Glasgow 1999
UK City of Architecture and Design

John McCafferty.
Chairman Civil Engineering Events

URBAN TRANSPORTATION THE FUTURE

Conference & City Workshops

Glasgow Thistle Hotel 6 - 7 Oct 1999

Trade Show

Glasgow Thistle Hotel 5 - 7 Oct 1999

Exhibition

Glasgow Museum of Transport Sep 1999 - Jul 2000

Participating Cities

Aberdeen Belfast Birmingham Bristol Dundee
Edinburgh Glasgow Inverness Leeds

Promoters

THE SCOTTISH EXECUTIVE

THE INSTITUTION OF HIGHWAYS & TRANSPORTATION

THE INSTITUTION OF CIVIL ENGINEERS

Glasgow

LECTURES

Introduction
The conference is being organised as part of the celebration of Glasgow's year as "City of Architecture & Design" and is aimed at addressing the complex transport issues facing our major Cities and Towns in the new millennium.

Lecture 1 Today's Cities and Towns - Overview of how today's urban transport problems have evolved through social & economic trends on housing, employment, retailing and travel activities.

Lecture 2 Tomorrow's Cities and Towns - Analysis of how the government's land use and transportation policies, legislation and administrative systems fit tomorrow's cities and towns. What needs changing?

Accessibility - The Key to Successful Sustainable Cities and Towns

Lecture 3 A Local Authority View - One Local Authority's approach to ongoing development and re-investment in its city against a background of pursuing a " Sustainable Transport Strategy".

Lecture 4 A Developer's View - An approach to achieving financially successful developments which are widely accessible, and meet local authorities' "Integrated Transport Strategies".

Public Transport - How To Make It More Attractive

Lecture 5 A Public Sector View - How does Public Transport maximise its share of the travel market in the face of rising car ownership, decentralisation, subsidy problems and the privatisation of services?

Lecture 6 A Public Transport Operator's View - How do private transport operators deliver attractive profitable services within an "Integrated Transport Strategy" framework, whilst still meeting social needs and shareholders' expectations.

Using New Technology to Improve Transport

Lecture 7 Vehicle Technology - What industry is doing to achieve cleaner emissions, improved vehicle inspection and control systems, and create more environmentally friendly, safer vehicles.

Lecture 8 Network Management and Control - How new technology and legislation can be used in relation to congestion management, pollution control, driver information and charging for the use of transport infrastructure.

Transportation Case Studies

Lecture 9 - Examples of ongoing research and trials in Europe into more efficient ways of moving people and goods and results of successful operational systems throughout the world.

Financing Urban Transport Changes

Lecture 10 - A critique of the current situation and the opportunities for funding transport projects utilising Development Gain, PFI, Public/Private Partnership and Road Charging.

WORKSHOPS

The Workshops associated with this conference are aimed at examining the transportation problems facing urban centres and will be based on the situation facing the following cities:- Aberdeen, Belfast, Bristol, Birmingham, Dundee, Edinburgh, Glasgow, Inverness and Leeds.

The Workshop sessions have been planned to enable delegates to participate in debating transportation issues in relation to "real life" situations. Delegates will be expected to use information gleaned from the lectures, plus their own experience of current and perceived difficulties and solutions, to identify relevant issues and possible ways forward. These should aim at establishing sustainable systems which will support commerce and industry while meeting the aspirations of the general public to provide a cleaner environment and easier travel.

Workshop 1: The Cities and Their Issues - An Introduction

Workshop 1 will give delegates an overview of the City they will be debating, an outline of the transportation problems being experienced, how these are currently being tackled and any future actions proposed.

Workshop 2: The Cities and Emerging Issues

Workshop 2 is aimed at debating the problems highlighted from Workshop 1, identifying the issues which directly affect transportation and establishing the interaction between them.

Workshop 3: New Technologies and Funding

Workshop 3 will examine the issues identified in Workshop 2 and look at how new forms of technology and funding could assist in improving transportation infrastructure and services.

Workshop 4: The Way Forward

Workshop 4 will review the findings from the previous workshops with a view to identifying major themes to be addressed in relation to existing legislation, finance and public opinion; and

will review the findings from the previous workshops and develop major transportation themes which could be implemented with positive results and cover the bulk of the issues raised. Any current or perceived difficulties in promoting these themes would be identified.

VISITS

Visits can be arranged on Friday 8th October to:

a) Urban Transportation Exhibition
b) National Driver Information & Control System Centre (NADICS)
c) Glasgow Underground Control System
d) Glasgow City Centre Public Realm Projects

Conference Programme

Tuesday 5th October 1999

1530 - 1830	Registration and Trade Show
1900 - 2100	Welcome Supper and Conference launch

Wednesday 6th October 1999

0900 - 0930	Registration
0930 - 0940	Welcome Address Councillor Charles Gordon, Glasgow City Council Leader
0940 - 1010	Lecture 1 - Today's Cities and Towns Brian Raggett, RTPI National President
1010 - 1030	Keynote Address; The Government's Approach to Transport Scottish Minister - to be confirmed
1030 - 1100	Lecture 2 - Tomorrow's Cities and Towns Malcolm Buchanan, Managing Director of Colin Buchanan & Ptnrs
1100 - 1145	Workshop 1 (with coffee); The Cities and Their Issues - An Introduction
1145 - 1230	Workshop 2; The Cities and Emerging Issues
1230 - 1345	Lunch
1345 - 1415	Lecture 3 - A Local Authority View Ian Bruce and Don Bennett of Glasgow City Council
1415 - 1445	Lecture 4 - A Developer's View Speaker to be confirmed
1445 - 1500	Questions and Discussion
1500 - 1520	Afternoon Tea
1520 - 1550	Lecture 5 - A Public Sector View Malcolm Reed, Director General of Strathclyde Passenger Transport Authority
1550 - 1610	Lecture 6 - A Public Transport Operator's View Moir Lockhead, Chief Executive of First Group plc
1610 - 1630	Questions and Discussion
1900 for 1930	Reception and Conference Dinner ~~- Kelvingrove Art Gallery~~ Bowed Museum

