1. Context of Study

1.1 Introduction

The aim of this Final Report is to draw together all the strands of the study and present a clear recommendation to the Steering Group with respect to the transport plan(s) which best meet(s) the national, regional and local objectives specified and produce solutions to the current and future problems identified at the start of the study.

Following this chapter, Chapter 2 describes the study area problems, issues and objectives. Chapter 3 describes the study methodology. Chapter 4 describes the strategy development and performance from their initial development, through public consultation, to their appraisal and selection. The final Chapter 5 makes recommendations for the preferred strategy and outlines the provisional implementation programme.

Throughout this report abbreviations may be used as follows:

AQS	Air Quality Strategy
CCC	Cambridgeshire County Council
CCTC	Cambridge City Council
CEN	Cambridge Evening News
CHUMMS	The Cambridge to Huntingdon Multi-Modal study
CRTS	Cambridge Rapid Transit System
CNB	Cambridge Northern Bypass
CSB	Cambridge Southern Bypass
CSRS	Cambridge Sub-Regional study
DC	District Council
DCR	Data Collection Report
DETR	Department of the Environment, Transport and the Regions (now DTLR)
DMRB	Design Manual for Roads and Bridges
DTLR	Department of Transport, Local Government and the Regions
ECML	East Coast Main Line
EELGC	East of England Local Government Conference
FR	Final Report
GO-East	Government Office for the East of England
HA	Highways Agency
HDC	Huntingdonshire District Council
HEB	Huntingdon Eastern Bypass
HGV	Heavy Goods Vehicle
LAQM	Local Air Quality Management
LDR	Local Distributor Road
LSM	London - South Midlands (MMS)
LTP	Local Transport Plan
MMS	Multi-Modal Study
MMSU	Multi-Modal Studies Unit (DTLR)
NATA	New Approach to Appraisal
PC	Public Consultation
PE	Public Exhibition
PM	Progress Meeting
RPC	Regional Planning Conference
RPG	Regional Planning Guidance
SCDC	South Cambridgeshire District Council
SCEALA	Standing Conference of East Anglian Local Authorities
SG	Steering Group
SRA	Strategic Rail Authority
TCG	Technical Consultative Group
TMDVR	Transport Model Development and Validation Report
TUBA	Transport User Benefit Appraisal (DETR economic appraisal software)
UoC	University of Cambridge
VMS	Variable Message Sign

1.2 Study Background

On 31 July 1998 the Government released the results of its review of the Trunk Roads programme in "A New Deal for Trunk Roads in England." As part of that review, for those schemes not carried forward into the review, studies were to be undertaken to address the most pressing outstanding problems.

The studies identified included multi-modal studies, and released in the first tranche was one for the Cambridge to Huntingdon corridor. This required a multi-modal study (MMS) to consider solutions to the problems of congestion and safety in the A14 corridor where there are also substantial development pressures.

Traditionally, problems of congestion, environment and safety on the road network would have been addressed as a single mode issue and would generally have led to proposals that increased road network capacity. A MMS examines the role of various transport modes in the area and the contribution that each can make to meeting the objectives of sustainable development of the study area. The inter-relationship between land use planning and transport provision is also considered, such that the combination of measures, together, meet the national, regional and local objectives.

1.3 Study Terms of Reference

The overall aim of the study was defined in the Terms of Reference (para. 3.1) as:

". . . to recommend multi-modal transport plans which will address the most urgent transport problems in the corridor between Cambridge and Huntingdon looking in particular at opportunities for modal shift from the car."

The recommended plans were also required to *". . . be capable of addressing identifiable transport problems within the corridor, and should take account of wider, regional economic development and environmental priorities".*

and *". . . should take account of national and inter-regional pressures in the corridor as well as local pressures. . . "* and *". . . should be supported by details of the various transport supply mechanisms, which constitute them".*

In particular, *". . . the study should make recommendations about the road improvement schemes remitted to it from the Roads Review. These are:*

A14 Improvement (A1 to M11 J14);
M11 J14 Improvement."

