



# **Integrated Transport Initiative for Edinburgh and South East Scotland**

Report by Transport Initiatives Edinburgh  
A Vision for Edinburgh

**30 September 2002**

**transport initiatives edinburgh**

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30 September 2002

City of Edinburgh Council  
City Chambers  
High Street  
Edinburgh EH1 1YJ

Transport Group  
Scottish Executive  
Victoria Quay  
Edinburgh EH6 6QQ

Dear Sirs,

## **INTEGRATED TRANSPORT INITIATIVE - APPLICATION FOR APPROVAL IN PRINCIPLE**

I am pleased to present our Report seeking Approval in Principle to proceed with the Integrated Transport Initiative for Edinburgh and South East Scotland. The recommendations in the Report are strongly supported by the **tie** board and also by the City Development Team and Partnerships UK Limited.

### **Congestion, transport and growth**

Edinburgh is poised for substantial future growth. **tie** believes it is very important that economic growth is environmentally and socially sustainable and is not frustrated by any failure to address traffic growth. The Report identifies three particular areas (North Edinburgh, West Edinburgh and the South East Wedge) where major projects are underway or in prospect. Together they are capable of adding hugely to the City's prestige and attractiveness, but only if they are supported by greatly improved public transport.

transport initiatives **edinburgh**  
PO Box 12470 1 Cockburn Street Edinburgh EH1 1ZF  
Tel: 0131 [REDACTED] Fax: [REDACTED]  
e-mail: [ewan.brown@tiedinburgh.co.uk](mailto:ewan.brown@tiedinburgh.co.uk) web: [www.tiedinburgh.co.uk](http://www.tiedinburgh.co.uk)

Registered in Scotland No: 230949 at City Chambers, High Street, Edinburgh EH1 1YJ

Traffic congestion is already a serious problem and this was confirmed by the overwhelming public reaction to the Have Your Say consultation where over 70 per cent agreed on the need for congestion relief. Unless a comprehensive package of infrastructure investment and direct congestion reduction measures is introduced and the implementation momentum maintained, there is real danger that in the medium term Edinburgh will

- fail to attract major new businesses;
- risk losing existing businesses which will either relocate or expand in alternative locations where transport is not such an issue;
- become an area of rising unemployment as inadequate transport infrastructure causes it to lose its attractiveness;
- put its strong economic growth prospects at risk; and
- fail to achieve its potential to flourish as a world class capital city.

### **The programme**

The Report presents a robust, value for money approach to tackling congestion and developing a sound transport infrastructure for Edinburgh. The Preliminary Business Case sets out a programme for the development and implementation of £1.5 billion of transport improvements using public and private sources of funding, including road user charging. The programme addresses the needs, not only of Edinburgh residents, but also those who travel to work in the City from outside its boundaries. It also furthers an important social goal, which is to improve access to the labour market for those who are presently disadvantaged through lack of a car or other accessible and affordable means of transport.

We would stress that the Report, with its Business Case, is a comprehensive response to the issues. It is the package of proposals taken as a whole which will achieve the necessary results and benefits for Edinburgh and, more widely, for South East Scotland.

## **The funding support required**

Achievement of the recommended programme requires the early backing of the Scottish Executive, principally through agreement to provide £375 million of funding towards the development and construction of three tram lines, which form a key part of the improved transport infrastructure. The Business Case uses the revenue from congestion charging and private sector sources of finance to fund the balance of the programme, supported by a managed programme of borrowing. This includes significant bus and highway improvements, enhanced facilities for cyclists and pedestrians and high quality information systems. It also includes future plans for possible extensions of the tram lines.

As required by the Scottish Executive, the work undertaken by **tie** has demonstrated that its recommendations

- address congestion reduction as their primary purpose;
- seek fair and transparent treatment between those who will pay the road user charge and those who will benefit; and
- ensure that substantial and measurable transport improvements will be in place before charging commences.

## **An inclusive approach**

**tie** proposes a new and genuinely participative approach to the City's business and civic communities. Other cities, notably Nottingham, have demonstrated the value of securing a shared view of priorities and solutions. **tie** is already engaging with a wide cross section of local interests and discussing with them how best to achieve this for Edinburgh.

Meetings have also been held with the principal local transport operators – Lothian Buses, First Group and ScotRail. **tie** is committed, within constraints imposed by competition law, to consult with these and other companies at each stage of future work in order to obtain outcomes that are favourable to the

effective deployment of public funds and to the benefit of users of the public transport system.

## **Summary**

I believe that the proposals we have submitted today to enhance Edinburgh's future prospects by reducing traffic congestion, improving public transport and re-introducing trams to the City will bring substantial economic, social and environmental benefits.

Yours faithfully

A solid black rectangular box used to redact the signature of Ewan Brown.

Ewan Brown, CBE  
Chairman

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*Cover photograph: Courtesy of Light Rail Transit Association*

# EXECUTIVE SUMMARY AND RECOMMENDATIONS

## Executive summary

This report presents to the City of Edinburgh Council (CEC) the conclusions of Transport Initiatives Edinburgh (**tie**) concerning the Integrated Transport Initiative for Edinburgh and South East Scotland (ITI). **tie** is the company set up by CEC to project manage, procure and finance the ITI. In order to ensure objectivity and a commercial perspective, **tie** has majority representation from the private sector on its Board of directors.

The proposals contained in this report are essential to the growth and prosperity of Edinburgh and its environs. No city can achieve its potential unless its infrastructure is developed to achieve its goals. Thus Edinburgh's economic prospects will be at risk unless the ITI is implemented without delay.

The programme recommended in this report fits within the context of the Local Transport Strategy and its key objectives: safety, the environment, economic prosperity, health and fitness, and social inclusion.

Edinburgh and South East Scotland are poised for substantial future growth. The work undertaken by **tie** has demonstrated that the programme proposed in this Report is indispensable to achieving that growth. The programme:

- will address congestion reduction as its primary purpose;
- seeks fair and transparent treatment between those who will pay the road user charge and those who will benefit; and
- provides that substantial visible and measurable transport improvements will be in place before charging commences.

The recent 'Have Your Say' consultation exercise on road user charging generated over 20,000 responses region-wide. It demonstrated the overwhelming agreement of the residents of both Edinburgh and South East Scotland that congestion has to be reduced, and substantial improvements in public transport must be delivered. While there were mixed views on the specific charging schemes proposed, a significant body of opinion clearly accepts some form of congestion charging is necessary.

A single city centre cordon would not adequately address the increasing congestion projected in the outer parts of the city. This report therefore proposes a modified double cordon, active Monday to Friday, which will generate almost £70 million per annum from a single £2 daily charge. Because of public concerns about an outer cordon active throughout the day, the outer cordon will operate at peak times only. Both cordons will now terminate at 6.30 p.m. to coincide with the end of parking regulations. All revenues generated from road users will be reinvested in the programme of transport improvements.



This investment programme includes a major three line tram project, significant bus and highway improvements, major enhancement of the city centre environment, better facilities for cyclists and pedestrians, and high quality information systems. It also includes future plans for extensions of the tram lines beyond Edinburgh's boundaries. Even before the advent of congestion charging, there will be in place an £80 million package of bus and rail improvements including Edinburgh Cross Rail, the West Edinburgh Busway, new park-and-ride sites and associated bus priority routes. The technical studies demonstrate clearly that these innovations will together have a major impact upon congestion.

The Report incorporates a Preliminary Business Case setting out a programme valued at over £1.4 billion for funding these transport improvements. The bulk of the investment will be made over the first 8 years of a 22 year period. This large sum will come from both public and private sources of capital including revenues from road user charging.

Achievement of this programme will require the early backing of the Scottish Executive, principally through agreement to provide £375 million of funding towards the development and construction of the three tram lines. This expected backing is linked directly to the availability of all other sources of funding, including the significant revenues from charging.

The risks that costs for the major projects will exceed forecasts, or revenues from the charging scheme or the tram operations fall short have been considered. The project overall is considered sufficiently robust and has sufficient flexibility to be able to overcome such problems.

We would stress that the Report and Preliminary Business Case present together a comprehensive approach to the future of the City. The necessary results and benefits for the whole community will be achieved only if this programme is adopted as a whole. **tie** commends its early acceptance to the City of Edinburgh Council.

## **Recommendations**

Following full consideration of all the material outlined in this Report, **tie** makes the following recommendations to the City of Edinburgh Council:

1. In relation to the application for Approval in Principle, that:
  - CEC continue to take forward the Integrated Transport Initiative to the next stages of development by submitting this report together with any additional Council perspective to Scottish Ministers (as the additional report requested by

Scottish Ministers in their response to CEC's October 2001 application for Approval in Principle);

- The preferred charging scheme should comprise:
  - an inner charging cordon operational from 7am to 6.30pm
  - an outer charging cordon operational from 7am to 10am and 4pm to 6.30pm
  - a charge of £2 levied no more than once per day for any individual vehicle making one or more chargeable journeys
  - no charging on Saturdays and Sundays.

2. Following receipt of the Approval in Principle, that:

- CEC with **tie** take forward the preparation and publication of a Charging Order and any necessary related Traffic Regulation Orders, being the next stage of work required to deliver the Integrated Transport Initiative.
- CEC, in formulating the Charging Order, give further consideration to concessions on any congestion charges for taxis and city centre residents, and consider whether any further specific groups justify such concessions.
- CEC with **tie** develop the details of an investment package to be associated with the charging scheme on the basis of the package outlined in Table 4.1 of this report (ensuring that fair treatment of those paying the charge and those benefiting is maintained).
- Commitments to have a significant and measurable package of transport infrastructure and service improvements in place when charging starts be met by:
  - ensuring the schemes identified in Table 7.2 of the report are completed
  - giving particular priority to configuring and ensuring implementation of wide-ranging bus service improvements as part of that package
  - putting in place mechanisms to ensure effective co-ordination between different public transport modes and operators.
- **tie** with CEC develop detailed proposals to mitigate possible local adverse effects from the charging scheme due to diverting traffic, giving particular attention to North Edinburgh.

3. In general, that

- Commitments made in earlier reports on the ITI/New Transport Initiative be fully adhered to, namely:

- All the proceeds from the charging scheme to be applied to the proposed package of transport improvements;
  - Continuing application of existing sources of funding to transport expenditure;
  - Transparent and open accounting arrangements for the Initiative as a whole to ensure the above two conditions are demonstrated to the public and stakeholders on a regular basis.
- CEC give particular priority to ensuring effective and continuing communication about the development of the Initiative with the public and stakeholders.

# 1 Introduction

This Report updates the application for Approval in Principle made by the City of Edinburgh Council in October 2001 for an Integrated Transport Initiative for Edinburgh and South East Scotland. **tie** believes that this report provides adequate information for the Scottish Executive now to determine the application.

## 1.1 Context for this report

The City of Edinburgh Council has been developing its 'New Transport Initiative' since May 1999. The aim of the Initiative is to tackle congestion and environmental problems caused by traffic in and around Edinburgh both now and in the future, to support the long term economic prospects and quality of life offered by South East Scotland.

In Autumn 2001, CEC agreed that these objectives could only realistically be achieved by combining a congestion charging scheme in Edinburgh with major long term investment in the public transport system. Accordingly, CEC made an application to Scottish Ministers for Approval in Principle of an Integrated Transport Initiative for Edinburgh and South East Scotland. This was submitted on 26 October 2001 [Ref 1,2].

The Minister for Enterprise, Transport and Lifelong Learning responded to this application in February 2002, requesting that a number of further actions be taken before a final Ministerial decision. [Ref 3] These actions were:

- that CEC should establish the arms-length company proposed in the application;
- that the company once established should review and develop the application, including recommending a single charging and investment package, and reporting back to CEC by 30 September 2002
- that CEC then submit this to Scottish Ministers as supplementary information to the original Application in Principle.

This document forms the report requested by the Minister. It has been produced by Transport Initiatives Edinburgh Ltd (**tie**), the company established by CEC in May this year to meet the first of the Ministers requests identified above. It is a strength of **tie** that the majority of its directors are senior business figures from the private sector.

## 1.2 Structure of the report

This report is intended to be read as a free-standing document, updating the documentation submitted to the Scottish Executive in October 2001 as the City of Edinburgh Council's application for Approval in Principle for an Integrated Transport Initiative for Edinburgh and South East Scotland. It is only possible to provide an overview and extracts of the very large amount of material produced under the auspices of **tie** since May 2002. Full reports of the work undertaken are available, referred to throughout the text and listed in Appendix 4.

This report is divided into three parts. The first part sets out the problem and the proposed solution following this Introduction. The economic opportunities and potential transport problems facing the Edinburgh and its surrounding region are described in Chapter 2, national and local policy objectives in Chapter 3, and the proposed means of achieving these through a preferred ITI package in Chapter 4.

The second part reports on the appraisal that has been undertaken to reach this choice. Chapter 5 sets out the route by which the ITI has emerged as the preferred



strategy, and how the appraisal has been carried out. Chapter 6 deals with the results of the consultation and market research; Chapter 7 with the investment package, including what can be achieved before charging is introduced and Chapter 8 the Preliminary Business Case.

Finally, the Chapter 9 indicates the way forward for the development of the ITI and **tie**'s suggested role in this.

A number of Appendices provide supporting detail:

- Appendix 1 provides a cross-reference between the report contents, the headings of the guidance, and the specific issues raised in the Scottish Executive's response to the application for Approval in Principle.
- Appendix 2 presents the Appraisal Summary Table for the ITI following STAG guidelines.
- Appendix 3 provides comments on the responses to the Application in Principle received at the end of 2001.
- Appendix 4 lists references to all relevant documentation referred to in this report including the reports of consultants studies.

A Glossary is provided following the Appendices

### 1.3 Work undertaken during 2002

Discussion with officials at the Scottish Executive following the Minister's response to the application for Approval in Principle identified a number of specific areas of further work to be undertaken before the approval could be granted. These are summarised in Appendix 1, the key aspect being the identification of a single preferred charging option.

Four main areas of work have been carried out to meet the Scottish Executive requirements:

- Appraisal of the congestion and wider transport impacts of the proposals included in the Initiative, following Scottish Transport Appraisal Guidelines (STAG).
- Further development of the package of transport investment measures
- An extensive public and stakeholder consultation exercise
- The development of a Preliminary Business Case

Consultants and other external bodies were commissioned to undertake this work. Some of these were in place prior to the establishment of **tie**, others were commissioned by **tie**. Figure 1.1 summarises the framework for the studies carried out during 2002. This report summarises **tie**'s findings based on the outputs from these third parties.

A further important aspect of the work carried out over the last year has been the involvement of Partnerships UK (PUK) in reviewing the Preliminary Business Case and considering the structural options for future project delivery, including the role of Transport Initiatives Edinburgh Ltd (**tie**). PUK's views are reported separately [Ref 45], rather than within this report, but are supportive of **tie**'s conclusions.

**tie** considers that this report, together with the original application for Approval in Principle, adequately meets Scottish Executive requirements for the content of such an application. These are set out in draft guidance issued in August 2001 [Ref 4], and this report broadly follows the headings of the guidance. Table 1.1 below summarises the areas that the report addresses, and the practical limitations.



Figure 1.1: Work carried out during 2002

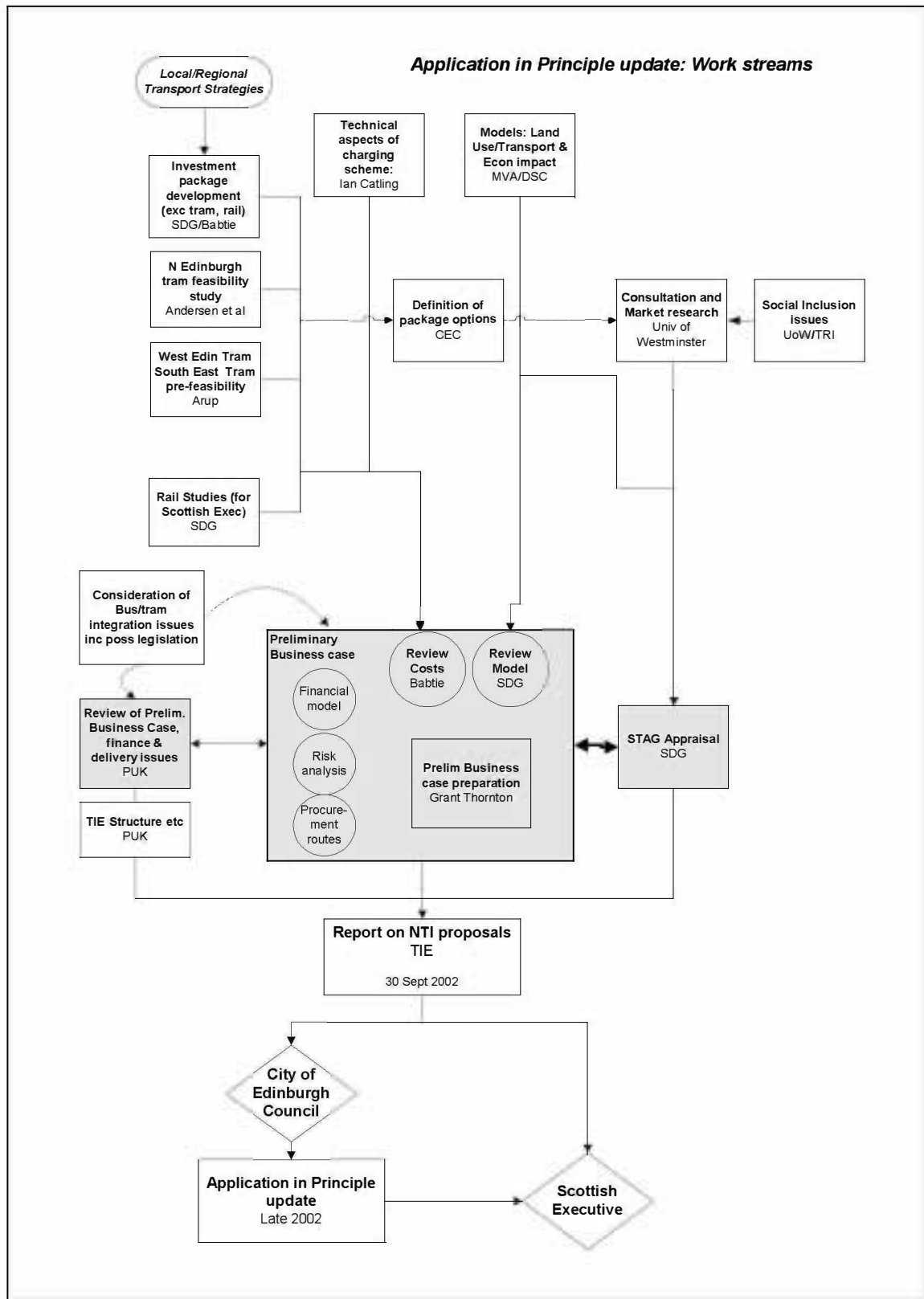


Table 1.1: Focus of the **tie** report

	Covers:	Limitations:
Charging scheme	Broad definition of preferred scheme, including geography, times of operation, level of charge, vehicle categories liable, main concession groups.	Final decisions on concessions (address revenue consequences through sensitivity analysis); detailed boundary issues.
Investment package	Major scheme proposals at pre-feasibility stage. Preliminary costs estimates for major schemes and groups of smaller schemes, divided into capital and revenue.	No STAG1 or 2 for individual projects within the package. These will follow for major schemes at the Approval in Detail stage (work funded by SE for tram lines 1 & 2 STAG2's) No detailed definition of smaller scheme components within the package.
Business Case	Preliminary Business Case based on transport model outputs and pre-feasibility work on investment package. Includes identification of risk areas, and sensitivity tests.	Not an Outline Business Case in the 'conventional' sense. Financial model with broad assumptions on procurement routes.
STAG1 appraisal	STAG1 appraisal for overall Integrated Transport Initiative following guidelines as closely as possible. Includes evolution of preferred option.	Limitations due to data availability and complexity of the evolution of the components of the Initiative.
Bus/tram integration	Identification of this as key issue for the business case for the major projects; initiation of work stream to identify future approach including any need for new legislation.	Strategy to be adopted is at very early stage, no definition yet of legislative requirements.

## 2 Transport Issues for the Edinburgh area

The background to the ITI is set out fully in the original AiP report. **tie** strongly endorses the view that tackling transport issues is crucial to the ability of the Edinburgh area to sustain its current economic success. The congestion and air quality trends illustrated in this chapter highlight the risks of not taking serious measures about transport.

### 2.1 Economic and demographic trends

The application for Approval in Principle submitted in October 2001 highlighted the strength of Edinburgh's regional economy, and consequent growth in population and jobs. In spite of the current worldwide economic slowdown, Edinburgh's substantial economic success is expected to continue. Research published in 2001 suggested that Edinburgh will have the fastest growing economy of any major UK city over the next five years [Ref 5].

The main reason for confidence in Edinburgh is its very high reliance on the service sector. The proportion of Edinburgh's workforce in service activities has grown from 82% in 1991 to 86% in 1999. This includes a number of dynamic sectors such as finance, software development, media & creative industries, professional services, leisure, retailing, health and education.

Economic growth is bound up closely with future labour supply and population growth, with a buoyant economy likely to result in both a high level of inward migration and a growth in commuting, tapping into the pool of labour in neighbouring areas. Pressure on housing land and rapidly increasing house prices mean that a substantial number of workers are unable to live as close to work as they might wish.

The General Register Office (Scotland) estimates that Edinburgh's population will grow from 453,000 to 465,000 between 2001 and 2011. For the Lothians (Edinburgh with East, Mid- and West Lothian), population is forecast to grow by 30,000 over this period, and 50,000 over the next 15 years. This is against a background of declining population in Scotland as a whole.

Detailed projections for the City's economy foresee a continuing growth in employment from 289,000 in 2001 to 313,000 in 2011[Ref 6]. An increasing proportion of the workforce will be made up of part-time workers, females and the self-employed, while service activities are expected to continue to grow in importance. Key forecast economic indicators are shown in Table 2.1 below.

Table 2.1: Key economic indicators 2001-2011

Indicator:	2001	2011
Population	453,430	464,588
Employment	288,865	312,669
..% in financial & business services	28.8%	28.5%
..% in public / personal services	33.5%	35.7%
..% in distribution, hotels, catering	19.6%	20.6%
Unemployment (ILO definition)	10,056	9,223
..Unemployment rate	3.4%	2.9%
Output (gross value added, 1995 prices)	£7,686m	£10,460m
Income (1995 prices)	£4,491m	£6,031m
Consumer Spending (1995 prices)	£4,420m	£ 5,628m

Source: The City of Edinburgh Council City Development Department

Unemployment is already at a 25-year low, and is expected to decline only slightly from its present level. A growing workforce, combined with increasing productivity, could lead to a 36% increase in economic output over the next decade. In turn, growing output would support substantial growth in real income and spending, with all the inevitable effects on demand for services, such as shops, leisure, health, education and in particular, travel.

The consequences of growth in economic activity on traffic levels and congestion in and around Edinburgh have however been giving rise to concerns over a number of years. The application for Approval in Principle highlights the issues raised by key stakeholders about the effects of congestion on the City's economic future. This has been reinforced in recent months by an exercise undertaken by the City Council reviewing and assessing the issues facing the key sectors of Edinburgh's economy. The report on this review to CEC's Executive [Ref 7] states:

*“Transport clearly emerged as the single most important issue facing the city. In fact, the majority of consultees stated that finding a solution to the city's transport problem was central to the continuing prosperity of Edinburgh's economy.”*

## 2.2 Congestion effects

Extensive technical work undertaken by consultants since May 2002 [Ref 38,39,40] under the direction of **tie**, provides quantitative evidence of the effects of traffic growth. Transport modelling techniques have been used to forecast the impact of the charging and investment package options. The first stage of this work was to examine the effect of a 'reference case' of no congestion charging and continuation of current levels of investment in public transport.

Figure 2.1 shows forecast trends in traffic and congestion given these assumptions. Although traffic levels overall grow by 20% over the 20 years 2001 – 2021, time lost in traffic due to congestion almost doubles. Looking at each area of the City individually, the most serious problems are in West Edinburgh, which accounts for almost half the additional congestion. However, all areas of the City show significant increases.

