense all the while that we've got even the proposers of getting out of your cars of the opinion that the world stops at these boundaries what hope have you got. I would say that this is an indictment of the whole planning process, they do see the world stopping at their boundaries. Even if you have sectoral control planners who deal with a sector of
an area and if you talk about something that cross their area they say "Well I never go there, that's the A team". You think how can you be so insular, even within a borough that you are unaware of what else is going on and leaving aside the mega-issue of keeping people out of their cars, I see the issue for the next couple of years as how we get Government Office of South East and Government Office of London, we've got two camps dealing with sites, as you know Dartford is only 15 miles out of the centre London and a whole host of different layers of multitudinous commuting going on here. Until we start looking at this area (TG) as one total area, we're going to get nowhere. I know it's not conventional wisdom of transport planning, but I think in this sector (N. Kent), people have their own targets as to what they are prepared to commit to travelling, it's different for different people and it's also partly related to cost as well, although you quite often find the shorter the time the greater the cost. You take somewhere like Dartford, it's 45 minutes from London by public transport and £5-6 off-peak and only £2.80 if you've got a network card. To my mind there's no debate, you just use the train but then 45 minutes from Waterloo would probably take you down to Southampton. Yet if you commute to London by car from Dartford it takes you an hour and is absolutely horrendous, but you probably don't worry about cost too much. So you've got cost and time, and the incident of commuting on people's lives, you have the big move out in the early 80s to places like Peterborough which is an horrendous distance but at that time it was quite cheap to use the train and very quick.

Now buses are completely different. The train is understandable for most people and even if your not a regular user, you know by the timetable or most people have some latent idea which station to go to and when you travel around you tend to see stations and you know they are generally speaking they are in the centre of town, although in Kent they're on the outskirts. If you took me outside here and said, "I want to get to Holborn by bus", I wouldn't know where to take you, which bus to get. There must be buses from Victoria to Holborn but I've got no concept of where the routes go, where the stops are and how I even access the system, it's a very insular system, if you are a bus user you know the system but if you're not, apart from long distances coaches which are very akin to trains, unless you are a regular user you don't know it. You've also got the conundrum of having to use real cash whereas on the train even for £2.80 you ca use a credit card and then on the bus going to Holborn, I don't even know where to get off, whereas at least with the tube system you know the lines and the stops and it's clear and an A-Z has the tube system on it, whereas bus maps are totally incomprehensible even if you can get hold of one.

#### Have any traffic predictions been made for the level of development and its impact on traffic growth?

Union Railways have done a whole load of studies on the effect of the CTRL line and the line by the government would be that the roads envisaged under the Bill are more than sufficient to support the station at Ebbsfleet. We ourselves, a bit like Gatwick, would like to see a lot of the long-term car parking rolled back behind the M2 and the short-term car parking around the Station with a mini-bus link, because Ebbsfleet itself is just a sophisticated transport interchange, no more. K.C.C are doing their own modelling including the urban village. We are also doing our own models are using our own modellers and within Kent Thames-side we have combined the K.C.C. model and our model because each have their own strengths and weaknesses, but the two models are compatible and we're feeding lots of information in on those two models. The combined and independent approach is quite good because you get a test and what is in the Kent Thames-side vision document is based to a great extent on those models and we know that the road system can sustain it on the basis of these plans.

### INTERVIEW 5: SAFEGUARDING MANAGER, UNION RAILWAYS 8/11/96

### How do you see Union Railway's role in the Thames Gateway?

Well I am the safeguarding manager and that is a complicated role, I suppose I am the interface between the Channel Tunnel Rail Link and players in the Gateway. We have interests in North Thames for obvious reasons of the route and work with the authorities on how they can plan developments around the safeguarded land. There are a number of projects we are being consulted on at the moment -Barking Reach, Stratford the Foster Yeoman project in Thurrock, Purfleet Northern Relief Road and West Thurrock Relief Road. We advise on plans and property as they relate to CTRL, but have a limited scope of involvement. My job is to ask if development compromises CTRL, if yes can it be dealt with by a planning condition, if not should it be rejected. because the whole purpose of the Thames Gateway is to try not to frustrate expansion we try not to refuse, if we have to refuse there is an agent at the DoT who can act as a second opinion but we try to operate on rapid turn around times and not hold things up if we can help it.

### Can you tell me more about the route and why it was chosen, how stations locations were selected and so on?

CTRL has a fraught history because options on the route in Kent understandably generated concerns from residents and consultations led to blight. It's hard to see how that could have been avoided. You have to consult and plan the best possible route with the minimum impact on environment and so on but that process takes time, however, until a decision is made blight happens on all the possible options and people get cross - its a contentious issue. Initially a route was chosen through South London and going directly in at Waterloo and King Cross. This was a huge advantage because it meant that there were direct links servicing the North and Thameslink. In October 1991, the government announced it was changing to an eastern route, this came largely out of the concerns expressed by the South London boroughs and Sevenoaks and South Darenth councils and partly on decisions to enhance the benefits of east London and ideas of the Thames Gateway. It was felt that it was important to continue the benefits of a link with Waterloo and so you get the route dividing with a fast track as far as Ebbsfleet and then through to Stratford and St. Pancras along the top and the second using existing track into Waterloo.

CTRL is designed to bring 3 main benefits and that is the history of the stations, international, domestic and freight. Ashford is the gateway to Kent, Ebbsfleet is like a London parkway serving the M25 and Outer London. it has 9,000 car parking spaces and is therefore for car borne traffic not able to use St. Pancras for reasons of parking restrictions. Stratford will come later, their initial bid was not strong enough to justify a station, but now that case has been made more clearly. There are heavy constraints on expansion at St. Pancras for reasons of land value and competition for land and a large number of listed buildings. There were other contenders for stations, Rainham, Nashenden but there was a need for Kent to feel the benefits of an International station as compensation for the disruption and it was clear that the benefits of Ebbsfleet would be able to be taken forward by K.C.C. acting as a catalyst for development.

### The station at Ebbsfleet is very car reliant isn't it and yet Dartford Council are trying to develop Ebbsfleet Urban Village as a car free city?

The Ebbsfleet application is being processed now and its the best way for parking to be laid out so that it can meet the needs of the M25 traffic without compromising public transport is being discussed. It can't be served by public transport alone because that area will not generate enough demand to justify an International station on its own so it will need to draw people in from the hinterland and the best way to do that is by car from the M25. Its not a new thing the car parking, its volume and concept has been there since 1994, post-dating sustainability and Local Agenda 21. Its all based on the Environmental Statement, 40 environmental factors which include considerations of traffic generation.

#### What about Stratford Station, what is the work there?

The work is in bringing the design up to the level of the rest of the stations and then taking that design forward. There are a lot of other considerations to take into account, for example Newham's UDP is up for public scrutiny at the moment and when that is adopted it will impact on the station. There are also

issues for L.Bs. Hackney and Waltham forest and LPAC have aspirations for changes in London which will affect the station. There are also the broader issues of changes in London which are being discussed like a new London Authority and/or possibly a mayor for London which have some implications on what landowners and developers can get out of that area and might affect the prioritising of other rail investment e.g. the Chelsea-Hackney line and references to a Woolwich link. There are various SRB initiatives and improved road schemes. Its also been intimated that local people will not favour 100% commercial development in Stratford, so that has to be taken into account.

#### How much impact do you thing CTRL has on other parts of the country?

Well the services are dedicated and that's not as popular as straight through services but popular opinion would suggest that CTRL is popular even as far as Edinburgh. We had a stand at Waverley station there and people were coming up unsolicited and asking questions and showing a huge interest, so yes I think its a success with people outside of the region - it's fired the public imagination. It has implications for a pan-European network and opens up the possibilities of enhanced links for peripheral countries like Eire. You've got the idea of a Trans-European Network (TENS) and the Paris-Amsterdam-London-Frankfurt-Luxembourg (PALFL) major cities link up and now rail links with Europe and the Ukraine. It's exciting.

#### Which came first CTRL or Thames Gateway?

I think what really started it all was the overheating of west London, that was the stick and then it was a question of picking up on spare capacity and resources, the Channel tunnel helps to provide a focus for all that.

#### INTERVIEW 6: ESTATES MANAGER PROPERTY AND FACILITIES DEPT., GLAXOWELLCOME PLC 5/11/96

# Do GlaxoWellcome see themselves as having a role to play in the regeneration of the Thames Gateway?

The question seems to be "Is GlaxoWellcome going to extend its operations?" Its current operations are fairly extensive in that we have about 2,000 people. It is likely in the longer term to employ fewer. In terms of goods transfer, we don't have a lot, we have a lot of raw material but the product at the end of the day is fairly small and concentrated, so our commercial vehicle package is not desperately significant. I would see that our company from a traffic reducing point of view over the long term. We are trying desperately to reduce traffic by getting onto the main trunk road, the Dartford Northern Bypass, thus avoiding the town centre. It would seem to me that in the more macro scene, there needs to be more of that type of road to accommodate people like us and other commercial users, rather than putting down large roads. I mean go down to Crayford for example, which is a large industrial estate, you have to go through the shopping area to get to it. That to me is wrong and it is important strategic transport initiatives ensure that these new industrial areas are satisfactorily served by the road network. The extension of the Dartford Bypass, the South Thames Development Route needs to run into London further than the current A2, because once you get to Blackheath you've had it. Goods traffic won't be going to Central London so there needs to be, in my opinion, a better crossing northwards from Blackwall and/or the Lower Thames Crossing at Gravesend, so that you can bring traffic up from the ports and on up into middle England and Scotland and they won't have to go through London or on the M25. A lot of the traffic on the M25 is generated, in my view, by people coming up from the southern ports to the A1/M1 and other traffic coming from the east ports and going to the West, so they are all going around the M25. It is not a widening of the M25 which is necessary, it's a new set of trunk roads which avoid the capital and in the case of the Thames Corridor its the South Thames Development Route which is needed.

Given that government has already spent considerable capital on road building in the Kent area already and the situation is now one in which public funds are being withdrawn from road building projects, do you see large companies like GlaxoWellcome as having a role as a funder of major transport infrastructure projects?

Not large industries, toll roads perhaps. I don't see that as an alternative, you would need enormous road capacity to build yourself a road, whereas if you could have it on a PFI arrangement, set up a road operating company and charge a toll, then yes, I can see that. It may be in that context we and everybody else would be paying for the use of that road. We will fund our own access road, but that is because we own the land and it is convenient for our traffic to come that way, so we're happy to do that, but in terms of large distributor roads, the answer is no. There is no business case for building that road, it has no financial benefit to us, it helps people getting to and from the site, but that doesn't make them any more efficient, doesn't save us any money.

It's not a goods' road, but by putting the road in they can get to the site without touching the town centre.

#### Where do you draw your workforce from?

I did an exercise on this some time ago. More than 75% have their own cars and wish to park on site. Those who arrive by public transport are relatively few, those who walk are even fewer, there are some. There is a fair proportion, 50% or more live in the Dartford post code area, but that goes a long way, right out as far as Gravesend is still in that post code area. You cannot draw the analogy, therefore, that because they live in the Dartford post code area they are local to the site. In my terms local to the site is a 20 minute walk, actually living in the town. The number of people who live in Dartford town and work here is only about 15%. They are coming from outlying areas, some come from Essex now because it is easy to cross the river, some from Tunbridge Wells, Sevenoaks, the Medway Towns.

#### Have Dartford Council broach the issue of employee car use with you?

We have had discussions, because their big problem is car parking. We have a policy of providing a car space for everybody who comes to work by car, that doesn't comply with the local requirements for

car parking. I say our industry is not like your standard industry, we have huge buildings with few people in. Dartford want me to provide a 158 car parking spaces for a building 9,000 sq. m. and it holds 15 people at the most. I'm not prepared to do it and I argue my case on the basis of employees. PPG13 has changed things and now councils want to reduce car use, but if they are going to do that they must provide much better public transport and cheap public transport. Public transport around here, it's a joke. I live at Meopham, not very far away, about 10 miles, for me to get here on public transport I've got to go via Gravesend, I've no idea how long it would take me but it's got to be an hour whereas in the car it's 10 minutes. Until public transport addresses those sorts of problems, and they've got a backdrop of 30 years to catch up with, people like me and others are not going to use it. They can't price the car out of the road system, there's no way because people will just pay.