The study was also required to *". . . make recommendations to the Highways Agency, the Strategic Rail Authority, the Secretary of State, local authorities and transport providers in the area about delivery of the solutions incorporated in the recommended plan".*

The study Terms of Reference are contained in **Appendix 1**.

1.4 Study Area

The study area is shown on **Figure 1.1**. It has 3 component areas:

- ***Core area*** – broadly centred along the A14 between the A1 in the west and the A1303 near Quy in the east;
- ***Inner area*** – surrounds the core area from west of the A1 in the west to east of Cambridge in the east and between the A1123 corridor in the north and the A428/A1198 corridor in the south;
- ***Outer study area*** – is beyond the inner study area. The A14's area of influence on an E-W axis is between the east coast ports and the M1/M6 motorways. On the N-S axis, the A14 and the linking strategic north-south M11, A1198 and A1 roads together with the ECML and Kings Lynn to London railway lines, influence movements from the M25 to the north of England.

The whole of the inner study area is within Cambridgeshire and coincides with the NW sector of the Cambridge sub-region area. The main centres of population in the inner study area are Cambridge (approx. 109,000), Huntingdon (approx. 19,000), St.Ives (approx. 16,000) and Godmanchester (approx. 6,000) and these account for some 27% of the population of the county.

Cambridgeshire is split into 5 District Councils:

- Huntingdonshire
- South Cambridgeshire
- Cambridge City
- East Cambridgeshire
- Fenland

The inner study area is mainly contained in Huntingdonshire and South Cambridgeshire DC areas.

1.5 Study Approach

CHUMMS has been carried out in a manner consistent with the Guidance on the Methodology for Multi-Modal Studies (GOMMMS) which was available from March 2000. The economic assessment was required to be undertaken using the DTLR program TUBA, but this program was not available until March 2001.

CHUMMS was completed under the guidance of a Steering Group (SG) which contained the following people:

Table 1.1: Steering Group Members

Name	Representing	Position	Organisation
Chair – Caroline Bowdler	Government Office	CHUMMS Project Director	DTLR (GO-East)
John Brown	Government Office	CHUMMS Project Manager	DTLR (GO-East)
Ciara Mulligan	Government		DTLR (Multi-modal Studies Unit)
David Hurry	Bus operators	Group Commercial Director	Sovereign Bus and Coach Co.
John Onslow	County Council	Assistant Director (Planning)	Cambridgeshire County Council
Steve Cox	Development Agency	Planning & Infrastructure Advisor	EEDA
Elizabeth Wilson	District Councils	Director of Operational Services	Huntingdonshire District Council
John Ratcliff	Environment		STEER
Jim Boud/ Iain Semple	Highways Agency	Regional Director/ Manager Area 8	Highways Agency
Matthew Lodge	Railway issues		Strategic Rail Authority
Richard Workman	Railway issues		Railtrack East Anglia
Gary Willey	Railway issues	Retail Manager	WAGN Railway
Margaret Gough	Regional Planning		EELGC
John Bridge	Road issues	National Chairman	Road Haulage Association

The Steering Group had its own terms of reference. Its main function was to ensure that the study was carried out in a correct manner and that the conclusions reached from the study were justified and could be recommended to the Regional Planning Body as representing the output from a fully competent study. The members of the Steering Group were not, therefore simply representing the interests of their own organisations, but were there to bring their expertise in their own fields to the process.

The Technical Consultative Group (TCG) included a wide range of organisations (listed in **Appendix 2**), that represented a broad body of opinion. The group was not static and organisations were added to it throughout the study as issues were raised.

1.6 Policy Context

CHUMMS took place within the context of a number of other national, regional and local policy documents:

- Cambridgeshire County Council's Local Transport Plan;
- Regional Planning Guidance 6 (RPG6) for East Anglia;
- Railtrack's Network Management Statement;
- The SRA's Agenda and Freight Strategy and "Vision" for the UK's Rail Network;
- Transport 2010, the DETR's 10 year plan.