Figure 2.1: Traffic growth and congestion 2001-2021

	2001	2006	2011	2016	2021
<i>Traffic (veh-km/day):</i>					
Whole study area	12.8 m	13.6m	13.9m	14.5m	15.4m
<i>Congestion (veh-hrs/day):</i>					
Whole study area	14,730	16,900	18,840	23,040	28,500

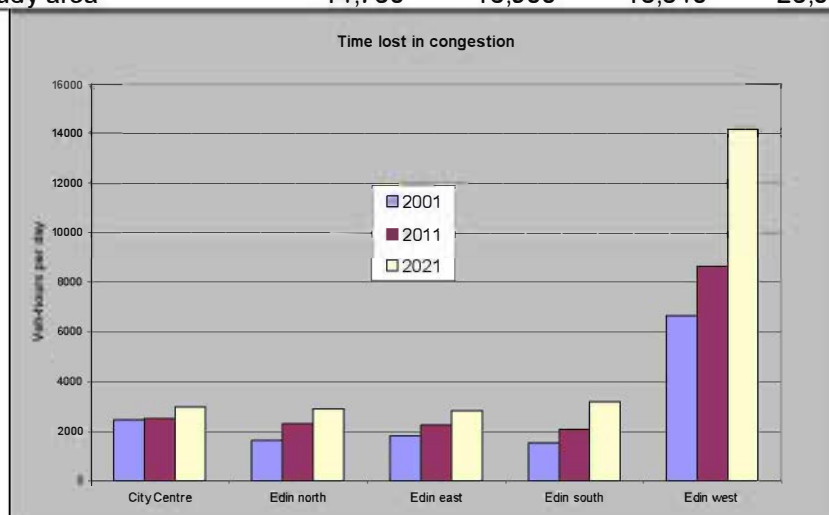




Figure 2.2: Change in am peak traffic levels 2001 to 2011

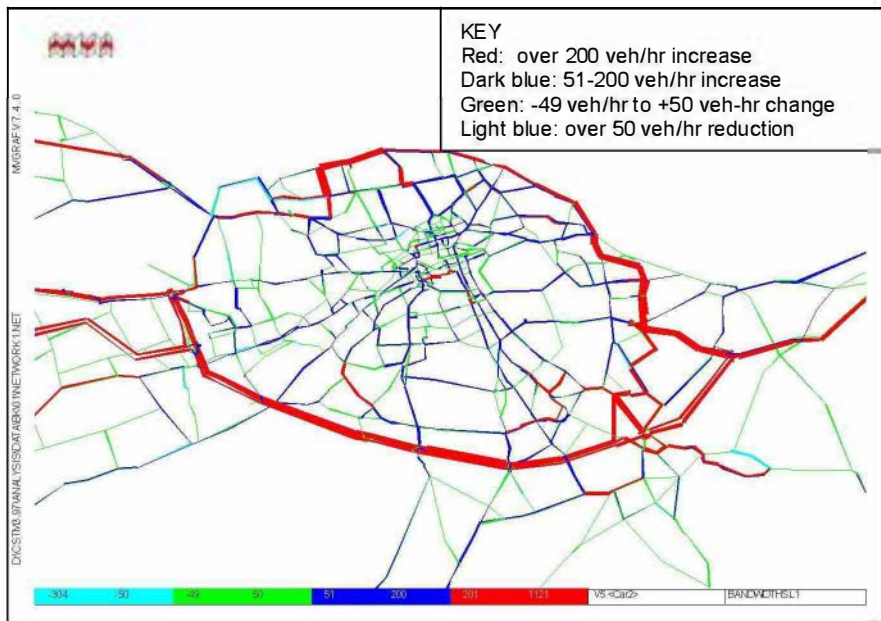


Figure 2.2 illustrates the projected growth in traffic from 2001 to 2011 on the Edinburgh traffic network. It is clear that the areas of highest growth, and consequently highest congestion increases are expected to be on the strategic routes serving the areas of major economic activity around the city: West Edinburgh, the Waterfront, the South East Wedge and the city centre.

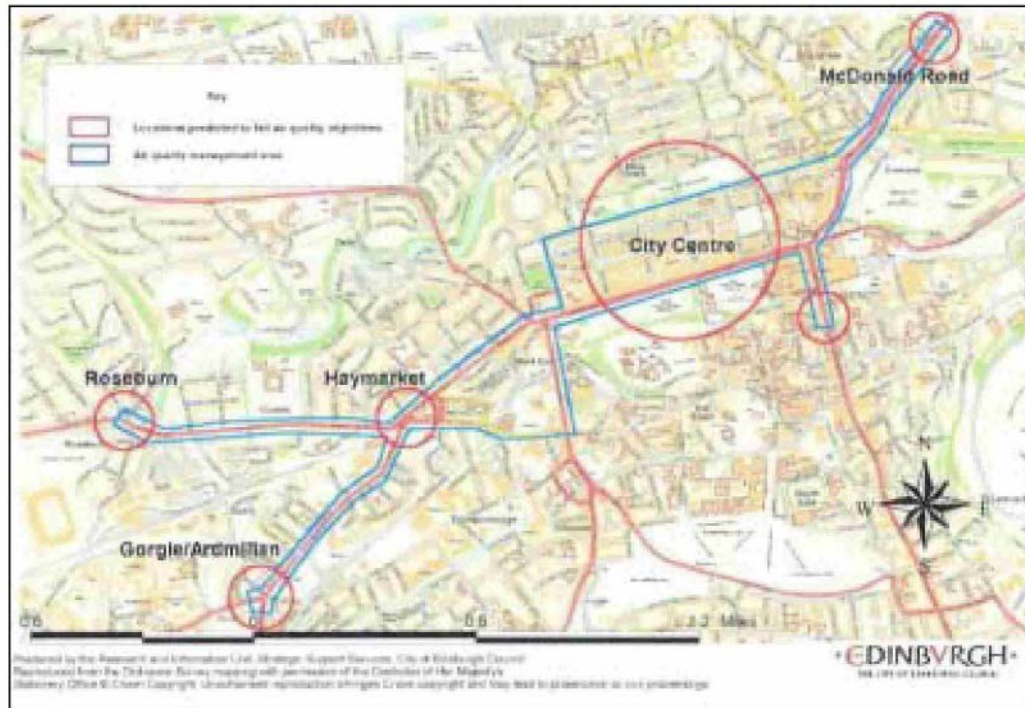
### 2.3 Air quality effects

CEC has undertaken extensive air quality monitoring throughout the city over some years, in accordance with government guidance. The findings are set out in detailed reports [Ref 8,9] which give rise to significant concerns about the effects of traffic on air quality in the City. The following key points arise:

- the annual average standard set by government for nitrogen dioxide concentrations (NO<sub>2</sub>) would not be achieved by 2005 at a number of city centre locations. This required CEC to declare an Air Quality Management Area (AQMA);
- monitoring undertaken in 2001 concluded that the AQMA is still required;
- traffic accounts for 88% of oxides of nitrogen (NO<sub>x</sub>) which are the key determinants of nitrogen dioxide (NO<sub>2</sub>) concentrations;
- older large diesel engines, including those in buses, contribute significantly to NO<sub>x</sub> emissions at the locations predicted to fail;
- NO<sub>2</sub> concentrations reduce rapidly with distance from congested junctions within the AQMA.



Figure 2.3: Plan of Air Quality Management Area



### 3 The Transport Policy context

This chapter summarises aspects of national, regional and local policy relevant to the ITI. It concludes from this that the ITI not only has the potential to contribute significantly to the key objectives of congestion reduction and public transport improvement, it is indeed essential to achieving them. At the local level, the ITI is the basis of the CEC's 'preferred' LTS strategy. It is clearly essential to allow the development of the major growth points proposed around the city: the Waterfront, West Edinburgh and the North Midlothian (South East Wedge) area, as well as to maintain the economic vitality of the city centre.

#### 3.1 National Policy

The Scottish Executive's Transport Delivery Report (TDR) [Ref 10], published in March 2002, is the most up to date statement on national transport policy for Scotland. It is clear that congestion charging as part of an Integrated Transport Initiative (ITI) nests firmly within the objectives set by the Scottish Executive in the Report.

A key target included in the TDR is: 'to stabilise traffic at 2001 levels by 2021, using an integrated package of measures'. Without the ITI, traffic levels in Edinburgh are forecast to rise significantly. The TDR cites urban congestion charging as a key policy tool to bring about this traffic reduction. It notes that "*The Executive is strongly supportive of the principle of charging [for Edinburgh]*", because "*Charging is designed to make road users more aware of the full social cost of their transport decisions, including the impact that they have on congestion and pollution, and to bring about modal shift.*"

The TDR sets out a vision of a sustainable, effective and integrated transport system, with public transport worthy of a 21<sup>st</sup> century Scotland. Key priorities include tackling congestion in urban areas by promoting attractive alternatives to the car, improving transport networks, and delivering readily accessible and accurate information for transport users. There is a recognition that road user charging revenues could be one element of the funding for these improvements.

The recently published consultation draft West Edinburgh Planning Framework (WEPF) [Ref 11] also recognises that this "nationally important" part of Edinburgh faces serious transport problems that must be addressed by a variety of measures. There are currently around 20,000 jobs located in the area. Developments that have received planning permission but are not yet built are estimated to have capacity for a further 20-30,000 jobs. As the draft Framework says, "*the conclusions of the work carried out [for the Executive] ... suggest that containing existing levels of traffic and achieving travel patterns compatible with sustainable development objectives will require major improvements in public transport accessibility*".

One major element of public transport investment promoted by the Scottish Executive in the recent budget statement is a rail link to Edinburgh Airport. Such a scheme, options for which are the subject of a current Scottish Executive study, will assist in the economic development of West Edinburgh as proposed in the WEPF. However it will deal largely with longer distance access to the airport, and will not on its own address the congestion and traffic problems that will arise. The measures included in the ITI will become even more necessary for this purpose.

Two further major Scottish Executive studies with particular relevance to the ITI have been proceeding in parallel with the airport rail links study:

- The Scottish Strategic Rail Study aims to identify medium to long term priorities for rail improvements. It is expected to report shortly. It will be significant in the development of the ITI investment package, and is referred to further in Section 7.1 of this report;
- The TDR highlighted delivery of the Central Scotland Transport Corridor Studies (CSTCS) public transport proposals as a priority. The recommendations of the CSTCS include re-opening of the Bathgate to Airdrie rail line with a high frequency electrified service from Glasgow to Edinburgh. Again, the detailed ITI package will need to take account of this and other CSTCS proposals.

In conclusion, it can be seen that the ITI accords with overall national policy objectives. It will also play a vital role in maintaining the accessibility of West Edinburgh, whose competitiveness might otherwise be compromised by increasing road traffic congestion. It is complementary to the Scottish Executive's studies and proposals for improved transport in central Scotland.

### 3.2 The Regional Level: the South East Scotland context

There is an important relationship between the Integrated Transport Initiative and the regional policy context, embodied in the Draft Lothian Structure Plan, the SESTRAN Regional Transport Strategy, and neighbouring authorities' Local Transport Strategies (LTS's).

#### *Draft Edinburgh and the Lothians Structure Plan (2001)*

The current Lothian Structure Plan 1994 strategy "*aims to foster a more sustainable settlement pattern.*" The transport strategy is based on "*the reduction of traffic in key urban areas below those existing today....Accessibility will be maintained by developing the public transport system..*"

A new Edinburgh and the Lothians Structure Plan is now being prepared [Ref 12], based on similar aims. Key overall objectives of the new draft Plan are as follows:

"To encourage a more sustainable pattern of development by:

- focusing investment on the regeneration of disadvantaged areas;
- making the best use of scarce resources such as land, buildings and infrastructure;
- requiring the redevelopment of brownfield land in preference to greenfield land;
- ensuring that new development is located so as to reduce the need to travel and to facilitate access by foot, cycle and public transport."

In order to achieve these objectives, the draft Plan proposes focusing development on a number of core areas, which are:

- The City Centre
- Waterfront Edinburgh
- Edinburgh Park/South Gyle/Sighthill
- Newbridge/Kirkliston/Ratho
- East Lothian Transport Corridors
- North Midlothian ('South East Wedge')
- Central West Lothian

The draft Plan is clear that the success of this strategy depends on improving the accessibility of these areas through a tram (light rapid transit) system, rail enhancements, selective road improvements and orbital rapid transit. It recognises that these improvements could be funded, at least in part, from the revenues that will be delivered by the ITI.



The draft Structure Plan sets a land-use policy framework that is dependent for its success on the ITI, but that is also designed to support the ITI, creating a synergistic relationship between the two.

### *SESTRAN Regional Transport Strategy*

The regional context for the ITI is crucial. Transport problems and solutions go beyond council boundaries. Travel between Council areas within the region is essential to its economic functioning and is increasing. For example:

- Over half of East Lothian's economically active population are employed outwith East Lothian - the majority in Edinburgh.
- Some 60,000 people cross the Forth by car, and 14,000 by train and bus, every day.
- In 1991, almost 19,000 people living in West Lothian worked in Edinburgh.
- 3% of those working in Edinburgh in 1991 lived in the Stirling Council area.

For all these reasons, the ITI has been designed to support a Regional Transport Strategy (RTS) [Ref 13] that has been developed by SESTRAN, the voluntary transport partnership of local authorities in South East Scotland. The RTS is based around an agreed set of overall policy principles:

- Reduce dependence on the private car and minimise the need for travel especially by car for regional journeys within South East Scotland;
- Maximise public transport provision and achieve public transport integration and intermodality;
- Promote and develop travel awareness and information;
- Encourage walking and cycling promoting better health and fitness;
- Encourage the use of public transport;
- Improve safety for all road and transport users;
- Reduce the environmental impacts of travel;
- Enhance community life and social inclusion;
- Encourage the use of the most economic, effective, environmentally friendly and efficient modes for freight transport.

Progress towards these objectives is to be measured using targets for increases in public transport trips and reductions in motor traffic crossing the A720 City Bypass, and the Forth Bridge.

There is consistency between these objectives and targets, and the schemes that are identified in the RTS. Work carried out to define the strategy [Ref 30] appraised 80 schemes, and also packages of these schemes grouped into two low spend and three high spend groupings - the latter dependent on Edinburgh's ITI. The appraisal showed that the high spend packages performed much better against the regional transport objectives, demonstrating once again that there is a synergistic relationship between the ITI and delivering, in this case, the RTS.

### *Forth Estuary Transport Authority*

There is a specific set of issues relating to cross-Forth travel, and the replacement of the Forth Bridge Board by the Forth Estuary Transport Authority (FETA) will help address these. FETA has wider powers, and has put plans in place to produce a transport strategy of its own. This will have to be complementary to the ITI, and set within the wider policy context outlined in this Chapter.

### *Neighbouring local authorities' transport policy objectives and the ITI*

Almost all the Local Transport Strategies from neighbouring local authorities identify a need to manage car use, and to significantly enhance public transport, both within their area and on links to Edinburgh. There is a recognition, either implicit or explicit, that this will require new sources of funding. Further details from individual LTSs are set out below.

**East Lothian Council** [Ref 14] – The Council's vision for transport for 2020 is "to reduce the overall dependence on the car and to promote the availability and use of alternative, more sustainable modes of transport where practical to do so." The Council therefore wishes to see the delivery of improved rail and bus services, and recognises that this is dependent on revenue stream generated by the ITI.

**Midlothian Council** [Ref 15] – key objectives are rail re-opening, and provision of quality public transport "at frequencies likely to increase patronage", and provision of interchanges – especially park and ride. Policy TSP11 notes that the Council "supports initiatives aimed at reducing car traffic", and highlights the role of Park and Ride in so doing, in collaboration with neighbouring SESTRAN authorities.

**West Lothian Council** [Ref 16] – The Council's strategy for public transport sees improvements to this mode as important in its attempts to reduce car commuting into Edinburgh. To do this it wishes to "build on the benefits of Road User Charging in Edinburgh City Centre" (page 34). Furthermore, the first objective of its Local Transport Strategy is to "Maximise accessibility for all, and minimise the need for travel, especially by car."

**Fife Council's** Local Transport Strategy [Ref 17] recognises, in its foreword, the need to offer a wide range of transport choices in order to reduce dependency on the car. It also notes the very high level of public support in Fife for tackling cross-Forth congestion. To achieve these aims, it seeks to "consider with local authority and private sector partners new legislative measures offering opportunities for increased revenue and capital" in order to "provide a multi-modal network of public transport services through the development of strategies for accessible, community and rural transport, concessionary travel, taxis, information, fares, local and express bus, rail, light rail and guided bus..."

**Scottish Borders Council** [Ref 18]. As the Borders is in large part a deep rural area, the Council's LTS envisages a primary role for the car in local transport for the foreseeable future – *except* for journeys to Edinburgh, for which the Council sees a pressing need to "provide effective alternatives to the private car". Much of the LTS is based on scenarios, relating to different levels of available funding. In many cases, the most resource-intensive scenario is based on the availability of road user charging revenues from Edinburgh's ITI. For example, Borders' LTS identifies a number of supported bus improvements that could only go ahead in conjunction with the ITI; and the restoration of the Waverley line is "at the heart of the transport strategy".

**Stirling Council** [Ref 19]. Whilst clearly stating that it is not "anti-car", the Council's Local Transport Strategy includes a policy (TO6) that aims to discourage the use of motor vehicles where appropriate, and to minimise their adverse effects. It is also worthy of note that, of the 80 schemes within the SESTRAN area identified for funding from the ITI, 17 have direct implications for Stirling and match closely with its LTS programme.



### 3.3 The Local Level: Edinburgh's Local Transport Strategy

CEC's transport strategy seeks to meet the transport needs of the city through the continuing development of a transport system for Edinburgh that facilitates city life rather than dominates it. It has been developed from the wider objectives and strategies adopted by CEC, including the City Plan [Ref 21]

CEC's Local Transport Strategy (LTS) published in October 2000 [Ref 20] sets out a number of key **aims**:

- to improve safety for all road and transport users;
- to reduce the environmental impacts of travel;
- to support the local economy;
- to promote better health and fitness;
- to enhance social inclusion;
- to maximise the role of streets as the focal point of our local communities, where people can meet, shop, and where in the appropriate circumstances children can play.

These aims reflect the five key government criteria for transport policy of Economy, Environment, Safety, Accessibility and Integration. They are also designed to promote social inclusion and better health. The following **objectives** identify how CEC consider transport policy should be shaped to contribute to the above wider aims:

- to make it easier to live without the car, or use the car less;
- to reduce the amount of car use;
- to encourage and facilitate walking, cycling and public transport use;
- to reduce the adverse impacts of travel including road accidents and environmental damage, particularly for those worst affected by these impacts;
- to enhance streets as 'civic spaces', where priority is given to people rather than cars;
- to improve the ability of people with low incomes or mobility impairments to use the transport system, especially by public transport, as pedestrians or by bicycle;
- to maintain the road network, and any other facilities for the movement of pedestrians, cyclists and bus users, to a standard suitable for safe and comfortable movement.

A range of targets and indicators are identified in the LTS, but some of those relevant to the ITI remain interim. CEC are currently working towards more definitive targets. Interim targets relevant to the ITI are:

- 45% of journeys by Edinburgh residents (over 16) made by car in 2010;
- Stabilising citywide traffic at 1996 levels by 2005 and reducing it by 10% by 2010.
- Reducing city centre traffic by 10% by 2005 and 30% by 2010 compared to 1996.

The LTS identifies a list of 80 schemes as potential components of an investment package aimed at achieving these targets. As indicated in the section above relating to the Regional Transport Strategy, these were packaged into two low spend and three high spend groupings for appraisal. This exercise demonstrated the additional benefits that could be achieved from the high spend package based on the ITI. The measures included:

- A tram network.
- Much improved bus services and infrastructure, including Park and Ride
- City centre improvements.
- Measures to provide safer streets, pedestrian and cycle networks.
- Increased road maintenance.

The LTS presents a 'preferred strategy', founded on the successful implementation of the ITI including implementation of a full range of these schemes. This has the potential to achieve substantial progress towards meeting the LTS objectives and targets.

An alternative 'base' strategy is also presented assuming the continuation of the levels of funding for transport investment achieved in recent years. This focuses on low-cost measures selected from the list of schemes going as far as possible towards meeting LTS objectives. Although improvements could be achieved, especially on safety, the LTS suggests that congestion and pollution can be expected to increase.

In conclusion, the ITI is key to achieving the City's transport policy targets and moving towards its LTS objectives. By reducing traffic levels, it will provide the additional road capacity needed to give more priority to public transport, cyclists and walkers and to enhance streets as "civic spaces"; it will improve air quality in the most sensitive areas; and it will provide revenue to fund measures to bring about further mode shift away from the car.

## 4 The tie Preferred Package

**tie** is recommending a Preferred Package to take forward. It comprises an inner and outer charging system – a city centre charging boundary operational from 7am to 6.30pm, and an outer boundary applied in the peak periods only. An associated set of transport improvements provide major benefits for travel both within the city, and for travel to and from the city from the surrounding region. The overall package will make a major contribution to achieving national and local objectives and targets for congestion reduction and environmental quality.

### 4.1 Definition of the Preferred Package

On the basis of the work set out in this report and the preliminary report of 17 September 2002 [Ref 40], **tie** is recommending a single preferred congestion charging and investment package to take forward to the next stages of development of the Integrated Transport Initiative.

This Preferred Package is a variant of the options presented in the June/July 2002 consultation. The key features are:

- An inner charging cordon operational from 7am to 6.30pm;
- An outer charging cordon operational from 7am to 10am and 4pm to 6.30pm;
- A charge of £2 levied no more than once per day for any individual vehicle making one or more chargeable journeys;
- A package of city-based and regional improvements based on the projects identified in Table 4.1.

All the other features of the scheme would correspond to the features of the options described in the consultation and in the 2001 application for Approval in Principle. That is:

- Charges levied in the inbound direction only;
- Charges applied on Mondays to Fridays only;
- Exemptions for emergency vehicles, disabled people, buses and motorcycles.

The commitments identified in the original application and agreed in CEC's report of 11 September 2001 [Ref 22] are essential conditions for the effective and acceptable introduction of congestion charging as part of an overall package. These are:

- All the proceeds from the charging scheme (after deduction of operating expenses) to be applied to the proposed package of transport improvements;
- Continuing application of existing sources of funding to transport expenditure;
- Transparent and open accounting arrangements for the Initiative as a whole to ensure the above two conditions are demonstrated to the public and stakeholders on a regular basis;
- A substantial package of transport infrastructure and service improvements to be in place on or before the introduction of the charges.

The last point is of particular significance at this stage in the process. Chapter 7 defines the current list of schemes that will be in place.

The figure below shows the proposed charging boundaries. Detailed work will be required to define these precisely prior to publishing a Charging Order. This will include consultation with local residents and businesses. Complementary traffic Regulation Orders will be required, to deal both with traffic management at the cordon points



themselves, and in relation to possible mitigation measures. These will need to be developed in parallel with the Charging Order.

Figure 4.1: Plan of charging boundaries



The Preliminary Business Case demonstrates that this package could fund the measures summarised in Table 4.1. Assuming that charging starts in 2006, the financial modelling shows that it would be possible to introduce many of the major projects within 7-8 years. The charging scheme would need to run for a total of 22 years, with spending on other capital schemes, and on the revenue projects such as improved levels of bus services and road maintenance running throughout that time.

Based on the assumptions in the Preliminary Business case, it would be possible for the Preferred Package to achieve the following (costs at 2002 prices):

- North and West tram lines operational by 2009 (total capital cost £355m);
- South East tram operational by 2013 (capital cost £123m);
- A contribution to rail schemes in Edinburgh of £35m between 2008 and 2015
- Another £140m available to fund a contribution towards rail or light rail outside the city boundary. This would come in two phases, £40m in 2014-2019, and £100m in 2022-2028.
- The orbital bus scheme linking South Gyle and the New Edinburgh Royal Infirmary completed in two phases, firstly £17m in 2006-2008, secondly £55m in 2015-2017.
- City Centre Enhancements undertaken between 2006 and 2015 at a total value of £40m
- A total spend on public transport revenue projects averaging approximately £39m per annum.
- Maintenance expenditure over the period of £188m over the life of the project, £6.9m per annum on average.

Table 4.1 identifies the projects funded in more detail. Costs are taken from the financial model, and are nominal costs inflated to take account of the date at which the expenditure is incurred. They take account of capital costs, revenue expenditure and farebox income from the tram schemes over the 22 year charging period. Table 8.1 on page 62 provides a comparison between nominal and present day costs relating to this

package. The split in funding between the City and the SESTRAN area outside the City corresponds closely to the best estimate of the proportion of charge payers originating from each area. However, it should be noted that many of the projects identified as 'city' schemes will provide significant benefits for non-residents of the city, while the reverse will be less significant.

The package of projects outlined is preliminary, with many of the project definitions still at an early stage. It is important that these are firmed up in the next stage of work on the ITI.