#### Do you see the company as needing to work with the Council to address these issues?

We have talked to them, but what would the Council expect us to do? If they are expecting financial contributions from us to provide public transport then we're in an area which we have not really considered yet. For us it's not an issue. There must be a point at which the number of people trying to get to work with a single employer makes the equation better, like Ford maybe, but we are the biggest employer in Dartford and we've only got 2,500 employees, which is not very many and in order to make significant differences to public transport you are going to need an awful lot of money and even our company is not going to be looking for those huge constant transport systems that are going to be involved. They might well make contributions towards them, but they would have to see some benefit for their employees. The easy one would be a subsidised, dedicated bus service. If there were a number of people like us, you could help fund more specific buses - that's a possibility.

#### Does the prospect of road congestion in the area worry you?

It depends on how many houses we get and we've got Blue Water Shopping Centre, that will generate an horrendous amount of traffic. It's all to do with population, I don't mind people moving to the area, but the road network just won't pick it up and I think if you were to build several thousand more houses here now the roads wouldn't work now. How you deal with that - road pricing is a suggestion, but which roads do you chose. These issues could be problematic for GlaxoWellcome, people won't work here if it is desperately difficult for them to get here, but it's all a matter of scale, we will pay for the right people to get here. We don't see ourselves as having a proactive role in solving that equation. We are not that involved in the local scene as a company.

Transportation of the workforce is not very high on the agenda, if at all, because at the moment everybody can get here and there are not that many people needed in any one site.

#### How involved are you/have you been with North Kent Success?

We've been involved but not in anything like the same scale as Blue Circle, but then, this is being a bit cynical, Blue Circle are in it for other reasons, they're not in it for the benefit of their industry, they're in it because they have so many holes in the ground that are valueless unless you either fill up or use them in some way. Somebody has very smartly said, "We can develop these holes, therefore, we must in order to develop them have a transport policy for the company". But it's not Blue Circle manufacturing that has the policy, it is Blue Circle properties and that's the reason why they are involved because their cement manufacturing business is no more transport oriented than we are. It's the things they are bringing into the area that will considerable change the transport infrastructure that makes them have an interest and that would be the difference between us and Blue Circle.

### Do you see GlaxoWellcome gaining benefits form the development and regeneration of the Thames Gateway?

I don't know, it might do in that it might have an attraction for a different type of labour force. It might become a desirable part of the country to live in, it will provide additional industry so that there is a bigger labour force from which we can draw. I don't see it being very much different from that, it's not the sort of thing that we would want take a leading role in by any means. We have a very big site here, about 30 acres, large in even North Kent terms, but at the end of the day it's fairly insular. We've been here a hundred years and we could be here another hundred years and not be significantly different. But for the regeneration of the area, it certainly needs that because there is a lot of brown land up and

down the Thames Corridor which should not be left, it should be used. Speaking as a surveyor I don't think we should be using the Western Corridor and green field sites, stringing ourselves across areas when you can use abandoned land in the east. The trouble is it has become easier and nicer to work in the Western Corridor, easier because the land is not despoiled, it's green field sites and a much nicer area to live in because it has been developed since the war, whereas this has been developed since the 18th century, so it's all old stuff. If you could recreate the ambience and the conditions of the western side in the eastern side then you would naturally draw people into the area. That is the plan and that seems to me to be very sensible. You then come to things like the Marshes, the last of the fresh water marshes along the River Thames and people say, "You can't develop that". Blue Water Shopping Centre will be good for the area, but what it will do to Dartford is another matter. It will turn into niche market shops, if the balance is right. There are pros and cons.

### INTERVIEW 7: ASSOCIATE DIRECTOR, DAVID LOCK ASSOCS. CONSULTANTS 12/11/96

# Can you tell me how David Lock Assocs. has been involved in the transport plans for the Thames Gateway?

We've been involved in looking at Ebbsfleet station from the point of view of its relationship to the Kent-Thames-side area, and we've looked at what happens and have been advising on the implications for the CTRL at Ebbsfleet Station. What other forms of public transportation we can either get as a result of that or you could add to, to enhance its regeneration benefits. A station alone stopping at Ebbsfleet initially gives use a very localised impact, what we've been doing partly through the Ebbsfleet project, which has been driven by Blue Circle, but also in conjunction with the Kent Thames-side organisation, which is obviously Blue Circle again the local authorities and the University of Greenwich, we've looked at the wider area, and that initially went from Dartford and Gravesend, and how we get people from that location into the station by means other than car. There's a diagram which shows Ebbsfleet in the centre, we wanted to stylise a London Transport map. What we show on there is the high speed link, we show the North Kent Line which already exists in the area and these other, the jargon, loops and feeders of a public transport route which on one level could be conceived of as a tram route, current technology today people are thinking of trams, but it's also appropriate for it to be either some form of hybrid between a bus and trolley bus. There are lots of technologies which you could deploy because basically it's that intermediate level between heavy rail and your conventional street running bus and the importance of it is essential to integrate the area in order to distribute people around it in an efficient way, but also to begin to think about giving it a status slightly above simply buses, they do a job, but it's about the necessity of identifying specific routes or pieces of track which they might run off and using that as a way in for a high speed link. A high speed link at Ebbsfleet, the glamorous side is international travel but the most productive side in many ways, in terms of regeneration is the domestic service that runs from Ashford, Ebbsfleet, Stratford, London, which puts Ebbsfleet 15-16 minutes away from Kings Cross/St. Pancras. Therefore one would expect to see a lot of out-commuting linking the areas of Essex through the connection at Stratford, down that fast link into a new commercial area in Kent Thames-side, partly also intercepting people on the way in who travel on a train from the Medway Towns up through Maidstone through Dartford and offering an opportunity for people not to have to travel at all, who go from Dartford into London and travel at a local level. The other aspect of it which partly came out of the study we did for the Science Park and went into a study which was called Union Metro, is that whilst you have this high speed link going in, if as and when, a link is formed between North Woolwich and Woolwich Arsenal, which is called the Woolwich River Crossing or Woolwich Rail Crossing, that forms a stopping service between the North London Line and the North Kent Line and picks up a catchment which picks up at the high speed interchange but giving a connection into new growth areas and if you like the Thames Gateway with its growth area based on Stratford and the Royals and Kent Thames-side. A lot of the workforce for that and the residents of that area are already there and in place and it gives a regenerative boost to places like Thamesmead, part of that connection linking that through.

This has been driven in the recent past by London Transport and LDDC, who see it as a way of getting that connection in but they are being joined by Kent Thames-side because they see it as a way, I think Tim Lynch at Dartford, sees the value of that linkage. That's us working on strategic planning and looking at the relationship between transport planning and land use planning, what we have also been doing is working on a more local level about what you do at the station. In terms of planning and design, its about what sort of responses you make about car parking standards for the development you have, about the uses you have there and the balance between those uses, places being destinations for many people but also origins, people will start their trips here, so it's that balance between the residential component of it and the employment component of it.

### Isn't it feasible that with a 9,000 car parking spaces facility people will come in with their cars and use this as a commuter car park?

They will in part and that's what the CTRL Bill provides for, but in terms of it's land use, at the moment the one thing that is certain, and we're doing the master plan for the whole area, is that rail link will need to provide with it vehicular access off the A2 and a car park for 6,00 car parking spaces for international travellers, so people going on holiday mainly, going to Europe by train, leaving their cars here, so the analogy is closer to an airport than it is to a station, because these cars are being left there

for a one or two week period and they're arriving in a very even way, so in terms of traffic generation, they don't peak. Then you've got 3,000 domestic, these are the provisions, no one is 100% certain, within the CTRL Bill which have to be accommodated by the London and Continental Railways who are building this. They have been given, by the government, the brief to make provision for 6,000 international and 3,000 domestic. Now the domestic is interesting, because you are right, what that is doing is potentially saying people who live in Maidstone can drive off the A2 and M20 and get across and park their car here and catch a train, rather than sitting for an hour and a half in traffic on the A2 in the morning, so that is a Park and Ride at a strategic level. What it is supposed to be doing is offering relief to those roads. There is an argument that says those people area already on there and so you're not adding anything to that other than natural growth, but there is another argument that says, why draw people from that Kent region, why not give them an adequate train service from Maidstone? If you do that, if you run more trains, you don't need 3,000 car parking spaces and so you're switching that population catchment which is going up the A2 it's being parked and riding from more localised stations. The issues are quite interesting in terms of managing sustainable transport, is the interrelationship between service patterns on the transportation, the physical provision for transport around those stations in order to get the cars off the roads and there is a very complex relationship between convenience, the pricing, parking, frequency of service that can affect the shifts from road to rail and vice versa.

I'm sure you are aware of the literature which surrounds the debate on how difficult it is to provoke modal shift from car to rail, that unless people can see major benefits they are going to continue to use their cars, despite congestion. Do you think these proposals offer enough of an incentive and are there any plans to advertise their benefits to the public?

I'm pretty sure that there will be, but there are none that I currently know of, of what the real impact of this high speed link will be to this area, but the focus of the moment is on international travel, being the prime motivator for London Continental Railways, because they don't have the franchise for domestic service, I believe that Connect who've got the Network Southeast franchise their franchise will go through until the trains here are running, so they would have an interest now. As far as I am aware the idea is that when the CTRL is built, as with Railtrack they will sell track time. All that they are obliged to do at the moment under the Bill is plan for train paths, provide enough time-tabling space to allow a certain amount of domestic traffic to go through, but not have to provide it. All we are doing at the moment is planning on the supply side of that, rather than the demand, I mean what could be available if a franchise decided to provide a service here and we know that the figures vary depending on the time of day, but you can get about 8 domestic train paths through. The thing that could be done by shifting traffic off this North Kent Line into London onto CTRL, because it's got a higher capacity, the stock that are going to run on this have not yet been designed or built, it will be a high speed domestic train, so it will offer some relief on the North Kent Line and you will be able to put on additional stopping services to increase the frequency an improve the service through that part of the Thames Gateway. What else is happening in the long range, is looking at the case for loops and feeders into places like Barking Reach and the relationship between what's happening in Thamesmead and linking back to say Abbey Wood, which is the concept behind the transport plan in the Kent Thames-side vision document, a whole series of these initiatives. So you might describe the Thames Gateway levels of sustainable development at these strategic levels and then at these series of independent but related local initiatives.

#### Do the plans for the Millennium site have any impact on these issues?

Well it can do, it has the Jubilee Line. I think the potential from a dedicated link with Greenwich Station is, those sort of things are useful. As it happens in relation to the plans we have just been discussing, the timing of the Millennium event, this comes later.

Some of the developments, for example Bluewater Shopping Centre, are going to be ready in the short term before more sustainable transport links are available, this may lead to travel patterns which are car reliant and will require extra work at a later date to provoke modal shift. Don't you think it would have been better to introduce more sustainable forms of access to these sites from day one?

I think with Bluewater it is recognised that it was borne in an era where this debate wasn't so acutely defined as it is now in terms of understanding the relationship between land use and transportation. My guess is that, well it's more than a guess because we've also been involved in Merry Hill Shopping

Centre, is that there will be forces outside the control or influence of the retail development to influence people's choice about whether they use a car or a train to get to their shopping destinations and whether it is to do with road pricing or simple tolerances of congestion. The developers of Bluewater are only too well aware of the value and of the assets of public transport investment in the area, however that is funded - partly public, partly private or wholly private, wholly public depending on government view over time, in sustaining the development or position of investment in Bluewater, I mean it's an opportunity to get more people through it. How many more people could you add into it and over a period of time the drive time of an hour being eroded because the roads system gets congested, but it's catchment can be extended because it has an international passenger station which is an hour from Lisle and two hours from Paris with a short localised link which could be considered to be the same as the Millennium site, locally you've got the North Kent Line, Ebbsfleet, Eastern Quarry - a site which is being worked for chalk extraction by Blue Circle's primary activity- and Bluewater and the M25 and the Science Park and Crossways Business Park and Dartford. Bluewater, Crossways and the Science Park have been described as M25 driven over the last 10 years and in fact took a boost when the new bridge was put in (Queen Elizabeth II at Dartford), Ebbsfleet is coming in as a second generation, and there are other areas like Swanscombe and Eastern Quarry, those will be public transport and CTRL driven. The influence of that will spread into the first phase to the point where a dedicated link will provide an enormous catchment. The consolidation of linking these communities together will enable them to take advantage of the whole region without cars, but that transition is one we are trying to manage. One thing we have secured through Kent Thames-side is a study which looks at how one delivers the public transport, this is an SRB funded study between Dartford, Gravesend and the Kent Thames-side group. The first stage of that work starts in early 1997. What that is about is a simple thing, if you've got all these land uses, public transportation, what can be put forward as a business case for a public transport system and where do the responsibilities for funding that fall? Is there sufficient for the private sector to take a very proactive stance where they traditionally don't or can't? Or what are the public sector roles? The idea is to take the plans we have already and make it into a financial business with regards to land use and patronage and infrastructure. The issue is that, one would characterise this earlier phase as M25 driven but the transition is occurring now and they have to do it to be competitive.