In this section we discuss the most appropriate policies in these documents and their compatibility with CHUMMS.

1.6.1 Cambridgeshire County Council's Local Transport Plan

The Cambridgeshire Local Transport Plan has four elements, namely:

- Strategic Routes, such as the A14, A1, A47 and the main line railways, both freight and passenger;
- Cambridge and Surrounding Area: this most nearly corresponds to the CHUMMS Study Area;
- Market Towns;
- Rural Areas.

The objectives for Cambridge and the surrounding area, with particular application to the CHUMMS corridor, are to:

- Reduce car dependence through demand management and investment in alternatives to the private car;
- Strengthen radial public transport links;
- Develop public transport corridors (such as Cambridge – St. Ives);
- Develop Park and Ride, including "rural" sites;
- Encourage road to rail transfer;
- Provide a high quality inter-urban public transport network;
- Provide bypasses in the interest of safety and amenity;
- Develop bus and rail interchanges;
- Explore the introduction of a workplace parking levy.

The Plan also sets targets for road traffic reduction for this particular area. In essence these are:

- Internal movement within the City: reducing car use; and
- Travel into the city: stable overall and reduced in the peak.

The County Council is a member of the Charging Development Partnership together with 23 other local authorities who are investigating the issues surrounding the imposition of workplace and/or congestion charging. Progressing of any scheme would depend on extensive consultation with the public, businesses and stakeholders, the outcome of research into a range of area/charge scenarios and the scope for improving public transport into and within the city.

Clearly, any CHUMMS-based strategy will affect travel into Cambridge, and therefore the issue of how best to marry A14 corridor schemes with policies for Cambridge and the surrounding area is a matter of primary concern for the multi-modal study.

1.6.2 Regional Planning Guidance

Traffic in Cambridgeshire has been growing at twice the national rate in the last decade. One of the reasons is that the Cambridge sub-region has been, and is forecast to continue to be, one of the fastest growing areas in terms of population and employment in the country.

The latest Regional Planning Guidance for East Anglia forecasts that an additional 4,000 dwellings per annum will need to be accommodated in Cambridgeshire between 2000 and 2016. At least 70% of these should be in the Cambridge sub-region (the NW sector of the Cambridge sub-region coincides with the CHUMMS inner Study Area). These increases represent a 25 – 30% increase in the housing stock, and clearly the disposition of these extra houses, and the accompanying employment, will have a profound effect on journey patterns and lengths, modal choice and so on. It is for this reason that the methodology for CHUMMS incorporates an integrated land-use / travel demand / mode choice model.

The Cambridge sub-region is defined as encompassing Cambridge City and the surrounding area as far as a ring of market towns listed as St. Neots, Huntingdon, Chatteris, Ely, Newmarket and Haverhill, together with Royston and Saffron Walden which are currently in the South East planning region.

In terms of sustainability, the RPG recognises that in order to provide environmentally acceptable development, existing trends will have to be modified, allowing for better integration of housing, jobs and services within a related, sustainable transport infrastructure. With this principle in mind, the RPG suggests that development should be focussed

not just within the main urban areas within the sub-region, but also within other towns with good public transport accessibility where there is, in addition, the opportunity for self containment.

Housing

Policy 22 requires specifically that within Cambridge the sequential approach considers the following distribution of new housing land in this sequence:

- Within the built up area of Cambridge, subject to capacity and environmental considerations;
- On the periphery of the built up area of Cambridge, subject to a review of the Green Belt;
- In a new settlement close to Cambridge;
- Within the built up area of market towns, larger villages and previously established new settlements where good public transport access to Cambridge exists or can be provided, provided that growth in car commuting can be minimised; and
- By extensions to market towns, larger villages and previously established new settlements where good public transport access to Cambridge exists or can be provided, provided that growth in car commuting can be minimised.

The Cambridge Sub-Region Study has been ongoing alongside CHUMMS, looking at ways in which the above approach could be implemented in the sub-region.