Table 4.1: Preferred package: proposed investment

	Total cost (£m nominal)	
	City	Sestrans
<i>Trams and rail</i>		
North Edinburgh tram loop	152	-
West Edinburgh tram	201	-
South Edinburgh tram	191	-
Further tram development and/or rail upgrades*	50	308
<i>Buses</i>		
Rapid transit on city-bypass from South Gyle to NRI		267
Frequency improvements to bus services in Edinburgh	274	
Frequency improvements to bus services to and from Edinburgh	-	171
Integrated Ticketing	1	1
Further bus priority measures in Edinburgh	27	-
Further bus priority measures outside Edinburgh	-	65
Extend vehicle location and detection	15	2
Upgrade bus user facilities and information	9	15
<i>Park+Ride</i>		
Halbeath, Deer Park Park and Ride sites	-	13
<i>Environment and safety</i>		
Environmental protection measures around charging cordon	12	-
City Centre environmental treatment	54	-
Grants towards conversion of buses, taxis to LPG.	14	-
20mph Zones and Pedestrian improvements	48	-
Improvements to safety & security on buses and trains.	10	4
Expand Edinburgh accident investigation programme.	6	-
Cycling network and promotion	44	-
<i>Social Inclusion and travel choices</i>		
Travel awareness and education	38	35
Expand community transport and mobility schemes	61	-
<i>Maintenance</i>		
Additional maintenance on key routes in Edinburgh.	161	-
Additional maintenance on key connecting routes to Edinburgh	-	161
<b>TOTAL cost</b>	<b>1409</b>	<b>1092</b>
City/remainder of SESTRAN area cost proportion	57%	43%
City/remainder of SESTRAN origins of charge payers (estimated from transport model)	58%	42%
* could also include contribution towards cross-Forth ferry proposal		



## 4.2 Summary of Impacts

The predicted impacts of the preferred package are set out briefly here. More detail is provided in Chapter 5 on Appraisal, comparing the preferred package with other options considered.

Table 4.2 summarises some key indicators based on the transport modelling carried out for **tie**. The implication of these is that the ITI will contribute significantly to the achievement of CEC's LTS targets as summarised in Section 3.3. Although it will not result in all these targets being met, more progress would be made than without it. The target for city centre traffic reduction will be met, at least if 2001 is used as the base rather than 1996. Over the whole city, a reduction in traffic compared to today's levels will not be achieved although the increase will be half what would occur without the ITI. On mode share, the modelling forecasts that the proportion of journeys by car will remain virtually unchanged at 56%. Without the ITI this would increase to 60%.

While not included in the LTS targets, **tie** would highlight the forecast increase in the number of journeys to the city centre forecast to take place with the ITI. This is made up of a very substantial increase in the number of public transport journeys, offset by a small (3%) decline in car journeys compared to 2001.

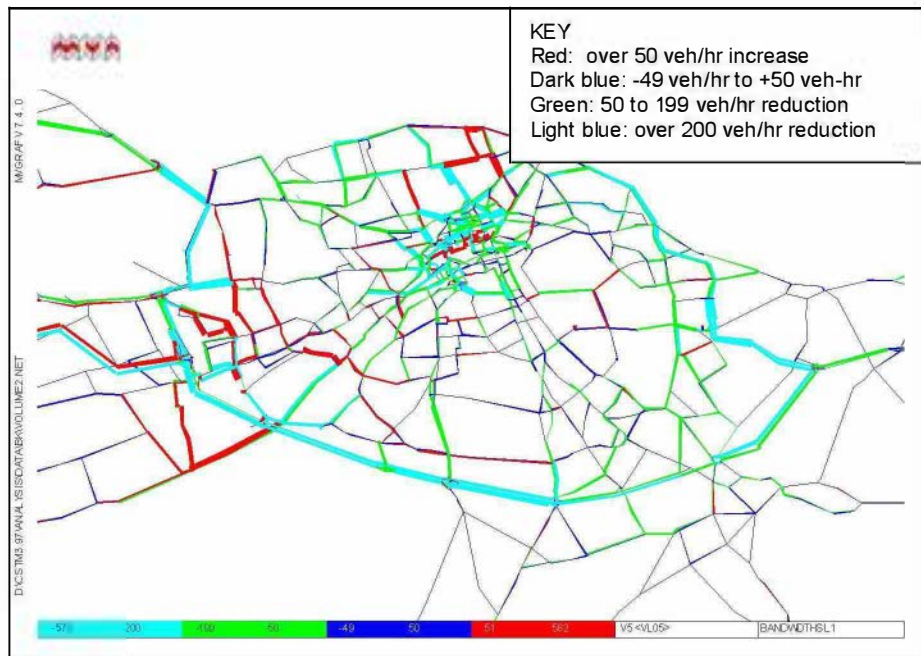
Table 4.2: Summary impacts of Preferred Package

	Compared to:	
	2011 without ITI	2001
Congestion - in the city as a whole	-17%	+7%
in the city centre	-50%	-50%
Traffic levels - in the city as a whole	-4%	+5%
in the city centre	-30%	-28%
across the outer cordon	-12%	-5%
Travel by public transport – whole city	+22%	+23%
Journeys to the city centre	+10%	+7%

More detailed appraisal (see Chapter 5) identifies that major congestion reductions are achieved in the key areas of the city centre and West Edinburgh. However, an increase in congestion is forecast for North Edinburgh which it is expected can be overcome, but which will need further detailed examination in the next stage of work on the ITI.

Figure 4.2 shows the traffic volumes forecast with the Preferred Package, compared to those predicted for 2011 without the ITI. This shows substantial reduction in traffic levels in the areas forecast to be most severely affected by growth in traffic between 2001 and 2011 (see Figure 2.2).

Figure 4.2: Effect of Preferred Package on am peak traffic



Finally, forecasts of Nitrogen Oxides (NOx) based on the transport modelling show that reductions of over 20% will be achieved in the city centre compared with those without the ITI. This is offset to some degree by an increase of 7% in North Edinburgh. There would be little change in the rest of the city. Since the Air Quality Management Area is focused on the city centre the ITI should ensure that national standards for NOx are met.

## 5 Appraising the Options

Several stages of consultation, technical and financial appraisal that have been carried out to narrow down the proposed options from the full range of policy measures available to the Preferred Package. **tie** believes that this provides a robust and comprehensive justification of the choices made.

### 5.1 Development of the Preferred Package

The proposed package set out above is the conclusion of comprehensive consideration by **tie** of the strategic transport policy options available to the City of Edinburgh Council over a number of years. There have been a number of key stages in the development of the proposals:

#### 1. *Lothian Structure Plan 1994*

The transport strategy incorporated in the Lothian Structure Plan 1994 [Ref 23] was based on “the reduction of traffic in key urban areas below those existing today... Accessibility will be maintained by developing the public transport system..”. This strategy was based on a strategic transportation study, the Joint Authorities Transport and Environmental Study (JATES) undertaken in 1991/2 [Ref 41].

This study included the first investigation of road user charging as a potential transport policy tool, demonstrating significant benefits. The Plan stated that “*The Regional Council will have to adopt stronger measures [in the longer term] to restrain traffic levels within Edinburgh, allied to better public transport.*” However, road user charging was not specifically mentioned as a policy measure within the Plan.

In parallel with the Structure Plan, the Regional Council prepared the ‘Moving Forward’ action plan [Ref 42], which incorporated targets for traffic reduction and mode share for 2010 predicated on these stronger measures such as road user charging. The ‘Moving Forward’ plan was adopted by the new City of Edinburgh Council when it was established in 1996.

#### 2. *CEC Local Transport Strategy*

In 1999 CEC produced an ‘Interim Local Transport Strategy’ [Ref 24]. It set out a suggested vision, objectives and proposed policies for transport in the city as a basis for a widespread consultation. The consultation presented the public with three scenarios for the future based on continuation of the status quo, a strategy based on the introduction of a workplace parking levy, and a strategy based on some form of congestion charging. The options presented were conceptual but the public response was overwhelmingly supportive of the more radical options (see page 34).

As a result, the full Local Transport Strategy was prepared in 2000 [Ref 43], following Scottish Executive guidance. This set out ‘Base’ and ‘Preferred’ transport strategies – programmes of transport improvements without and with road user charging.

#### 3. *The ‘New Transport Initiative’*

The New Transport Initiative was established to find ways in which the objectives of the Local Transport Strategy could be achieved in practice. It has consisted of a number of stages of consultation on and appraisal of options leading to the current report.



The initial stage of work – Phase 1 [Ref 25,26] – was carried out in parallel with the development of the Local Transport Strategy. It incorporated:

- Appraisal of a wide range of potential mechanisms to achieve major transport investment, ranging from tourist taxes to quality partnerships with transport operators to road user charging;
- Conceptual appraisal of a wide range of potential charging configurations including area license, charging cordons and workplace parking levies affecting different areas;
- More detailed appraisal of 4 different road user charging configurations at 4 different levels of charge;
- An initial assessment of the technical feasibility of a charging scheme;
- Linkage to the investment package options being developed for the Local Transport Strategy;
- Consultation on 3 conceptual options as part of the Local Transport Strategy consultation described above.

Phase 1 concluded that road user charging at a 'moderate' level of charge provided the most realistic, acceptable and feasible way to achieve transport improvement objectives.

CEC agreed to take forward this work to the preparation of an application for Approval in Principle for an ITI [Ref 1,2]. Further appraisal and market research was undertaken for this stage:

- Market research aimed at identifying the most acceptable investment and charging package;
- Further development of the potential investment package including the definition of an 'up-front' set of measures to be in place before the start of any charging scheme;
- More detailed appraisal of two charging configurations: city centre only, and city centre and outer cordons, at different charge levels in the range £1-£3 and various times of operation;
- An outline financial model with differing assumptions about the proportion of revenue provided by road user charging.

On the basis of the above, the application submitted for the ITI in October 2001 sought approval for a city centre charging cordon with possible extension to an outer cordon, related to a single investment package. It did not indicate a specific level of charge or time of operation.

The current stage of work takes the application a stage further by:

- Appraising the options outlined in the application for Approval in Principle to select a single preferred charging configuration that links charging and investment more closely;
- Consulting on overall package choices;
- Carrying out a financial appraisal of the options.

The recommendations of this report are based on this latest stage.

#### *Recent appraisal work*

The remaining section of this Chapter summarise the appraisal that has been undertaken since the application for Approval in Principle, focusing on traffic, congestion and air quality issues relating to the package options considered. Consultation, the development of the transport improvement package, and the Preliminary Business Case are covered in the following Chapters. A Stage 1 STAG appraisal has been carried out which brings all these elements together including comparison of a slightly wider range of package options. This is included as Appendix 2 to this report.

## 5.2 Forecasting methodology

The main tool used to forecast the impacts of the charging and investment packages, and make comparisons between the options has been a transport model 'TRAM' developed by consultants MVA. The details of the model specification and validation are reported elsewhere [Ref 38,39]. The model is intended to operate as a strategic tool to:

- Demonstrate impact of RUC scheme(s) overall;
- Model global effects on the road network;
- Demonstrate congestion impacts;
- Demonstrate financial performance;
- Justify choice of strategic option.

It is a development of the model used in the JATES study [Ref 41], but is able to operate at a greater level of detail than was possible in 1992. It is not intended to provide detailed network effects, although it can and has been linked to a network model that can achieve this.

Because of the importance of the TRAM model in predicting both transport impacts and making estimates of potential charging revenue, a review was undertaken as part of the Preliminary Business Case. This is reported in Section 8.3. It found the logic of the model to be sensible, rational and consistent with best practice (for a strategic model). The model is however particularly complex as it tries to incorporate a number of behavioural responses, some of which are ignored in more conventional transport models. As a result, a separate high level model was developed against which to benchmark the outputs from the TRAM model [Ref 37].

The high level model provided confidence that, given a set of inputs and behavioural responses, the forecasts from the TRAM model are realistic and defensible.

## 5.3 Choice of options for testing

The October 2001 application for Approval in Principle proposed that the charging scheme should take the form of a city centre cordon, with the possible extension to a double city centre and edge of city charging system. Market research carried out in 2001 and reported in the next chapter refined these to two more detailed packages, including related transport improvements, on which to base further consultation and appraisal.

A number of features are common to all the packages tested throughout the appraisal:

- Charge applied when crossing a cordon in the inbound direction
- Charges applied to any one vehicle no more than once per day
- £2 charge
- Charges operating from Monday to Friday inclusive.

Packages defined on this basis are:

- Option A: City centre package aimed at tackling city centre congestion with:
  - A city centre cordon
  - City based transport improvements
- Option B: City and regional package aimed at tackling congestion problems areas throughout the city with:
  - A city centre cordon and an outer cordon, with payment at first crossing
  - City based and regional improvements.



Following the consultation, two variants on these options were also tested with different times of operation for the Outer cordon:

Option	Inner charge times	Outer charge times
Variant 1	7am-7pm	7-10am
Variant 2	7am-7pm	7-10am & 4-7pm

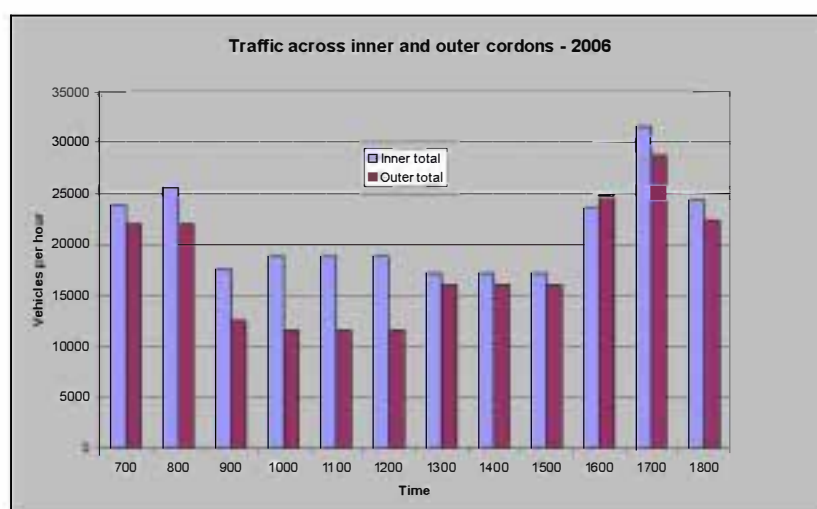
These were chosen following detailed examination of comments and letters, which showed a number of particular concerns relating to the outer cordon:

- Public transport is perceived to be a poor alternative for many journeys across the outer cordon
- There is particular opposition to people living within either cordon having to pay a charge to return home, particularly for non-work journeys
- Congestion is not perceived to be a problem at the edge of the city outside the peak periods

The variants are aimed at giving greater opportunities for travel across the outer cordon without charge during times of day when congestion is less of a problem.

This is reinforced by the profile of traffic across each cordon. The diagram below shows that traffic levels are more peaked across the outer cordon than the inner.

Figure 5.1: Traffic across inner and outer cordons (without ITI)



A further concern raised in the consultation was that there is opposition to journeys into the city in the evening for leisure, cultural or other activities being charged

In response to this point, the finish of the charging period was changed from 7pm to 6.30 pm. For technical reasons this change could not be included in the modelling reported in the next section.

#### 5.4 Appraisal impacts

Key results from the tests using the TRAM model are summarised here. More detail is available from the modelling outputs [Ref 44]. All are compared to a 'Reference case' based on continuation of current trends in transport investment and with no implementation of an ITI. This was presented in the consultation as Option C and is referred to in this section as such.

The effects of the various packages in 2011 is shown in the next table, relative to the Option C reference case. This demonstrates that significant overall reductions in growth of congestion can be achieved by an ITI.

Option B performs the best in congestion terms, with overall congestion levels maintained at approximately 2001 levels in 2011. It is clear that Variant 1 has impacts closest to the city centre charging, Option A, while Variant 2 provides much of the additional benefit resulting from the addition of the outer cordon, Option B.

Table 5.1: 2011 forecasts

	2001	2011 Option C reference	2011 Option A City centre	2011 Option B Double	2011 Variant 1 Outer am peak only	2011 Variant 2 Outer am+pm peaks
<i>Traffic (veh-km/day):</i>						
Whole study area	12.8m	13.9m	13.6 m	13.4m	13.6m	13.4m
<i>Congestion (veh-hrs/day):</i>						
Whole study area	14,730	18,840	17,190	15,290	17,130	15,690
Gross revenue (£m p.a.)*	nil	nil	£47m	£93m	£63m	£76m

\*Note that these are 2011 forecasts. Figures quoted in Section 8.2 of this report relate to 2006.

Figure 5.2: 2011 congestion by area

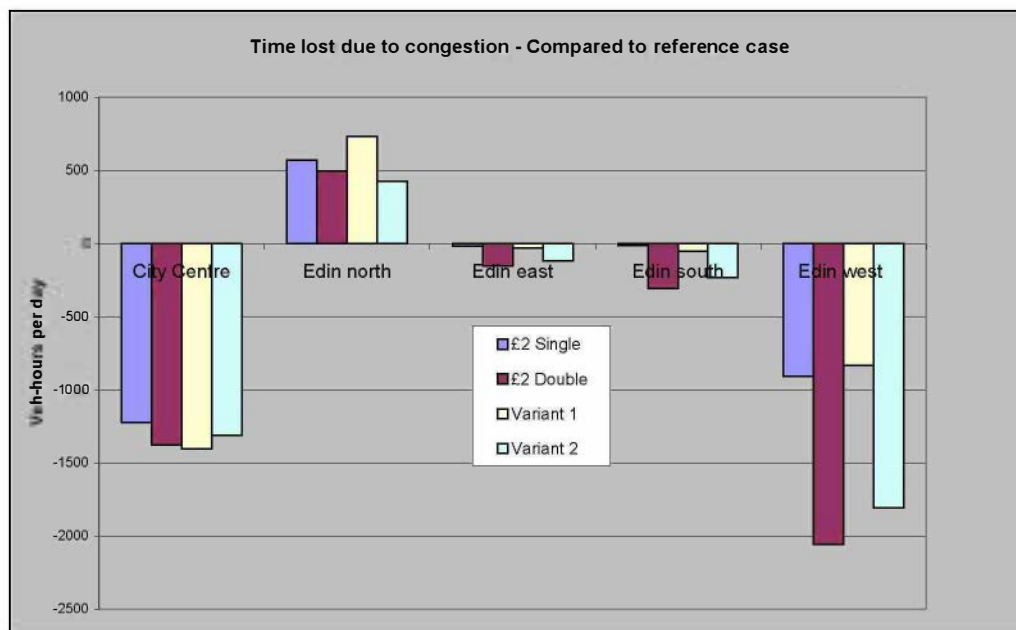


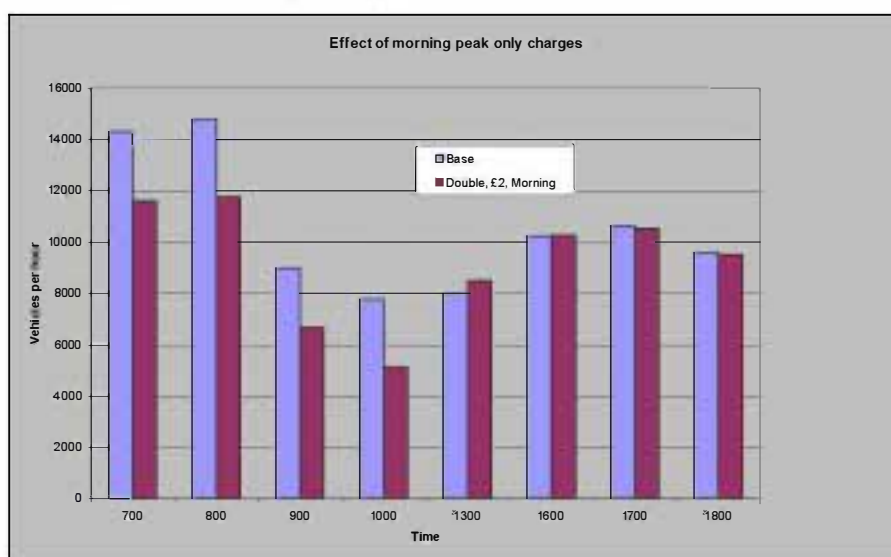
Figure 5.2 shows that all the options achieve considerable reductions in congestion throughout the city, with the exception of North Edinburgh. Additional congestion is forecast in this area as a result of the ITI, with this being greatest in the case of Variant 1 and least in the case of Variant 2. However, examination of traffic levels shows that they do not increase substantially overall, but that there is a change from radial traffic movements to and from the city centre to orbital movements. This gives a reasonable degree of confidence that appropriate traffic management possibly combined with relatively small scale infrastructure changes could overcome the problem. The investment package includes an allocation of £10m to allow for mitigation measures

required to tackle problems such as this that could arise as a result of traffic diversions caused by the charging scheme.

The substantial reductions in congestion in the city centre are relatively unaffected by the choice of option as all apply the same charging regime at the city centre cordon. For the key problem area of West Edinburgh, however, the benefits are substantially greater for options applying charges at both peak hours at the outer cordon – ie option B and Variant 2.

Charging in the morning peak only, as proposed in Variant 1, results in forecast reductions in traffic levels and hence congestion only during the period during which the charges operate. The diagram below shows that as soon as charges are removed (at 1pm in the example shown below) traffic levels immediately return to the levels of the no charging option or even slightly above.

Figure 5.3: Effect of part-day charges on traffic levels



Clearly the revenue received from the congestion charging scheme is significantly reduced in each variant. The investment package that could be achieved in each case is therefore less than that of Option B. The changes to the package required for Variant 2 are identified in detail in the Preliminary Business Case (Section 8.2). The main changes are:

- Reduction in the funds available for rail enhancements and tram extensions outside the city from £370m to £140m.
- Slippage of the implementation timescales for a limited number of projects.

It has not been possible at this stage to carry out a full accessibility analysis that would provide a detailed appraisal of the packages in relation to the 'fair treatment' principle. However, the overall distribution of spend on transport improvements has been shown to be related to the origins of charge paying journeys (see Section 7.1). In addition, preliminary analysis carried out for the application for Approval in Principle by Halden [Ref 46] provides further indication that changes in accessibility throughout the region are generally positive. Specific areas may however require targeted transport improvements not already identified, and further analysis should be carried out as part of the more detailed development work on the investment package.

## 5.5 The Preferred Package

On the basis of the forecasts summarised above, **tie** considers that 'Variant 2' provides the best balance of meeting public concerns about the effects of the outer cordon while achieving the maximum congestion and transport benefits for the city as a whole. This is therefore proposed as the 'Preferred Package' set out in some more detail in Chapter 4. There are two other considerations that have been incorporated into this package.

Given the concerns identified earlier about early evening travel, a finishing time of 6.30pm throughout the city should overcome much of the concern. At this time levels of congestion are not currently very serious. It also aligns the charging period with the finishing time of parking restrictions in the city centre. The effect of this change would be a reduction in the gross revenue from the charging scheme estimated at £4.6m per annum in 2011. The Preliminary Business Case compensates for this loss of revenue by extending the period of the charging scheme by an extra 2 years, rather than reducing further the scope of the investment package.

Finally, based on the consultation reported in the next Chapter, there could be a case for some further concessions. Taxis can be considered as a form of public transport, and there was significant support for exemptions for taxis from the consultation. A full exemption for the 1,210 licensed taxis in Edinburgh would cost a maximum of £0.6m per annum. Some concession for city centre residents who have to travel outside the centre during the day and come home during the charging period could also be justifiable. The case for these and other concessions for particular geographic or user groups will need to be considered in more detail by the Council before the publication of any Charging Order.



## 6 Consultation and Market Research

A number of stages of consultation and market research have been undertaken to design a preferred ITI package and test public and stakeholder response to the measures. **tie's** view is that this has been a comprehensive exercise, considerably more extensive and with a much higher level of response than would normally be expected on a major transport issue: Key points are:

- There has been a consistently high degree of public support for the concept of an ITI based on congestion charging;
- Support is greater within Edinburgh than in the surrounding area;
- Responses are more mixed when detailed suggestions are put forward;
- The Preferred Package is based on the best consensus view of the various elements making up a potential ITI;
- Stakeholder responses are cautious, and highlight the importance of continuing engagement throughout the development of the Initiative.

### 6.1 Public consultation

CEC has given a high priority to ensuring that there is full engagement with the community and with stakeholders in developing the Integrated Transport Initiative. A major consultation exercise was undertaken as part of the development of CEC's Local Transport Strategy, which is fully reported in the October 2001 application for Approval in Principle.

Following the decision to continue with the development of the Initiative, the University of Westminster were commissioned to provide an independent overview of the consultation work. The University set out a comprehensive consultation and market research strategy, absorbing within the overall approach the work that had been carried out by CEC on the Local Transport Strategy.