### Do you see deregulation and privatisation of public transport as making planning transportation for the Gateway more difficult?

I think we have all got used to the idea that public transport is provided by centrally controlled publicly driven organisation would make life easier because you can talk about the value of integrating various transportation modes and balancing those against a range of initiatives, but in truth, in terms of sustainable development, I don't think we have a track record of linking land use to transport in a sustainable way even though it has rested within the public sector's responsibility. There is a lot spoken about sustainable transport but from very narrow perspectives and planners are very bad about this, they will talk about it but will not go and talk to the people who have the responsibility of providing a service which might provide service to their area. Structure plans bash on about it but they don't actually do it, so at one level there's not a track record for it. The other interesting thing we're seeing with the private sector being involved in the provision of public transport is going through a very traumatic period and I can see lots of down sides to it in terms of competition and efficiencies, but as one would expect what we are seeing is the reformation of those organisations that deliver co-ordinated transport, because in the long-run it is in the interest of the provider to make sure they get as many customers onto their services as possible.

I don't actually prescribed to the idea that it is good to let one big bus company going around putting smaller companies out of business, but they are beginning to reform as big monopolies because that is the only way they can ensure their revenue. The challenge that is presented to us at the moment is that having had deregulation and a form of anarchy a degree of something is emerging and whether it is adequate for the purposes of meeting the need of the catchment of the population it's serving, but it's going some way to recognise that through to the desire to attract people who use the facility and the issue is therefore is if things such as the heavy infrastructure investments which are needed to deliver high capacity/high quality public transport as oppose to buses on roads, is something that could be developed in this framework.

Would you agree that Blue Circle is unusual in its level of involvement it is willing to have and that many employers and developers haven't got the message?

Yes that culture which exists in a lot of companies, they either haven't been forced to or have other issues that they need to address, about their staff access and access to quality staff. I think many companies are concerned about access and the convenience and pricing of transport and is an increasing consideration as cost of travel to your place of work is a high component of your expenditure. You can understand the position of companies who see themselves as not having a problem, in future there will be a generation of people coming through the boardroom who will have grown up in a culture where the sustainability debate and transportation debate is important enough for them to want to settle these issues surrounding the journey to work. I actually think that if E.U. legislation goes as far as it could do, the credits people get on a voluntary basis for companies who have a green audit, how many of your staff drive to work, how many cycle, how many come by public transport in terms of your profile could ultimately become the legislation.

It has occurred to me that there are a number of documents which you would find useful and I could outline for you here. We are working with Peter Brett Consultants at the moment and they are doing a private transport assessment where they are modelling things such as private car use with specific reference to the development of Ebbsfleet which will be submitted for consultation and deals with issues relating to modal shift and public awareness. Associated with that there are other supplementary documents, the car parking statement - how within Ebbsfleet Urban Village we envisage car usage over time and the standards that will be applied to development, how those standards will change, how as a result of that less people will use cars. One indicator in terms of car parking standards is that, if one was to meet current car parking standards then Ebbsfleet would have something like 35,000 spaces. Now there are in fact going to be 17,000 but 9,000 of those are station related, they are fantastic figures when you think of how it would be if everyone had the current standard. Elsewhere there is the SRB Brief for the Business Plan for Public Transport and the Bid itself.

#### Do you have anything to do with the London First transport strategy for South London?

No, LDDC are involved but it is part of the London as a World City. In terms of other London based transport contacts we dealt with Elaine Seger at London Transport who is the planner dealing with the Metro link. What they also did was to develop a sort of generic guide for public transport in London. LT have been very valuable in terms of their relationship with the London Boroughs and the perception they have of public transport. There is an important distinction, people who live in the London Boroughs, their expectation of public transport are very different from those who live in Dartford and Gravesend.

## I have the impression from the Thames Gateway forum meetings that London sees itself as very disadvantaged in comparison to Kent, would you agree with that perception?

One of the interesting observations I would make about that, in terms of the vision, is that public transport services to an area don't always mean success. We did a preliminary study of the Lea Valley and as part of the analysis we plotted the number of public transport stops along the Lower Lea Valley and it is fantastic what it's got in terms of its service - DLR, Jubilee Line, various underground networks and heavy rail in that area, but it is a very under-achieving urban area and yet public service isn't a problem. One of the reasons may be other reasons such as profile of the population and environmental factors. Transport isn't everything, it's important but it would be useful to question how important, particularly in London.

#### How far have the previous documents that have been prepared in relation to transport and the Thames Gateway, such as the Llewelyn Davies report and the ETC Chief Execs. report on Transport Infrastructure, informed your current work in the area?

In truth I think we wrote them, we were appointed by Kent Thames-side in 1990 but failed to get the consultancy but we did get a commission to work on Kent Thames-side and while that was going on one of our directors spent a fair amount of time talking with Llewelyn Davies, so when you see a diagram that says "Opportunities for growth on Kent Thames-side" that is ours and when you see in RPG9A "Opportunity for urban village, opportunity for commercial centre round Ebbsfleet", that work is ours.

### So the two ends of the Gateway have always run separately?

Yes and while that was going on we were also working very closely with the Task Force on the bid for Ebbsfleet Station. It was never a forgone conclusion that there was going to be a station at Ebbsfleet, we had to bid, as it was perceived by our London colleges against Stratford and against Rainham. We never argued our case against them, we said there is an enormous amount of complimentarity, but LPAC have never believed that. We had enormous support from the local authorities, whereas the London Boroughs did not offer that level of support to the Stratford bid.

#### **INTERVIEW 8: ASSOCIATE DIRECTOR, COLIN BUCHANAN AND PARTNERS 4/11/96**

### Can you tell me about the overall aims and objectives of the transport strategy for the Millennium Site at Greenwich?

In general, the plan follows the aims of sustainable transport and the idea that people should travel to the site by means other than the private car. We've got quite a lot of public transport access. The Jubilee Line will be one of the major modes of transport onto the site as will the South Eastern Railway Line. We are still discussing what will be the best form of link between these and whether it should be to Westcombe Park or Charlton. I think we need something a bit better than just ordinary buses because of public perception problems, better that they be electric buses or guided buses. The other thing I would stress is coaches.

#### What sort of car parking facilities will there be?

There are 10 potential sites but we will not necessarily use all of them and it will depend upon getting the landowners' agreement and the Highway Authorities' agreement. We aim for a capacity of 8,000 car parking spaces split between approximately half a dozen sites.

#### So the site itself is completely car free?

Well not completely because we've got to supply spaces for disabled and there are concerns about the people who are working there, but we are hoping that they will park in these said car parks or possibly another specific car park not on the site.

#### Are there plans to set up Green Commuter Contracts with employers on the site?

I can't say we've got as far as that yet but we might end up doing that. There is a lot of discussion going on right now with Greenwich Council because the planning application went in last week and this deals with a whole load of other aspects of the development as well as transport, issues to do with ecology and so on.

#### Is the Millennium Site intended as a transport flagship for the Thames Gateway?

Yes, I think it can be seen as that although we haven't been brought in to look at other sites in this way. As a consultant we tend to be constrained to what the client wants us to do, but we did a piece of work fairly recently which was more in that way, not for the Gateway but all the boroughs in South East London - trying to put together a transport strategy for South East London. Southwark was the lead borough. I think the idea is being taken up by London First.

#### Does the Millennium Site have a links with a cycle network?

Yes, we've been in touch with SUSTRANS and the London Strategic Cycle Route goes through the site. The Riverside Cycle Route is intended to come all the way around, but at the moment it stops on either side of the Peninsula and doesn't meet at the top. It is intended the Millennium Exhibition will fill in that gap but there is a bit of a debate as to whether it intends to improve the existing route because it's a bit narrow in places. Although the Trafalgar Road is part of the SCN there are no designated cycle lanes along this route although there are plans to put in bus lanes. There is also an SRB Bid in Greenwich for cycle routes through the borough.

# We are led to believe that funding has been a problem for the Exhibition and given that transport infrastructure and provision is expensive, will funding for transport proposals be a problem?

You have to get it in perspective. I mean funding for the whole Exhibition is something like £500 million of which transport infrastructure will be in the order of £50 million. That money will come from the lottery and partly from sponsorship and partly from fees. There are no main funders coming forward at the moment for transport projects but I certainly wouldn't rule it out because when we've decided what sort of buses we want, I think people will come forward. Its high profile. The other thing funders are very keen on is the River. We see the River serves as more of a tourist service than a

commuter transport service with commuters piggybacking on that service. The other thing about the River is, as well as people coming from Central London, mainly tourists, the car parks are by the River to have a connection for Sail and Ride.

### Would you see transport services as operated independently form London Transport?

Basically yes. We've still to work out what the tender will be, whether there will be a separate fare, there probably won't, what we'd like to have is a system whereby you buy your ticket into the Exhibition and automatically buy a public transport ticket as well. Ideally, that would include the choice to either come by boat or Underground or whatever, like a One-day Travelcard, but at the moment a One-day Travelcard doesn't include boats.

#### Would it be physically impossible for the general public to get onto this site by car?

It won't be cordoned in the sense that it will be barriered but there will be stringent parking controls and enforcement of these. We've got this big main road which goes pretty-well passed the entrance, the Blackwall Tunnel Approach Road, and there would be no question of closing that. We're hoping that people will know from the massive publicity that there will be, that they will not be able to park. Therefore if they come in from the North they are very well advised not to try and come through the site at all.

#### So are you planning a travel awareness campaign around the site?

Yes and also information technology with variable message signs along the main road so that you will be able to pick up where the car parks are and if they are full.

#### There isn't much time to bring all this forward is there?

Well 3 years. I think you can do a lot in 3 years because mostly it's not major construction, it's a lot of organisation which will be done by Millennium Central. Greenwich Council will approve the plans but the transport strategy is dependent on these car parks and many of them are not in Greenwich, so separate applications have got to go in for those and they've got to go in fairly soon because Greenwich want to make sure that the other Councils are going to approve them before it can approve the application for the site itself. There is a lot of liaison between the Councils, they are certainly not doing this in isolation.

### Would it have been easier to plan transport for the Millennium Site if there was a National Transport Strategy and/or campaign?

To be honest I don't think it would make much difference, obviously if there had already been in place a concept that Park and Ride is the norm than it would have been easier, but having said that there is much more political support for the Park and Ride concept now than there was 5 years ago.

#### How much consultation has there been with local residents?

So far not so much. The time for that to happen is now, now that the planning application has been made and it's all in the public forum. Greenwich want to do a lot of public consultation, a local enquiry. It's the intention to talk to residents organisations about transport. We talked about the legacy and a number of things that will be left over after the Exhibition is finished. I think it's likely that many of this transport initiatives will continue after the Exhibition is finished. For example, to make this work we are going to have to have a stringent parking policy, strictly speaking that could be abandoned after it's all finished and I'm sure that the population will be asked if they want it to stay or not. My guess is that they will want it to stay - it's up to them. The site belongs to British gas and they want to develop it after, so it's also up to them.