Employment

One of the RPG6 objectives is to:

> *'…maintain and enhance the region's economy and competitiveness, to increase employment, and to promote a closer relationship between homes and jobs.'*

In general, Policy 6 requires development plans to 'include policies to support economic growth across East Anglia and ensure the provision of a range of suitable sites for industrial and commercial development which takes account of the needs of existing and future businesses.'

Growth is expected in high-tech sectors such as biotechnology, information technology, telecommunications, together with tourism and other knowledge based services.

Policy 23 requires that a range of suitable sites are allocated within development plans in locations where good public transport is provided and access for walking/cycling to work can be provided. The policy also states that the sites should provide a range of premises with specific regard to enabling the future expansion of research and technology based clusters.

1.6.3 Railtrack and SRA Policies

Background to Passenger Services

Railtrack and the Strategic Rail Authority (SRA) have published key policy documents affecting rail services, both passenger and freight, that serve the CHUMMS area. Current passenger rail services within the CHUMMS area are mainly focussed at present towards a north – south axis. Huntingdon is served by direct services to London Kings Cross and Peterborough that operate half hourly during the daytime, via the East Coast Main Line. Journey times to London range between 60 to 75 minutes. Cambridge also benefits from 4 direct trains per hour to London King Cross with journey time ranging from 45 to 80 minutes. Direct trains from Cambridge also serve London Liverpool Street (2 trains per hour), Kings Lynn and Stansted Airport (both hourly services).

In an east – west direction, trains operate from Cambridge to Birmingham, via Ely and Peterborough (hourly service) and Ipswich (1 train every 2 hours).

Policy Initiatives Affecting Passenger Services

Railtrack's Network Management Statement (2000) describes Thameslink 2000 as a 'committed scheme' and a public inquiry has been held to evaluate the proposals. The completion of the scheme by approximately 2008 should improve

rail services from Cambridge and Huntingdon. Thameslink 2000 will facilitate direct journeys to London and many destinations south of the capital. Line capacities will also be improved, especially for commuter passengers with the introduction of 12-car trains.
In recent policy statements, both Railtrack, as part of their Network Management Statement (2000) and the Strategic Rail Authority (2001), are supporting the development of improved east – west passenger services serving the CHUMMS study area via an East-West Rail Link, although the scheme does not, as yet, form part of a committed programme. The completion of the East-West Rail Link will facilitate rail journeys between East Anglia & Cambridge and Oxford & Central Southern England via Letchworth, Sandy, Bedford and Bletchley. The new link will create new journey opportunities by rail without the need to travel via London. The route between Bicester and Bletchley will need to be re-opened for passenger services, whilst the track between Bedford and Sandy will need to be re-laid. Consequently, the scheme is likely to have a phased introduction.

However, the East-West Rail Link is only described as a 'possibility' in the "Strategic Agenda", published by the SRA in March 2001, and therefore its construction cannot be regarded as a commitment. The capital costs associated with this project are estimated at £240 million, at 2000 prices.

Freight

To the east of the CHUMMS area, the Port of Felixstowe is an extremely significant trip generator, with freight transported to and from the port by road and rail. At present, various gauging restrictions together with the lack of continuous electrification on the line between Ipswich and Peterborough prevent a large proportion of rail freight from Felixstowe to the Midlands, Northern England and Scotland being routed via Ely. Consequently, rail freight for these destinations is forced to use the Great Eastern Main Line, North London Line and the West Coast Main Line. The availability of extra paths on these sections of track to accommodate additional traffic, either freight or passenger, is extremely limited.

Freight Initiatives

A number of measures to increase network capacity for freight have been formulated. The Government's 10-year Transport Plan set a target for an 80% increase in rail freight. The enhancement of the Felixstowe to Nuneaton corridor for freight is included in the SRA 'Major Project Summary', with an expected time scale for implementation of 2-5 years. Improvement measures include increasing line capacity, re-signalling some sections of track, availability of the route for 24 hour operation, provision of passing loops, gauge clearance to W12 and accommodation for 775 metre trains. On completion of the works, it is expected that up to 30 freight trains per day in each direction should be able to use the East Anglian route to reach Felixstowe.