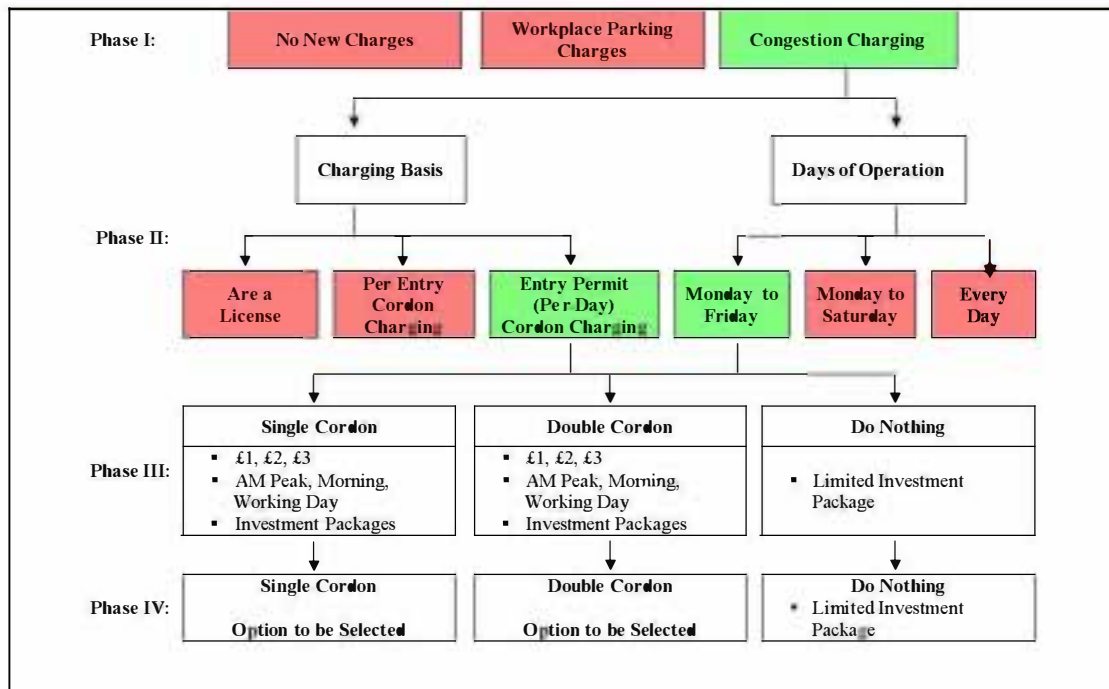
The following table summarises the consultation and market research activities considered necessary to narrow down the options for the Initiative, satisfy the statutory and decision-making requirements, and ensure that the scheme meets its objectives if and when introduced. A total of 6 phases have been defined, of which 4 have now been completed.

<i>Phase</i>	<i>Activity</i>		<i>Timing</i>	<i>Reference</i>
I	"Edinburgh's Transport Choices" (Local Transport Strategy consultation)	Consultation & MR	1999	Ref 24
II	Preparatory Market Research	MR	2000	Ref 27
III	Regional Market Research	MR	2001	Ref 28
IV	"Have Your Say" (Strategic Regional Consultation)	Consultation & MR	2002	Ref 29
	<i>Future, as appropriate:</i>			
V	Detailed Scheme Design Consultation	Local consultation	2003	
VI	Post-Implementation Market Research	MR	2005	

Figure 6.1 illustrates the role of the consultation phases in narrowing down the policy options from the general concept of new mechanisms (workplace parking levies/road user charges) to specific packages incorporating a charging configuration combined with related investment.

The remainder of this section summarises very briefly the process and the conclusions of each stage. Each Phase is fully reported in the documents referred to in the table above.

Figure 6.1: Narrowing down the options



*Phase I: "Edinburgh's Transport Choices" 1999*

Objective: To assess "in-principle" support for congestion charging in comparison to other alternatives. This phase was based on consultation on CEC's Interim Local Transport Strategy, and also incorporated a range of questions on more wide ranging policy preferences and priorities.

Activities included:

- A Leaflet sent to every household in city
- Questionnaire survey of Edinburgh's Citizens Panel
- Workshops and meetings held with key stakeholder groups
- A public debate

Over 19,000 leaflets were returned, showing 62% support and 32% opposition to the principle of congestion charging. The market research using the Citizen's Panel showed 65% support and 26% opposition to congestion charging.

*Phase II: Preparatory Market Research 2000*

The objective of this phase was to investigate public views towards specific details of charging scheme design and transport improvement package configuration. Initially, two focus groups sessions were conducted. Using the information gained, an in-depth questionnaire survey was designed and sent to 800 members of Edinburgh's Citizens Panel in October 2000. A shortened version of this survey was also conducted with 194 Non-Resident motorists in Edinburgh's city centre. Respondents were asked to express their views about a range of design features for a charging scheme, including the basis of charging (per day or per crossing), days and times of operation, possible concessions, and how the revenue raised should be spent.

A supplementary survey was undertaken in December 2000, using the people that responded to the main survey and presenting a number of options combining different cordon configurations and charge levels.

This phase of market research identified significantly higher levels of support than opposition for an appropriately designed road user charging based transport strategy.

Table 6.1: Phase II market research

	Support	Oppose
Main survey (city centre charging scheme)		
Citizens Panel	59%	30%
Non-residents	51%	33%
Supplementary surveys (double cordon)		
Citizen's Panel	64%	27%
Non-residents	59%	35%

The market research also sought views on the design of the scheme. There was significant consensus about some elements of scheme design, but considerable diversity of opinion among others. University of Westminster recommended that elements receiving consensual support, including the days of operation (Monday to Friday) and the payment type (a single daily inbound charge) be fixed within future scheme designs. The following table summarises the findings of this stage of the research.

Table 6.2: Conclusions of Phase II market research

<i>Charging Scheme Element</i>	<i>Single Cordon</i>	<i>Double Cordon</i>	<i>Comment</i>
Charging Basis	Central Area Cordon	One city bypass cordon + one city centre cordon	
Payment Type	First time payment for unlimited daily trips		<b>Full consensus.</b> Adopted for both options
Days of Operation	Charging from Monday to Friday		
Minimum Improvements	Bus service improvements Park and Ride Sites at the edge of the charged area		<b>Basic Consensus.</b> Preferences based primarily on a central area charging scheme. More detailed design requires separate consideration for single and double cordon options.
Revenue Hypothecation	Further bus service improvements Upgrade and reopening of rail lines Transport network maintenance Tram network		
Exemptions	Emergency vehicles Disabled badge holders Local buses		
Concessions	To be determined		
Times of Operation	AM Peak/AM & PM Peak/Working Day		<b>Minimal Consensus.</b>

### *Phase III Regional Market Research 2001*

Objectives: To assess regional views on various 1 or 2 cordon options, and design a small number of complete scheme options (congestion charging scheme plus transport investment package) for full consultation. This stage also sought public views about how this next full round of consultation should be conducted.

The activities carried out in this phase included 16 focus groups in and around the Edinburgh region, followed by the collection of quantitative data through 1,000 face-to-face interviews with Edinburgh residents and with non-residents living in the major

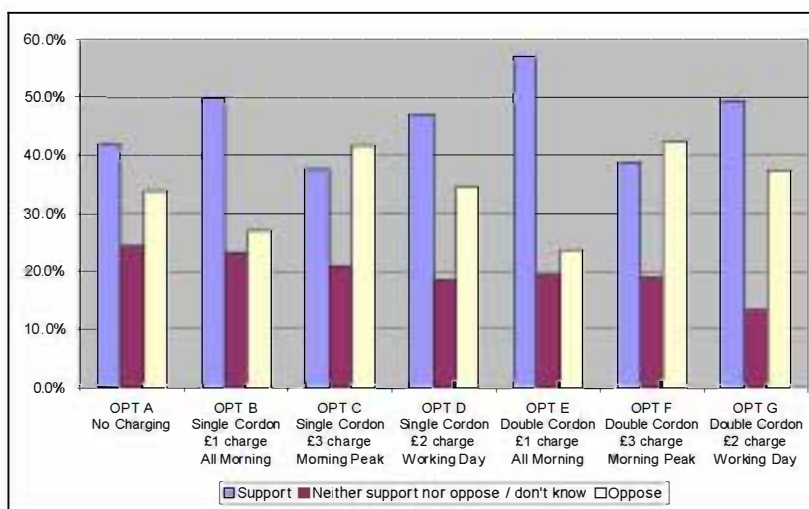


travel corridors surrounding Edinburgh. The surveys investigated the trade-offs between congestion charges and the transport strategy benefits that could be achieved.

The core section of the survey presented respondents with seven separate transport strategy options, each representing a different level of investment, and including specific details of congestion charging scheme design and the associated transport improvement package. A transport strategy option without a congestion charging scheme was also provided in order to allow respondents to select a low investment transport strategy that did not involve congestion charging.

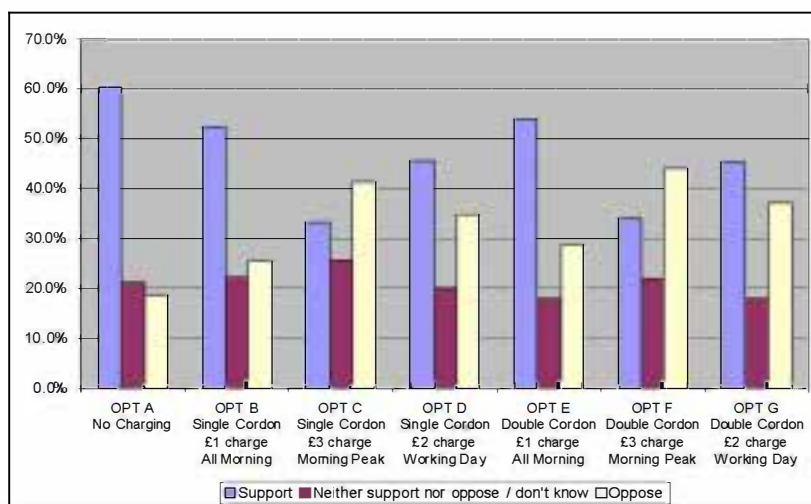
City residents generally preferred transport strategy options that included congestion charging schemes. Their preferred option was a strategy based on a double cordon scheme involving a £1 daily charge over a charging period of 7:00 a.m. to 7:00 p.m. and a regionally themed package of transport improvements.

Figure 6.2: Support and opposition for each option: City residents



The non-residents sample was less supportive of transport strategies incorporating congestion charging schemes, and the no charging option received the highest level of support and lowest level of opposition of all the options. The options involving a £1 charge from 7:00 a.m. to 7:00 p.m. were again the most supported of the charging options.

Figure 6.3: Support and opposition for each option: Non-residents





Preferences for congestion charging scheme designs were found to be primarily influenced by the level of charge. The £1 daily charge options involving charging over the whole working day were found to be the most supported while the £3 daily charge over the morning peak was found to be the least supported. University of Westminster recommended that the £3 charge level would be too unpopular to be used in any future work. Although the £1 and £2 options are feasible, the high level of sensitivity to charge level is such that the £2 options could receive considerably less support than lower charge options.

This phase of market research also identified key issues relating to the composition of the investment package. A range of measures were considered to comprise an essential 'core investment package'. These were also seen as the most important improvements to be put in place before a congestion charging scheme is introduced. They included:

- Bus service improvements within Edinburgh
- Bus service improvements in the surrounding areas
- A new orbital rapid transit system
- Provision of a ring of park and ride sites.

Improvements to the regional rail network were also highly rated, particularly by non-residents. The analysis showed that the public does not expect a tram network to be in place before charging starts.

The final section of the survey concerned public preferences for methods of conducting future consultation activities, specifically the Phase IV full public consultation programme. It was found that the preferred means of being informed about the Phase IV consultation were leaflets or newsletters in the mail and newspapers. There was a clear preference from both residents and non-residents for giving their views via a leaflet with a reply section that could be filled out and returned.

#### *Phase IV 'Have Your Say' 2002*

This most recent consultation exercise – 'Have Your Say' – was undertaken during June and July 2002. It was designed to provide members of the public and stakeholder groups in Edinburgh and the region with the opportunity to comment on the future direction of the Integrated Transport Initiative. The objectives of the consultation were:

- To disseminate information about the objectives of the Integrated Transport Initiative and the case for further action, to the population at large;
- To provide the public with a range of options (both charging and non-charging) for the future develop of transport strategy in and around Edinburgh, and the opportunity to comment on these proposals;
- To assess the level of public and organisation support for the different options and, in particular, to gauge support for some form of congestion charging based transport strategy.

In conjunction with the main consultation exercise, a parallel smaller market research exercise was also carried out. This exercise was designed to obtain the views of a cross section of the general population by approaching a representative sample of residents in Edinburgh and the surrounding authority areas. These views could then be compared with those obtained through the main consultation exercise, where people had to be more pro-active in obtaining a leaflet or accessing the information on the web.

The consultation was based around a printed leaflet providing information on the Integrated Transport Initiative. The leaflet set out three options for future transport

strategy with a diagrammatic summary of the implication for traffic and congestion in 2011 as compared with 2001 for each.

Table 6.3: The consultation options

Option A	City centre charge	Tackles city centre congestion; city-based transport improvements
Option B	City centre and outer charge	Tackles city centre and edge of city congestion; city based and regional transport improvements
Option C	No charging	Limited transport improvements

A response questionnaire was included in the leaflet for return by mail. Electronic versions of the leaflet and response questionnaire were also made available via a dedicated web link. Both the leaflet and the on-line responses went directly to independent market research company George Street Research, who coded the responses and forwarded the data to the University of Westminster for analysis.

There was an extensive publicity campaign before and during the consultation period to raise awareness of the consultation exercise. This included:

- Public meetings in Edinburgh, East Lothian, Midlothian, West Lothian and Scottish Borders;
- Articles in Council newsletters distributed to every household in Edinburgh, Midlothian, West Lothian and Falkirk;
- Advertising on the radio and on buses;
- Widespread distribution of the leaflets in public places.

In addition there was substantial editorial coverage of the consultation, starting on the launch date of 12 June. Approximately 238,000 leaflets were distributed during the consultation period.

Analysis of the various elements of the consultation consistently show that enough opportunities have been created for the population of South East Scotland to have seen or heard something about the consultation up to 9 times.

Table 6.4 shows the total numbers of responses received and the final numbers that could be used in the analysis reported below. Around 20,800 responses were coded, and of these 18,961 (91%) were used in the analysis. Table 6.5 shows the responses from each of the local authority areas within SESTRAN.

The questionnaire asked respondents to indicate whether they were responding as an individual or on behalf of an organisation. Table 6.5 shows that the majority of organisation respondents (1,517 out of 1,790) also provided an individual response; as a consequence, they have been included in both sets of analysis.

Table 6.4: Responses to the consultation

	Consultation		Market Research			
Original Sample Sizes	20,802		1,481			
Duplicates and photocopies removed	-1,550 (see note 1)					
Remove those who did not respond to Questions 1-4	-125 (see note 2)		-4			
Separate Individual and Organisation Samples	Individual	Organisation				
– Respond as individual and as organisation	1,517	1,517				
– Respond as either individual only or as organisation only	17,337	273				
– Sub-total sample sizes	18,854	1,790				
Remove those who did not provide a residential or organisation location	-74	-92		-		
<b>Overall Sample Sizes</b>	<b>18,780</b>	<b>1,698</b>	<b>1,477</b>			
Separate into Edinburgh / Non Edinburgh	Edinburgh	Non-Edinburgh	Edinburgh	Non-Edinburgh	Edinburgh	Non-Edinburgh
	<b>12,492</b>	<b>6,288</b>	<b>1,256</b>	<b>442</b>	<b>581</b>	<b>896</b>
Notes						
1) 890 duplicate questionnaires were returned and 660 photocopied questionnaires were received. These have been removed from the analysis. The effect of doing this is largely neutral: the former were mainly 'pro' the congestion charging options, and the latter largely against these options.						
2) Of the 125 people who did not respond to Questions 1 to 4, 110 of these did provide a response in the Additional Comments section, and their responses are included in that section.						

Table 6.5: Responses by area

	Consultation		Market Research		Total SESTRAN Populations	
	N	%	N	%	N	%
Edinburgh	12492	66.5	581	39.3	453,430	29.9
East Lothian	956	5.1	239	16.2	91,280	6.0
Midlothian	1489	7.9	221	15.0	82,200	5.4
Scottish Borders	495	2.6	-	-	106,900	7.0
West Lothian	1934	10.3	259	17.5	156,690	10.3
Falkirk	187	1.0	-	-	144,320	9.5
Stirling	83	0.4	-	-	85,220	5.6
Clackmannanshire	46	0.2	-	-	48,460	3.2
Fife	733	3.9	177	12.0	350,400	23.1
Elsewhere	365	1.9	-	-	N / A	N / A
<b>Total</b>	<b>18780</b>	<b>100</b>	<b>1477</b>	<b>100</b>	<b>1,518,900</b>	<b>100</b>

Consideration has been given to how representative of the population as a whole the above sample is. The most important factor influencing response to the questions was found to be household car ownership. Non-car owners were significantly under-represented in the sample.

Other factors affecting responses were frequency of trips to, from and within Edinburgh, purpose of trips and transport mode used, but these do not significantly



affect the results. Car ownership is more significant and the effect of the under-representation of non-car owners is described in the summary of the results below.

### Views on policy objectives

There was general consensus in support of both the ITI policy objectives. On congestion, views on the need for congestion relief in different areas in and around the city show some degree of divergence:

- Highest level of agreement shown for the need for congestion relief in the city centre (over 70% agreement from Edinburgh and non-Edinburgh residents)
- Over 50% support for the need for congestion relief in other areas of the city, and on routes approaching the bypass, but up to 25% disagree with the need for congestion relief in these areas

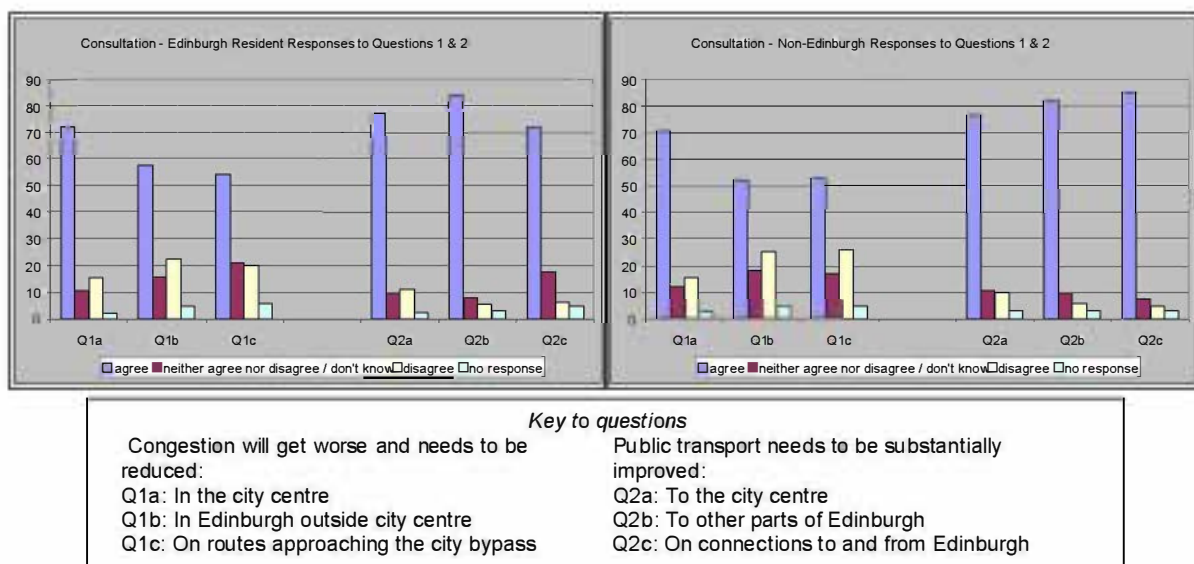
Views on the need for substantial public transport improvements in and around the city are consistently high (over 70% in all cases)

- The highest level of agreement is in the need for public transport improvements in parts of the city outside the city centre (82%-87% agreement)

Taking account of under-representation of non-car owners does not affect the above conclusions significantly.

The diagrams below show the results from Edinburgh and non-Edinburgh respondents.

Figure 6.4: Responses on objectives

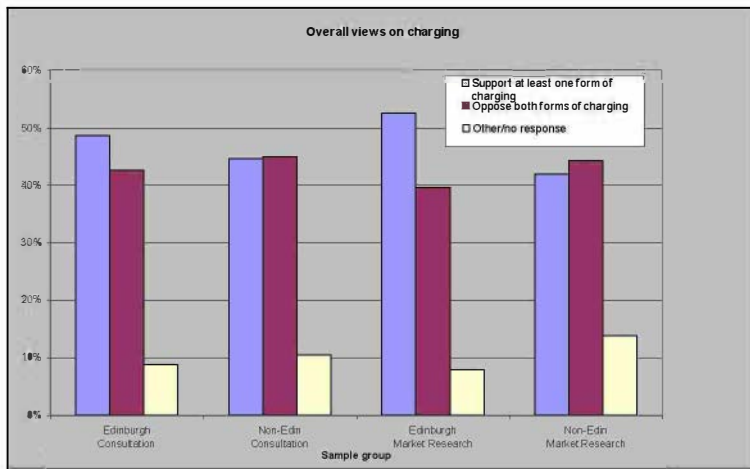


### Views on charging options

The diagram below summarises the overall position on support for the charging options, based on data without taking account of under-representation of non-car owners. This shows views for and against charging are very evenly balanced, with a slight balance in favour of charging from Edinburgh residents responding to the consultation, and a more significant 52%:39% balance of support from the Market Research sample. Responses from non-Edinburgh residents show a very close balance of opinion from both consultation and Market Research.

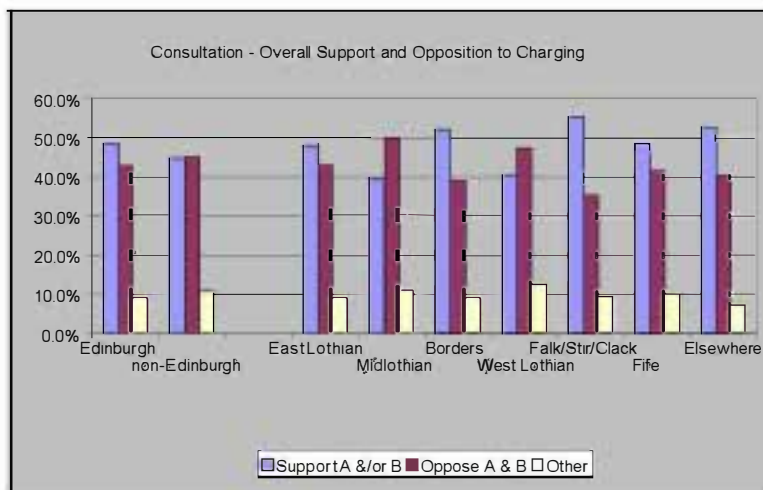


Figure 6.5: Overall views on charging



The responses from the individual local authority areas around Edinburgh show a considerable degree of variation. East Lothian, Fife, Borders, the Falkirk/Clackmannan/Stirling area, and other areas further afield show net support for charging overall, while respondents from Midlothian and West Lothian show net opposition.

Figure 6.6: Views on charging from SESTRAN areas



Looking at responses on the individual options in Table 6.6 shows that:

- Views towards the three options differ considerably between responses from Edinburgh residents and those not resident in Edinburgh;
- The Edinburgh resident sample shows similar levels in support and in opposition for both Options A and C;
- The non-Edinburgh resident sample shows higher levels of opposition than support for Option A and higher levels of support for Option C;
- Both samples show higher levels of opposition than support to Option B, particularly for non-residents of Edinburgh;
- Taking account of under-representation of non-car owners shows that the level of support from Edinburgh residents overall is over 50% for Option A, with equal support and opposition to Option B, and greater opposition than support to Option C.

Table 6.6: Responses on Options

<b>Overall support for charging</b> <i>Unweighted</i>	Consultation		Market Research	
	Edin	Non-Edin	Edin	Non-Edin
For Option A and/or Option B (ie supporting some form of charging)	49%	45%	52%	42%
Against both Option A and Option B (ie against any form of charging)	43%	45%	40%	44%
Other responses	9%	10%	8%	14%
<b>Option A – City centre charging</b> <i>Unweighted</i>	Consultation		Market Research	
	Edin	Non-Edin	Edin	Non-Edin
Support	43%	39%	47%	35%
Oppose	46%	47%	42%	47%
Neither support nor oppose	5%	7%	6%	12%
No reply	6%	7%	5%	6%
<i>Weighted for car ownership under-representation</i>				
	Edin		Edin	
Support	51%		50%	
Oppose	38%		36%	
Neither support nor oppose	5%		7%	
No reply	6%		6%	
<b>Option B – Two cordons</b> <i>Unweighted</i>	Consultation		Market Research	
	Edin	Non-Edin	Edin	Non-Edin
Support	34%	25%	36%	26%
Oppose	56%	64%	54%	57%
Neither support nor oppose	5%	5%	6%	12%
No reply	5%	5%	4%	5%
<i>Weighted for car ownership under-representation</i>				
	Edin		Edin	
Support	44%		43%	
Oppose	46%		45%	
Neither support nor oppose	6%		7%	
No reply	5%		4%	
<b>Option C – No charging</b> <i>Unweighted</i>	Consultation		Market Research	
	Edin	Non-Edin	Edin	Non-Edin
Support	46%	52%	42%	51%
Oppose	35%	29%	33%	23%
Neither support nor oppose	13%	14%	18%	20%
No reply	6%	5%	7%	6%
<i>Weighted for car ownership under-representation</i>				
	Edin		Edin	
Support	38%		37%	
Oppose	43%		41%	
Neither support nor oppose	12%		15%	
No reply	7%		7%	

*Letters and comments*

The questionnaires provided some space for additional individual comments, with a significant number of separate letters also being received. The number of comments and letters from both individuals and organisations is shown in Table 6.7.