Thursday 7th October 1999

0900 - 0930	Lecture 7 - Vehicle Technology Roger King of the Society of Motor Manufacturers & Traders
0930 - 1000	Lecture 8 - Network Management and Control Ken Laughlin of Hampshire CC & POLIS
1000 - 1015	Questions and Discussion
1015 - 1040	Morning Coffee
1040 - 1110	Lecture 9 - Case Studies A POLIS ~~representative~~ Anne Grünkorn
1110 - 1140	Lecture 10 - Funding Future Urban Transport Projects Jerome Munro-Lafon of Scott Wilson and Iain Macauley of McGrigor Donald, Solicitors
1140 - 1200	Questions and Discussion
1200 - 1315	Lunch
1315 - 1415	Workshop 3; New Technologies and Funding
1415 - 1515	Workshop 4 (with tea); The Way Forward
1515 - 1545	Guest Lecture - David Begg, Chairman of the Commission for Integrated Transport
1545 - 1615	Urban Transportation; Summarising the Challenge Gordon Baker of SIAS Ltd
1615 - 1630	Closing Remarks and Vote of Thanks Alan Craig, IHT National Vice President
1630	Close and Tea
1830 for 1900	IHT Branch Annual Dinner (Please see overleaf for contact details)

Conference notes will be supplied to delegates on CD Rom unless paper copies are requested.

welcome speech 5·10·99

~~Bailey William Timoney~~
~~Vice Convenor Development~~

Urban Transport The Future.
L+C Councillor Alastair Watson
Councillor Helen Holland of Bristol

Aberdeen, Belfast, Birmingham, Bristol
Dundee, Edinburgh & Glasgow
Inverness + Leeds

George Mulvagh Tom Burnett Gillespies
Graham & Dick Hendry of EXD Curators

Strachan Russell Bissland + Audrey Weir SWK

Alex McArthur, Steve Lockley, Hamish Munro
Hugh Blackwood Organising Team

Ian Bruce + Gordon Baker Co-Chairmen

Hamish Leitch Trade Exhibition

Railways, Canals, River Clyde, Glasgows
Bridges, Glasgows Motorways (1/4 million)
Influence of Engineering on Buildup last week
Urban Transport the Future

Have a good conference - you will get
more out of your time in

John Carfrae

Urban Transport : The Future

Respond to Bailey William Timney

6.10.99 speech of thanks etc at Burrell

Vice convenor : Development GCC

- Thanks for Civic Reception from GCC
- " " use of The Burrell Museum & sight of its treasures.
- Connection with clean Air Act Sir W Burrell died 1940's - smoke / Pollution coal / cars

Delegates, Spouses, organisers & exhibitors

Opportune time to thank all of you for coming from Aberdeen, Belfast, Birmingham, Bristol, Dundee, Edinburgh, Glasgow, Inverness & Leeds + further away

This is one of Glasgow '99 Events. GCC + GCC

- ICE + sister institutions + Universities, contractors, consultants Profession at Large
- Earlier -- Railways, Canals, River Clyde Conferences, Glasgows Bridges, Glasgows motorways (½ million)

Supporting the City : Influence of Eng on Bldgs

Now Urban Transport The Future.

Kelvin Bridge Design Camp for schools

Single out for splendid Show

Thanks are due to Ian Bruce and his Team / and particularly to GCC -- wouldn't have happened.

Conference is going well Hope you enjoy the rest

Thanks to Bailey Timney. Have a good meal

Notices for 7.10.99

- Visit Trade Show – going after lunch
- Workshop [illegible] to book meet Alex use Arthur.

Workshops immediately after lunch.

[illegible]

Conference Programme

Tuesday 5th October 1999

1730 - 1830 Registration and Trade Show

1900 - 2100 Welcome Supper and Conference launch

Wednesday 6th October 1999

0900 - 0930 Registration

Session Chair - Alistair Watson, GCC Land Services Convener

0930 - 0940 Welcome Address
Cllr Alistair Watson, Glasgow City Council
Land Services Convenor

0940 - 1010 Lecture 1 - Today's Cities and Towns
Brian Raggett, RTPI National President

1010 - 1030 Keynote Address;
The Government's Approach to Transport
Sarah Boyack, Scottish Minister for
Transport and the Environment

1030 - 1100 Lecture 2 - Tomorrow's Cities and Towns
Malcolm Buchanan of Colin Buchanan & Ptnrs

1100 - 1145 Workshop 1 (with coffee);
The Cities and Their Issues - An Introduction

1145 - 1230 Workshop 2; The Cities and Emerging Issues

1230 - 1345 Lunch

Session Chair - Jim Innes, Scottish Construction Clients Forum

1345 - 1415 Lecture 3 - A Local Authority View
Ian Bruce and Don Bennett, Glasgow City Council

1415 - 1445 Lecture 4 - A Developer's View
Ian Wall, EDI Group

1445 - 1500 Questions and Discussion

1500 - 1520 Afternoon Tea

1520 - 1550 Lecture 5 - A Public Sector View
Malcolm Reed, Strathclyde Passenger Transport

1550 - 1610 Lecture 6 - A Public Transport Operator's View
Moir Lockhead, Chief Executive ,First Group plc

1610 - 1630 Questions and Discussion

1900 for 1930 Reception and Conference Dinner
- Burrell Gallery, Pollok Park, Glasgow

Thursday 7th October 1999

0830 - 0900 Registration

Session Chair - Jim McCafferty, Institution of Civil Engineers

0900 - 0930 Lecture 7 - Vehicle Technology
Roger King, Society of Motor Manufactures
& Traders

0930 - 1000 Lecture 8 - Network Management and Control
Ken Laughlin Hampshire CC & POLIS

1000 - 1015 Questions and Discussion

1015 - 1040 Morning Coffee

1040 - 1110 Lecture 9 - Case Studies
Anna Grünkorn, POLIS

1110 - 1140 Lecture 10 - Funding Future Urban Transport
Projects
Jerome Munro-Lafon of Scott Wilson and
~~Donna Stevenson~~ Ian Macaulay of McGrigor Donald, Solicitors

1040 - 1200 Questions and Discussion

1200 - 1315 Lunch

Session Chair - Ian Brown, Institution of Highways & Transportation

1315 - 1415 Workshop 3; New Technologies and Funding

1415 - 1515 Workshop 4 (with tea); The Way Forward

1515 - 1545 Guest Lecture - David Begg, Chairman of the
Commission for Integrated Transport

1545 - 1615 Urban Transportation; Summarising the Challenge
Gordon Baker, SIAS Ltd

1615 - 1630 Closing Remarks and vote of Thanks
Alan Craig, IHT National Vice President