### INTERVIEW 9: CHIEF TRANSPORT PLANNER, KENT COUNTY COUNCIL 9-11-95

Tell me about KCC's transport strategy for the Thames Gateway

Road schemes are still a favourite with planners and with the public and because of the 8 year planning period before construction begins, it is too late to prevent a number of road schemes going ahead despite PPG 13. There are 4 new road schemes in our 1996/7 TPP bid, this is because predominantly people will travel into the Gateway by car, in London more public transport is used but people also make these journeys by car. KCC see the Kent side of the Thames Gateway in 3 parts in terms of its transport needs:-

1)	Kent Thames-side Dartford, Gravesend & Ebbsfleet	Western Quarry - Bluewater Eastern Quarry - Commercial mixed use Ebbsfleet Station - Eurocity
2)	Medway Towns	Residential
3)	Swale	Rural

In Swale roads will continue to meet traffic growth and the future is roads based in this area. In the Medway Towns the focus is also on roads, the Medway Tunnel will be completed by May 1996 and the Gillingham Bypass in 1988. The Wainscott Northern Bypass has not been confirmed yet. These schemes mean that capacity will meet demand into the next century. In Kent Thames-side the roads just can't cope with demand, so we need the South Thames Development Route (STDR) and this will be funded by a combination of Transport Supplementary grant funding from central government and money from Bluewater. Stage 1 is due to open in 1988 and Stage 5 to Gravesend is already completed. Stage 4 the Northfleet Bypass was approved in the 1996/7 TPP bid, so that leaves Stages 2 & 3 which are to serve the new Thames-side developments. There are two options, one which will take the road through the eastern Quarry and the developers are therefore prepared to fund and one that doesn't.

#### What about public transport?

There is no doubt that to supplement the roads, we need a high quality public transport system but the level of development proposed so far is not big enough to sustain it. It would need more intense development to justify the cost, although there are plenty of developers keen to go ahead with this, more development means less green space and more urbanisation and you have to remember that the majority of the Kent population moved out to the countryside and new towns in order to get more green space and less urban development, so that means that more intensive development is not really politically viable.

We have the Union Metro proposal but it would cost millions just to extend the line out to Ebbsfleet and that money is not available from the government any more and private finance is very reluctant to get involved in public transport, so there's no funding for this proposal yet. How important is expansion of the roads network to the regeneration of the Thames Gateway?

Regeneration would not succeed without the proposed roads spending, the schemes that are already being developed need high access by car in order to succeed and therefore in the short-term Thames Gateway development will make transport problems worse. In the long-term, congestion may persuade business to reduce reliance on the car and then developers may be more prepared to listen to public transport alternatives and perhaps even fund them. There is a Catch 22 if you like, the Thames Gateway needs development at any price and so what the developers want is what they get. Planners could refuse, but there is a risk of Appeals and loss of business. The more development is planned around roads the more difficult it is to offer any viable transport alternatives to the car.

# INTERVIEW 10: CHIEF TRANSPORT PLANNER, DARTFORD BOROUGH COUNCIL 11.3.96

# What are the implications for transport planning for Dartford of the regeneration of the Thames Gateway?

The long-term land-use transportation policies in our bit of the Gateway, is likely to be different from policies we employ south of the A2. We will be interested in, for example, relaxing housing densities, so that we can have a greater density of housing in the Thames Gateway (TG) than we have south of the A2, on the basis that if we get higher densities and go for nodal ribbon developments, rather than grid dispersed developments, you are more likely to have developments that are amenable to public transport. That doesn't mean you shouldn't look at a ward outside of the TG in this context because trips are bound to be generated from outside the TG. The main difference is that in transport policy terms in some ways it is easier to do something about the internal than the external, mainly because they will tend to be trips of relatively short distance with relatively large concentrations, which are easier to provide for by public transport or by walking or cycling. Travel patterns are more likely to be provided for within the Gateway.

The main problem is dealing with the body of people's need for accessibility to work, school, shopping etc. so its ways in which compared with the development of 10 years ago, development might be changed to reduce the need for people to travel. In practical terms there are a number of ways in which we can do that, one is to try to plan where at all possible for relatively mixed use development, to try to encourage people or at least give them the ability to live relatively close to where they work. Together with that is to have a development form which encourages use of sustainable transport and discourages use of the car, so rather than having residential development that is suburban sprawl with lots of cul-de - sacs, connected by spine roads which automatically focuses people onto their cars because there isn't a short route to anywhere to have more of a grid system in the road layout, to provide direct walk routes, easy access to public transport routes, safe cycle routes particularly on street not just off-street, to try and encourage use of those more sustainable forms. Within the grid system, it is relatively straight forward to come up with an arrangement of streets which means that it is quite tortuous to get through in the car.

We've got two generations of people whose mentality is to go out of the house and get into the car, kids today don't walk. To use land-use policies which change this doesn't stop people using their cars if they want to, but it doesn't lock them into the mind-set that the first thing they do is get into the car and does give them the alternative. There is also the issue of having facilities closer to where you live and coming up with a different form of community, not harping back to the Victorian pub on corner, but a new community that's built around people walking, creating safe spaces with safe routes for kids. That sort of principle would be the over-riding one behind how our draft framework for Ebbsfleet has been put together. We are trying to push that concept but there are two main constraints to realising these aims, one is commercial the other behavioural. Commercial, can we develop successfully on that basis when people are so locked into their cars, can we sell it? I expect that increasingly we will be able to because we are seeing, for example in Edinburgh, the car-free zone. the concept has been booted around for Ebbsfleet to be a place to live and work which is for people who are willing to sign up to that sort of regime. Blue Circle are very interested in promoting it on that basis.

The other thing is behavioural as to whether that sort of thing can work or not. In particular, whether however closely you locate housing and employment will people actually choose to live there and work 10 miles down the road? You can't legislate for it, all you can do is try to enable it to some extent. While you are continually slicing bits off the total travel demand you are more likely to make the network work.

Union Metro - loops and feeders idea. We got SRB funding to undertake a public transport study, the outcome of that will be a thorough going public transport strategy for TG, so that we can understand what end-state public transport provision will be, but also how you finance it and however you progress how you phase its introduction. Initially it may be provided by bus and then stick some rails in. We don't yet know what it is, we think that a LRT system might be feasible in 10-15 years, it might be earlier than that. We don't know exactly where it will go, we have begun to put land aside, for example

at University Campus there is a strip there for a public transport system. We don't know yet what it is, it's suitable for most purposes, as a guided bus-way or LRT or shared tram.

In terms of implementation that will have to be obtained as part of the development process, there's no way we are going to get government funding, as there is increasing demand for public transport systems they have some very difficult decisions as to whether they spend all the money in one place or spread it around. Public transport spending has remained relatively constant while road spending has fallen through the floor. Even with a change of government there won't be the money available, so we are being realistic and development has got to pay a proportion.

I think the provision of a good public transport network is an integral part of regeneration, without it you don't get development on the scale of the TG document because it couldn't be sustained. If you went for a car only model of development, it wouldn't work and you'd end up with massive congestion across the network by 2011 if not 2021. It is a chicken and egg problem because the public transport system will need significant quantity of development in order to make it profitable. The public transport system has got to grow and it can with all the new development. It is interesting that at this stage, Bluewater developers which are pre-this new generation of thinking in many ways - the last of the old regime, let loose are committed to putting in a bus station and have been working closely with Kentish Bus to make sure that from day one (and that is the day the first staff go in for training before the store is open) there will be a network of bus routes into that development. There will be a general policy that all staff will be virtually banned from using cars and with 40,000 staff you've got the core there for a good public transport service. Kentish Buses on the back of this have bought 14 new buses. They are realising by themselves that they are being pushed in this direction.

I don't think the general public are very aware, they are aware of the need to do something other than build roads and other than STDR and soft access roads we are not expecting a lot of new road infrastructure. I think people are beginning to cotton on to some of it, certainly those who read the vision document were very supportive. It would be easier for us to get the message over once we know what it is going to be, once we have a transport strategy in place we will be able to sell that concept to people and to business and prospective inward investors and convince them that it will work, in the sense that it doesn't gridlock every Monday morning at 8.30, but also that it is relatively environmentally O.K. if not environmentally neutral. Our main problems with air quality other than the M25 and A2, is generally not from transport but from power stations.

Dartford is currently the generator of traffic to London. Using you car for journeys to work is very much a function of the quality of the highways between there and where you live. Dartford has the A2 which takes you all the way to the Kidbrook/Blackwall Tunnel before you hit congestion. It is down to how easy is it to drive to work? The A13 improvements I would guess may well lead to more car commuting into Central London. STDR is performing a different function, and the connections west of the Dartford Borough boundary are not as good. The idea of STDR is to provide a local east-west route to provide local and feeder journeys for industry.

#### **INTERVIEW 11: TRAVELWISE, HERTFORDSHIRE COUNTY COUNCIL**

#### Can you give me the background to Travelwise?

It happened by us going to people in the East Anglia region where we have a series of regional contacts and suggesting that the message would be better if it didn't stop at county borders and the whole of the East Anglia region joined Travelwise and in the early years of the campaign to 1994 we've both used the same materials, with different colours and logos with the intention that people doing, say, commuter journeys which cut through a number of county's were not going to be able to come out of Hertfordshire and drive easily. From there other authorities who've heard about it through various networks, the IHT and so on, started to ask if they too could join because we all started from the same point, the road traffic predictions and the realisation that we couldn't afford to increase traffic on roads. By May 1995, we had a major event here at County Hall and Steven Norris the Transport Minister came, there were a dozen local authorities that had joined, including Cornwall, Staffordshire, Hereford and Worcester. The others have joined since then over time, the campaign has spread, a number of Unitary Authorities have now joined. The other thing that has happened recently is the first large urban area to join which is the West Midlands which joined on mass this summer, all 7 local authorities, plus CENTRO the local passenger transport organisation plus the international airport.

#### Are the problems different for a Metropolitan Area?

There is quite a discussion in Travelwise about that because obviously for an area like Devonshire or Wiltshire they're very different from Hertfordshire and Essex. They consider that we are very urban, whereas places like the London Boroughs and the West Midlands think that we are totally rural. It is relative, it does vary. The National Parks although a number are keenly interested in the campaign find it difficult because in their case they are mainly interested in the environmental problems rather than just congestion. I think one of the points we would want to make is that although the message will be slightly different according to places and you'll be looking to tailor both the message and the solutions depending on the environment and the geography of the place, the main fact is the basic message is necessary wherever you are. I mean Wiltshire has the highest car ownership in Europe I think, they have traffic problems which are mainly environmental rather than congestion. We are also emphasising the health message, so there's three angles really environment congestion and health, which is in itself not just pollution but also fitness, rising heart disease as a result of not taking enough exercise. The other thing we stress very strongly in Hertfordshire is that Travelwise developed because we changed our policy and it is the spearhead, the way of presenting our new policy to the public and getting the public thinking about what's happening to transport and what the effects of that are because at some stage we are going to start producing measures which will be seen as disruptive, certainly things like "green routes" where you are taking away road space from cars and giving it to buses, or on road cycle ways, so the message really needs to be understood that these measures have to be put in place and also that the whole thing can't be done overnight. One of the things we accept is that it is a terribly slow change, people say the campaign has been going for 3 years have you got anything measurable in the streets. Well just ordinary economic fluctuations are going to add or subtract about 1-2% a year to traffic flows so actually spotting which bit is due to economic influences and which bit is due to people actually changing their travel style is difficult. It has taken us 40 years since the war to get into this mess and to build up to the idea of the car culture, the necessity of the car, to run our lives in such a way that it is impossible or very difficult to do so without a car and to start to turn that back. In a number of ways we are starting to do that, for example in our town centres where in the passed it was about pedestrian barriers now the sort of thing we have been doing is narrowing roads, taking away pedestrian barriers and trying to give pedestrians more equal rights on the streets.

### It does seem as if drivers feel they have the right to almost knock people over?

We've been almost giving that in that a lot of road policy in the past has been for the car driver and a lot of the things that have been done, even like street lighting have been done with a view to minimising car accidents, to make car driving safer and we are now starting to look much more at things like having appropriate heights for spreading of light for pedestrians.