Table 6.7: Number of comments and letters

	Questionnaires with comments		Letters/e-mails	
	Individuals	Organisation	Individuals	Organisation
Edinburgh	8,034	831	111	84 <i>total</i>
Non-Edinburgh	4,155	302	40	
No address	-	-	44	

Table 6.8 shows the 10 most frequent comments made by individuals from Edinburgh and those from outside the city.

Table 6.8: Most frequent comments

Most frequent comments from each group of respondents	Individuals	
	Edinburgh	Non-Edinburgh
1 Residents should be exempt / should not have to pay to re-enter city / city centre	1,230	
2 General comments against charging scheme	1,198	711
3 Need to improve public transport before introduction of congestion charges	1,030	690
4 Should not have to pay more taxes / already pay too much in road tax / council tax	981	480
5 Need to improve public transport from outside the city before introducing charges		476
6 Any other criticisms of CEC	674	
7 Better quality buses / public transport / cleaner buses	643	467
8 Questionnaire is biased / other criticisms of survey	612	
9 Do more for cyclists / Any other mention cyclists	543	
10 Charging will discourage commercial activity / push businesses outside Edinburgh	509	302
11 More bus / public transport routes / more cross-city routes	455	
12 Open / re-open suburban railways / open other railways / other rail improvements		370
13 Introduce (cheap) "park and ride"		341
14 Public transport should be cheaper		336
15 Any other criticisms of CEC		307
Top 10 responses only in each category identified		

## 6.2 Stakeholder consultation

In addition to the responses to the main consultation coming from organisations, the principal engagement with stakeholders has taken the form of meetings on either a one to one or a group basis, with representatives from businesses, representative, or other special interest groups. During these sessions there has generally been either an open discussion or a presentation followed by a questions and answers session about the Integrated Transport Initiative and the Congestion Charging concept.

The Transport Advisory Panel, which previously met between 1998 and 2000, has been reformed and to date has held two formal meetings. The Panel acts as a forum through which CEC can engage with and gain a business view and perspective on all transportation strategy and policy matters.

### *Consultation meetings*

"One to One" meetings and conversations have taken place with representatives and individuals from many different businesses and other organisations. Presentations have also been made to various meetings.

At each meeting those present were encouraged to take part in the consultation process by both completing and submitting the consultation questionnaire or by responding with their thoughts and views by letter or e-mail. Questionnaire responses were analysed by University of Westminster and those received by letter or e-mail were collated and analysed by Napier University. The analysis process and findings of both

the University of Westminster and Napier University are described in the University of Westminster's full report on the latest phase of the consultation. [Ref 29].

### *The Transport Advisory Panel*

The inaugural meeting of the Panel was held on 13 May 2002 and a further meeting was held on 2 September 2002. Around 20 representatives of the Business and Stakeholder community have attended the meetings and it is anticipated that a further meeting will be held early in 2003. By that stage the Scottish Executive should have taken a decision as to whether they will grant Approval in Principle for the Initiative to proceed and meaningful discussion will be able to take place regards how the Panel feel the project should evolve.

The members of the Panel comprise representatives of business (from the retail, financial and professional services sectors), other employers (including education and government quangos), transport user groups, the transport industry and other interest groups (conservation, environmental, etc). The members of the group were selected in a manner that would achieve a reasonable geographical spread of interest, not focusing solely on the city centre and included some with interests extending beyond the city boundary. Invitees included people both from individual businesses and representative groups, which helps to ensure that views expressed reflect those of wider communities as well as those of the individuals present.

Current participants in the Panel represent:

- Edinburgh Chamber of Commerce & Enterprise
- Federation of Small Businesses
- CBI Scotland
- The Boots Company
- The Edinburgh City Centre Management Company
- Institute of Directors Scotland
- Scottish Retail Consortium
- Automobile Association
- Freight Transport Association
- The Road Haulage Association
- Confederation of Passenger Transport UK
- Lothian Buses plc
- Railtrack
- Standard Life
- Fyfe Ireland WS
- Ryden Property Consultants
- Jones Lang LaSalle
- Edinburgh Voluntary Organisations Council
- Cockburn Association
- Friends of the Earth
- Transform Scotland
- The Princes Street and George Street Associations
- Speciality Scotland Travel Ltd, representing Edinburgh and Lothians Tourist Board.

### *Questionnaire results*

Among the organisations, some people responded only as an organisation, while others filled in both the personal and organisation details on the leaflet. Looking first at the 'Organisation Only' responses – which are likely to be the more representative – the responses show that:



- There was a slightly higher level of support than opposition for Option A among both the Edinburgh and non-Edinburgh-based organisations. The opposite is the case for Option B – in both cases opposition is slightly greater than support – though the differences are not large. Views are also fairly evenly balanced for Option C, with a small net opposition among Edinburgh based organisation and a small net support for Option C amongst organisations based outside Edinburgh;
- Overall support for at least one of the two charging options is greater than 50% among both the Edinburgh and non-Edinburgh responses. The support exceeds the level of opposition to both options by a margin of over 15 percent in each case.

For the sample including those who completed the both the organisation and personal sections of the questionnaire form, the picture is quite different:

- Both charging options receive more opposition than support (about 50% opposed to Option A and 60% to Option B), while the no charging option is generally preferred by just over 50% of the sample;
- Similarly, looking at overall support and opposition to charging, we find a greater level of opposition than support among both the Edinburgh and non-Edinburgh groups, with opposition to both Options A and B at around 50% and support for at least one of them at around 40%.

#### *Letters and comments*

As indicated earlier, a total of 84 letters and over 1100 comments were received from organisations. Some of these were very detailed, and have formed the basis of one to one discussions. More general points raised are outlined in Table 6.9.

Table 6.9: Letters and comments from organisations

Most frequent comments from each group of respondents	Organisations	
	Edinburgh	Non-Edinburgh
1 Residents should be exempt / should not have to pay to re-enter city / city centre		19
2 General comments against charging scheme	124	50
3 Need to improve public transport before introduction of congestion charges	103	33
4 Should not have to pay more taxes / already pay too much in road tax / council tax	88	30
5 Need to improve public transport from outside the city before introducing charges	49	21
6 Any other criticisms of CEC	86	
7 Better quality buses / public transport / cleaner buses	60	24
8 Questionnaire is biased / other criticisms of survey	55	18
9 Do more for cyclists / Any other mention cyclists		
10 Charging will discourage commercial activity / push businesses outside Edinburgh	105	29
11 More bus / public transport routes / more cross-city routes		
12 Open / re-open suburban railways / open other railways / other rail improvements	50	
13 Introduce (cheap) "park and ride"	49	
14 Public transport should be cheaper		
15 Any other criticisms of CEC		31
16 Need to use car / van during the course of my working day (e.g. doctor visiting patients, etc)		22
Top 10 responses only in each category identified		

### *Stakeholder conclusions*

The general consensus of this recent engagement and consultation work is that although the bulk of business and stakeholders consulted concur that something must be done to improve the transport infrastructure and alleviate congestion there is no agreement as to how this can be best achieved. This is a direct result of the range of business and stakeholder interests that have been consulted, with each respondent having a different market place, commercial outlook, environmental stance, geographical location or base, etc.

With regard to the introduction of congestion charging, comments received can generally be grouped depending on the type of business or organisation making the response. Comments received from the business community generally related to:

- how charges might affect the financial viability of their business
- their ability to attract then keep customers, staff and employees
- the nature of the consultation exercise and the need for improvements in the provision of public transport.

In comparison comments received from delivery, freight and motoring organisations generally related to the design and configuration of the charging scheme and their need for exemptions from any charges.

Businesses and stakeholders consulted to date have expressed a wish to continue to be involved in future dialogue and generally they have also expressed an interest, wherever possible, in helping with the future development of the Initiative.

The respondents have generally yet to be convinced that the impact of the proposals will not be detrimental to their main business or other activity aims and objectives. Many have however given conditional support to the proposals provided that their fears and concerns can be allayed before the implementation or introduction of any measures.

## 7 The Investment Package

**tie's** view is that the proposed investment package represents an real opportunity for South East Scotland to achieve a world-class transport system that will be effective in supporting the region's growth and development. This chapter identifies the range of individual transport improvement projects and their assembly into a coherent package.

### 7.1 Package components

In a similar way to the congestion charging proposals, the related investment packages have evolved through a number of stages based on technical appraisal and public consultation.

The starting point for the ITI investment package is a list of schemes prepared as part of the development of the Local Transport Strategy, but which included projects within the SESTRAN area as well as in Edinburgh itself. A total of 80 projects were identified, and an initial appraisal was carried out by consultants [Ref 30].

That initial set of schemes has been taken forward in a number of ways.

- Trams – through Scottish Executive funding of development work on the first two lines and a CEC bid for funding of similar work on the third;
- Rail – through a Strategic Rail Study for central Scotland commissioned by the Scottish Executive;
- Other projects – through a systematic framework approach developed by consultants [Ref 30,31].

In addition, a review of the costings and potential contingencies for the projects has been undertaken as part of the preparation of the Preliminary Business Case.

#### *The tram schemes*

In connection with the development proposals for the Waterfront, an initial appraisal was carried out of a North Edinburgh tram line [Ref 32] This demonstrated that such a scheme would be feasible and would more than cover operating costs. Following this, further work has justified development work on a West Edinburgh line [Ref 33] and a South East line [Ref 34]. Some consideration has been given for possible extensions of this network to a wider catchment area beyond the city boundary, but no appraisal of these has been undertaken as yet.

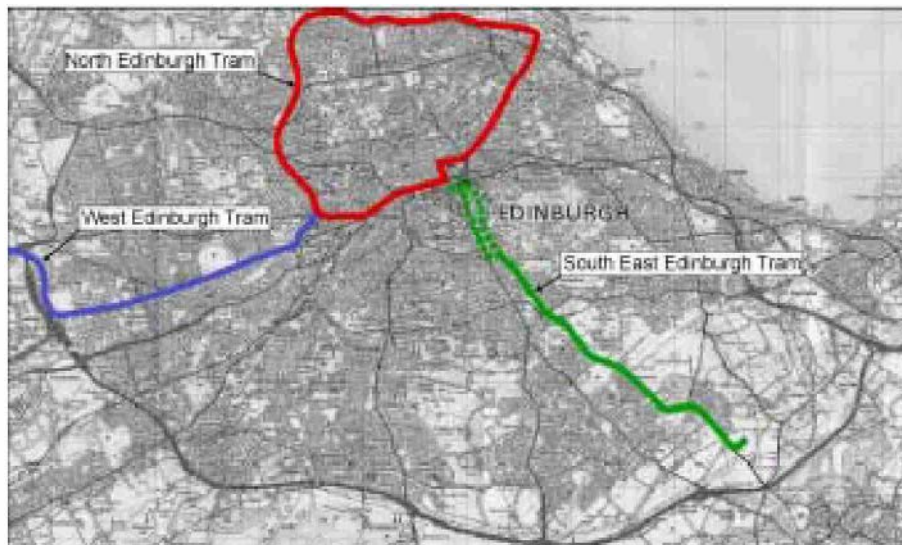
The routes identified above (see Figure 7.1) are:

- North Edinburgh Loop - This is the preferred scheme arising from a study of LRT options for the Loop undertaken for the Edinburgh Waterfront development team;
- West Edinburgh - closely following the alignment specified for the Central Edinburgh Rapid Transit (CERT) scheme;
- South East Edinburgh (A7) - A 10km route predominantly on street from Danderhall past the new Edinburgh Royal Infirmary through Newington into the city centre.

Following funding awards from the Scottish Executive, detailed work is now being undertaken by **tie** on behalf of CEC on both the North Edinburgh and West Edinburgh schemes which will be available to support an Application in Detail. PTF funding is currently being sought by CEC to bring the South East Edinburgh scheme to the same stage.



Figure 7.1: Plan of tram routes



### *Rail proposals*

The Scottish Executive has commissioned a Scottish Strategic Rail Study, in partnership with the SRA, SESTRAN, SPT and Railtrack. This study will consider the likely costs and benefits of potential improvements to passenger railway services where demand and capacity constraints are greatest. Proposals for rail service improvements identified in the Local Transport Strategy and by SESTRAN are included. The study is due to be completed this summer but no report is available as yet. A key to further rail development will be to increase capacity at Waverley Station. Railtrack has come forward with development options, but the timescale for completion is still uncertain. The Scottish Executive is also promoting the development of a rail link to Edinburgh airport.

The development of rail schemes is outside the direct control of CEC or SESTRAN, and the time scale for improvements is still uncertain. However, public consultation has identified rail improvements as having a high priority, especially for those living outside the city.

In view of this sums have been set aside in the investment packages to allow for funding contributions from the ITI towards the improvement of rail links in key corridors. It is recognised that some or all of this could potentially be spent on alternative approaches to tackling transport problems in those corridors, including extensions to the tram network or major improvements to the quality of bus services.

### *Other projects*

A wide range of other, mostly smaller, measures was defined in the Local Transport Strategy. This depended to some extent on the individual proposals coming forward from each of the SESTRAN Councils, and further work was commissioned to provide a more systematic approach to defining appropriate packages to complement the congestion charging options [Ref 35].

This approach taken was:

- To sift the original list of projects and remove those that:
  - do not support the ITI strategy;
  - constitute a duplication of effort; or



- are not technically feasible.
- To review the remaining projects to identify objectives that may not be fully achieved;
- To add new projects or revise existing projects revised to ensure all policy objectives are met as fully as possible.

The full list of projects was then refined to focus on four specific policy areas as appropriate to provide a strategic focus to the packages that were developed:

- access to Edinburgh City Centre;
- access to employment and growth areas;
- intra-area movement; and
- support to public transport policy and specific interventions.

The projects and project options that resulted from the process outlined above range from specific hard interventions to softer policy type analyses and provision of guidance.

Project focus and definitions were reviewed and refined, cost and revenue estimates were updated with contingencies added if appropriate, and an indication given when a project could be implemented. These are summarised in a series of 'Project Definition Sheets' [Ref 36]. It must be recognised however that many of these schemes are still at a very early stage of development.

The full list of schemes considered including tram and rail projects is identified below.

North Edinburgh tram West Edinburgh tram 20mph Zones and Pedestrian improvements Improved evening/weekend services on key radials. Enhanced services to Edinburgh City Centre from surrounding areas. Bus Service enhancement on inner, outer and subsidiary orbitals. New services from SESTRAN area to employment centres Improved bus penetration of urban areas of Edinburgh to facilitate local trips. Integrated Ticketing Camera enforcement of bus priority lanes and at junctions on radial and orbital routes. Improved information at bus stops in Edinburgh and SESTRAN Expansion of the City of Edinburgh Council accident investigation programme. Grants to convert buses to LPG Annual maintenance on key radial/orbital routes in Edinburgh A contribution to the annual maintenance on key routes linking the SESTRAN area to Edinburgh Travel Awareness Campaign – annual costs for a sustained high-level campaign Edinburgh/SESTRAN Schools Curriculum Pack. Expansion of Taxicard Scheme. Expansion of current Dial-a-Bus Provision. Expansion of Community Transport Provision. Doubling of current Handicabs. Employment of 2 mobility officers. Contribution to improved rail links, services and stations South East Edinburgh tram City Centre enhancements. Introduce bus priority on city-bypass from South Gyle to NRI	Provision of appropriate services to improve safety and security on buses and trains. Complete City cycle network. Travel Blending project Introduction of bus priority on the remaining key radial routes into Edinburgh City Centre. Extension of bus priority to the key routes into Edinburgh from the SESTRAN area. Extension of bus priority to the West of Edinburgh (Fife/West Lothian). Bus priority on junctions between key radial/orbital routes Extend SESTRAN bus priority corridors. Extend vehicle location and detection to all key radial routes. Extend vehicle location/detection to all intra-zonal areas M8 Rapid transit corridor. Upgrade Bus infrastructure:key corridors within Edinburgh Upgrade Bus infrastructure: key radials into Edinburgh from other SESTRAN authority areas. Upgrade bus infrastructure: residential areas in Edinburgh Contributions towards bus interchanges in SESTRAN area Provide 18 plasma screen units at primary rail/ bus interchanges in Edinburgh Provide 90 interactive information booths in Edinburgh and 24 in SESTRANS area Develop internet based public transport information site Provide electronic information screens Creation of Halbeath Park and Ride site. New Park and Ride facility at Deer Park. Tram Extension to Livingston Tram or rail extension to Dalkeith and Penicuik Cycle Promotion Package. Grants to assist with conversion of taxis to LPG. Car share scheme management and administration.
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## 7.2 Assembling the packages

Having identified all the potential schemes, these were assembled into packages relating to the congestion charging options. The key factor in choosing the elements to include in the package was to meet the 'fair treatment' criterion: that the distribution of benefits should reflect the distribution of those who pay.

Table 7.1 shows the proposals relating to the two consultation options. The project list has been simplified by combining the smaller schemes under more generalised headings. They represent the inputs to the Preliminary Business Case. Costs are based on the capital cost of each scheme plus the revenue cost multiplied by the 20 year period over which the charging scheme would be operating.

Table 7.1: Investment packages for consultation options

PROJECT	OPTION A		OPTION B	
	Total cost *		Total cost *	
	£m-2002 prices		£m-2002 prices	
	City	Sestran	City	Sestran
<i>Trams/rail</i>				
North Edinburgh tram loop	190	-	190	-
West Edinburgh tram	165	-	165	-
South Edinburgh tram	123	-	123	-
Rail improvements/ tram extensions beyond Edinburgh	-	40	-	370
Rail improvements within Edinburgh	35	-	35	-
<i>Buses</i>				
Rapid transit on city-bypass from South Gyle to NRI	-	66	-	121
Frequency improvements to bus services in Edinburgh	105	15	105	30
Frequency improvements to bus services to and from Edinburgh	-	36	-	104
Integrated Ticketing	1	-	1	1
Further bus priority measures in Edinburgh	14	-	14	-
Further bus priority measures outside Edinburgh	-	24	-	34
Extend vehicle location and detection	9	1	9	1
Upgrade bus user facilities and information	5	5	5	9
<i>Park+Ride</i>				
Halbeath, Deer Park Park and Ride sites	-	10	-	10
<i>Environment and safety</i>				
Environmental protection measures around charging cordon	10	-	10	-
City Centre environmental treatment	40	-	40	-
Grants towards conversion of buses, taxis to LPG.	11	-	11	-
20mph Zones and Pedestrian improvements	25	-	25	-
Improvements to safety & security on buses and trains.	6	3	6	3
Expand Edinburgh accident investigation programme.	3	-	3	-
Cycling network and promotion	25	-	25	-
<i>Social Inclusion and travel choices</i>				
Travel awareness and education	24	11	24	36
Expand community transport and mobility schemes	32	-	32	-
<i>Maintenance</i>				
Additional maintenance on key routes in Edinburgh.	80	-	80	-
Additional maintenance on key connecting routes to Edinburgh	-	-	-	100
<b>TOTAL cost £m</b>	<b>903</b>	<b>211</b>	<b>903</b>	<b>819</b>
City/remainder of SESTRAN cost split	81%	19%	52%	48%

\*Costs are based on capital+20\*annual revenue

### 7.3 Investment before charging

CEC has made a clear commitment to completing significant and measurable improvements to public transport before introducing any charging operation. The application for Approval in Principle submitted to the Scottish Executive in October 2001 identified a list of such schemes, which is updated in Table 7.2 below. At least £80m of capital schemes will be in place, all of which will require public funding. Awards have been made by the Scottish Executive from the Public Transport Fund (PTF) and Integrated Transport Fund (ITF) for this purpose in recent years.

It is important to emphasise the substantial revenue expenditure proposed as part of this up-front package. This would allow funding for improved bus services amounting to over £5m per annum in Edinburgh, and a similar sum outside in the case of the Option B package. This compares with around £1m currently spent annually on supported bus services in Edinburgh. These improvements would be in place on the day charging starts or even before, with the funding taken from the congestion charging income. CEC will need to develop details of these proposals over the coming year.

Table 7.2: Projects to be completed prior to charging

	PROJECT	Approx capital cost	Notes
	<i>Rail, Tram &amp; Guided bus</i>		
	West Edinburgh Bus System (WEBS)	£10m	Funded
	Crossrail	£10m	Complete
	Edinburgh Park station	£3m	Funded
	Cross-Forth improvements (capacity, rolling stock, access)	£16m	Funded
	Detailed development of North and West tram lines	£11.5m	Funded
	Detailed development of South-East tram line	£3.5m	PTF bid 2002
	<i>"Integrated transport" inc Park and Ride</i>		
	Ingliston, Newcraighall, Straiton Park+Ride sites.	£3m	Funded
	Todhills Park+Ride site (Danderhall, Midlothian)	£3m	Funded
	Hermiston P+R, Extension of Ferrytoll P+R	£15m	PTF bid 2002
	Access improvements, additional parking at stations, interchange improvements throughout SESTRAN area	total	"
	SESTRAN station access, P+R (Falkirk, E Lothian)	£3m	Funded
	Major interchange facility at Markinch station	£4m	Funded
	Integrated ticketing in SESTRAN area	£0.3m	Funded
	<i>Bus improvements</i>		
	Improved bus frequencies in Edinburgh	revenue	Over £5m pa
	Major improvements to services between Edinburgh and the Lothians and rest of SESTRAN area	revenue	Over £5m pa in Option B
	Straiton-Leith bus quality corridor including Real Time Information and Selective Vehicle Detection	£8m	Funded
	Improved interchange at key points in Edinburgh		included above
	W Lothian 'straight into town' service	£0.3m	
	Major improvements to orbital bus services and services to growth areas	£25m	PTF bid 2002+ other sources
	Real Time Information and Selective Vehicle Detection other corridors	£5m	PTF bid 2002 (part)
	Camera enforcement of bus lanes	£3m	Not yet funded
	<i>Road maintenance</i>		
	Additional spending on maintenance	revenue	Over £5m pa
	<i>Environmental and Quality of Life improvements</i>		
	City centre environmental & streetscape improvements	£10m	Not yet funded
	Demonstration 'door to door travel' area of 20mph speed limits, safer streets, cycle and pedestrian networks and access to public transport services	£2m	PTF bid 2002 (part)



The market research carried out during 2000 highlights bus service improvements and Park and Ride as two public key priorities prior to the charging (see Table 6.2).

#### 7.4 Public transport integration

The investment packages, regardless of which congestion charging option may be chosen, are based on substantial development of the public transport system in and around Edinburgh. This has implications for users, for operators and for the public sector as funders.

Together with CEC, **tie** has developed a set of objectives for public transport as a basis for considering how best to establish a suitable framework within which the system should operate. These are:

1. To develop an integrated and seamless transport system for the City, which is transparent to the user regardless of operator and which makes the maximum contribution towards congestion reduction.
2. To address this, the following sub objectives will be important:
  - The system will need to be stable and reliable and generate customer confidence.
  - Access to the system will require high standards of service both in terms of geographical coverage and time of day.
  - The system will provide minimum user cost.
  - The system will provide minimum journey times.
  - There will be a defined set of vehicle and infrastructure quality and accessibility standards.
  - There will be demonstrable best value in use of funds.
  - There will be opportunities for market innovation.

Some consideration has been given to frameworks that might be able to meet these objectives, including the use of approaches such as quality contracts and quality partnerships under the Transport (Scotland) Act 2001. This work has not been concluded, but a clear strategy on this issue will be required to:

- Increase the credibility of the investment package with the public
- Ensure that the tram and bus networks are complementary to each other
- Reduce the funding risks for the tram investment.

This work should be continued in the coming year by **tie** and CEC jointly, and should include consideration of the need for any legislative change to facilitate the achievement of these objectives.

A short term measure that could highlight the potential for a more integrated approach is the development of an effective integrated ticketing scheme. **tie** considers that this should be a measure for early action, building on the 'one ticket' scheme already piloted.



## 8 Preliminary Business Case

The Preliminary Business Case commissioned by **tie** demonstrates the viability of the ITI package options, including an allowance for key risks to the project overall. The funding strategy will require the revenue from road user charging to be supplemented by a contribution of £375m from public funds to supplement existing levels of capital and revenue allocation to transport which are assumed to continue. On this basis the key projects included in the Preferred Package can be completed within 8 years of the start of charging, with the charging period running for a total of 22 years and providing on-going revenue and capital project benefits throughout this period.

### 8.1 Context

**tie** commissioned the development of a Preliminary Business Case (PBC) with two objectives:

- To demonstrate the financial viability of the ITI package;
- To review the robustness of the project costs and revenues, including cash flow projections and revenue forecasts, and to identify appropriate procurement and funding strategies for the component parts of the ITI

Grant Thornton, in association with Babbie Group and Steer Davies Gleave (SDG), were appointed by **tie** to develop the PBC. Only the key points of their full report [Ref 37] are reproduced in this Section.