1630 Close and Tea

1830 for 1900 IHT Branch Annual Dinner

Conference Delegates

Name		Company/Organisation	Wed	Thur	Workshop
		Glasgow Development Agency	☑	☑	6
		Glasgow Wide TOA Ltd	☑	☑	9
Veronica	Allan	Carl Bro	☑	☑	H
Scott	Allan	Renfrewshire Council	☑	☑	5
Jennifer	Ballantyne	McGrigor Donald	☐	☑	H
Joanna	Beverage	Aberdeen City Council	☑	☐	WA1
Russell	Bissland	Scott Wilson Scotland Ltd	☑	☑	R4
David	Boyd	Halcrow Crouch	☑	☑	R5
Alistair	Brown	Glasgow City Council	☑	☑	9
Jonathan	Brown	Leeds City Council	☑	☑	WA9
Bill	Campbell	Lothian Region Transport	☑	☑	2
David	Carrol	Glasgow City Council	☑	☑	9
Cllr John	Chapman	Birmingham City Council	☑	☑	7
Kelvin	Clarke	JMP Consultants Ltd	☑	☑	4
Peter	Cockhead	Aberdeen City Council	☑	☐	2
Davis	Coultas	Babtie Group	☑	☑	1
Fiona	Crawford	Greater Glasgow Health Board	☑	☑	3
Ken	Crawford	Scottish Executive	☑	☐	7
Chief Inspector	Dillon	Strathclyde Police	☑	☑	3
Eric	Dingwall	Glasgow City Council	☑	☐	4
Graeme	Dodds	Babtie Group	☑	☑	6
Susan	Dolan	Road Service (NI)	☑	☑	7
John	Dowie	Scottish Executive	☑	☐	5
Colin	Eastman	Birmingham City Council	☑	☑	W3
Douglas	Ferguson	Strathclyde Passenger Transport	☑	☑	R1
Helen	Ford	Glasgow Development Agency	☑	☑	8
Christine	Francis	Glasgow City Council	☑	☑	3
Grahame	Fraser	Road Service (NI)	☑	☑	W2
William	Gillan	East Renfrewshire Council	☑	☑	3
George	Gillespie	Glasgow City Council	☐	☑	9
Joanna	Glass	Scott Wilson Scotland Ltd	☑	☑	7
Vincent	Goodstadt	Clyde Valley Structure Plan	☑	☑	8
John	Goody	Scottish Executive	☑	☑	3
Colin	Guthrie	Consultant	☑	☐	1

Conference Delegates

Name		Company/Organisation	Wed	Thur	Workshop
Ian	Hamilton	Renfrewshire Council	☑	☑	8
Cllr	Harkins	Renfrewshire Council	☑	☑	2
Jacqueline	Harris	McGrigor Donald	☑	☐	H
Jon	Hassel	Carl Bro	☑	☑	1
Mark	Higgenbotham	Glasgow City Council	☐	☑	1
Alan	Hill	Glasgow City Council	☑	☑	3
Simon	Hindshaw	Scott Wilson Scotland Ltd	☑	☑	R8
Cllr Helen	Holland	Bristol City Council	☑	☑	6(4)
William	Holmes	Scott Wilson Scotland Ltd	☑	☑	9
Jane	Hughes	Birmingham City Council	☑	☑	WA3
Tony	Hughes	Glasgow City Council	☑	☐	2
Cllr Len	Ironside	Aberdeen City Council	☐	☑	4
Alison	Irvine	Babtie Group	☑	☑	9
Euan	Jamieson	Clydeport	☑	☑	4
Neil	Johnstone	Halcrow Fox	☑	☑	H
John	Kee	Road Service (NI)	☑	☑	8
Ewan	Kennedy	City of Edinburgh Council	☑	☑	7
Alan	Kerr	Scott Wilson Scotland Ltd	☑	☑	5
Graham	Laidlaw	Scottish Executive	☑	☑	R2
Stephen	Lavalle	Oscar Faber	☑	☑	9
Hamish	Leitch	Thorburn Colquhoun	☑	☑	5
Alan	Lewis	Dundee City Council	☑	☑	WA5
David	Low	Herriot-Watt University	☑	☑	2
John	Magowan	Road Service (NI)	☑	☑	1
Alan	Malcolm	Glasgow City Council	☐	☐	V
Ian	Marsh	Fairhurst & Partners	☑	☑	1
John	Martin	Scottish Executive	☑	☐	3
Emma	McBride	Hillier Parker	☐	☑	8
Andrew	McCafferty	Hillier Parker	☐	☑	6
Francis	McChleary	Dundas & Wilson	☑	☑	5
Paul	McDonald	Ayrshire	☑	☑	7
Steve	McFadden	Glasgow City Council	☑	☐	8
Cllr Colin	McNicol	Glasgow City Council	☑	☑	6
Philip	Mendelsohn	WS Atkins	☑	☑	7

Conference Delegates

Name		Company/Organisation	Wed	Thur	Workshop
Jim	Millar	Highland Council	☑	☑	WA8
Robert	Montgomery	First Glasgow	☑	☑	3
Rodney	Mortimer	Glasgow City Council	☑	☑	W7
Hugh	Murdoch	Aberdeen City Council	☑	☑	W1
Donald	Murdoch	Aberdeen City Council	☑	☑	5
June	Murray	Dundas & Wilson	☑	☑	7
Mike	Nevill	Aberdeen City Council	☐	☑	2
Arthur	Nicholls	Stirling Council	☑	☑	2
Derek	Nisbet	Angus Council	☑	☑	8
Phil	Noble	City of Edinburgh Council	☑	☑	WA6
Denis	O'Hagan	Road Service (NI)	☑	☑	6
Brian	Osborne	Balfour Beatty Construction Limited	☑	☑	6
Michael	Parkinson	Road Service (NI)	☑	☑	5
Gareth	Parry	McGrigor Donald	☑	☑	R9
Hamilton	Purdie	Glasgow City Council	☐	☑	1
Cllr Ronald	Quinn	Glasgow City Council	☑	☑	1
Derek	Quinn	Leeds City Council	☑	☑	W9
Richard	Rawlinson	Bristol City Council	☑	☑	W4
Keith	Rimmer	City of Edinburgh Council	☑	☑	W6
Bill	Robertson	City Housing Glasgow	☑	☑	3
Aris	Savva	City of Edinburgh Council	☑	☑	7
Ian	Sherriff	Dundee City Council	☑	☑	W5
Phil	Shimmins	Highland Council	☑	☑	W8
Rob	Skelton	Glasgow City Council	☑	☐	6
Pilmar	Smith	Lothian Region Transport	☑	☑	4
Jim	Smith	McGrigor Donald	☑	☑	R3
Michael	Stanley	Belfast City Council	☑	☑	5
Neil	Stewart	Halcrow Crouch	☑	☑	8
Bob	Tait	Scottish Executive	☑	☐	4
Peter	Thompson	Scottish Executive	☑	☐	1
Max	Thomson	City of Edinburgh Council	☑	☑	2
Bob	Thomson	Glasgow City Council	☑	☐	4
Marielle	Van Tellingen	Herriot-Watt University	☑	☑	6
Lisa	Walker	Hillier Parker	☑	☐	1