### So its everything from doing the small physical things to changing people's mindsets

And the other problem is that we are going to have to bring them forward in tandem and one of the difficulties is for example getting people to use cycle-ways, to start using other forms of transport more when the provision is there so that we can thereby justify putting greater provision in. A lot of people are saying that they won't use buses until all buses are better, but we have to start talking to them about individual routes - What journeys do you make and what are the routes like there? - Where are you going to get information? Ditto with cycle-ways, we've increased the number of cycle-ways and cycle paths but its not an absolute cycle network yet. We have got a cycle strategy developed in conjunction with SUSTRANS and that is going in all the time and that means that a lot of people will be in reach of an embryonic cycle route, but it takes a while to bring a full cycle network forward so the thing is can we get more people on to their bikes on the bits that are there and thinking about it which is the first step. At this stage we want people to come out of the house and say "What 's the better way of doing this journey rather than use the car" and then hopefully in 2 or 3 years time they will start changing some of those journeys.

#### Do you think that London has its own particular problems?

Putting in place the physical infrastructure is a massive project because there are so many little things that need to be done and perceptually the little things make all the difference. I think the Government Office for London and London Transport are starting to pull together and work out a strategic plan. Certainly a project like the Thames Gateway is going to force the various people to come together. We work with Bexley and more recently Brent from the London Boroughs. We haven't spoken to Kent County Council simply because they haven't come to us and we don't go out and actively seek recruits.

#### When a council approaches you to join Travelwise, what is the procedure from there?

We have a licence agreement because Travelwise is a registered trade mark. We try to run Travelwise on a local society basis asking people to actively take part and to share information and publicity materials, with the result that Suffolk County Council manages our newsletter, Essex County Council do a lot of the management for Walk To School Week, Wiltshire are seeking sponsorship for Walk To School Week. A lot of it depends on what the council's particular Travelwise organiser is interested in and good at. West Sussex are very keen on education initiatives and they are working with a Theatre in Education company to do a Key Stage 3 Pack and we hope to work with them on a Curriculum Pack for Travel Awareness. We have a quarterly meeting in which we get together with our regional groups and co-ordinate our regional campaign. We're just in the process of addressing how we co-ordinate the wider issues, we had hoped for some funding for a national co-ordinator and had hoped some regional co-ordination would come out of that. Most of the areas meet informally at the moment.

#### How supportive is the government of your campaign?

The Green Paper doesn't mention the Travelwise campaign by name but makes a number of subsequent references to a National Cycle campaign and pollution issues. The official line is at present is that it is a campaign best left to the local approach. There are 2 aspects in which the government could help, one is wider campaigns particularly TV campaigns and the other which I think will begin to come through is data collection, national statistics because those things are beyond the budgets and ability of local authorities.

#### How is/will Travelwise be monitored?

Ultimately this has to be on the basis of modal changes or changes in journey patterns. We do a small survey in 2 towns in Hertfordshire every year to do with travel awareness, which is not to be seen as highly relevant because of the time-scale and that is starting to show a view that children should be able to walk to school and a strange result that people's resistance to parking charges in town centres is breaking down.

### INTERVIEW 12: TRANSPORT PLANNING DEPT. L.B. LEWISHAM 12/12/96

### How does Lewisham see its involvement in the Thames Gateway?

Its peripheral really, the only part of the borough that is involved is the land around Creekside and the links that are made through Docklands Light Railway (DLR). Issues like the Millennium site also concern us because of the knock-on benefits, with an estimated 10 million visitors per year there may be job opportunities and training initiatives that we can become involved in.

### What are the implications of the Thames Gateway in terms of transport planning in the borough?

I am involved inn the Thames Gateway London Group transport sub-committee, although that group is in its infancy. We have to liaise on transport with a number of boroughs around specific projects like East London Line Extension (ELX) (which brings us into contact with Southwark, Newham and Tower Hamlets) and we are part of the London Chunnel Group looking at issues for freight and during the British Rail privatisation we became part of the London and Kent triangle in order to respond to bids. That group has continued to operate to co-ordinate rail transport in a more strategic way.

#### What would you say were the main transport problems facing the borough?

Through traffic from Greenwich, Bexley and the Thames Gateway boroughs on our main arterial roads.

What do you see as the way forward for transport?

Probably over the next 10-15 years the focus will be on raising travel awareness.

#### What are your main constraints on introducing more sustainable transport strategies?

The long lead in time of new public transport schemes, for example DLR took 10 years to build. We have inherited a fabric of main roads which serve our bus routes and have shops all along them and pedestrians use them but they are also the main traffic route. That's why we have to readjust the roads hierarchy so that bus lanes can be put in and so on, in some places the narrowness of the road prevents this, like Lee High Road. We are also disadvantaged in London by having no strategic planning authority, for example the problem with the Woolwich Metro scheme can't get off the ground not just because of lack of funding but because there is no one to bring it forward. Kent and London don't plan together and then there's all the different operators. Local Agenda 21 meetings tell us that we are not doing enough to restrain car use, but then local traders are complaining and they want a relaxation of car parking constraints. Its a fine balancing act between the local economy, battling against the big shopping centres and PPG 13. Our Town Centre Manager discusses these issues with local businesses and we have more car parks but they're short-stay. Ideally, regeneration would be public transport led, and these developments would be rejected but our planners argue that if people didn't have the Sainsburys at New Cross people would just drive to Dulwich and they argue huge improvements from previous land use. Bexley is under more pressure than we are to build superstores. Controlled parking zones are also a problem, in consultation people don't like them because of the charges that are made. Public attitude is changing in some ways though, the physical infrastructure consultation we did on the South Circular showed that people didn't want their communities destroyed by a wider road and more traffic which led to a decision to make better use of the existing road, red routes and so on. Local authorities are stretched for resources, for example with our traffic calming policies we have 192 roads on the programme as identified by local residents. We carry out traffic counts and look to see if there are old people or schools on the route and at the number of accidents and we then have to prioritise on that basis, when we should be traffic calming all of them.

#### Do you have policies which try to deal with changing people's attitudes to transport?

We are largely concerned with promoting public transport through DLR and the London Bus Priority Network. We also have a focus on cycle routes and joined in on the SUSTRANS Safe Routes to Schools campaign in the summer. We also work with local employers like Citibank, and encourage them to identify their employees public transport needs and negotiate with operators on their behalf so that public transport can better serve those needs. The trouble with travel awareness campaigns is that the effects don't last. Travelwise showed that people took their kids to school for the week of the campaign but then they went straight back to their cars. It would anyway be more effective it was done on a London-wide basis, I think LOWTEC are working on something like that. We don't have any schemes or plans within the borough.

# I understand that the Millennium Site plans to open a Park and Ride car park in Catford, how do you feel about that?

My personal feeling is that cars shouldn't be coming that far in and there should be a cut off point at the M25. The authority has made its views known to the consultants, we're not in favour of that proposal, the roads are too narrow and congested. I suppose it makes sense in terms of strategic planning because of the direct link with the A205.

#### What about the Catford Town Centre Relief Road?

Well its was announced as one of the 114 schemes that will be going ahead but if you read between the lines you will see that the plan is to release that money at the rate of 3-4 schemes a year, so there's not much hope in the short-term.

#### Do you think the Lewisham Town Centre Relief Road is successful?

Well it has improved the pedestrian environment, but there are some problems with the top roundabout and traffic signalling. We are trying to improve the signalling at Lewis Grove and Belmont Hill to advantage buses, but these things are outside of our direct control and must be negotiated with the signal operators, so its long winded.

Perhaps if the scheme was being conceived now it would have been done slightly differently, but you have to remember those plans have been around since well before the GLC went - nearly 20 years in fact.

#### INTERVIEW 13: PRINCIPAL OF PLANNING POLICY, THURRROCK B.C. 13/12/96

#### How far is Thurrock involved in the regeneration activities of the Thames Gateway?

We were the only South Essex part of the Gateway, so we were completely on a limb and the County has lost interest in the East Thames Corridor, so really we had to choose to align ourselves with North Kent or with London. I am glad to see Dartford coming on board, hopefully it will all come together, although as it has been pointed out, it's difficult enough to co-ordinate the activities of the current rate of development. The object is to put the common interests together, you can have your differences and respect the background and physical difficulties but all pull together on the development. There are people with the opposite view in the London Group at the moment. We could have tried to promote the area individually in competition with each other, but we would have got nowhere like that.

#### What are the transport implications of the Thames Gateway?

Part of the problem has been getting funding out of the County Council, they have their priorities having to deal with North Essex and the rural issues and the South East issues, there are some major problems there, Canvey Island, Southend all along there. That's part of the reason we've gone for Unitary status to attract the funding for transport development for highways and public transport. To be fair the County Council have supported a number of under-used bus services in the borough and things like the Tilbury Ferry.

### Do you see regeneration in the borough as being dependent on a roads network similar to that in Kent?

Yes, I suppose although we blame the County Council for wrongly distributing the funds they have, they haven't had the funds to do something similar to the South Thames Development Route in North Kent, which we have been trying to pursue independently. It's more of a local access route that we need than a development route, but we are currently addressing the whole of the east of the borough because we've had the Lakeside development clogging up that area. The place has been far more successful than anyone thought of providing for and the impact has been far greater than we anticipated, so that the whole area has become a transport nightmare. We are at the moment conducting a study of that area, we are looking at a number of options. I think it's fairly obvious that we've got problems with the highways network and it means addressing that and it could mean some extra roads and junction improvements. We now have the Chafford Hundred Station which Chafford built at their own expense to service the housing estate, and offered Capital Counties the Lakeside developers, to come in on it, they declined, they wouldn't put any money into it and so there is no direct access to Lakeside from the train station even though you can see it from the window. It's virtually impossible to walk from the train station to Lakeside because of the motorway and all the traffic flying of the A13 it's a pedestrian nightmare, so what has happened now is that the County Council runs a subsidised bus service. We would like to put a pedestrian service in, a high level walkway or a travelator, monorail has been suggested but Capcar are dead against it after the experience of the monorail at Merry Hill.

The LTS Line is a dreadful service, it's all 1960s old slam door stock and generally dilapidated, draughty and fails a lot. There is a new company operating it now and one of their promises in the bid was new rolling stock as soon as possible, but nothing has materialised and probably won't.

#### Do you see a conflict between sustainability and regeneration?

There is, certainly in the retail and regional shopping centres. In general we try to build sustainability into out package of development, we try to secure a balance between local employment growth, provision at least, I mean you can't guarantee it, and housing growth so that we can encourage shorter journeys. You can't get closer proximity than Chafford Hundred and Lakeside and there is the possibility for people to make those trips without their cars, particularly if a good local bus service is provided. If the government really starts putting the screws on car use and encourage people to work locally, leave their cars at home, I think there is the scope there, we've deliberately built in lots of cycle ways and paths but that can only be done with new development, it's difficult to put those provisions into established developments.

### What are the work/home travel patterns in the borough at the moment?

Not so many people as you might think are employed in Central London, about 35% of our population commute out to work whereas about 25% of the workforce come from outside the borough. We think that has changed since the opening of Lakeside, because a lot of people who used to work in shopping centres in llford etc. now work in the borough, but we don't have the latest figures on that at the moment. It has created lots of jobs for people in the borough, but they are low quality jobs, part-time temporary contract, whereas a lot of the managers are brought in from outside the borough. Traditionally employment has been related to cement manufacturing, oil and petro-chemicals related industry and transport and port related activities. The cement related activities have gone up and down with the house building market and recessions have effected the oil manufacturing industries which have employed a great deal of people but even where these haven't closed down new technology demands less employees and there has been a general turn down in those traditional activities. Transport on the other hand has gone has grown across the board from distribution to retail, so that has been the growth area. We are in a good position, close to the M25, the port, two major airports. In the 80s we were happy to embrace the growth in that because we needed to replace the loss in other areas, now we've seen the impact of traffic and are raising our sights a bit looking for a higher base in employment activity and land-use practice. The trouble is we've gone so far down that road, it's difficult to come back and even the Gateway directs transport activities in this area.

One thing we do lack in the area is executive housing and so there are less professionals living in the borough than we want. That's largely to do with housing design and so professionals commute in. We are still stigmatised as a poor area.