The work led by Grant Thornton has been called a **Preliminary Business Case** as the ITI is still at a preliminary stage of development, with many elements of the investment package in particular still being at the pre-feasibility stage. The PBC is not intended to provide the same degree of robustness or level of detail of a more conventional Outline Business Case, but is considered appropriate for the current stage of the ITI. The work carried out comprised:

- The development of a financial model for the ITI, and its use to examine a range of package options, including examining sensitivities to cost and revenue forecasts;
- A review and benchmarking of the land-use transport model developed by MVA consultants on which the revenue forecasts for the congestion charging scheme are based;
- Reviews of the various elements of technical work relating to the ITI investment package and congestion charging operation on which the cost assumptions included in the financial model are based;
- Advice on funding and procurement strategies to incorporate in the model;
- Assessment of risk and development of a risk mitigation strategy.

### 8.2 Financial modelling

The ITI is a package of transport improvements valued at over £1.5bn at today's prices that would be funded not only from congestion charging revenues, but from a wider mix of public and private funding, over a defined period.

Key financial inputs to the model are:

- Road user charging income – based on transport model forecasts;
- Tram revenue streams (net farebox income) – based on pre-feasibility studies;
- Public sector funding made up of two elements:
  - A contribution of £375m to the tram project specifically linked to the ITI;

- Continuing borrowing consents and/or grant corresponding to the levels of funding made available in recent years (through S94 consents, Public Transport Fund and Integrated Transport Fund) of around £10m per annum.

These are supplemented by commercial borrowings where required requiring repayment from the road user charging revenue stream.

This money is used to fund

- Capital, lifecycle and operating costs associated with the three tram schemes, and tram extensions where appropriate, and the broader package of measures to be undertaken as part of the ITI;
- Contribution to rail schemes;
- Capital, lifecycle and operating costs associated with the implementation of the RUC scheme itself;
- Repayment of borrowings.

A review of the costs and revenues is summarised in the next section.

The model was developed to assess the impact of undertaking the ITI project, with a substantial proportion of the funding coming from road user charging revenues. With this in mind the model had a number of drivers:

- To reflect the most appropriate procurement route for each project;
- To identify the most appropriate funding source for each project; be that public sector borrowings, commercial funding, RUC income or a combination thereof;
- To prioritise individual projects in such a manner as to maximise the contribution to the Local Transport Plan and congestion relief;
- To work with realistic timescales for the delivery of all projects, and in particular the keynote tram schemes.

The final step was to match the projected revenue streams (RUC, public and private funding) to the project outflows on the basis of the four criteria above to reflect an overall project which best fits with the objectives of the ITI. Two further overriding considerations were built into the process. Firstly the model needed to maintain an achievable, but realistic timeframe for the project, and secondly, the funding costs payable by **tie** were kept to a minimum.

The modelling analysis has been constructed as indicated above utilising a number of key variables to identify the optimum ITI package. In assessing the options available three principle scenarios have been considered:-

- A single City Centre cordon (Option A of the consultation process: see Section 6.1);
- A double cordon (Option B of the consultation);
- A variant scheme taking account of the outcome of the consultation process and presented in this report as the Preferred Package (but referred to in the PBC as the 'Hybrid' option).

Financial models have been developed for each of these packages taking into account the preferred procurement and funding routes discussed in detail in the Grant Thornton report. The double cordon, Option B, has been considered first as the option with the largest potential income.

The conclusions for each are set out in more detail below, and are intended to indicate scale and timing issues around each option. All costs quoted are at 2002 prices. They are intended to indicate what can be achieved with an ITI relating to each option: they must be seen as preliminary, with considerable further development work required.

### *Double cordon*

The double cordon option is estimated to generate charging revenues of £87.6m p.a. A twenty year charging period was selected as an appropriate overall timeframe for the project. Given these inputs, the model allows all the key projects to be delivered to the agreed timetable, and the majority of smaller projects to commence at the very outset of the scheme. Highlights of this option are set out below.

- Procurement of North and West tram start in 2006, with the schemes operational by 2009;
- South East tram procurement starts in 2009 and is operational by 2012;
- The contribution to rail of £125m is received in two phases, firstly £115m between 2007 and 2013, and an additional £10m in 2009;
- The bus priority scheme linking South Gyle and the New Edinburgh Royal Infirmary is completed in two phases, firstly £17m in 2006-2008, and the second phase in 2015-2017 of £55m;
- Tram extensions to beyond the city boundary are scheduled to take place between 2011 and 2016 at a cost of £280m;
- City Centre enhancements are scheduled from 2006, with a budget of £40m;
- The majority of smaller projects are brought on line in the first two years of the scheme;
- Maintenance expenditure over the period is scheduled to be a total of £182m, over the Edinburgh and Sustran areas.

### *Single cordon*

The single cordon is estimated to generate charging revenues of £46m p.a. for 2006. A twenty year charging period is again selected as an appropriate timeframe for the ITI. The single cordon model reduces the income flowing into the scheme by approximately 48%. As a result a much smaller package of schemes is achievable under this scenario.

The package of schemes for inclusion was identified by CEC and **tie**, and is intended to match the benefits of the transport investment with the areas impacted by charging. The schemes are therefore focused on the city. The headline schemes have been maintained, but many of the smaller projects had to be stretched, scaled down or indeed dropped altogether. The key points of this option are set out below.

- Procurement of North and West tram start 2006, with the schemes operational by 2009;
- South East tram procurement starts in 2010 and is operational by 2013.
- The contribution to rail is much reduced, at £35m between 2008 and 2016
- The tram extensions have been dropped, however there is sufficient funding later in the model to allow a contribution to rail or light rail. This comes in two phases, £10million between 2014 and 2017 and £70m between 2021 and 2026.
- The second phase of the bus priority scheme linking South Gyle and the New Edinburgh Royal Infirmary is dropped. Only the initial £17m between 2006-2008 is included.
- City Centre Enhancements are scheduled between 2006 and 2015 at a total value of £40m
- The total spend on projects of a revenue nature decreases by approximately one third. Projects excluded are a number of the bus improvement schemes in out lying areas and the maintenance contribution to the areas outside the city centre.



- Maintenance expenditure over the period is scheduled to be £49m, over the life of the project, a much reduced annual allowance compared to the double cordon. Accordingly, an additional "catch up" programme of works accounting for £45m is scheduled to take place in 2016-2020 within the Edinburgh area.

#### *Variant scheme (Preferred Package)*

The proposed Preferred Package, a double cordon with the outer cordon operation during the morning and evening peak periods only, generates estimated RUC revenues of £72.2million p.a. for 2006. The package tested also includes the decision to reduce the charging period on the double cordon to 6.30pm which reduces estimated revenue by £4.6m p.a. to £67.6m. To compensate for the reduced period of operation, a twenty-two year charging period has been selected in this case.

The package of schemes for inclusion is based on the full double cordon option, but this cannot be fully funded. Appropriate adjustments to the package were identified by CEC and **tie**, and are again intended to match the benefits of the transport investment with the areas impacted by charging. The key points of this option are set out below.

- Procurement of North and West tram start 2006, with the schemes operational by 2009;
- South tram procurement starts in 2010 and is operational by 2013.
- The contribution to rail is much reduced, at £35m between 2008 and 2015
- An additional allowance of £140m is available to fund a contribution towards rail or light rail. This is included in the model in two phases, £40m between 2014 and 2019, and £100m between 2022 and 2028.
- The bus priority scheme linking South Gyle and the New Edinburgh Royal Infirmary is completed in two phases, firstly £17m in 2006-2008, and the second phase in 2015-2017 of £55m.
- City Centre Enhancements are scheduled between 2006 and 2015 at a total value of £40m
- The total spend on projects of a revenue nature is equivalent to that spent in the double option, at approximately £39m per annum on average. The projects dropped or scaled down within the single option are reinstated.
- Maintenance expenditure is scheduled to be £188m over the life of the project, which equates to an annual average figure only slightly below that of the double option (£7.3m double, £6.9m Preferred Package per annum average figures).

#### *Sensitivity tests*

The costs and revenues included in the packages are as robust as they possibly can be, with the requisite levels of contingency considered appropriate by the consultants, given the stage of development each individual element. However it is recognised that the model is built up from estimated figures and a degree of residual risk surrounding a number of key inputs remains

In order to address this, a series of sensitivities have been applied to the Preferred Package. The sensitivity is intended to reflect a realistic potential down side outcome on the basis of previous experience and expertise, with a balanced view of the likelihood of the combined outcomes in the three major risk areas identified. This 'worst case' position can demonstrate the robustness of the ITI scheme as a whole. The elements included in this scenario are:

- RUC revenue reduced by 10%;
- Tram revenue reduced by 20%;
- Tram capital cost overruns of 25%.



Within the model the worst case scenario was solved in two different ways. Firstly, the package of transport schemes was assumed to be unchanged, as was the capital grant and all other assumptions. The result is a major funding deficit, reaching £1,093 million at the end of the twenty-two year operational period, when investment in projects was stopped. It was then assumed that the RUC income stream would continue until the scheme eventually broke even. This was found to be in 2041, 13 years after the end of the project.

The second method of solving the worst case scenario was to reduce the package of projects delivered, and adjust the timing of delivery in order to avoid additional borrowings. Under this scenario, all the major schemes were delivered, including the three tram lines, the £35m contribution to rail, and the city centre enhancements. However, a total of 24 of the smaller packages, plus the second phase of the orbital bus scheme linking South Gyle and the new Edinburgh Royal Infirmary have to be excluded from the package. The additional contribution to rail/tram extension is reduced to £82m from £140m. These amendments have a total value of £344m. The remaining smaller scale projects, including maintenance, the majority of bus improvement projects and the social inclusion schemes are retained.

These sensitivity test demonstrate that in the worst case situation the majority of schemes, including the headline tram network, can still be implemented within the assumed timeframe. This highlights the flexibility within the overall scheme provided by the large number of smaller packages of work identified. Additional flexibility is introduced by extending the overall timescale for the project in order to recoup additional funding costs. In reality it is likely that a balance would be found between the two, achieving the best overall solution through a combination of extending the charging period, and amending the transport packages.

### **8.3 Costs and revenues**

The Preliminary Business Case includes an analysis of the quality of the cost and revenue information that has been derived from a range of sources in developing the various elements of the overall ITI package. These relate to project costs, the costs attached to operating the charging scheme itself, and revenues predicted from the charging scheme. These are each considered in detail in the PBC and summarised below. The overall conclusion of the review is that these estimates are sufficiently reasonable and robust for the purposes of the PBC, and that the sensitivities carried out are appropriate at this stage.

#### *Project costs*

Each potential transport intervention was reviewed to:

- assess the technical feasibility and deliverability of the individual proposals;
- assess the adequacy of the estimated implementation and operating/maintenance costs of the individual proposals to inform the financial modelling exercise;
- identify technical issues that should be considered in developing the proposals further; and
- comment on project implementation risks.

The tram schemes are at an early stage of development. Further detailed work is being undertaken on both the North Edinburgh and West Edinburgh schemes which will be available to support an Application in Detail. By that time it is also anticipated that the South East Edinburgh scheme will have advanced to a stage where there will be a higher degree of confidence in the estimates available.

Identification of detailed costs for heavy rail schemes, particularly when they are some time into the future is problematic. The approach recommended of providing a sum to invest in heavy rail schemes as and when required is regarded as the most appropriate at the present time.

With regard to the non-rail based schemes, the majority of projects are at the earliest stages of planning and development. The overall level of contingency for these schemes is quite low, but this reflects the diverse nature of the schemes themselves. In many cases, the initiatives can be budget limited, and in these cases additional contingencies would not be appropriate.

On the basis of the review of the existing information it is concluded that:

- The financial model base case information is reasonable and is sufficiently robust for the purpose of this Preliminary Business Case; and
- There can be a high level of confidence that the capital costs, capital cost contributions and the operating costs for the transport projects included within the ITI package will fall within the range represented by the financial model base case and sensitivity case.

#### *The road user charging scheme costs*

On the basis of work previously carried out for CEC by Ian Catling Consultancy (ICC) [Ref 47], tie has chosen ANPR technology as an appropriate reference system for the collection of road user charges. This has been costed within the financial model. It should be noted that if a Public Private Partnership approach is taken to procurement, then it would be at the discretion of the operator to determine the most appropriate technology to meet the requirements specified.

The implementation, project life cycle costs, and marketing and customer services costs of the proposed congestion charging options identified in the ICC report seem realistic to a first order of accuracy. The financial estimates are subject to an uncertainty margin, since prices are given while the required quality threshold has not been fully specified. However, the estimates provided are regarded as sufficiently accurate for the purposes of this Preliminary Business Case.

#### *Road user charging revenues*

Forecasts of revenue are based on a sophisticated transport model (the TRAM model) described more fully in Section 5.2. The model identifies the impact of the proposed congestion charging scheme on congestion, trip diversion and modal shift in and around Edinburgh, and hence can estimate likely charging revenues taking all these factors into account. Modelling such a complex scenario is an extremely difficult task. As a consequence a separate high level model was developed against which to benchmark the outputs from the TRAM model.

The high level model has provided confidence that, given a set of inputs and behavioural responses, the revenue forecasts are realistic and defensible. The high level model therefore provides support to decisions that will be based on outputs from the TRAM model. The degree of correlation between the two model analyses under both the single and double cordon congestion charging regimes is also expected to occur under other charging regimes, including the AM and PM Peak variant congestion charging option.



Despite this consistency, the estimated revenue stream is still subject to other sources of uncertainty due to:

- Ignored effects: including trip re-timing and complex trip chaining; these two effects have been incorporated in a very aggregate form in the high level model.
- Data specification errors: including reliability of the trip matrix, the willingness to pay tolls and the parameters of the behavioural model.
- Uncertainty in exogenous inputs: including future income growth, taxation, transport legislative frameworks, vehicle fuel prices, public transport fares, ramping up effects and competition effects.

A consideration of the first two types of uncertainty would suggest a downside revenue estimate 25% below that forecast by the TRAM model and an upside 10% above the model revenue estimate. The third type of uncertainty is difficult to quantify without undertaking additional model runs. These have not been possible and therefore uncertainty of the revenue due to variations in some of the exogenous inputs has not been quantified.

The similarity between the results emerging from the two models gives sufficient confidence that the revenue assessments from the MVA model can be used for the purposes of the financial model within the Preliminary Business Case. Further refinement will be required of the MVA model to address the issues identified above.

#### **8.4 Risk assessment and action plan**

One of the critical success factors for the ITI project will be the treatment of risk, both at an individual transport/road user charging package level, and, perhaps more fundamentally, at the overall project wide level. The risk assessment carried out as part of the PBC relates to risks affecting the ITI package as a whole, rather than those relevant to its individual elements. The latter will need to be incorporated into the development of individual projects, and work is currently being commissioned by **tie** in this respect for the tram schemes.

As summarised in Section 8.2 above, sensitivities have been run using the financial model designed to simulate a number of the key project risks, such as capital cost overruns on tram schemes, and reduced levels of road user charging income. These sensitivities are designed to test the financial robustness of the ITI package as a whole.

A review of the various risks perceived to have the potential to impact upon the successful implementation of the project has been undertaken by **tie** and its advisers. A risk mitigation strategy has been developed for each to minimise, where possible, their likely impact on project delivery. A definition of the project's objectives was agreed between **tie** and advisers to facilitate and focus the risk identification process. This is: "to secure an approval for an integrated transport initiative for South East Scotland and, in so doing, to secure approval in principle from the SE in late 2002 and approval in detail by Autumn 2004"

The risks identified were categorised into the following groups:

- Political-national: The risks associated with decisions required to be made by the SE in order for the project to achieve fruition. These risks can generally be categorised as Ministerial decisions, and regulatory/ procedural issues.
- Political-local: The risks associated with the political landscape within City of Edinburgh Council, and how these may impact on the scheme.
- Acceptability of scheme: The risks associated with the perception of the scheme, from individual members of the public to all variety of interest groups. This, to some

extent has been reflected in the recent public consultation and market research exercises.

- Funding- public sector: These risks represents the potential issues in relation to procuring sufficient public sector support on a timeous basis, to allow the project to proceed as envisaged.
- Funding- private sector: This risk category reflects the inherent uncertainties within the project at its current stage of development, and the funding market's appetite to support the initiative, and accept a balanced risk/reward position.
- Robustness of transport model: One of the key elements of the Preliminary Business Case is the financial model which pulls together the various underlying assumptions regarding the revenue streams and the transport packages deliverable using this revenue. The robustness of the revenue streams generated by the transport model is therefore fundamental to this Preliminary Business Case.
- Robustness of Preliminary Business Case: The risk that the underlying inputs to the Preliminary Business Case are not ultimately deliverable in terms of the various revenue or costs input streams.
- Delays to Preliminary Business Case: The risk that there is a delay in one or more of the workstreams feeding into the Preliminary Business Case, and the deadline for submission is not achieved.
- **tie** procedural/deliverability risks: The risks associated with **tie** as the operating vehicle driving the project, in terms of resources, experience, expertise.
- Procurement risk: The risks associated with taking the various elements of the project to market, and ensuring a sufficient level of interest is raised in order to run competitive tendering processes.
- Up-front Projects: This risk is largely related to the acceptability of the scheme. It focuses on the various short term transport projects which would lay a sound foundation for the scheme, and could be implemented between now and the 2006 proposed start date.
- Technological risk: The risk relates to the effectiveness of the road user charging technology and potential for obsolescence.
- Competition risk: This risk reflects the key concern for **tie** and CEC surrounding integrated transport policy, and in particular the question of bus/tram integration.
- External risk: The final category of risk picks up a number of extraneous factors which may have an impact on the overall success of the ITI package, for example the success or otherwise of the London RUC scheme.

The risks together with the mitigation strategies are identified in detail in the PBC and its appendices. The risk documentation is subject to regular review and updating in order to manage proactively the identified risks.

## 8.5 Procurement and funding

### *Procurement routes*

The PBC reviews procurement options available to **tie** to deliver the various schemes within the ITI package. Selection of the appropriate procurement strategy for the individual projects will be determined closer to the date of that process commencing by the teams working on those particular projects. The routes chosen for the purposes of the PBC: a mixture of traditional procurement and Design, Build and Maintain with separate operation, have been reflected in the financial model.

A variety of procurement models have been used for transport schemes within the UK with varying degrees of success. While many projects have progressed relatively smoothly some schemes have suffered from factors such as poor early development,



overly aggressive risk transfer proposals, inappropriate funding structures and lack of foresight regarding future extensions.

There are options to be considered between an integrated contract to cover the construction, maintenance, finance and operation of the scheme to separating all of these functions. The issues arising from separation will include the degree of risk transfer achieved, creating a smooth interface between the various strands and safety case issues.

In its role as project manager for the procurement of the ITI package it is critical that **tie** gathers as much information as possible to avoid the pitfalls which have caused problems for other projects.

#### *Funding considerations*

The fact that the PBC is considering a package solution rather than individual projects changes the nature of the funding considerations. This is due to the differences in the risk profile as a consequence of the availability of road user charging revenue to support debt service. **tie** will need to actively manage the ITI package cash flows to ensure that the optimum financing structure is achieved and maintained throughout the lifetime of the ITI package. A funding package offering the maximum degree of flexibility is considered to be the optimum solution and a project funded option with variable repayment profiles to match the cash flows is recommended and has been used within the financial model.

Considerable public sector funding support (amounting to £375 million at 2002 prices) is required at the early stages of the ITI package in order to part finance the major tram projects when the capital expenditure is incurred. This support is required

- to ensure public acceptability through the early delivery of credible alternative public transport solutions;
- to facilitate the development of these major schemes when there is insufficient evidence of the revenue profile generated through road user charging to secure significant tranches of private funding; and
- to facilitate the funding of the overall ITI package using road user charging revenues for the balance of the schemes.

The financial models developed for the single cordon and double cordon options demonstrate the scope of the schemes from the ITI package could be delivered under each option within a 20 year timeframe.

#### *The Preferred Package*

The variant option incorporated into the Preferred Package for the ITI enables lines 1, 2 and 3 of the tram network to be completed albeit with a one year delay on the South East Line. It also provides £140 million towards light rail extensions or heavy rail projects (over and above the £35 million contribution to rail within the City Centre). The Preferred Package maintains the same level of investment as the double cordon option in the smaller projects such as the bus improvements, minor environmental and social inclusion packages. It also allows the expenditure on maintenance to be funded to a level recommended by CEC.

The Preferred Package requires £375 million of SE funding over the first 8 years of operation of the road user charging scheme to support the development of the tram network. In addition, it requires a further £10 million per annum of continued Section 94/PTF support. The Preferred Package uses £229 million of private sector funding by

way of project debt. The total value, both capital and revenue, of projects funded is £2,084 million. To deliver the preferred ITI package takes 22 years from the commencement of charging, with the majority of the projects completed within the first 8 years of the scheme.

The financial modelling work runs at nominal prices taking account of inflation over future years. This gives a different set of costs to those based on 2002 prices. For comparison, both sets of figures are given in Table 8.1.

Table 8.1: Comparison of cost bases for the Preferred Package

	Nominal prices	2002 prices
Total project cost (capital + revenue costs)	£3,041m	£2,084m
Net project cost (allowing for farebox revenue)	£2,409m	£1,576m
Capital and operating cost of charging system	£369m	£218m
Scottish Executive funding contribution	£450m	£375m
Private sector funding (project debt)	£323m	£229m

## 9 Taking the Initiative Forward

### 9.1 Role of tie

**tie** was registered at Companies House in April 2002 and the first formal board meeting took place on 3 May 2002. The Company is a private limited company with a share capital of £1,000 and is wholly owned by the City of Edinburgh Council. The objects of the company include “to promote, support and/or effect the development, procurement and implementation of projects defined or referred to in an integrated transport strategy as determined and reviewed from time to time by The City of Edinburgh Council.”

In effect this requires the company to:

- Develop, finance and procure certain major transport schemes identified in the Council’s LTS;
- Develop the business case for congestion charging for submission to CEC and the Scottish Executive and, on approval of that business case, to procure the implementation and operation of the scheme;
- Manage the finances arising from congestion charging and to invest these, along with other sources of public and private funding, to deliver additional transport infrastructure improvement.

The company structure involves a board of seven non-executive directors, four from the private sector including the chairman and three from CEC. At present the company is staffed by a mixture of staff seconded from CEC, direct employees of **tie** and staff seconded to the company from elsewhere. It is intended to rationalise this situation before the start of financial year 2003/4.

**tie** is seen as a key element in improving the quality of public transport in the city and its surroundings through effective delivery of schemes identified in the LTS and in this ITI. There is a major task to be performed to procure and deliver these schemes, some of which will be achieved through a traditional procurement route and some through a public/private partnership or joint venture approach.

The time-scale for delivery of these schemes will range over some 10 to 15 years and it is likely that new schemes will emerge during this period which require to be implemented. It is intended that **tie** would provide the procurement, project management and finance management capability to take forward a number of these projects. The projects to be delivered by **tie** will be agreed with the Council, and will focus in particular on the major schemes in the programme.

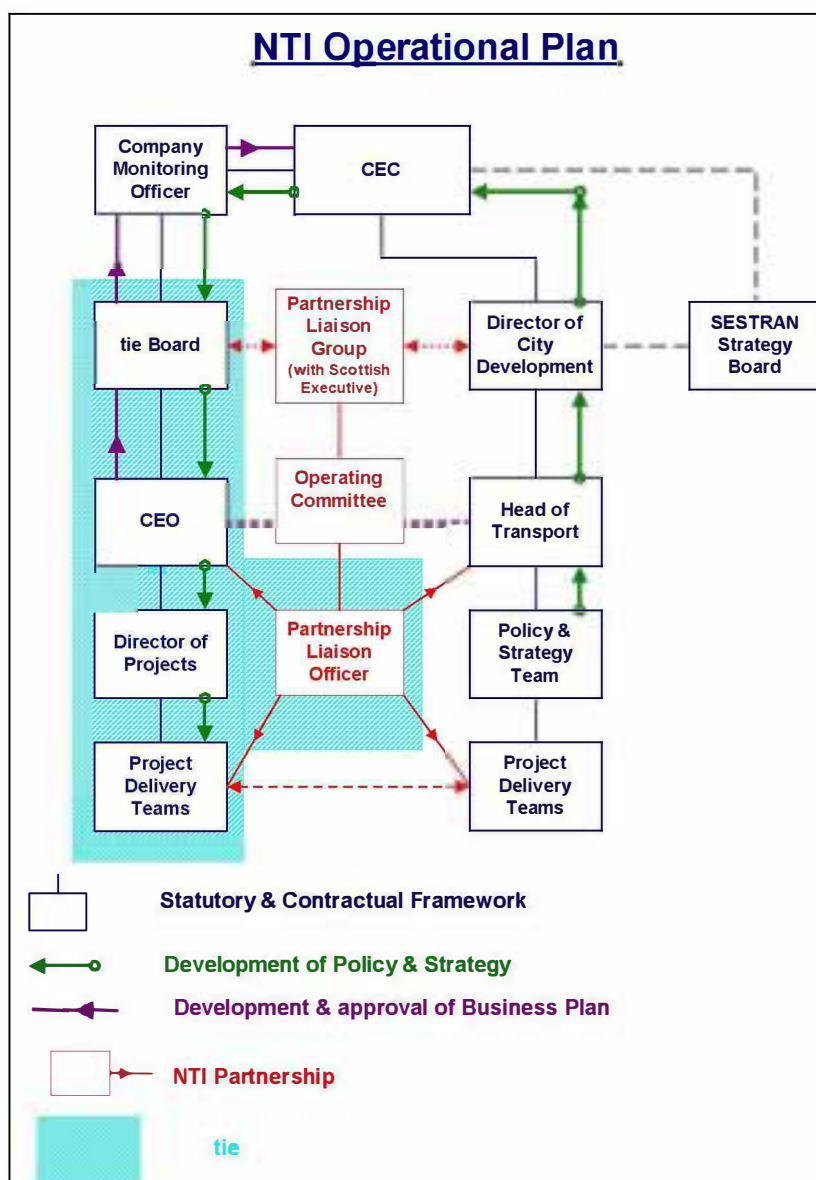
A second major element of work for **tie** is the development of the proposed congestion charging scheme business case, procurement strategy, implementation and funds management. The core team that has transferred from CEC to **tie** has led the development of the charging scheme to date.