Conference Delegates

Name		Company/Organisation	Wed	Thur	Workshop
Steve	Wallace	Carl Bro	☑	☑	R7
Keith	Wallace	Scott Wilson Railways	☑	☑	2
Cllr Alistair	Watson	Glasgow City Council	☑	☑	4
David	Webster	Scott Wilson Scotland Ltd	☑	☑	5
Frank	Will	Perth & Kinross	☑	☑	4
Steve	Williamson	MVA	☑	☑	7
Murray	Woodburn	SIAS	☑	☑	R6
Alastair	Young	Glasgow City Council	☐	☐	V

The Institution of Civil Engineers
The Institution of Highways and Transportation
The Scottish Executive
and
Glasgow City Council

Request the pleasure of your company at the
"Urban Transportation – The Future" Conference Dinner

in the presence of
Baillie Bill Timoney, Glasgow City Council

at the Burrell Gallery, Pollok Park, Glasgow
on Wednesday 6 October 1999 at 7.00pm for 7.30pm

the Conference Dinner will be proceeded by a Civic Reception in the Gallery hosted by Glasgow City Council

Dress Informal

See over for Location Plan of Burrell Gallery

Please note that there is no smoking in Glasgow Museums

Glasgow 1999
UK City of Architecture and Design

JP McCafferty
Chairman : Engineering Events

URBAN

TRANSPORTATION

THE FUTURE

Exhibition
Glasgow Museum of Transport
September 1999 - July 2000

A CITY Some time in the FUTURE.....

WHERE will we LIVE ?

HOW OFTEN will we need to TRAVEL ?

HOW will we TRAVEL ?

WHAT will the CHOICES be ?

FOREWORD

Using any accepted measure, our appetite for increasing mobility and travel over the past 25 years has grown at mind-boggling rates. The thirst for more and more travel, over longer and longer distances and in shorter and shorter times, was quenched for a number of years by the market's response in the form of the private car. A corresponding decline in public transport usage reduced the alternative options for many journeys thereby adding further momentum to the growing number of car journeys.

Very soon, this lack of alternatives, coupled with business-driven efficiency drives of the market economy, will produce huge traffic flows in many of our towns and cities. Predict and provide approaches to infrastructure requirements resulted in ever-increasing demands for the private car, and our urban areas became dominated with slow moving vehicles, initially at peak periods, but then spreading throughout many parts of the day.

In recent years, there has been an increasing awareness that these trends could not continue forever and that action requires to be taken if our urban areas are to remain functional, full of vitality, and free from the pressures of the private car. Many of our urban spaces require to be occupied by friendly and healthy modes of transport, walking and cycling, although with an understanding that car demands, whilst perhaps being limited in terms of ongoing growth, cannot be reversed in the short-term.

There is no single solution to our current complex transport problems. There are a number of solutions to some individual difficulties, the cumulative effect of which is to provide everyone with increased choice. This exhibition is aimed at demonstrating a number of ways in which these increased choices are being implemented, and to help to provide a better understanding of the way in which our daily lifestyle decisions impact on transport and movement.

We do not ask you to select your preferred solution; but we do ask that you think about the various choices available when you make your journeys in future. Whilst many new systems will become available for our use, the ultimate impacts on our transport system are the result of the choices made by each and every person.

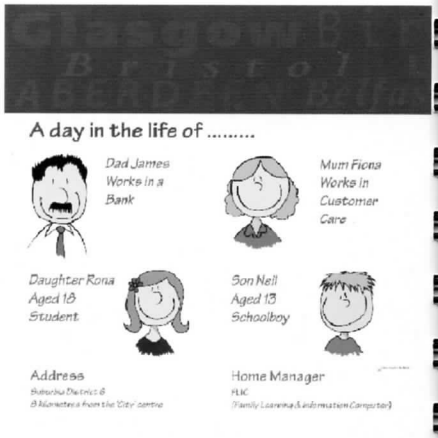
ACKNOWLEDGEMENT

The exhibition is the result of many months of hard work, much of it by individuals in their own time. In addition to thanking the Promoters, the Sponsors Group, the many contributors from the participating cities (Aberdeen, Belfast, Birmingham, Bristol, Dundee, Edinburgh, Glasgow, Inverness and Leeds), and those companies who have contributed objects for display, the organising committee would like to offer special thanks to the designers of the exhibition George Mulvagh and Tom Burnett of Gillespies, our curators Ina Graham and Dick Hendry of EXED, to Russell Bissland and Audrey Weir of Scott Wilson for preparing the brochure, and to Alex McArthur, Steve Lockley, Hamish Murrison and Hugh Blackwood for their unsparing assistance and support and to Jim Fleming for co-ordinating the event.

Ian H. Bruce

Gordon Baker

Organising Committee
Co Chairs, September 1999



THE EXHIBITION

Many decisions which we make each day have transport implications. This exhibition contains a story of a day in the life of a family in some future year, indicating how their daily activities are dependent on the choices they make and how these choices have associated transport implications.

Our future choices on how we use our time may be different for many people from those that currently exist. To assist us in assessing the options available before making our choice, there are many new information systems being developed. The overall objective, in transport terms, is to allow us to have choices and make appropriate decisions before we travel. Access to the internet from home provides the best opportunity for increasing this advance knowledge base and projects are ongoing to make such systems practicable and relevant.

James decides to go to work in the City.
Normally he works from home.
James has a teleworking facility at home with full video conferencing but he likes the occasional trip to the office to meet with his colleagues.

Teleworking which was introduced in the early 1990's is now common-place.

TECHNOLOGY HAS IMPROVED CHOICE AND REDUCED THE NEED TO TRAVEL.

Teleworking

Communication and computer technologies are changing our working practices. In the future this will provide choice for many people by allowing them to work from home.

Teleworking, video conferencing, and portable workstations can reduce the need for frequent travel. Employees have more flexibility and businesses can save money on office space by using these technologies.