#### How do you see the way forward for transport in the borough over the next 10 years?

Well that is what we're looking at the moment. We recognise for our economic well being and the kind of problems we have at the moment that are not going to go away, a certain amount of road building is needed. But the money has got to be properly target to build the right type of roads in the right places, not to just encourage more traffic generally. That is one of the most difficult things to come to terms with. We have just recently thrown out DoT proposals for the Lakeside junction because (a) it isn't what we want in terms of local land impact and (b) we think it will generate more traffic. However, there is a need to meet the genuine commercial needs of the area as opposed to the superimposed private car generated needs arising from Lakeside. We need to control that through car parking, although they have just increased the car parking provision from 9,000 to12,000 and they're looking at more. But the more you provide the more cars you attract, so coupled with that there has to be a better public transport provision, finding a satisfactory and attractive link with the railway station, one that people will want to use. The shops argue that you won't get people out of their cars because they like to carry their shopping away, but we know a good number of people go to a centre like that for the experience, more than to buy anything and you don't need the car for that. If an interesting public transport journey took a part of that experience, a tourist attraction in itself, then people would use it.

The people at Blue water have the advantage in that it has been planned in the light of sustainability and the whole economics of the thing, Lakeside was planned in the 80s when there wasn't that dialogue. The planning system wasn't as it is, everything was ad hoc and market led and objections to lakeside were virtually bought off by the developers who promised to bond £7 million for road improvements to the area. The County Council have done studies but have never spent the money. We are now trying to involve the public and the stakeholders to let them see some of the problems.

#### Do you have any schemes to control car use in the borough?

Our road improvement programme at the moment is very small and targeted at danger spots, 60% of the borough is in green belt and so are very car reliant. We also have hot spots of industrial developments on old sites which cause problems on country lanes. What we find difficult with the majority of the borough so car reliant is that the government emphasis on reducing car parking to reduce car use doesn't work, if you reduce the car parks you simply force people to park illegally. People were parking on the roundabouts.

#### What do you think the role of public awareness campaigns is in the attempt to reduce car use?

I don't think that campaigns will help, the only thing that will work is if people are priced out of there cars but it has to be coupled with investment in high quality public transport and that is definitely lacking at the moment. We have some plans from Barking and Havering for rapid light transport and guided light transport, but it all hangs on funding. If you have flexible system that doesn't have to run on a special line and is interesting to travel on then people would use it and you could replan routes quite easily. That's the sort of thing you need.

#### INTERVIEW 14: DEPT. OF PLANNING, L.B. REDBRIDGE 16/12/96

#### How far is L.B. Redbridge involved in the regeneration of the Thames Gateway?

The Gateway is going to be a priority for us in terms of development is going to be economic activity, employment and employment spin off, for example the hotel trade in Stratford may create 70 jobs but another 70 will be created in spin-offs, food supplies, cleaning ladies etc.. We joined the London partnership which was formed about two years ago, as on of the founder members with surrounding boroughs and L.B. Greenwich. Last month Dartford joined the London Groups as well which should make it quite interesting strategically because the two major poles put forward in the government document are the Royals at Stratford and Kent Thames-side and you could say Dartford is the link between the two. The government has always wanted the various partnerships to work together rather than in opposition, and favour co-operation between the two. The Conference in February is also aimed at that type of collaboration.

#### Do you see a big residential function for Redbridge in terms of the Thames Gateway?

No, we have quite a lot of employment within the borough, in the centre and also on the two industrial estates, of which the one in Hainault ward is the largest, concentrating on furniture manufacturing, engineering. Of course both the factories have changed hands over the years, and new manufacturing techniques have been brought in. The Hainault Estate probably employs about 1500 and its quite labour intensive because they are old style units with more traditional industries, people working machines rather than high tech assembly.

#### What are the transport implications of the Thames Gateway for Redbridge?

Stratford Station will improve our transport links within the London network going straight through to Docklands and the Jubilee Line Extension as well, links us up to the South of the river, so better journey times and passenger comfort because the DLR is at capacity already at certain times of the day. It means a direct link to London Bridge and a direct alternative route to the West End. Traffic wise I don't think things will get any worse in the borough as a result of development because basically the roads are at capacity at the peak hours already throughout London. We've got limited links through anyway the A12, the M11 and A14... When things get too bad people either move house to be nearer their work or come in by train half way or whatever, which is what has been happening for the last ten years anyway. Now that the M25 is coming up to capacity and if they start pricing on the motorways that will make a big difference and have a dramatic effect on some of these other routes and possibly on public transport. The trouble is that people are limited in their ability to move house because of negative equity and that is holding things up. You can split the journey decision into three main factors besides distance; cost, time and comfort. Quite a lot of people commute from as far away as York and Nottingham to the City each day and travel on the train, but its two hours from York which is no longer than from Medway Towns and much better service comfort on inter-city trains than commuter services.

The only difficulty is cost and that is compensated for by low housing cost, so net cost and time works out and you have the added advantage of getting out into the countryside at weekends.

#### What are the difficulties of introducing more sustainable travel patterns in the borough?

I suppose public opinion, if you suddenly took drastic measures against car use, there would be a backlash. People are quite ingenious in their own way and if they want to shop by car it doesn't matter what the government tell them. These policies will gradually work but it's not going to change over night, it's a good philosophy that we are pursuing and gradually it has got through to local authorities, maybe not all, and then it's just beginning to reach the public at large. It's becoming more fashionable to think before you drive, or think about it and then drive..... It will take about ten years for it to filter through.

The real way to do it, is to make it better from their own interest for people to travel by public transport than by car and have dedicated bus lanes throughout so that the buses go passed the queues of cars with people sitting in them, and that's the switch. I've been to Frankfurt and seen it, I

wouldn't dream of driving in Frankfurt, the jams are dreadful, the trams go on their own route and get you anywhere you want to go in en minutes whereas it would take forty minutes in a car. You need a lot of road space to do that, which we haven't got in London everywhere, but we've got areas where there could be more and the Bus Priority Network is filling in now with more lanes, so we are definitely getting somewhere but it will take time.

#### How well integrated is the land-use and transport planning in the borough?

Over the last four or five years we have come to share a view, transport planning and engineering now believe we should do everything we can to improve public transport and try and keep car usage at current levels rather than catering for growth. There is no money for road expansion anyway but even if there was we wouldn't want to do it. There is a good strategic roads infrastructure in the borough already, we have a good North/South route A406 dual carriageway, high standard and the A406 goes on to the west part of the North Circular. East/West there's the A12, again dual carriageway, the strategic level of infrastructure is complete.

#### Can you tell me more about Hainault ward?

It has a large LCC housing estate built in 1947-53, so classical LCC estate, basically working class people looking for a better environment than Stratford or Newham moved out by the different councils. It was actually quite successful, people were happy there. The roads and infrastructure reflects the time, there's been no investment in road widening since it was built, the only thing that has happened is that there have been traffic controls, signals. It has the orbital route which links it with the A13. It has the country park a golf course and the industrial estate, there's a good local shopping centre with 30-40 shops, and some community halls. There are a few leisure facilities just outside the ward, a swimming pool at Barkingside and Fairlop Country Park with a boating lake and a small fishing lake and restaurant facilities and the golf course run jointly by the council and a leisure company. The park is well used by the local people. The area was proposed for a second London airport after the war but the council opposed that and purchased the land to prevent further development on the land. It also backs onto Epping Forest. Although the housing was built as a council estate there has been a lot of selling off in recent years and have been very popular in terms of Right to Buy. Whatever you think of the scheme a lot of people here benefited from it, mostly middleaged approaching retirement, so it suited them fine. Now it's very much a mixture of private and municipal housing and it's not rich but it's not struggling. The people work in the industrial estate and also south of the borough, there are less commuters into Central London than in other parts of the borough, they are more locally based. People who moved in the fifties have stayed so there is a fairly large retired population in the ward.

Hainault Station is used by a lot of commuters into Central London in the peak hour, supported by the frequency of the trains at this time. People use the station to park and then drive on to Essex because it is physically at the end of the tube line. There is a lot of parking on local streets but we have commuter parking zones to stop all day parking. It's just a one hour ban in the middle of the day, which makes it very economical to control.

### Do you have any transport public attitude change campaigns or initiatives which are ongoing in the borough?

Yes, Safe Route to School looking at one school at a time. We've been joining in with the cycle campaign people and have regular liaison meetings with them and the CTC and Redbridge Cycle Liaison Group, putting in cycle routes as well as part of the London Cycle Route Network. We have the opportunity here to put in cycle routes because we have a lot more open environment in comparison to some of the Inner London boroughs, which means that more people will use them and there is a demand.

There are various days National Bike Day, Car Free Day and we join in those things on the day, mainly run by the cycle campaign people but the borough offers its services and accommodation. There was a Local Transport Day as well where transport issues were discussed with the public, an open forum on a Saturday. The first one was held in March and we're hoping to run that again in 1997. Key members of the council are available to discuss issues, they help to engender a positive attitude to the transport initiatives that the council are undertaking.

#### INTERVIEW 15: CHIEF TRANSPORT PLANNER, L.B. GREENWICH 14/12/96

#### How does L.B. Greenwich see its involvement in the Thames Gateway?

Well it has a very high involvement because I Chair the Thames Gateway Transport Sub-Committee and what we're doing as a group is responding to major transport issues and proposals on behalf of the Thames Gateway London Organisation and we're also doing an audit of major transport proposals in the area, just to see what sort of gaps there are around which we need to focus in terms of further transport development ideas and schemes to serve the development needs of the Thames Gateway, so those are the two primary tasks the group is involved in. For example, we responded to the River Crossings document.

### What are the implications for transport arising from the Thames Gateway regeneration initiatives for L.B. Greenwich?

The council's policy is generally away from road development towards public transport and that is very much seen as part of regeneration as well, so transport and regeneration go hand-in-glove with the emphasis on public transport to serve regeneration because that is a sustainable way forward and we have come to the conclusion that you can't build your way out of problems with roads. We opposed the East London River Crossing, although there are some limited road improvements for the borough, for example we are proposing the Woolwich road widening scheme, that is not designed to increase the car load capacity, what it is doing is serving the development needs of that community but it is also associated with traffic management in the neighbouring residential area. So really it is a relocation of traffic to a more appropriate road, rather than an increase in the net capacity of the roads network. It also allows a reformulation of the roads hierarchy in favour of buses, and allows us to put in bus priority and provision for cyclists.

#### What would you say are the main transport problems in the borough?

Serving regeneration needs, that's why a lot of the work is focused on the north of the borough because that is where the development land is. That is now getting a lift from the Millennium and a lot of the transport provision that is in the pipeline, we've got Jubilee Line on stream, we've got DLR Extension on stream, the intermediate roads network study going on Woolwich road widening, so there is a whole raft of things which are actually there and priming regeneration.

There are continuing problems with both town centres, each slightly different, the one with Greenwich is through traffic still, but I think the solution to that is strategic in that we need a Londonwide policy on traffic restraint, so there is very little individual boroughs can do to tackle the issue, but we are trying to address that. One of the ideas is to put in a by-pass and it wouldn't mean a net increase in private capacity but it would be predicated on a closure of Greenwich Town Centre to cars, so it would be a moving of capacity from one location to another. At either end it hooks into the main network and passes over vacant sites and could be incorporated into development proposals there and otherwise it is largely in a tunnel along the for-shore and you wouldn't even know it was there, so in that sense it will have little impact on the community. The key issue is now one of funding.

# What do you see as the main constraints on introducing more sustainable transport network in the borough?

The lack of integration still and the further disintegration of transport provision, rail privatisation isn't helping in that respect, there is a need for a major authority to look at a co-ordinated approach for transport provision rather than it being a service issue with individual operators which tends to focus on quite narrow objectives, narrow time-scales. No matter what there is still a need to take a strategic view and a strategic planning view for London and in the absence of a strategic authority there has been this plethora of groupings trying to address this problem and it is a problem that won't go away, is recognised by everybody now across all party complexions as well and I think there is generally support for some kind of strategic transport planning authority.

Appendix II

Survey Questionnaire



Dear Resident,

#### THAMES GATEWAY TRAVELLING BY CAR SURVEY

The Department of Environmental Sciences at the University, in collaboration with your local authority and the Thames Gateway Task Force, is currently undertaking an important survey about the travel patterns and attitudes to transport and the environment of local residents who regularly drive a car. If you are a regular car user, I would be very grateful if you would take part in the survey by completing the attached questionnaire and returning it to me as soon as possible. If you are not a regular car user but someone else in your house is, I would be grateful if you would pass on this letter and the questionnaire to them to complete.