**tie** is seen as a means of addressing the development and resourcing issues by way of the establishment of a dedicated project management and procurement resource for these projects. **tie** is not responsible for the strategic direction or key transport policy matters nor decisions on the level of charge to be applied. These issues remain within the control of CEC or, for those policy issues relating to their own geographical area, the neighbouring Councils.



Figure 9.1 sets out a diagrammatic representation of how the relationship between **tie** and CEC, SESTRAN and the Scottish Executive operates. The key working relationship is between **tie** and the Transport Function of CEC's City Development Department on a day to day basis, but the strategic role of the Scottish Executive is fundamentally important to the success of the projects. The NTI operational plan illustrates this at a high level. There are three formal interfaces between the City Council and **tie**.

Figure 9.1: NTI Operational Plan



Firstly, the Partnership Liaison Group which meets quarterly. The members of this Group include the Deputy Minister, a senior civil servant, the Chairman of **tie**, CEC's Director of City Development and Director of Finance, and the Executive Member for Transport. The key functions of this group are:

- Ensuring that both **tie** and CEC fulfil their appropriate roles
- Monitoring of project progress
- Review of transport policy fit with **tie** projects
- Liaison with Scottish Executive

At the level below this an operating committee comprising senior staff from the City Development Department and **tie** and including the chairman of **tie** and the executive member for transport has been established to deal with strategic operational issues between **tie** and CEC.

Finally a Partnership Liaison Officer has been appointed to act as the day-to-day interface between **tie** and the Transport Function. The nominated individual to fulfil this role is the Project Integration Manager. This is a key role in ensuring that the activities of **tie** and the Transport Function do not overlap.

The NTI operational plan also illustrates how the necessary linkage to SESTRAN will be effected. A SESTRAN Strategy Board has been established, which provides input to the Council on wider policies and project priorities covering the region outwith the City. As this is a policy body it will interface through CEC and the Director of City Development. Given CEC's role as the policy setting entity it is intended that it will take projects through the conceptual and outline scheme configuration stages up to STAG Stage 1 level. Assuming a project receives approval to proceed from Stage 1 the next stream of work will require close liaison between the Transport Function and **tie**.

The second stage of project development requires detailed technical, financial and legal work which is the principal function of **tie** and external experts. However there are also public consultation requirements and key political issues to be addressed at this stage which means that a partnership arrangement is required to progress the projects effectively.

The final stage will be the actual procurement phase of the project. **tie** will manage this phase and the related financing and legal issues using its own and external resources as appropriate depending on the scale and nature of the project.

The key objective of the partnering process is to set clearly defined tasks for **tie** and the Transport Function. Agreement has been reached based on **tie** undertaking the following principal workstreams:

- Development of the Business Case for the New Transport Initiative project
- Development of the STAG stage 2 submission and Parliamentary Order for Edinburgh Tram Line One and related public transport modelling.
- Development of the STAG stage 2 submission and Parliamentary Order for Edinburgh Tram Line Two (West Edinburgh)
- The development of both Tram Line 1 and Tram Line 2 require advice on Legal, Financial and Public Relations issues. These three work streams have been procured to cover both lines 1 and 2
- The City of Edinburgh Council has made a submission to the Scottish Executive for Public Transport Funding to cover the development of Tram Line 3 through to parliamentary approval. It is assumed that line 3 will be developed by **tie**.
- Development of the West Edinburgh Busway Scheme.

The five projects noted above represent the projects to be taken forward in the period to April 2007.

## 9.2 Evolution of **tie**

**tie** has been established as a project management, procurement and financing company. All policy formulation remains with the City of Edinburgh Council. Therefore up to the present, **tie** activities have been largely limited to project management and the associated financial support.

It has become clear since **tie**'s creation in May 2002 that effective implementation of a Integrated Transport Initiative in Edinburgh will require more than these defined activities to be addressed. Some of these additional elements are:

1. *Learning from Best Practice*

**tie** must interface with other authorities who have undertaken similar schemes to learn about what has worked and what has not. This work has already been embarked upon – but additional efforts in this direction, including looking at the continental experience, is desirable.

2. *Transport Integration*

It is essential that CEC and **tie** together assume strong leadership in ensuring that tram operations are blended successfully into the city's existing transport infrastructure, rather than merely 'pasted' on top. A first step will be to ensure that leading bus companies, specifically Lothian Bus and First Group, and others too, are involved now during the development phase of the schemes and a new senior level liaison group is to be established for this purpose.

Areas of mutual interest concern tram and bus schedules, design of street schemes to ensure tram priority, interchange locations and facilities, and integrated ticketing.

It has been discussed with the SESTRAN steering committee that **tie** should assume responsibility for implementation of integrated ticketing as a key part of an integrated approach.

3. *Development Gain*

A specific part of **tie**'s remit is to raise funds for new transport schemes from the increase in land value arising from their construction. This will certainly involve close linkage to existing Council planning activity, but may also involve the possible establishment of specialised vehicles that can participate directly in land ownership or property development. It is likely that **tie** will collaborate with other entities to achieve this.

4. *Communication, and Leadership*

Proactive communication of the ITI, including monthly progress updates, videos about the project and programmes, links to press and TV, will all help build understanding and enthusiasm for what CEC and **tie** will be trying to achieve.

Public relations leadership will be needed to ensure support from business and other city interest groups. Efforts are being deployed to establish and fund a core group provisionally called Transport Partnership Edinburgh, which could replicate the success of the Greater Nottingham Transport Partnership.

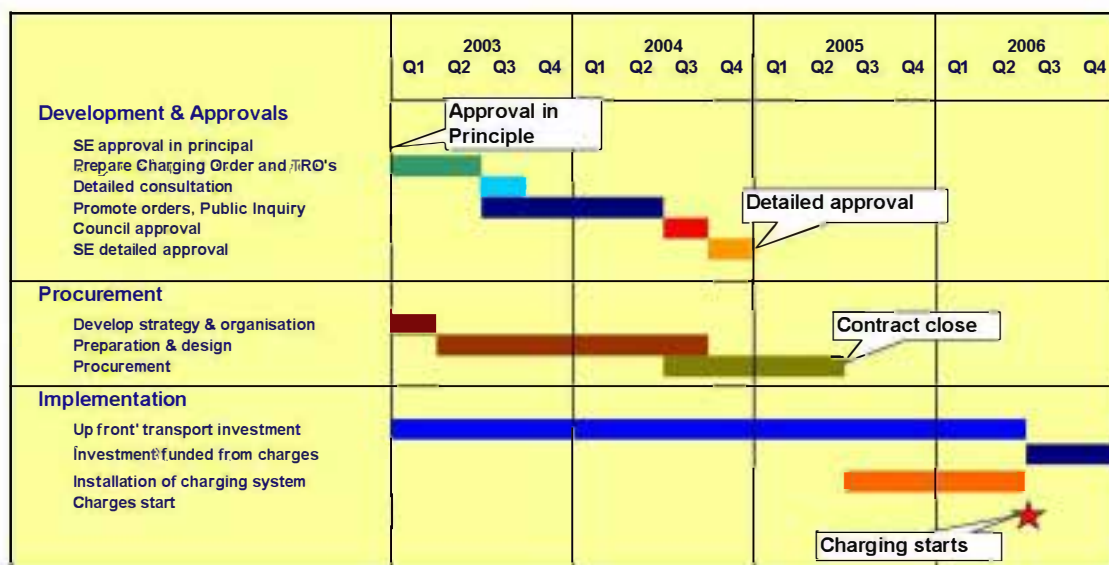
Partnerships UK have addressed the question of **tie**'s evolution and role in their report [Ref 45] and these issues will need to be considered further in the next stages of developing the ITI.



### 9.3 Work programme 2003-2006

The work programme proposed in the October 2001 application for Approval in Principle remains relevant, albeit that the timescales have changed slightly. Figure 9.2 sets out the proposed timetable, with a start of charging in mid 2006.

Figure 9.2: ITI future timetable



tie will prepare a detailed work programme linked with the Business Plan for 2003/4 due to be submitted to CEC by the end of this year. In addition to the core activities in developing the charging scheme by taking forward the statutory processes for implementation of the ITI, a number of work areas arising from the contents of this report will need to be developed jointly between tie and CEC.

These include:

- Further development of the overall package of transport improvements and the funding mechanisms to achieve it;
- Development of the individual projects within the proposed investment package;
- Identification and specification of further 'up-front' transport improvements prior to the start of charging, and bidding for the funding of these;
- Development of appropriate mechanisms to achieve an integrated framework for the operation of public transport services;
- Identification of any necessary mitigation measures to protect particular areas of the city that may be adversely affected as a result of the introduction of the charging scheme, with a special emphasis on North Edinburgh.

## APPENDIX 1: Work required by Scottish Executive

<i>Headings from SE guidance</i>	<i>Work requested following October 2001 application for Approval in Principle</i>	<i>Cross reference to report</i>
The Problem Congestion/environmental problems to be addressed	1. Illustrate congestion problems and consequences 2. Show reason for charging is to achieve traffic reduction targets of LTS 3. Show charging is solution (wholly or in part) to congestion; and to meeting air quality targets	Section 2.2 S 3.3 S 4.2, S 5.4
Local context Fit with LTS, Local & Structure Plan objectives	4. State clearly that charging reduces congestion with further contribution from downstream investment 5. Demonstrate stronger link with LTS and SESTRAN strategy, including same targets for traffic reduction 6. Greater focus on areas of city experiencing rapid growth	S 5.4 S 3.2 S 4.2, S 5.4
National/Regional Context Fit with SE transport objectives Objectives of and impacts on neighbouring authorities	7. Undertake further modelling work 8. Develop greater regional understanding of congestion & impact of transport measures of neighbouring authorities 9. Identify winners and losers in neighbouring authorities, and mitigating impact on losers	S 5.2 S 3.2, S 5.4 S 4.2, S 5.4, more for AiD
Development of proposal Narrowing down of options to one or two for detailed development	10. Identify single preferred charging scheme to take forward 11. Clarify congestion impacts of options before consultation 12. Undertake more consultation with people in neighbouring authority areas before making Order and submitting AiD 13. Consider consultation with individual business sectors & socially excluded 14. Use models that can assess combined impact of charging and investment 15. Describe why some projects favoured over others	Chapter 4 S 6.1 S 6.1 S 6.1, S 6.2 S 5.2 S 7.1, more for AiD
Proposed solution Overall package proposed (charging + transport investment)	16. Undertake cost benefit of key improvements before AiD 17. Justify why schemes selected as priorities – relate to targets/objectives 18. Look at effect of carrying out many simultaneous projects	For AiD For AiD For AiD
Impact of solution on SE 5 key objectives Plus Implementability, Feasibility	19. Undertake more detailed assessment of fit with SE 5 key objectives 20. Assess traffic impact of implementing simultaneous projects 21. Complete further modelling on local economic impacts	Appendix 2 For AiD For AiD (work in progress)
Extent of consultation Including business, community and stakeholders	22. More involvement of people in neighbouring areas in next consultation 23. Continue to use variety of consultation methods 24. Try to gain explicit support of business community than achieved to date	S 6.1 S 6.1 S 6.2
Delivery arrangements for the whole package	25. Consider structure and operational setup of ENTICO (tie), with PUK 26. Establish ENTICO (tie) and report with assessment of NTI by 30/9/2002	Chapter 9, PUK report [Ref 45] This report
Delivery of 'up-front' investment Improvements, funding, timescale	27. Justify benefits of up-front investments and ability to improve choice 28. Refer to all improvements in journey to work area	Funding bids S 7.3
Future work programme	29. Develop AiP proposals in light of above points 30. Focus on timely delivery of up-front projects 31. Make all effort to adhere to NTI timetable	This report Agreed Agreed
ANNEX C: Responses to the Application in Principle	32. Respond to points made by respondents: W Lothian, Fife, Midlothian, Scottish Liberal Democrats (CEC), NETCO	Appendix 3

## APPENDIX 2: Revised STAG1 AST



Part 1 AST

Proposal details			
Name and address of authority or organisation promoting the proposal		City of Edinburgh Council	
Proposal name	Integrated Transport Initiative for Edinburgh and South East Scotland (New Transport Initiative): Option - AM & PM Variant Cordon Congestion Charging with High Investment NTI Package	Name of Planner	
Proposal description	<p>The proposal is for a transport investment package throughout the journey to work area for Edinburgh together with congestion charging within Edinburgh. The main components being considered include a new tram system, improvements to the bus network, enhancing the rail network, public transport customer care, park and ride, road maintenance, pedestrian routes, cycle facilities and city centre environmental improvements.</p> <p>The preferred congestion charging option will comprise</p> <ul style="list-style-type: none"> <li>• a city centre cordon operating from 7am to 6.30 pm combined with</li> <li>• an outer cordon operating from 7am to 10 am and 4pm-6.30pm.</li> </ul> <p>The charge will be £2 levied on inbound trips crossing either cordon with a maximum charge per day of £2 for any one vehicle.</p> <p>The relationship between the investment package and the congestion charge is based on the fair treatment of who pays and who gains and will cover the journey to work to Edinburgh area.</p>	<p>Estimated costs</p> <ul style="list-style-type: none"> <li>• Capital (<i>undiscounted</i>)</li> <li>• Annual</li> </ul>	<p>Estimated costs</p> <ul style="list-style-type: none"> <li>• Capital – public transport £1057m; road user charging £11m</li> <li>• Annual PT £71m per annum</li> <li>• Annual RUC £9m per annum</li> </ul> <p>note: re-estimated rail costs used for this estimate</p>
Funding sought from (if applicable)		Amount of application (if applicable)	

Proposal background	
Planning objectives	<p><b>To improve accessibility</b> – improvements, particularly for people without access to a car, on low incomes or whose mobility is impaired are fundamental to the achievement of both the social inclusion and economic development elements of the transport vision</p> <p><b>To reduce pollution and environmental damage caused by traffic</b> – this is fundamental to the achievement of the environmental / sustainability aspiration and will contribute to the achievement of the safety element of the transport vision</p> <p><b>To reduce traffic congestion</b> – this is fundamental to the achievement of economic development and environmental aims</p> <p><b>To make the transport system safer and more secure for both users and non-users</b> – this is fundamental to the achievement of the safety and community elements of the vision and will contribute towards achieving the environmental and social inclusion elements</p>
Performance against planning objectives	The transport investment package together with each of the congestion charging options considered were all deemed to meet the planning objectives set out above to a lesser or greater extent. The proposal would provide much more choice in getting around. Less traffic would mean less pollution and congestion, and there would be fewer accidents particularly for vulnerable groups such as pedestrians and cyclists.
Alternatives to proposal considered	<p>In addition to the preferred option, 9 other options were evaluated: in each of the charging options, a high or low investment package was evaluated: these tests were undertaken on the basis of a 7AM to 7PM charging regime.</p> <ul style="list-style-type: none"> <li>• A base case with no congestion charging: all options were evaluated against this case</li> <li>• A scheme involving doubling of parking charges</li> <li>• A single cordon with "low investment package"</li> <li>• A double cordon with "high investment package "</li> <li>• AM and PM hybrid with high investment: in this the inner cordon is charged for 12hrs and outer cordon is charged AM (7-10) and PM (4- 7));</li> <li>• AM only variant with high investment: in this the inner cordon is charged for 12 hrs and the outer cordon is charged AM only (7-10));Variant on the low investment package (switch in funding between trams and rail schemes); and</li> <li>• - 2 variants on the high investment package.</li> </ul>
Comment on performance of alternatives	<p>The parking charges option fails to deliver sufficient decongestion benefits to meet scheme objectives, with in particular a lower scale of public transport benefits.</p> <p>The preferred option performs better than all others in terms of decongestion benefits. Toll revenues are lower than the</p>

Proposal background	
Comment on performance of alternatives (cont.)	<p>all day double cordon option and the high investment package which was used in the tests takes longer to deliver; however, a reduced public transport investment package which will be tested in the next stage of the programme is expected to deliver a higher benefit cost ratio than the high investment package.</p> <p>Market research undertaken as part of the extensive public consultations on the proposals indicate that as much as 49% of the population would accept congestion charging as part of the NTI package.</p> <p>There is no significant difference between any of the options in terms of environmental effects, although this does not take account of impacts associated with specific proposals for infrastructure improvements and other proposed measures. In general terms, the more additional or improved infrastructure included in the package, the more environmental impacts and people affected there will be. These may be positive or negative. However, the options appraisal and EIA processes will help ensure that significant negative environmental effects are avoided. By the same token, it is also not possible to take account of local environmental improvements that will be provided.</p> <p>The full double cordon option less well than the preferred option in terms of decongestion benefits as the preferred option, but provides a greater level of toll revenues. However, public consultation strongly indicated that this option was not as acceptable as the preferred option, and has been rejected on this basis.</p>
Rationale for selection of proposal	<p>The main criteria for selecting a preferred option were:</p> <ul style="list-style-type: none"> <li>• decongestion benefits;</li> <li>• environmental improvement;</li> <li>• improved public transport accessibility; and</li> <li>• public acceptability.</li> </ul> <p>The modelling undertaken for this exercise looked at combinations of both congestion charging options (single cordon, double cordon options or variants on these) and NTI investment packages (NTI high and low packages: within these there were several variations in terms of where investment was focused).</p>
Rationale for selection of proposal	<p>This approach had in effect to pre-determine the likely public transport investment packages that would be implemented alongside road-user charging. Therefore the components of these packages are not optimal in the sense of maximising the time stream of benefits from investment of the road user charging revenues. In the next stage of the programme, it will be necessary to optimise the public transport investment package to both deliver maximum benefits (to both public transport users and to encourage modal shift) within an affordable funding package, determined in part by the toll revenues from road-user charging. This optimisation work still needs to be undertaken.</p> <p>The selection of the preferred options is therefore primarily based on the decongestion, environmental and public acceptability benefits, with the optimisation of the public transport investment package to be finalised in due course.</p>



<b>Proposal background</b>	
	<p>All options to date indicate that the public transport investment perhaps deliver larger-scale benefits, though the high cost of the packages suggest that some perhaps are not, on the basis of results to date, economically viable. It is apparent that the model has under-estimated public transport benefits, based upon the benchmarking of benefits for individual Tram schemes compared with other studies. Accordingly an adjustment has been made to these benefits to more realistically capture them, and this adjustment has been included in the NPV and BCR estimates.</p> <p>The preferred option delivers the highest level of decongestion benefits but is more publicly acceptable. The preferred option provides more tolling revenue than any of the single cordon options and would therefore deliver a greater scale of public transport improvements while still being publicly acceptable.</p>
<b>Spatial and social information</b>	
Area context: general	<p>Edinburgh, the capital city of Scotland, is recognised world wide, for its culture, history and townscape, its vibrant economy, as a tourism destination and for the quality of life. The city has a thriving, bustling centre, which has a mix of residential, commercial and retail uses, all of which are complemented by a stunning and unique setting. Central to Edinburgh's success is the mix of uses in the central Old and New Town area, which was designated a World Heritage Site by UNESCO in 1995. Residential, retail and academic occupants successfully co-exist alongside the city's large and growing service sector, where financial services, tourism and, more recently, information technology industries are all key players. The proposed ITI could affect all those who travel in and around the city for work or leisure.</p>
Economic performance	<p>The city is currently experiencing high levels of economic growth compared to the rest of Scotland and UK. Levels of unemployment are at a record low and there are major development proposals and pressures at a number of locations in and around the city. The cumulative effect of these factors together with rising house prices is the need to import an increasing percentage of the workforce from the surrounding areas. This in turn will put intense pressure on the existing transport systems.</p> <p>The following impacts are provisional estimates and are based around the high investment package, which is larger than that which would be implemented in practice under the peak hour outer cordon variant scheme., and therefore by optimising the public transport package based on a lower total level of expenditure it is expected that the NPV and BCR outcomes can be improved. On the basis of these and other assumptions (noted below), the scheme delivers a positive NPV of £593m and a benefit cost ratio of 1.31:1 based on 6% discount rate (£1285m and 1.55:1 at 3.5% discount rate. These estimates are provisional and are based on 10% upward adjustment to public transport benefits to capture those not included in or inadequately captured by the model. Growth across all modes of 1% per annum used for projections.</p>
Deprivation / social exclusion	<p>There is evidence of spatial concentrations of socially excluded people. There are five Social Inclusion Partnerships (SIPs) in Edinburgh.<sup>1</sup> In some SIP areas 44 to 51 percent of dependent children are in workless households - compared to 17</p>

<b>Proposal background</b>	
	percent for the whole of Scotland. Up to 76 percent of children live in households with below 60 percent of the mean household income in the Edinburgh SIP areas - compared to 41 percent for the whole of Scotland.
Planning and environment	<p>A Structure Plan Review is currently being undertaken in response to forecasts that employment and population in the city and its catchment area will grow significantly over the next 15 years. There are existing major development proposals for the city centre, Waterfront, Edinburgh Park and South east Edinburgh, and major pressures in other areas, in particular at the Western edge of the city. The environmental quality of the city centre needs to be improved to sustain its role as the focus of tourism, retailing and business activity in the area.</p> <p>Model outputs indicate that there will be no discernable change in carbon dioxide emissions from road traffic between 2001 and 2011. This is likely to be due chiefly to improvements in the fuel efficiency off-setting growth in traffic over this period. Modelling also indicates that between 2001 and 2011 there will be significant reductions in oxides of nitrogen (NO<sub>x</sub>) and particulates (PM<sub>10</sub>) emitted by road traffic in all the model zones. This is likely to be due to the improved pollution control standards required for new vehicles and replacement of old vehicles in the fleet over time, which is assumed to more than offset any increases in traffic predicted over these periods. However, studies undertaken by CEC suggest that much of the NO<sub>x</sub> emissions problem in the city arises from heavy diesel vehicles. These may not be reflected in the ITI modelling work, and will benefit from the traffic reduction and pollution control measures proposed in the ITI.</p>
Spatial level of appraisal	The proposal will have effects throughout Edinburgh, the Lothians and adjoining areas covered by SESTRAN. Impacts will be assessed for Edinburgh and the SESTRAN journey to work in Edinburgh area.