Flexible working hours will also contribute to relieving the problem of the traditional rush hour traffic.

Travel Information

A continuous flow of 'real time' information can save travel time and lessen congestion. Advance warning of traffic conditions and incidents allows choices to be made about travel routes and mode of travel.

Today most of our travel information is conveyed to us through message signs on motorways and radio reports. At present this information is only accessible to the public through a number of different sources.

Advances are being made in the provision of traffic information through in vehicle navigation units, hand held pagers, computer web sites and public information points.

In future, all our travel information could appear through a single accessible point. Traffic cameras, road side sensors, on site reports and transport organisations will provide the data. We will then have a complete picture of our travel options or possible difficulties before we travel.

Working patterns are changing in response to market requirements to drive down costs. 24-hour superstores are becoming more common and are clearly fulfilling a market need. Service sector employment is another area where working patterns are changing as centralised call centres, for example, gear up to fulfil world-wide service requirements on a 24-hour basis. The leisure sector continues to expand in terms of variety and its hours of operation. The combination of all of these issues may lead us to believe that the 24-hour city centre is now "visible" on the horizon.

Teleworking continues to grow and the scale of change in the telecommunications sector already provides huge operational benefits in reducing the need to travel so frequently and at constrained peak periods. Even with the benefits which this may bring in reducing peak period traffic demands, general trends in car growth indicate that congestion will continue for as far into the future as we dare to predict.

Neil has to go to school today. He's too young to work at home unsupervised. Neil cycles to school using the cycle route near his house. The electronic 'cycle tracker' ensures that James and Fiona know that Neil has reached the school safely.

Cycling

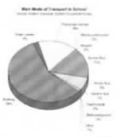
Throughout Britain most local authorities have long term plans to increase opportunities for cycling. Dedicated cycle paths or segregated cycle areas on existing roads separate the cyclist from the heavy traffic

As this infrastructure grows, journeys will become quicker and safer, encouraging more people to use bicycles. More employers could, in turn, provide incentives such as changing rooms, showers and mileage allowances for cyclists.

A wide variety of products, from folding bikes to electric bikes and tricycles are now available to fit every need and standard of fitness.

Safe Routes to School

Parents taking children to school by car increases congestion and accident risk. Many local authorities and schools are asking parents to leave their car at home and are encouraging alternatives like walking, cycling or using public transport



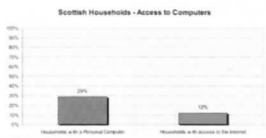
Rona normally works at home on her computer connected to the National Advanced Learning Framework (NALF). NALF Centres had evolved from the internet cafes of the 1990's as a place to meet and exchange information and ideas. Rona can walk to her local centre in 15 minutes.

Learning

Computers and communication technology have brought the world into the home.

Students of all ages have access to vast amounts of information via the world wide web.

Some university courses are already available on the net. Eventually all students will have access to a computer workstation in the home or at school.



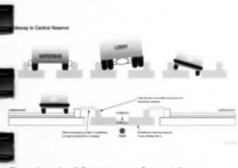
Although teleworking principles are suited to some types of industries and certain types of individuals, there will continue to be groups for whom this does not provide a satisfactory option. One group in this category is schoolchildren who will continue to need to travel to school and derive the genuine educational essentials from social interaction with fellow pupils and teachers.

The traffic problem associated with school trips of the late 1990's will be reduced by a number of cycling and walking initiatives, underlined by the associated health benefits from these alternative modes. Improved cycleways and other cycle-friendly infrastructure will encourage more children to adopt cycling at a young age, with possible longer-term benefits in adult use. Security fears of parents about their children will be overcome by using tracking devices on the bicycles, and perhaps even on the child. Again, technology will come to the assistance of the transport sector and satisfy the needs of personal security.

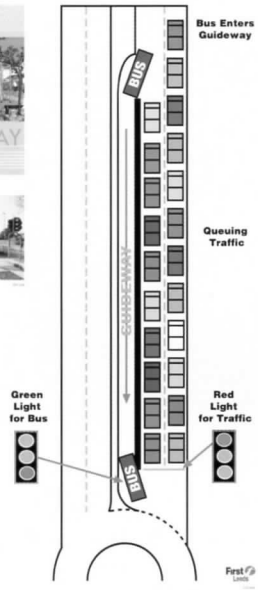
Fiona is having a day off work. She has won a prize of a hot air balloon trip which leaves from the City Airport. The Guided Bus takes her 30km to the Airport outside the City.

Guided Buses

Leeds City Council has been operating guided bus routes since 1995.



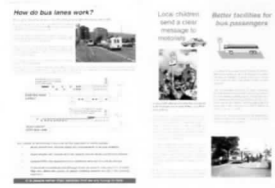
The physical features of a guideway prevent unauthorised use by other road traffic.
The bus passes over a detector which changes the bus lane light to green. Traffic queues are held briefly at the traffic lights which change to red in response to the presence of the bus. The bus then leaves the guideway ahead of the traffic.



Bus Lanes

Some urban areas do not have the space for segrated systems like guided bus routes.

Cities such as Belfast, Glasgow and Edinburgh have arranged priority for buses, taxis and cyclists on existing roads, by providing separate lanes.



The Modern Bus

"Superbus is designed to provide fast, reliable, attractive, high quality rapid transit services using bus technology. The vehicles are environmentally friendly and recent new deliveries offer direct level boarding for pushchairs and wheelchairs at suitable stops."

Dr. Bob Tebb - Rapid Transit Director FirstGroup

The Modern Bus

- Ramp available for wheelchairs
- Low floor for easy access
- Low emission 'Euro 2' engine
- Double glazing
- Ventilation system
- Comfortable seats

As demand grows for more environmentally friendly vehicles, bus manufacturers are responding with a variety of choices.

At university and college age, telecommunications improvements will again reduce the need for students to travel long distances. In built-up areas, local learning centres will be established to provide telecommunications access to teaching materials. These will be very similar to the Internet Cafes of the mid-1990's, although there will be more of them and they will be in continuous use by those who find it inconvenient to travel to university or college on a daily basis. E-mail and videophone technology will allow direct dialogue with lecturers and fellow students. In this way, individuals will be able to access learning material and resources from within their own neighbourhood, a process initiated by the world-wide sustainability debate in the early 1990's. Whilst extensive travel will still be possible, this will only be done when the need requires it.