As you will see the questionnaire is designed to find out your car availability and type, how frequently you drive and for what purposes. You will also notice that there are some questions relating to you and your personal circumstances and opinions. It is very important that you answer these as fully and frankly as possible because they will help us to determine the differing patterns of car travel and driver needs according to certain sectors of the population. I can promise you that the information you give will be treated in the strictest confidence. The University is a professional research establishment; your name and address will not be attached to the information you provide or passed on to any other organisation and the results from this survey will be presented as summaries only.

A stamped addressed envelope has been enclosed for your reply. Please send it off as soon as possible as the results are needed urgently. If neither you nor any of the other residents in your household regularly drive a car then please mark the questionnaire "not driver" across the front and return it to me in the envelope provided.

I would like to thank you for your help and co-operation and look forward to receiving your completed questionnaire.

Yours faithfully,

KAREN LUCAS Researcher

> Deptford Campus Rachel McMillan Building Creek Road London SE8 3BW Telephone: +44 (0)181-331-8000

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Greenwich University, in conjunction with your local authority, are carrying out a survey on car ownership and use as part of a wider study on transport in the Thames Gateway. If you regularly drive a car, we would appreciate your help in filling in this questionnaire. The information you provide will be used solely for the purpose of this study and respondents will be kept anonymous.

#### **ABOUT YOU**

HOME POSTCODE			
AGE	18-25 26-35	36-45 46-55	56-65 65+
SEX	male female		
TOTAL NUMBER OF PERSONS IN YOUR	HOUSEHOLD		
NUMBER OF CHILDREN IN YOUR HOUS	SEHOLD (persons u	nder 18 years)	
ANNUAL HOUSEHOLD INCOME (Tick of	ne)		
Und YOUR PERSONAL ANNUAL INCOME	ier £10,000 £10,00	0 - £20,000 £2	20,000 +
WHAT IS YOUR HOUSING STATUS ?			
Private Rented Public Re	nted Owner (Mort	gage) Owner (	Outright)
WHAT IS YOUR ETHNIC ORIGIN?			
White British Black British European	Afro-Carribean	African	Asian
Other			

WHAT IS YO	OUR MAIN	OCCUPAT	TION? (Tick	one only)				
Professional	Manager ]	Non-Manua	l Skilled Ma	nual Unski	lied Hom C	eworker Ur	nemployed	
WHERE DO	YOU WOR	K? (State p	ostcode only)					
ABOUT	YOUR (	CAR						
NUMBER OF	F CARS IN	YOUR HO	USEHOLD IN	N EACH OF	THE FOL	LOWING (	CATEGORIES	5:-
Shared Use	Company C	ar Owned	Outright Ow	ned with Lo	an Owne	d with Trad	e in Options	
		Ľ						
WHAT IS YO	OUR PERS	ONAL ACC	CESS TO A C	AR?				
				Shar	ed Use	Company	Car Sole Us	e
PLEASE GIV	VE THE FO	OLLOWING	DETAILS F	OR EACH C	OF THE C	ARS IN YO	UR HOUSEH	OLD
Main Driver				Car	2	Car 3	Car4	
Mahi Diivei			SELF					-
Petrol/Deisel	I							-
Automatic/M	fanual	_						_
Year of Regi	stration	_						_
Year of purc	hase	_						_
Mileage		_						_
Insurance typ	pe (eg Fully	(Comp) _		<u> </u>				-
Bought outri	ght/part ex	change _					<u>,</u>	_
Monthly Pay	ments on lo	oans _						_
Loan type (e;	g HP, Bank	Loan)				<u>~</u>		-
HOW MANY	Y MILES D	o you tr	AVEL PER V	<b>VEEK BY C</b>	AR?			
			Work	Shopping	Leisure	School Rur	n Other	
ARE ANY O	)F THESE I	JOURNEYS	POSSIBLE	WITHOUT	THE USE	OF YOUR	CAR?	
			Work	Shopping	Leisure	School Ru	n Other	
Extremely di	ifficult							
Difficult								
Relatively ea	asy							

### **OTHER TYPES OF TRANSPORT**

HOW MANY MILES DO YOU TRAVEL PER WEEK BY PUBLIC TRANSPORT?

		wo C	ork	Shopping	Leisure	School Run	Other
WHAT WOUL	D ENCOURAG	E YOU TO U	SE P	UBLIC TR	ANSPOR	「MORE OF1	EN?
	Increased reliability	Cheaper fares		Cleaner vehicles	Clos servio	er to home ce provision	Better staffing
Other, say what	at						
HOW MANY	MILES DO YO	U TRAVEL PI	ER W	EEK ON F	OOT?		
		w.	ork	Shopping	Leisure	School Run	Other
HOW MANY	MILES DO YO	U TRAVEL PI	ER W	EEK BY E	BICYCLE	)	
		wo	ork	Shopping	Leisure	School Run	Other
HOW MUCH I	DO YOU USUA	LLY SPEND	on t	RAVEL IN	I A WEEF	۲?	
					Public Petro Taxis	c Transport I/Deisel	
ABOUT D	RIVING						
DO YOU ENJO	OY DRIVING?					Yes	No
WOULD YOU	CONSIDER YO	DURSELF TO	BE A	A CAR EN	THUSIAS	T? Yes	No
HOW MANY `	YEARS HAVE	YOU BEEN D	RIVI	NG?			
WHAT DO YC	DU MOST LIKE	ABOUT DRI	VINC	3?			

WHAT DO	YOU LE	EAST LIKE	ABOUT	DRIVING?

### WHAT DO YOU THINK ABOUT THE FOLLOWING TRAFFIC MANAGEMENT MEASURES?

Bus lanes	Very Useful	Not Very Useful	Not At All Useful
Cycle lanes			
Road bumps			
Pedestrianise town centres			
Parking restrictions on main roads			
Residents only parking			

#### HOW DO YOU FEEL ABOUT THE FOLLOWING ENVIRONMENTAL ISSUES?

A in	Very concerned	Slightly concerned	Not at all concerned
Air pollution			
Global warming			
Acid rain			
Hole in ozone layer			
Noise from traffic			
Loss of countryside			
Access to countryside			
Loss of wildlife			
Deforestation			

Thank you for completing this questionnaire. In order to complete this study we need car drivers who would be prepared to participate an interview which would provide more detailed information about people and their cars. If you would like to help, please provide your contact details below. These details will not be made available to anyone else.

NAME \_\_\_\_\_

ADDRESS

DAYTIME TELEPHONE NUMBER

# Appendix III

Sampling Framework

# SAMPLE 1

GР	BOROUGH	WARD	ΡT	CAR	CYCFT
01ACFA	Hackney	Brownswood	55	25	7
01ACFB	Hackney	Chatham	47	24	19
01ACFC	Hackney	Clissold	49	29	12
01ACFD	Hackney	Dalston	45	29	15
01ACFE	Hackney	De Beauvoir	44	30	20
01ACFF	Hackney	Eastdown	55	21	14
01ACFG	Hackney	Haggerston	48	22	25
01ACFH	Hackney	Homerton	44	29	19
01ACFJ	Hackney	Kings Park	43	30	18
01ACFL	Hackney	Moorfields	44	20	26
01ACFM	Hackney	New River	56	24	11
01ACFP	Hackney	Northfield	48	27	11
01ACFQ	Hackney	Northwold	51	26	11
01ACFR	Hackney	Queensbridge	48	26	18
01ACFS	Hackney	Rectory	49	26	16
01ACFT	Hackney	South Defoe	42	23	20
01ACFX	Hackney	Wenlock	45	23	24
01ACFY	Hackney	Westdown	46	23	16
01ACFZ	Hackney	Wick	43	30	17
01AJFH	Lewisham	Drake	54	29	6
01AJFJ	Lewisham	Evelyn	49	27	13
01AJFL	Lewisham	Grinling Gibbons	51	21	18
01AJFQ	Lewisham	Ladywell	54	28	12
01AJFS	Lewisham	Marlow	56	24	11
01AJFY	Lewisham	St. Margaret	55	29	6
01AKFC	Newham	Canning Town and Grange	55	25	15
01AKFE	Newham	Central	50	30	13
01AKFK	Newham	Kensington	52	29	11
01AKFP	Newham	New Town	51	26	16
01AKFQ	Newham	Ordnance	49	23	15
01AKFR	Newham	Park	50	28	15
01AKFS	Newham	Plaistow	55	27	13
01AKFU	Newham	St. Stephens	51	27	14
01AKFX	Newham	Stratford	48	26	21
01AKGA	Newham	West Ham	48	25	18

WARDS WHERE JOURNEYS TO WORK BY CAR REPRESENT LESS THAN 30% AND JOURNEYS TO WORK BY PUBLIC TRANSPORT REPRESENT MORE THAN 40% OF TOTAL JOURNEYS TO WORK.

SAMPLE 1 (cont.)

Ъ	BOROUGH		ΡT	CAR	CYCFT
11ALFC	Southwark	Barset	48	29	13
11ALFD	Southwark	Bellenden	49	30	11
1ALFF	Southwark	Browning	52	22	17
11ALFG	Southwark	Brunswick	59	16	18
01ALFH	Southwark	Burgess	53	24	15
01ALFJ	Southwark	Cathedral	40	14	33
01ALFK	Southwark	Chaucer	48	16	24
01ALFM	Southwark	Consort	50	28	18
01ALFP	Southwark	Faraday	53	23	18
01ALFQ	Southwark	Friary	54	23	14
01ALFR	Southwark	Liddle	59	18	15
01ALFT	Southwark	Newington	44	28	19
DIALFU	Southwark	Riverside	44	26	21
01ALFW	Southwark	Rotherhithe	45	27	20
01ALFZ	Southwark	St.Giles	52	24	18
01ALGA	Southwark	The Lane	46	26	18
01ALGB	Southwark	Waverley	46	30	13
01AMFB	Tower Hamlets	Bow	49	30	17
01AMFC	<b>Tower Hamlets</b>	Bromley	52	22	20
01AMFD	Tower Hamlets	East India	49	27	18
01AMFF	Tower Hamlets	Holy Trinity	51	21	17
01AMFH	<b>Tower Hamlets</b>	Lansbury	49	27	13
01AMFL	Tower Hamlets	Park	45	23	24
01AMFM	Tower Hamlets	Redcoat	46	23	22
01AMFN	Tower Hamlets	St.Dunstan's	41	24	26
01AMFR	Tower Hamlets	St.Mary's	45	21	28
01AMFS	Tower Hamlets	St.Peter's	44	25	23
02AZFZ	Greenwich	St Alfege	48	29	10
02AZGA	Greenwich	St Mary	45	29	21
02AZGJ	Greenwich	Trafalgar	44	30	18
02AZGM	Greenwich	West	50	26	13
02BKFB	Waltham Forest	Cathall	49	30	11
02BKFG	Waltham Forest	Grove Green	54	28	6
02BKFM	Waltham Forest	Hoe Street	47	30	14
# JOURNEY TO WORK BY WARD 1991 CENSUS

**SAMPLE 2** 

GP	BOROUGH	WARD	PT	CAR	CYFT
02AZFS	Greenwich	Middle Park	35	49	11
02AZFW	Greenwich	Palace	39	50	2
02AZGB	Greenwich	St Nicholas	39	47	5
02AZGE	Greenwich	Slade	38	52	9
02AZGL	Greenwich	Well Hall	39	46	-
02BBFD	Havering	Chase Cross	34	55	4
02BBFE	Havering	Collier Row	31	54	9
02BBFF	Havering	Cranham East	30	54	2
02BBFL	Havering	Gooshays	34	51	10
02BBFN	Havering	Harold Wood	35	51	6
02BBFP	Havering	Heath Park	35	51	œ
02BBFQ	Havering	Heaton	31	51	13
02BBFS	Havering	Hylands	33	52	10
02BBFU	Havering	Oldchurch	34	46	15
02BBFY	Havering	St Andrew	35	52	4
02BBGA	Havering	South Hornchurch	35	55	2
02BBGB	Havering	Upminster	36	48	6
02BGFB	Redbridge	Barkingside	38	46	9
02BGFC	Redbridge	Bridge	35	49	6
02BGFD	Redbridge	Chadwell	40	47	6
02BGFE	Redbridge	Church End	36	47	9
02BGFF	Redbridge	Clayhall	33	55	3
02BGFM	Redbridge	Hainault	34	52	æ
02BGFP	Redbridge	Mayfield	34	52	æ
02BGFQ	Redbridge	Monkhams	35	51	5
02BGFX	Redbridge	Wanstead	36	51	9
02BKFC	Waltham Forest	Chapel End	35	49	11
02BKFH	Waltham Forest	Hale End	32	50	11
02BKFJ	Waltham Forest	Hatch Lane	37	49	8
02BKFN	Waltham Forest	Larkswood	32	52	œ
02BKFU	Waltham Forest	Valley	30	54	10
23HUFG	Thurrock	Grays Thurrock Town	31	49	15

WARDS WHERE JOURNEYS TO WORK BY CAR AND PUBLIC TRANSPORT ARE RECORDED AT APPROXIMATELY THE SAME LEVEL i.e. 45-55% & 30-40% RESPECTIVELY

SAMPLE 2 (cont.)