<b>Implementability appraisal</b>	
Transport land-use integration	These proposals are in keeping with the general aspirations set out in the Edinburgh and the Lothians Structure Plan (Consultation Draft 2001). As far as detailed public transport proposals exist – the Waterfront Loop Tram, for example – no conflicts have been identified between these proposals and detailed published land-use policy. The proposal is contained within Edinburgh’s Local Transport Strategy. It also forms a key element of the draft SESTRAN Regional Transport Strategy.
Policy integration	The proposal is consistent with the published goals of the five Social Inclusion Partnerships within the Edinburgh area. It also accords with the Council’s “City Strategy” under the headings; Securing future prosperity; Unemployment and urban poverty – the divided city; Urban decline; Sustainability and the environment.
Distribution impacts	The appraisal work carried out to date indicates that existing public transport and slow mode users and those who switch to those modes will benefit from increased investment and drivers who pay a cordon charge will benefit from reduced congestion. In addition there will be indirect benefits accrued to all parts of the population from a reduction in transport related pollution. The investment package is designed to ensure fair treatment between those paying the charge and those who benefit.
Technical feasibility	Following a study of charging schemes, all options were considered technically feasible. Three of those use ANPR technology and are considered to be strong contenders. The individual elements of the investment package have all been appraised as



<b>Implementability appraisal</b>	
	being technically feasible.
Operational feasibility	No factors that might adversely affect the ability to operate the proposal over its projected life without major additional cost have been identified at this stage of the project.
Technical risks	Of the options considered feasible, the main risks are as follows: <ul style="list-style-type: none"> <li>• Technological risk, that systems do not meet the required specification, or do not operate to specification.</li> <li>• Operational problems, for example inadequate enforcement, bringing the system into disrepute and undermining its effectiveness.</li> </ul>
Other risks	<ul style="list-style-type: none"> <li>• Political risk associated with Local Government and Scottish Parliament elections in May 2003.</li> <li>• Possibility that the scale or technical aspects of the proposal could generate substantial objections at the planning stage</li> <li>• The risk that there might be unforeseen major negative impacts once a system is in place causing problems for particular one or more stakeholder groups.</li> </ul>
Affordability	A funding package based on a mix of congestion charging revenue and public investment will need to be agreed with government. The funding for up front projects will have to come principally from the public sector. Financial modelling has demonstrated that an indicative package of projects is fundable, based on four scenarios with different assumptions about the proportion of the funding from public sector and congestion charging revenue. It is assumed that the private sector will borrow private sector money to fund a proportion of the transport improvements with repayments made from charging revenue.
Financial sustainability	A twenty-two year quarterly period model has been developed to reflect the costs and revenue flowing from setting up a congestion charging scheme and the costs and revenues relating to 62 individual transport improvement projects. The model demonstrates that the package is fundable from a mix of congestion charging and revenue and other (public sector) income.
Public acceptability	Extensive consultation has been carried out to date. There is consistently a significant level of public support for the principle of the charging and investment package. Most recent consultation showed greater support for a city centre cordon than for the double cordon operating all day. There is also a consensus that charges should operate from Monday to Friday and for daily inbound vehicle movements and that a package of infrastructure improvements must be in place prior to the introduction of a charging scheme. Some sectors of the business community have expressed concern about the impact of the proposals on city centre retailing and vitality. SESTRAN authorities have given support to the principle of a major transport investment initiative funded in part through congestion charging. West Lothian and Fife have, however, expressed concern about equity issues over an outer cordon. The preferred option has been developed to overcome as many concerns as possible while still retaining the benefits of the proposal.

<b>Objective</b>	<b>Assessment Summary</b>	<b>Supporting information</b>
Transport: what are the transport impacts of the	Transport will benefit from a reduction in congestion within the charged area. The	The modelling undertaken indicates that charging by itself will address the problems of congestion with a reduction in traffic



Objective	Assessment Summary	Supporting information
proposal	<p>investment package will bring major improvements to Public Transport, which will benefit existing users and encourage modal shift from car use.</p> <p>Major benefit</p>	<p>crossing the cordon, journey times reduced and average speeds increased.</p> <p>Adding the investment package will improve the quality, frequency, journey time and interchange facilities of public transport. The net result of this will to provide a better level of service for existing users and encourage modal shift from the car by offering an alternative choice for these users providing further congestion reduction benefits.</p>
<p>Environment: what will be the impacts on the environment</p> <p>Environment: what will be the impacts on the environment (cont.)</p>	<p>There will be no appreciable change overall in emissions of CO<sub>2</sub> and local air pollutants from traffic. Concentrations of local air pollutants will reduce significantly in the central area, incorporating the Air Quality Management Area although this will be offset in part by increases in North Edinburgh.</p> <p>Major benefit for city centre.</p>	<p>Overall, there is very little change in CO<sub>2</sub> emission levels over the area modelled as a whole. There will be a significant decrease in emissions in central Edinburgh These benefits are in part offset by increases in emissions of about 10% in North Edinburgh. Emission levels in most other zones remain largely unchanged (typically <math>\pm &lt; 1\%</math>).</p> <p>There also will be very little change in emission levels of other local air pollutants over the area modelled as a whole. There would be further significant improvements in levels of NO<sub>x</sub> emissions from road traffic in central Edinburgh. However, this would be offset in part by moderate increases in emissions in North Edinburgh. Similarly, there would be further moderate reductions in PM<sub>10</sub> emissions in central Edinburgh, but offset in part by increases in North Edinburgh. Emission levels in other zones again remain largely unchanged (i.e. typically <math>\pm &lt; 1\%</math>).</p>
<p>Safety: what will be the effects of the proposal on road and pedestrian safety</p>	<p>It is expected that a reduction in traffic will lead to a fall in accident levels. In addition the Investment package will also target improvement in safety for vulnerable users.</p> <p>Major benefit</p>	<p>Model runs for the various charging options indicate that as charges are increased, safety performance improves, with greatest Improvements evident when the charging cordon covers the widest area. The investment package also targets vulnerable users by including 20 mph zones throughout the city, further extension to the cycle network and pedestrian priority schemes particularly within the city centre.</p>
<p>Economy: what are the impacts in terms of transport economic efficiency</p>	<p>The model runs indicate that there is a net economic benefit for all tests of charging options. These benefits are increased</p>	<p>Overall economic benefit is positive for all tests, and within the range of charges tested, increasing the toll increases the economic benefit. These benefits are made up of a positive element from continuing users of the road network who gain from reduced</p>



Objective	Assessment Summary	Supporting information
Accessibility: what will be the impacts on accessibility	<p>The investment package will improve accessibility to/from and within Edinburgh.</p> <p>Moderate benefit</p>	<p>Improvements in public transport will lead to an increase in public transport miles offered in the area of concern. Some road-space reallocation will lessen the area exclusively available for private motorised transport – thus the ratio of transport availability (see <i>concentration of public transport proxy</i> for base accessibility, STAG 10.2.25 et seq) will definitely move in a positive direction.</p> <p>Turning to the <i>travel intensity proxy</i> (10.2.16 et seq), the proposals will reduce individuals’ trip-rate by car and this, in combination with public transport improvements, will imply an increase in public transport trip rates (through mode switch and new journeys). The travel intensity ratio will therefore also move in the desired direction.</p> <p>Proposed improvements to the pedestrian environments are likely to lead to a reduction in severance (as numbers of controlled crossings are introduced and 20 mph speed limits applied). This will be mitigated to some extent by the introduction of trams which, when street running, add to the number of traffic streams to be negotiated. The sections of the tram network that adopt alignments currently functioning as cycle and pedestrian paths will evidently impose severance effects where they currently do not exist. The balance of impact is, however, expected to be positive as a result of the larger pedestrian flows in the areas where pedestrian improvements are deliberately implemented.</p>
Transport integration: what will be the impacts in integrating transport modes and services	<p>Integration of transport modes and services will benefit from the investment package.</p> <p>Moderate benefit</p>	<p>Proposals for integrated ticketing can be considered as evidence of “seamless ticketing”. Infrastructure-related proposals (improvements of interchanges and new park &amp; ride facilities) will bring benefits in terms of quality of facilities, the suitability of layout for the purpose of interchange and the completeness and intelligibility of information provided. The impact of the proposals will definitely be positive, therefore, and could be very significant. The proposals recognise the need to achieve an integrated public transport system for the proposal to be successful and further work is to be undertaken on this issue.</p>
Policy integration: what will be the impacts of the proposal	<p>The proposal integrates with wider government policies.</p>	<p>The proposal is consistent with the published goals of the five Social Inclusion Partnerships within the Edinburgh area. It also accords with the Council’s “City Strategy” under the headings;</p>



Objective	Assessment Summary	Supporting information
against wider government policy	Small benefit	Securing future prosperity; Unemployment and urban poverty – the divided city; Urban decline; Sustainability and the environment.

## APPENDIX 3: Responses to the 2001 AiP application

### Fife Council - Environmental Development Committee, 10.12.01

Para 4.5.4(iii) The proposal for a three-cordon option was considered by the Council in April 2000, when considering a report on Phase 1 of the New Transport Initiative, and rejected. Fife Council had not proposed this option until their response in the above report.

Para 4.5.6 This is a matter for the detailed charging scheme. The Scottish Executive, in the policy memorandum supporting the Transport (Scotland) Bill, pledges "Fair Treatment: both in terms of those paying, and those benefiting". This would be built into the final proposals.

Section 5 Bearing in mind that any scheme will require "fair treatment both in terms of those paying and those benefiting", and that any scheme will require approval by Scottish Executive Ministers of not only the charging scheme but its associated investment programme, and also bearing in mind that ENTICO (now **tie**) will be constrained to deliver the scheme as approved by ministers, it is difficult to understand Fife's reservations on this issue. ENTICO (**tie**) is a delivery mechanism, not a policy or strategy development mechanism and Fife's views would best be delivered via the City of Edinburgh Council. SESTRAN has now established a Strategy Board including representatives from all the SESTRAN authorities specifically to provide input to the Integrated Transport Initiative on an on going basis. This should address the concerns of Fife Council regarding fair treatment.

The road user charging scheme is not a joint initiative, although CEC will be constrained to demonstrate fairness of treatment. ENTICO (**tie**) will not be restricted to funding only schemes within Edinburgh.

Para 6.1 The consultation has now been completed and was overseen and independently analysed by the University of Edinburgh

Para 6.3 The timetable has been revised.

Para 6.4 The revised earliest start is now 2006..

### Recommendations

7.1b No evidence is provided by Fife that a three cordon option would be any more equitable than a two or single cordon option. No analysis of fund raising capability is provided, indeed there is a danger that if the charge is set at a level to deter car use, then the funds raised would be significantly in excess of that which could cost- effectively be spent. The three cordon option has already been considered by CEC and rejected.

7.1c and d The ownership of ENTICO (**tie**) rightly should rest with the authority promoting the scheme. No reasoned argument has been presented for departing from this position. The interests of Fife Council are best served by influencing the content of the final integrated transport initiative which will be promoted by CEC, not ENTICO (**tie**). ENTICO (**tie**) will be constrained to deliver that which has ministerial approval. SESTRAN has established a Strategy Board with representation from all the SESTRAN authorities. This Board is specifically remitted to

provide input to the Integrated Transport Initiative both now and throughout its life. This should ensure that the views of FIFE Council are fully considered when decisions relating to the Initiative are taken.

7.1e

No evidence has been presented regarding the statement that there has been “inappropriate consideration given to the wider South-East of Scotland area in the development of this “in principle submission”. Indeed CEC has been at pains to inform SESTRAN authorities of progress throughout the development of the scheme through the Steering Group, Management Group and NTI Sub Group. The proposals will be further refined for the final scheme to provide a closer relationship between those who pay and those who benefit, and the final scheme will be in accord not only with CEC Local Transport Strategy, but also with the SESTRAN Strategic Transport Strategy for South East Scotland.

**Additional act of Fife Council**

Fife Council has additionally resolved to oppose road user charging in principle. In spite of this the City of Edinburgh Council has continued to keep Fife informed of progress through the SESTRAN mechanisms and has co-operated with consultants appointed by Fife to review the Initiative.

**West Lothian Council**

**Para 1.4 Reasons**

1

The policy memorandum supporting the Bill identifies the need for fair treatment in respect of those who pay and those who gain. It does not require that all who gain pay. Those who pay in respect of the double cordon option will gain significantly as a result of improved public transport alternatives and reduced residual congestion levels on the road network. Also, those who presently travel in from outside the city by public transport, will gain significantly at no cost to them. No scheme can be 100% equitable and a balanced judgement needs to be taken in promoting a scheme. A significant input to that judgement has been the wider public consultation outwith Edinburgh. The original proposal for a double cordon scheme has been modified significantly to respond to the concerns raised by the public and organisations as part of the consultation.

2

This is accepted, but equally, travellers from outside the city would have free access outwith the charging period. The modified times of operation reinforce this.

3

This paragraph makes an assumption regarding time of operation which does not correspond with the proposals.

4, 5

It may well be true that city centre residents are more likely to make multiple crossings of the city centre cordon than non city residents are the outer cordon. The purpose of the Initiative is to reduce congestion and it is therefore important to include a charge at the outer cordon particularly in the peak periods as well as a charge at the inner cordon all day. The revised scheme takes account of any inequity by allowing people from outside the outer cordon to cross it for free outwith the peak periods. In contrast city centre residents, who may make more frequent multiple crossings, will be required to pay to cross the city centre cordon on their first crossing at any time of the day.



- 6 This is not borne out by the transport modelling carried out using the Land Use Transport Interaction Model developed which was developed to address the and other issues. The modelling has shown net reductions in traffic congestion as a result of the proposed scheme. It should be noted that the model takes account of trip suppression as a result of congestion and predicts real changes in trip making as a result of changing travel conditions. Consequently there is no evidence to support the West Lothian view.
- 7 The modelling has shown significant potential for congestion and pollution reduction as a result of both a city centre and a combined scheme. The combined scheme has the potential to tackle congestion, both within and outwith the city bypass and the revised scheme targets the busiest times by charging only in the peaks on the outer cordon. The modelling work has been independently reviewed as part of the business case work through the development of a separate strategic model. The results from both approaches are very similar and confirm the potential for overall congestion reduction.
- 8,9 The submission commits CEC to addressing this issue and the associated investment package contains significant improvement to public transport serving non city centre destinations.
- 10 The question of social inclusion, including the impact on low-income households is being addressed as part of the detailed work.
- Para 1.5 The proposal for an area licence was only considered at this stage, if by including it support could be achieved at officer level to a unanimous recommendation to the SESTRAN Steering Group. In spite of unanimous agreement at officer level of the SESTRAN management team, West Lothian officials subsequently withdrew that support at the Steering Group. The City Council did consider an area licence, at its meetings in September and October, and decided not to proceed with the proposal.
- Para 1.6 The suggestions in this paragraph bear no resemblance to the balanced and professional reports considered by CEC in coming to its present position.
- Para 2.4 Agreed.
- Section 3 The consultation has been overseen and independently analysed by an independent external organisation with vast experience in ensuring clarity and lack of bias. It is precisely for some of the reasons quoted in this section that CEC carried out a comprehensive consultation exercise, both within and outwith the City.
- Section 4 The issues raised here have already been covered. The key issue is whether or not the public should be given the opportunity, in an independent and fair way, to express its views on the alternatives included in the outline submission. CEC believes in open public consultation and this has now been carried out and the results reported in the **tie** and UoW reports.

#### **Councillor Fred Mackintosh**

**ENTICO(tie) Limited** Cllr. Mackintosh's objections to the establishment of ENTICO (**tie**) have been fully considered by the Council's Executive, Scrutiny Panel and Full Council, and have been rejected.

By setting up **tie**, the Council has not abdicated its responsibilities as the local transport authority for delivery of the LTS, and has established a legal framework where key decisions will require approval by the Council. **tie** has now been operating since May 2002 and has worked very closely with the Council over this period. The **tie** report on this initiative will be presented to the Council for approval and will go through the Council's scrutiny process. The operating agreement between the Council and **tie** defines the relationship between the parties and ensures that the democratic process is not bypassed.

**Financial Commitment** Much of the analysis included in Councillor Mackintosh's letter has been superseded in the current **tie** report. There is no expectation of Scottish Executive committing to funding as a result of the outline submission. The scenarios which were quoted were "illustrative possibilities".

The following comments respond to the points made by Councillor Mackintosh in December last year although the current proposal is substantially different to the one on which he commented.

The figure quoted for public sector funding, ranging from £19m/annum to £40m/annum, was total funding for that period, inclusive of a current base level funding of £10m/annum. The total additional amount over that period was therefore £90m to £300m. The figures quoted by Mr. Macaulay, and reproduced by Cllr. Mackintosh, were illustrative net income per annum, after deduction of operation costs and set up cost repayment. The figures in the four scenarios were gross costs. The implementation and operating costs were in Table 4.3 of the Technical Report.

## Midlothian Council

Para.2 It is encouraging to note the level of support for road user charging. The reservations expressed are addressed below.

1 It is correct that the board of ENTICO (**tie**) should have representatives from the City of Edinburgh Council since it is 100% owned by that authority. No other Local Authority has shares in the company. While **tie** is charged with administering the road user charging scheme and delivering major elements of the investment package, it is not responsible for deriving the package. This correctly remains with local authorities. The role of **tie** in this area is advisory. SESTRAN has established a Strategy Board with representation from all of the SESTRAN authorities specifically to provide input to the Initiative both now and throughout its life. This should ensure that the concerns of Midlothian Council are adequately addressed.

2 There is no proposal to introduce an outer cordon alone. City residents living within either an inner or outer cordon would be able to drive out of the charged area free but would incur a charge on return if they do so within the charge period. Residents living between the inner and outer cordons would also incur a charge for entering the city centre.

3 Agreed, but they would incur a charge on return if they do so within the charge period.

4 This is covered in 2 and 3 above. It is true that not all Edinburgh residents would necessarily incur a charge, provided they do not cross a cordon, but this is equally true of residents from outside the city who travel elsewhere. The revised proposal which restricts the operating times of the outer cordon addresses some of the concerns raised.

5 This is included in the revised proposal.

## NETCO

NETCo's considers that the proposed tramways using public money should be deleted from the Initiative on the grounds identified by their numbered comments 1 to 7:

- 1 The first line proposed was developed by NETCo and information supplied on a confidential basis to the City Council, who have no agreement to use this information or our proposal without NETCo's agreement.
- 2 The area of the City of Edinburgh is deregulated for transport operations by the Transport Act 1985. This has been amended by the Transport Act 2000 and the City Council has not introduced any 'Quality Contracts'. Public transport is therefore expected to be provided on a commercial basis.
- 3 NETCo has promoted on a commercial basis tramways in the Edinburgh area and therefore there is no need for the City Council to expend any taxpayers' money.
- 4 The competition Act 2000 and EU Competition Directive both prevent intervention in the commercial market by public bodies using public funding.
- 5 The City Council has no statutory powers to approve tramways and therefore acted ultra vires in the NETCo proposals by considering matters others than those concerning highway and planning responsibilities.
- 6 In rejecting NETCo proposals, the City Council had a conflict of interest as the promoter of the CERT scheme and majority owner of Lothian Buses plc.
- 7 The continuing blocking of NETCo's proposals is against the Transport Act 1985, which has deregulated the market, and enables new entrants to offer improved and innovative services without market restraints from Local Authorities or other public bodies.

The Council does not accept NETCo's concerns for a number of reasons:

The North Edinburgh loop route resulted from an independent assessment which did not make use of any material originating from NETCo. The line adopts some on-street and off-street sections that are safeguarded as part of the Council's earlier Edinburgh Metro Scheme. It is noted that part of NETCo's own proposal used some of these safeguarded sections.

The Council took NETCo's proposal seriously by commissioning an independent study of their proposal, jointly with Lothian & Edinburgh Enterprise and with the participation of NETCo.. The study was carried out by PIEDA. The study indicated a major weakness in their costs and associated assessment of risk. PIEDA recommended that the Council should not support the scheme as presently constituted.

The Council believes that it is acting in accordance with the law and recognises its responsibilities to have regard to all relevant legislation in regard to competition, as well as the proper application of its responsibilities as planning, traffic and roads authority.



## APPENDIX 4: Reports and References

Key References are available on a CD with this Report

- Ref. 1 Integrated Transport Initiative for Edinburgh and South - East Scotland. Application to the Scottish Executive for Approval in Principle. October 2001.
- Ref. 2 Integrated Transport Initiative for Edinburgh and South - East Scotland. Application to the Scottish Executive for Approval in Principle. Appraisal Summary Table and Technical Report. October 2001.
- Ref. 3 Letter to Councillor Burns from the Minister for Enterprise, Transport and Lifelong Learning. March 2002.
- Ref. 4 Delivering Integrated Transport Initiatives Through Road User Charging - Consultation and Approval Process. Guidance for Local Authorities. Scottish Executive Development Department. August 2001.
- Ref. 5 European Regional Prospects, ERECO Group of leading research institutes (Cambridge Econometrics for UK). August 2001
- Ref. 6 Forecasts prepared for CEC & SEEL. Business Strategies Ltd. July 2001.
- Ref. 7 Key Sectors: Report of Consultation Programme. Report to the Executive of the Council. 13 August 2002.
- Ref. 8 Phase 1 Air Quality Action Plan for Area designated December 2000. City of Edinburgh Council. June 2002
- Ref. 9 Air Quality Management: Stage 4 Report and Action Plan. Report to the Executive of the Council. 13 August 2002
- Ref. 10 Scotland's Transport, Delivering Improvements. The Scottish Executive. 2002.
- Ref. 11 West Edinburgh Planning Framework Consultation Draft. The Scottish Executive. 2002.
- Ref. 12 Edinburgh and the Lothians Structure Plan. Draft for Consultation. December 2001
- Ref. 13 SESTRAN Interim Regional Transport Strategy. 2001
- Ref. 14 East Lothian Council Local Transport Strategy. 2001
- Ref. 15 Midlothian Council Local Transport Strategy. 2001
- Ref. 16 West Lothian Council Local Transport Strategy. 2001
- Ref. 17 Fife Council Local Transport Strategy. 2001
- Ref. 18 Scottish Borders Council Local Transport Strategy. 2001

- Ref. 19 Stirling Council Local Transport Strategy. 2001
- Ref. 20 City of Edinburgh Council Local Transport Strategy. 2001
- Ref. 21 A Vision for Edinburgh - A City Plan for the Next Five Years. CEC 2000
- Ref. 22 New Transport Initiative: Next Steps. Report to Council Executive. 11 September 2001
- Ref. 23 Lothian Structure Plan 1994 Written Statement. December 1997.
- Ref. 24 Edinburgh's Transport Choices, Interim Local Transport Strategy 2000 to 2003. CEC 1999.
- Ref. 25 New Transport Initiative - Phase 1: Final Report. CEC 2000.
- Ref. 26 New Transport Initiative - Technical Report on Phase 1. CEC 2000.
- Ref. 27 Public Consultation Strategy - Phase II, Preparatory Market Research. UoW, July 2001
- Ref. 28 Public Consultation Strategy - Phase III, Regional Market Research, UoW, April 2002
- Ref. 29 Public Consultation Strategy - Phase IV, Strategic Regional Consultation, UoW, September 2002
- Ref. 30 Appraisal of Strategies for Travel To and Within Edinburgh: W.S. Atkins 2000.
- Ref. 31 Appraisal of Strategies for Travel To and Within Edinburgh - Profiles of Expenditure and Income: W.S. Atkins 2000.
- Ref. 32 Feasibility Study for a North Edinburgh Rapid Transit Solution, Andersen, Steer Davis Gleave, Mott MacDonald, July 2001
- Ref. 33 West Edinburgh Tram Prospectus to Scottish Executive, CEC, Arup, June 2002.
- Ref. 34 South East Edinburgh Tram Public Transport Fund Bid to Scottish Executive, CEC, Arup, August 2002.
- Ref. 35 Framework Analysis of Non Rail Projects in SESTRAN Area, Objectives and Strategy Development, Working Note 10, Steer Davies Gleave, Babbie Group, 2002.
- Ref. 36 Client Support Services, NTI Business Case: Project Definition Sheets, Steer Davies Gleave, Babbie Group, 2002.
- Ref. 37 Integrated Transport Initiative Preliminary Business Case, Grant Thornton, September 2002.
- Ref. 38 CEC Land Use and Transport Interaction Model, Functional Specification. MVA, David Simmonds Consultancy, June 2002.

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## GLOSSARY

AiD	Approval in Detail (stage 2 approval of an ITI (qv) by Scottish Ministers)
AiP	Approval in Principle (stage 1 approval of an ITI (qv) by Scottish Ministers)
AQMA	Air Quality Management Area
AST	Appraisal Summary Table (part of STAG, qv)
CBI	Confederation of British Industry
CEC	The City of Edinburgh Council
CSTCS	Central Scotland Transport Corridor Studies
FETA	Forth Estuary Transport Authority
ITF	Integrated Transport Fund
ITI	Generally: Integrated Transport Initiative (a charging scheme and its associated package of transport improvements) as defined in Scottish Executive guidance [ref], and Specifically: NTI as defined below
JATES	Joint Authorities Transport and Environmental Study (1991/2)
LTS	Local Transport Strategy
MR	Market Research
MVA	MVA Consultancy
NOx	Nitrogen Oxides
NRI	New Royal Infirmary (Little France, South East Edinburgh)
NTI	New Transport Initiative (referred to in this document as the Integrated Transport Initiative for Edinburgh and South East Scotland - ITI)
PBC	Preliminary Business Case
RTS	Regional Transport Strategy
RUC	Road User Charging ('congestion charging' is used as an alternative description in many documents relating to the ITI)
SDG	Steer Davies Gleave (consultants)
SESTRAN	South East Scotland Transport Partnership (consisting of the City of Edinburgh, East Lothian, Midlothian, West Lothian, Fife, Scottish Borders, Falkirk, Clackmannan and Stirling Councils)
SPT	Strathclyde Passenger Transport Authority/Executive
SRA	Strategic Rail Authority
STAG	Scottish Transport Appraisal Guidelines
TDR	Scottish Executive Transport Delivery Report
<b>tie</b>	Transport Initiatives Edinburgh
TRAM	Transport forecasting model developed by MVA consultants
UoW	University of Westminster
WEPF	West Edinburgh Planning Framework