Inter-modal connections will be improved through substantial investment in bus-based transport solutions in the early 2000's. Every airport will have improved public transport connections, either in the form of heavy rail solutions or, in some cases, through dedicated and segregated guided busways. These will operate at high speed and high frequency and will provide a true alternative to the car for journeys to and from the airport. However, in spite of this increased choice, the car will remain the dominant mode of transport to and from airports for the foreseeable future.

Glasgow's Vision

Glasgow City Council has a Local Transport Strategy which covers walking, cycling and taxi priority. It is integrated with Strathclyde Passenger Transport's Strategy for bus, rail and underground.

One key example of encouraging modal shift from cars to public transport is the Strategy of a number of Quality Bus Corridor across the city linking to adjacent authorities.

City Transport

Leeds, Edinburgh and Belfast have chosen to use guided bus routes to speed up public transport but other cities worldwide have opted for different solutions.

All these systems have one thing in common! They provide a high quality public transport alternative to the car in urban areas.

Glasgow is the centre of SPT's heavy rail network. It is the largest outside London with over a hundred stations.

On trips within the urban area, the message for future years will be increased choice and improved quality of service. Substantial technological advances assist in ensuring that information is provided to enable best choices to be made.

Access to a central source of transport information will allow more careful consideration of transport mode for specific journeys to be carried out before travelling. This will include issues like weighing up whether to take the car to work, or to use park-and-ride, or perhaps to use taxi and public transport.

Access charges for private cars entering our city centres may also be commonplace in the future, and this element of cost will need to be part of the decision-making process when choosing which mode of transport to use at any given time.

FLIC advises James to take a taxi and a train to his office in the City. This is the quickest and cheapest method of travel today. City access charges for cars are expensive due to the heavy congestion and activity levels. Major roadworks also add to the delays.

Although vehicles are powered by clean fuels, congestion is still a problem.

More people have flexible working hours and greater access to cars. The creation of pedestrian areas cycle paths and bus lanes has resulted in the busiest streets becoming even busier.

The growth in the use of private cars has resulted in increased congestion within our urban areas.

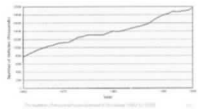
In many cases, the effects of increased numbers of vehicles have been counterbalanced by alterations to the available roadspace.

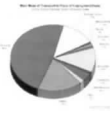
Many city streets have been pedestrianised or, at least, have had some additional space transferred from vehicles to pedestrian priorities. In almost all instances, this has led to the busy city streets remaining busy for greater parts of the day, although many would argue that the wider effect on our city centres has been beneficial.

Congestion

The growth in private car use ensures that congestion will be an enduring problem in our urban areas. Traffic control techniques will continue to improve and information systems will become more sophisticated. There will be increased use of public transport, walking and cycling.....even so, congestion will be with us for the foreseeable future.

Many ideas have been proposed to reduce the numbers of vehicles travelling into our cities. Each can be controversial in its own way and will involve lifestyle changes for many travellers.





Roadworks

As the existing road networks age and become worn with overuse, maintenance can involve substantial roadwork contracts. In recent years the planning and execution of these works has become more complex with the need to provide minimum disruption to traffic. Travellers are now warned in advance, via roadside signs, that major work is imminent. Additional work is also carried out overnight and at weekends to minimise disruption.

Pedestrians

Improved pedestrian areas and traffic calming measures are essential features in the modern urban centre. Current transport policies ensure that more pedestrian areas will be created as centres strive to become people friendly. The balance of 'vehicle space' versus 'people space' is being rearranged as a means of improving the general environment of the city centre.

Pedestrian Areas

Wider pavements and limited access for vehicular traffic creates a more relaxed, cleaner space for pedestrians.

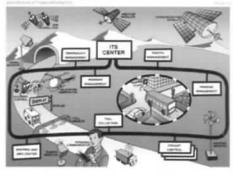
Traffic Calming

Slow speeds for vehicular traffic guarantees a safer setting for pedestrians and cyclists. There are several design options available.

On her way to the City Airport, the In-Bus information system reports that, due to bad weather, the balloon trip is cancelled. She decides to go into the city.

Public Information

As data handling systems become more sophisticated, travel information will be available from a variety of convenient sources. In the future mobile phones, mini computers and television sets could provide up to date news. Bus and train timetables, weather conditions and traffic reports will all be readily accessible.



Fiona often uses the internet to shop but today she decides to go shopping in the the city instead. The bus takes her directly to the City's largest shopping mall.

City Centre Shopping

Shopping malls are an integral part of any modern city with local public transport linked directly to the them.

In view of this continuing congestion, it will become more important to have travel information provided whilst on a journey, as well as in advance of undertaking it. This can be done in the 1990's in various ways; through variable message signing, through radio broadcasts, or as real-time information at bus stops, for example.

In the early years of the new millennium, these information systems will continue to improve and in-vehicle technologies will ensure that this information is available at all times. Hand-held communications devices will also provide access to this information. For some people, this will mean that, wherever they are, they will have access to current transport information throughout the day.

In the exhibition's family story, mother Fiona finds out about alterations to her travel arrangements through an in-bus information screen. On the basis of the last-minute changes to her day, the guided bus takes her, at speed, to the central shopping area.

James finishes at the office for the day.
It's his turn to do the family shopping.

The local supermarket gives him on-line access to his family's regular weekly shopping list. He can also select extra items using the latest barcode scanning facility. With one swipe of his smart card he knows that everything he bought will be delivered to his home the next day.

On his way home from the station James pops into the local shop for his top up shopping.

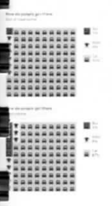
Freight Transport

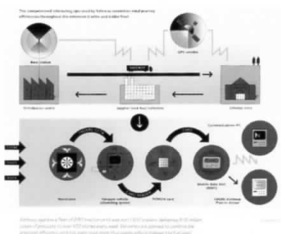
Most freight in Britain is transported by road. In Scotland 162million tonnes of freight was shifted by road compared to 7million tonnes by rail.
(Scottish Transport Statistics 1998)

Shopping

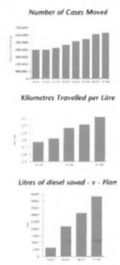
The next few years will see a evolution in shopping. Many articles can already be purchased via the internet or directly by phone. Although home shopping is becoming more popular for many people it is unlikely there will be a reduction in car use, for shopping, in the immediate future.

By offering home deliveries and faster methods of payment, new technology in supermarkets helps take some of the strain out of the weekly shop.