	•																														
																			-								 				
YCFT	7	16	10	5	2	17	12	8	9	18	8	5	10	7	2	19	1	16	4	19	10	11	12	10	18						
AR C	76	61	66	72	71	61	68	74	72	62	71	69	69	72	75	62	76	63	71	99	72	68	63	71	64		-				
CP	6	17	16	12	18	15	14	13	10	10	11	6	5	12	7	12	e	13	18	<del>0</del>	11	12	17	7	12				-		
ΡT																				'ay											-
	Rede Court	St.Margarets and Borstal	Temple Farm	Thames Side	Walderslade	Warren Wood	Wayfield	Weedswood	Borden	Boughton	Courtenay	East Downs	Eastern	Hartlip and Upchurch	Iwade and Lower Halstow	Milton Regis	Minster Cliffs	Murston	Newington	Queenborough and Halfw	Sheppey Central	Teynham and Lynsted	Watling	West Downs	Woodstock						
BOROUGH	Rochester	Rochester	Rochester	Rochester	Rochester	Rochester	Rochester	Rochester	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale	Swale						
GP	<b>30LKFL</b>	<b>30LKFM</b>	<b>30LKFN</b>	<b>30LKFP</b>	<b>30LKFS</b>	<b>30LKFT</b>	30LKFU	<b>30LKFW</b>	<b>30LNFB</b>	30LNFC	<b>30LNFD</b>	<b>30LNFF</b>	30LNFG	<b>30LNFJ</b>	<b>30LNFK</b>	<b>30LNFM</b>	<b>30LNFN</b>	<b>30LNFP</b>	<b>30LNFQ</b>	<b>30LNFR</b>	<b>30LNFX</b>	<b>30LNFY</b>	30LNFZ	<b>30LNGA</b>	30LNGB						

JOURNEY TO WORK BY WARD 1991 CENSUS

**SAMPLE 3** 

GP	BURUUGH	WARD	ЪТ	CAR	<u></u>	YCFT	
23HUFD	Thurrock	Corringham and Fobbing		8	70	9	
23HUFE	Thurrock	East Tilbury		6	68	8	WARDS W
23HUFF	Thurrock	Grays Thurrock North		6	60	14	BY CAR A
23HUFH	Thurrock	Little Thurrock		61	66	6	MORE TH
23HUFK	Thurrock	Orsett		13	67	6	BY PUBLIC
23HUFM	Thurrock	Stifford		13	71	ω	TOTAL JO
<b>30LEFA</b>	Dartford	Bean		15	69	3	
30LEFC	Dartford	Darenth		14	72	9	
<b>30LEFE</b>	Dartford	Greenhithe		20	67	4	
<b>30LEFL</b>	Dartford	Longfield		50	69	4	
<b>30LEFS</b>	Dartford	Southfleet		4	76	12	
<b>30LEFU</b>	Dartford	Sutton-at Hone and Hawley		12	71	4	
<b>30LEFX</b>	Dartford	Wilmington Central		15	68	8	
30LEFZ	Dartford	Wilmington West		13	74	9	
<b>30LGFC</b>	Gillingham	Hempstead and Wigmore	1	15	72	9	
<b>30LGFF</b>	Gillingham	Park Wood		19	68	8	
<b>30LGFJ</b>	Gillingham	Rainham Mark		8	65	11	
<b>30LGFN</b>	Gillingham	Twydal		16	60	19	
<b>30LGFP</b>	Gillingham	Watling Street		14	65	11	
<b>30LHFB</b>	Gravesham	Chalk		8	69	9	
<b>30LHFC</b>	Gravesham	Cobham and Luddesdown		13	67	6	
<b>30LHFE</b>	Gravesham	Higham	•	11	76	5	
<b>30LHFF</b>	Gravesham	Istead		12	78	5	
<b>30LHFH</b>	Gravesham	Meopham South	•	5	72	4	
<b>30LHFP</b>	Gravesham	Riverview		0	71	4	
<b>30LHFQ</b>	Gravesham	Shorne		6	99	7	
<b>30LHFR</b>	Gravesham	Singlewell		6	67	8	
<b>30LHFT</b>	Gravesham	Whitehill		5	64	15	
<b>30LKFA</b>	Rochester	All Saints			69	12	
<b>30LKFB</b>	Rochester	Cuxton and Halling		3	69	8	
<b>30LKFC</b>	Rochester	Earl		3	63	15	
<b>30LKFE</b>	Rochester	Frindsbury Extra		4	64	16	
30LKFG	Rochester	Hoo St.Werburgh		3	68	13	
<b>30LKFH</b>	Rochester	Horsted		9	69	10	
<b>30LKFJ</b>	Rochester	Lordswood		17	70	9	

WARDS WHERE JOURNEYS TO WORK BY CAR ARE RECORDED AS REPRESENTING MORE THAN 60% AND JOURNEYS TO WORK BY PUBLIC TRANSPORT LESS THAN 20% OF TOTAL JOURNEYS TO WORK.

## JOURNEY TO WORK BY WARD 1991 CENSUS

### SAMPLE 3 (cont.)

GP	BOROUGH	WARD	рТ	CAR	CVFT	Г
01AKFW	Newham	South	37	46		· œ
02AQFB	Barking &Dagenham	Cambell	32	45	-	8
02AQFD	Barking &Dagenham	Eastbrook	34	52		0
02AQFE	Barking &Dagenham	Eastbury	30	49	-	5 S
02AQFF	Barking &Dagenham	Fanshawe	34	47	-	4
02AQFG	Barking &Dagenham	Gascoigne	31	48	-	4
02AQFK	Barking &Dagenham	Heath	32	50	-	
02AQFM	Barking &Dagenham	Manor	39	45	-	0
02AQFP	Barking & Dagenham	Parsioes	37	46	-	3
02AQFQ	Barking & Dagenham	River	30	49	-	2
02AQFR	Barking & Dagenham	Thames	34	49	-	5
02AQFS	Barking & Dagenham	Triptons	35	45	-	2
02AQFU	Barking &Dagenham	Village	36	45		e
02ASFA	Bexley	Barnehurst	34	50		8
02ASFC	Bexley	Belvedere	36	49		6
02ASFG	Bexley	Brampton	32	53		1
02ASFH	Bexley	Christchurch	37	51		ω
02ASFK	Bexley	Crayford	31	53		6
02ASFL	Bexley	Danson	36	48		2
02ASFM	Bexley	East Wickham	36	47		6
02ASFN	Bexley	Erith	31	51	-	ò
02ASFP	Bexley	Falconwood	36	51		9
02ASFQ	Bexley	Lamorbey	36	52		9
02ASFR	Bexley	North End	35	49	-	-
02ASFS	Bexiey	Northumberland Heath	33	50	-	-
02ASFT	Bexley	St. Mary's	32	54		S
02ASFU	Bexley	St. Michael's	32	55		9
02ASFW	Bexley	Sidcup East	33	49		2
02ASFX	Bexley	Sidcup West	39	46		9
02AZFC	Greenwich	Avery Hill	31	50	-	2
02AZFG	Greenwich	Coldharbour	36	50		1
02AZFH	Greenwich	Deansfield	38	47		5
02AZFJ	Greenwich	Eltham Park	31	50		2
02AZFN	Greenwich	Herbert	36	48		~
02AZFQ	Greenwich	Kidbrooke	33	50		6

### POPULATION DISTRIBUTIONS AND HOME AND CAR OWNERSHIP IN SAMPLE WARDS 1991 CENSUS

WARD	WARD LABEL	TOTAL	HSEHLD	MORTGAGE	OUTRIGHT	0/0
		POP				TOTAL
AJFY	St. Margaret	5997	3259	377	1224	1670
ALFU	Riverside	7820	4321	150	700	981
AZFZ	St Alfege	5462	2808	221	792	1054
ASFC	Belvedere	11963	5128	1028	2869	3957
AZFH	Deansfield	3348	1296	453	781	1242
BGFM	Hainault	8558	3793	604	1769	2407
HUFF	Grays Thurrock Nth	3648	1507	332	647	992
LEFE	Greenhithe	3259	1287	188	788	1002
LKFW	Weedswood	5773	2197	398	1125	1535

WARD	WARD LABEL	% 0/0	HSHLDS	% WITH
			NO CAR	CAR
AJFY	St. Margaret	51.24	1497	54.07
ALFU	Riverside	22.70	2516	41.77
AZFZ	St Alfege	37.54	1387	50.61
ASFC	Belvedere	77.16	1529	70.18
AZFH	Deansfield	95.83	270	79.17
BGFM	Hainault	63.46	1472	61.19
HUFF	Grays Thurrock Nth	65.83	493	67.29
LEFE	Greenhithe	77.86	217	83.14
LKFW	Weedswood	69.87	622	71.69

### AGE DISTRIBUTION IN SAMPLE WARDS 1991 CENSUS

WARD	18-24	25-34	35-44	45-54	55-64
AJFY	714	1425	857	680	638
ALFU	1116	1981	1058	814	914
ASFC	1431	2617	1679	1249	1081
AZFH	297	544	557	422	300
AZFZ	622	1304	799	641	616
BGFM	756	1199	1034	911	1025
HUFF	317	457	608	428	348
LEFE	434	760	439	365	260
LKFW	609	861	872	765	686
TOTAL	6296	11148	7903	6275	5868

### GENDER DISTRIBUTION BY SAMPLE WARDS 1991 CENSUS

WARD	MALES	FEMALES
AJFY	2719	3278
ALFU	3800	4020
ASFC	5778	6185
AZFH	1659	1689
AZFZ	2583	2879
BGFM	4039	4519
HUFF	1743	1905
LEFE	1643	1616
LKFW	2816	2957
TOTAL	26780	29048

### DISTRIBUTION OF ECONOMICIALLY INACTIVE POPULATION IIN SAMPLE WARDS 1991 CENSUS

WARD	GVMNT	UNEMPLOYED	TOTAL	RETIRED
	SCHEME		INACTIVE	
AJFY	22	362	384	1253
ALFU	51	774	825	1552
ASFC	45	589	634	1551
AZFH	14	96	110	464
AZFZ	22	472	494	876
BGFM	37	406	443	2229
HUFF	16	149	165	618
LEFE	9	145	154	277
LKFW	37	318	355	679
TOTAL	253	3311	3564	9499

### NO ACCESS TO A CAR BY EMPLOYMENT TYPE FOR SAMPLE WARDS 1991 CENSUS

WARD	EMPLOY- ERS	PROFESS- IONALS	ALL NON- MANUAL	SKILLED MANUAL
AJFY	2	5	20	10
ALFU	10	4	9	17
ASFC	4	2	17	9
AZFH	2	0	2	1
AZFZ	11	0	24	10
BGFM	2	0	5	5
HUFF	1	0	1	2
LEFE	0	1	2	3
LKFW	0	0	4	7
TOTAL	32	12	84	64

Appendix IV

Maps





BEXLEY Belvedere









DARTFORD Greenhithe



THURROCK Grays Thurrock North





THAMES GATEWAY Concentrations of factor "car user"





### THAMES GATEWAY Concentrations of factor "public transport"







## THAMES GATEWAY Concentrations of factor "cycling & walking"