1.6.4 Transport 2010 – The Government's 10-year Plan

The DETR's 10 Year Transport Plan, makes several policy statements and sets specific targets in several areas that are relevant to CHUMMS. For example, the multi-modal studies are specifically referred to in the Plan. It states that:

"*The Plan provides the resources to fund the outcome of the multi-modal and roads-based studies. The outcome is likely to be a mixture of improvements to road, rail and other public transport infrastructure or services.*" (The 10 Year Plan, paragraph 10).

There are several recurrent, generic themes and objectives in the Plan that are relevant to CHUMMS. These are as follows:

Congestion Reduction: a major element of the Plan's outcomes is a target of a 5% reduction in congestion below current (2000) levels. This apparently modest target should be seen against forecast growth, if nothing is done, of 28%. The Plan acknowledges the link between historic traffic growth and economic growth, but analytical work underpinning the Plan indicates that, if several initiatives in the Plan work in concert, then this objective could be achieved;

Bus is recognised as a vital part of most local travel, and the Plan's content includes: **Major bus infrastructure** (including guided bus) schemes in many of our cities and towns ("Summary" and "Serving people better");

The Plan endorses **park and ride** as a concept that provides a "flexible tool for local authorities", especially where "light rail or guided bus systems are being introduced". Up to 100 new park and ride schemes are currently envisaged in the Plan. (see "Summary" and "Serving people better");

Rail Freight: overall, the Plan's ambitious target is an 80% increase in rail freight volumes, and as part of the means of achieving this target, the upgrading of freight routes to major ports is seen as a vital contribution. In particular, the rail gauge and capacity enhancements to the Nuneaton-Felixstowe line, is the only route (apart from the Channel Tunnel) which is specifically mentioned in the Plan;

Local and London Charging: the achievement of the Plan's objectives relies on a synergy between all the above investments, together with the introduction of charging regimes to make more efficient use of limited road space. The most high-profile scheme at present is the London Charging project, but the Plan makes clear that other schemes are needed to achieve the Plan's targets.

1.6.5 Conclusion

Against this policy background CHUMMS has explored the implications of a range of elements consistent with the above policy initiatives.

For example:

- The local public transport measures tested in CHUMMS have included guided bus, light rail, and heavy rail in the Cambridge – St. Ives – Huntingdon corridor, with park and ride an integral part of all options;
- The impact of rail gauge and capacity improvements between Nuneaton and Felixstowe on heavy vehicle flows in the CHUMMS corridor has been investigated;
- Demand Management in Cambridge has been considered as an integral part of both road and public transport based strategy options.

However, trunk road charging has not been included in the programme of Strategy Tests. This is for two reasons. Firstly, the introduction of charging on the trunk roads in the CHUMMS area would, we believe, merely transfer even more traffic onto non-trunk routes, such as the A1198 and A1123 and local roads, in direct contradiction of the Study's local objectives. Secondly, the CHUMMS area is rather too limited to assess the wider effects of such a policy.

With regard to congestion targets, the vehicle hours and vehicle kilometres are an output from the transport modelling, and therefore the targets cannot be explicitly input to the procedures. However, the impact of the various options on congestion levels has been an important factor in the evaluation of options.

1.7 Other related MMS

CHUMMS is just one of over 20 Multi-Modal Studies being carried out throughout England. In the immediate vicinity of CHUMMS are other MMS with which the study team has been liaising:

- London to South Midlands;
- London to Ipswich corridor study;
- N/S movements in the East Midlands (M1 corridor);
- London Orbital (Orbit);
- A47 corridor (Norwich to A1).

1.8 Interfaces with other Studies

There have been a number of earlier studies undertaken inside and outside of the Study Area, and a library of reference material from these has been obtained by the consultants.

This material has been used as a reference source for CHUMMS, but many of the reports were of detailed studies on particular issues and it was not appropriate within the CHUMMS terms of reference to re-examine them to the same level of detail.