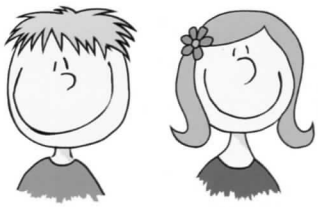
"The typical Briton now goes bulk food shopping by car once a week. A weekly shop for an average family of two adults and a child weighs 35kilos (77lb), so the use of a car is important.
An AA survey in 1993, 38% of respondents said that nothing would persuade them to use public transport instead of a car to get to the supermarket."



One of the most dynamic market areas is retailing and it will continue to remain so, responding rapidly to everyone's demands for the best products at the best prices with the least inconvenience. Preliminary technology trials on different areas of the retail sector during the 1990's proved so successful that they continued their development well into the 21st Century.

Internet shopping exploded in a big way just at the dawn of the new millennium, with direct ordering of goods from all over the world from the comfort of home. Delivery systems and networks became more sophisticated to cope with increased home deliveries. Weekly shopping could be chosen using smart card technology either from home or in-shop, and delivered or carried home as necessary. Shopping choice had huge diversity, including the revitalisation of the small local shop to deal with day to day purchases. Shops became areas for viewing and inspecting prospective purchases, and typically had no facility for financial transactions and required less storage space than shops in the 1990's.

Such was the huge increase in home delivery. This process did have some drawbacks in that it placed additional burden on the freight sector, with increased requirements for goods to be delivered to the home.



Rona and Neil are out with six friends from the local cycle squad. They often cycle several kilometres for fun. Sometimes mum and dad come too.

Extensive cycleways allow them to vary their route regularly and keep them safe from other traffic.

They frequently meet people out walking. Everyone now walks as a matter of routine. Since the campaigns for increased walking and cycling at the turn of the century the City's health record has improved dramatically.

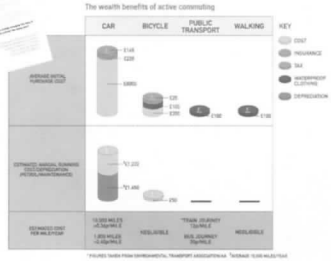
Smart fabrics used in clothing and footwear has made walking less strenuous and more comfortable.

Cycling

Most people can ride a bike. The wide range of bikes and safety equipment available makes cycling an option for almost every age group.

Health

Extensive cycle and off-road walk ways in and around most cities present the ideal environment for people who want to adopt a healthier lifestyle.

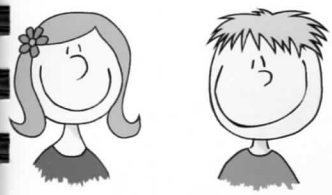


Walking

Walking is healthy, easy, cheap and nearly everyone can do it. At least 30 minutes of hassle-free exercise can be incorporated into the normal working day. Walkers in the city can often travel faster than the traffic. It is easier and faster to walk a distance of one mile than use any other form of transport ...except bicycles.

The family in the exhibition storyline are a generation removed from their relatives who lived through the 1970's, 80's and 90's. Through the vast technological change in that era, people became obsessed with electronic gadgets (television, mobile telephones and video games) which encouraged them to sit around at home for much of the day. The combination of this with the fast food society, aimed at saving time, led to a very stressful environment. Stress and lack of exercise had produced an unhealthy society, with much of the population overweight, over-stressed and taking no exercise. Thankfully, medical monitoring of lifestyle issues identified the scale of the problem and measures were implemented in an attempt to re-educate.

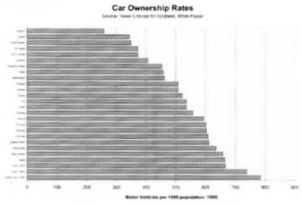
The exhibition family is therefore one where all members of the family cycle and walk regularly, and do not exhibit the poor general health of their elders. An interesting development which assisted this process was the evolution of smart fabrics which diluted the effect of extreme weather, a historical problem in many areas of the UK. This made any outdoor pursuits more enjoyable.

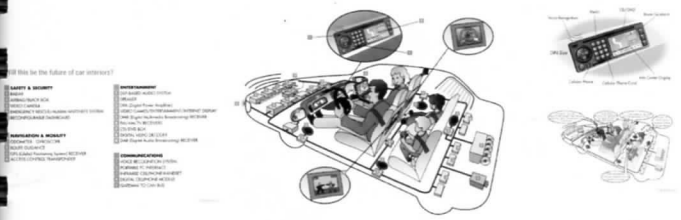


Rona and Neil are staying with their grandmother tonight. Granny will collect them in her car. FLIC advises that the roads are congested and she might be late. The on board computer in her car plots the route through the traffic and she arrives on time.

James and Fiona are going ballroom dancing. They collect their pre-booked car from the local car-pool garage and drive into the city.

The in-car computer directs them to an available parking space near their destination.





Car Travel

Car clubs and car pools are becoming more popular as a means of providing access to personal transport. In the future people may choose not to buy a car of their own but to share. Provided that a system is in operation which allow access when needed, sharing may become a practical alternative.

- How adults in employment or full time education in Scotland travel to work or place of study:
  - Driving 48%
  - Passenger 13%
  - Walking 17%
  - Taking the bus 14%
  - Cycling 1%

- In Scotland, 77% of men and 52% of women aged 17 and over, currently holds a driving licence.

Banking systems developed PC interfaces to allow personal account details to be linked with day-to-day purchases thereby creating a means by which account holders knew exactly how much money they had at any given time. Smart card technologies experienced phenomenal change in the late 1990's and early 2000's, and provided identification parameters, as well as basic financial transaction data. The retailing sector was best prepared for the personal smart card and consequently the handling of cash in shopping areas became a thing of the past. The cashless society had appeared as a real possibility. The smart card contained basic lifestyle factors relating to the individual, and allowed such things as the normal weekly shopping to be relayed directly over the telephone/modem line direct to the local neighbourhood shop without the need for individual intervention.

Having access to a car in the future may not mean having to own one. As early as the late 1990's car clubs were being introduced to allow home owners to have access to a pool of cars as and when required. These might be regarded as self-drive taxis with garaging facilities spread over the city centre. A car could be pre-booked for evening use, for example, and used to drive to a particular destination and parked there to be collected by the next user. Charges would be billed directly to the individual's bank account.

Cars & Motorbikes

Cars

Modern design favours small compact cars. Many vehicles are now specially designed for city use.

Two Wheeled Vehicles

The number of people using two wheeled transport has grown dramatically over the last few years. There are now many small engined mopeds and scooters on the roads as well as the conventional motor cycles.

Fuels

The internal combustion engine hasn't changed much since the car was first invented. Over the last few years much research has been undertaken and huge strides have been made in the development of alternative fuel sources such as :

- Natural Gas/Methane
- Hydrogen
- Methanol
- Liquid Petroleum Gas (LPG)
- Biofuels (Vegetable oil Fuels)
- Ethanol

New Parking Enforcement Technology

On 4th October 1999 Glasgow City Council will take over the enforcement of parking, loading and unloading restrictions in Glasgow. Land Services, who will operate the scheme, intends to use IT solutions to ensure smooth administration of all the issues related to Parking Charge Notices.

The new Charge Notices will be issued using computerised hand-held units that allow tickets to be produced via a Thermal Printer.

The information is downloaded on to the Central Computer System where automatic administration processes take place.

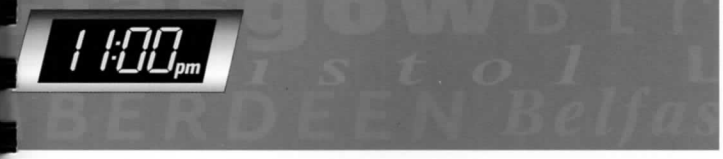
The great advantage of this system is that all information is available to each operator, including scanned images of all correspondence.

The new Parking Attendants will also be the first in Scotland to use the new Peugeot Scootelec. These electric scooters are battery powered, have a top speed of 28mph and a typical range of 28 miles.

Parking

Local Authorities have various options open to them to deal with the problem of parking in the city.

Fuel and vehicle technologies are undergoing various research and development programmes and there have been some new recent innovations on both fronts. On fuel technology, legislation has forced a reduction in the polluting properties of petrol fuels, and encouraged research on alternative fuels to power vehicles. The most recent development on this front is the hydrogen cell fuel technology from which water is the only emission. Clearly, these developments in fuel will address the air polluting effects of the car (and other vehicles), but it does not deal with the number of cars and the congestion which is caused by their presence.



After dancing James and Fiona go for a meal. They walk along the tree lined boulevards of the City centre to the latest City Restaurant built in several old railway carriages.

James and Fiona travel home by water and road taxi.

Water Transport

Most cities have a major river running through them, some have canal networks. Extensive riverside renovations and developments have been undertaken in many cities with even more planned. In the future water taxis and ferries could be used to transport commuters into the city centre.

Recent developments within the car industry have seen a move towards smaller vehicles. The hatchback revolution of some years ago produced a plethora of smaller vehicles, and recent new vehicles follow this trend in meeting the specific requirements of shorter journeys within the urban area. It is hoped that one of the latest of these new small vehicles, the Ford TH!NK car, will visit the exhibition early in 2000. In addition to being small, the vehicle itself is about 95% recyclable, a feature also followed by Volkswagen in the relaunch of the famous Beetle during 1998.

This raises an interesting dilemma where congestion is concerned. Smaller cars occupy less road space and, in congested conditions, will simply result in more vehicles conveying more people.

The trend towards other modes of transport did not mean abandonment of the car. However, car-based trips continue to experience congestion and slower journey times in urban areas. These journeys are liable to disruption due to accidents, roadworks, etc but the enhanced information systems available within the vehicle keep road users informed and minimise stress.

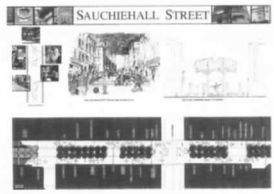
Vehicles can also communicate with their destinations to keep those affected up to date in respect of any delays. Home computers/ information centres (FLIC in the exhibition) provide this communication link with events in the world at large, providing access to information and direct communications to individuals as necessary.

Cities of the Future

Cities will continue to be commercial and social centres. What will they look like in the future?

Will they be quieter, greener, safer, and cleaner?

If people think more about how they travel and use the car only when there is no better alternative - they will be!



All of these management and control measures for urban transportation systems and networks enabled some areas of the city centre to be re-prioritised in favour of pedestrian movements. This created some magnificent environmental enhancements, returning valuable public spaces to those who worked, lived and socialised in the city.

This work, which began in the mid-1990's, gathered momentum well into the 21st century, and city centres were transformed to provide areas full of vitality and function throughout most of the day and night. This increasing activity improved safety and led to many new visitors to the city centre. This, in turn, allowed further far-reaching improvements to be promoted and implemented including, in many areas, a re-activation of water transport and use of river frontages for new development initiatives.

The upsurge in re-activating city centre areas led to huge re-development projects covering vast areas of brownfield development land and bringing a new generation of sustainable development programmes.

James and Fiona arrive home. FLIC has informed their employers computer that they will both start teleworking tomorrow from midday.

TOMORROW BRINGS ANOTHER DAY FULL OF CHOICES.

As the exhibition family go to sleep for the evening, they are only too well aware that they will have many more choices the following day which will, again, have direct transport implications.

LYFESTYLE actions result from issues relating to :

- Home
- Work
- Education
- Leisure
- Shopping
- Health

Have TRANSPORT impacts in terms of:

- Walking
- Cycling
- Car Use
- Public Transport
- Taxis
- Water Transport
- Freight

And affect our CITIES through:

- Development Mix *(retail, office, leisure, etc.)*
- Scale and use of public space
- Traffic Congestion
- Public Safety
- Environmental Improvements
- Access to information
- Communications Tchnology
- Activity and Vitality

QUESTIONS to consider.....

Do I need to make this journey?

Do I need to make this journey now?

Can I combine this journey with other journeys?

Can I walk or cycle for this journey?

Can I travel by public transport for this journey?

Should I use the car for this journey

Your DECISIONS will shape the CITY of the FUTURE

The exhibition has attempted to illustrate the dynamic interaction between three essential components of the urban life of today and the future. These are the basic ***lifestyle*** issues, the associated ***transport demands*** which these create, and the combined effect of both on the city centre thereby producing the ***city environment***. We cannot plan for the future unless we understand all three of these areas. If we ignore any one factor, the whole system will be thrown into imbalance. Equally, it is the responsibility of every individual to think about their needs, and the demands which these place on wider society. We hope that this exhibition has demonstrated to you how your individual choices affect our transport systems and networks, and that you will pause and consider the alternatives before you make your next travel choice.