



# Report on 21 Years of Strathclyde Roads



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ISBN 1 899375 12 0  
March 1996

*Published by :*  
Strathclyde Regional Council

Strathclyde Roads  
Richmond Exchange  
20 Cadogan Street  
Glasgow G2 7AD

*Photographs Courtesy of:*  
Strathclyde Regional Council

*Text:*  
Strathclyde Regional Council

*Design:*  
Strathclyde Regional Council

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I.G. Lawson  
&  
S.C. Wilson

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## Contents

|                                                  |         |
|--------------------------------------------------|---------|
| Introduction                                     | Page 4  |
| Welding the New Department                       | Page 5  |
| From Gigha to GEAR                               | Page 9  |
| From Cadogan Street to Cadogan Street            | Page 16 |
| Strathclyde Roads at Work                        |         |
| Lighting                                         | Page 19 |
| Urban / Motorway Traffic Control Centre          | Page 21 |
| Winter Maintenance                               | Page 23 |
| The European Connection                          | Page 25 |
| Action for Town Centres and Main Roads           | Page 28 |
| Cycling                                          | Page 30 |
| Parking                                          | Page 32 |
| Environmental Considerations                     | Page 34 |
| Special Projects / Specialist Units/ Road Safety | Page 36 |
| Commercial Services                              | Page 39 |
| Design & Construction                            | Page 41 |
| To Boldly Go...                                  | Page 46 |
| Conclusions                                      | Page 48 |

## Foreword

Strathclyde Regional Council has achieved much in the past 21 years. The lives of the Region's population, especially in the deprived areas, have been improved significantly.

Transport planning and provision have been essential components of the Regional Council's Social, Economic and Environmental Policies. The Roads Department has played a central role in this success, working to provide an effective, flexible and efficient service for the community. Often working with other bodies, the Roads Department has contributed to a wide range of schemes and programmes, from coastal protection to road maintenance, winter salting to cycle routes and major road developments to pedestrianisation schemes.

This document outlines some of the history and achievements of the Regional Council Roads and Transportation Committee and the challenges met by the Roads Department in implementing Regional Council Policy, with the guidance of its Chairs, Councillors Thomas Fulton, Malcolm Waugh and Charles Gordon, and my predecessors as Director of Roads, John Armour and William S McAlonan. While it cannot cover all the successes, or adequately describe the widespread benefits they generate, it is possible to illustrate how effective the Department has been, and the role the staff have played in making it such a success.



*Donald Carruthers*

Eur Ing Prof **Donald Carruthers**  
Director  
Strathclyde Roads



## 21 YEARS OF STRATHCLYDE ROADS

### Introduction

Strathclyde Roads employs over 4,000 people and, in 1995/1996 had a turnover of £400 million. The Department is responsible for maintaining and developing a network of over 13,000 kilometres of public roads ranging from some of the busiest motorways in Europe to single track routes in isolated areas. However the term "Roads" only tells part of the story.

The fjord like west coast of Strathclyde with its many islands means that there is over 4800km of coastline - more than the whole of France. Strathclyde Roads is responsible for coastal protection works and for 20 harbour and pier facilities, as well as 2 local airstrips in Argyll.

Strathclyde Roads acts as agents for the Scottish Office for Trunk Roads, and is unique in being the only local authority with its own motorway functions.

The Transport Direct arm of the Department is responsible for servicing and maintaining 4000 vehicles and other items of plant including 285 gritters and 7 snowblowers.

The fleet of 460 buses makes the Department one of the largest bus operators in Scotland.

Meanwhile the Department is also responsible for 304,000 lighting units, 100,000 bollards, 40,000 on and off-road public parking spaces and 4500 bridges and other structures.

The following chapters try to give an impression of the overall activities of the Department highlighting some of the achievements since 1975. However any organisation is only as good as those who work for it and the text is seasoned with stories past and present.

### Broadening Horizons

All Committee reports include a map or plan where appropriate. The reason for this dates back to the first meeting of the new Highways and Transportation Committee on 29 May 1975. Everything had gone well for the first ten items. Item 11 was a request for authorisation to re-deck the standby vessel for the Cuan Ferry at a cost of £1000. One Lanarkshire member, while sympathetic to the issue, asked the simple question - "Chair, just exactly where is Cuan?"



### Welding the New Department

Strathclyde Roads was formed out of the roads and highways departments of the City of Glasgow and the Counties of Argyll, Bute, Ayr, Dunbarton, Lanark, Renfrew and part of Stirlingshire and their associated large and small Burghs. In total, there were 57 roads authorities, each with its own policies, priorities and modes of operation. The issue facing the first Director of Roads was how best to rationalise these different attitudes and approaches and create a feeling of unity.

An early success in the field of traffic and transportation was the setting up of a number of working parties to investigate such aspects as Development Control Guidelines, Tourism Policy and Road Safety. Each working party was deliberately set up under the chair of a Principal Engineer from one of the six constituent Divisional Offices.

Similarly, working parties were established to devise standards for roads and structures design, and contract documentation. These parties were chaired by Principal Engineers from Roads Headquarters.

The approach not only achieved quick results but it encouraged interchange of ideas between different offices and it engendered a sense of ownership since every Divisional Office was represented on each working party.

Prior to 1975 most authorities had produced a Traffic and Transport Plan for their area but the new roads authorities were now required to publish an annual TPP statement setting out the transport policies of the authority plus a 5 year programme of capital expenditure.

The programme was rolled forward each year. The approach to and layout of the TPP documents submitted to the Scottish Office varied quite markedly between different authorities.

### Ease of movement

Prime Minister Major is not the only person to have queried the size of Strathclyde. The same accusation was made in the early days but the facts were that for many of the residents and members from Argyll and Bute, it was easier to get to Glasgow than it was to Lochgilphead.



Strathclyde was (and is) unique in Scotland in that not only being the roads authority but also the public transport authority. The working party approach therefore extended to relations with other Departments. The TPP was produced by a working party involving representatives of the PTE and the Police as well as the Roads and Physical Planning Departments, the Strategic Transport Planning Unit (inherited from the Greater Glasgow Transportation Study) under the chair of the Policy Planning Department (since subsumed into the Chief Executive's Department).

The Working Party reported to the TPP Officer Group which also involved the Estates and Finance Departments. Corporate working was therefore a key element from the earliest days.

In more recent years, the Department has formed many links with other bodies, including public agencies such as Scottish Homes, local enterprise companies and community groups. Co-operation between the different bodies has proven successful in developing comprehensive strategies for new developments, including Town Centre Action Plans and major regeneration schemes such as Mossend and Ravenscraig.

Equally, the Regional Council, and the Roads Department within it, have established strong ties with the European Community. This relationship has been mutually beneficial, with Strathclyde contributing to European initiatives and programmes, and the Region receiving substantial funding resources for important projects. This latter point has been especially significant given growing restrictions by UK Central Government.

#### Sign of the times.

A furore arose over the erection of a new sign on the A803 east of Kirkintilloch. Was it Auchenreoch or Auchinreoch? Obviously the Region was too remote and out of touch - yet the sign had been authorised by the former Authority!



#### Euro funding

Funding to the level of £160 million has been awarded by Europe, supporting over 450 projects with a total value of £450 million.



The structure of the Department has evolved over the years in response to changing circumstances. It was not easy to create one Department where previously there were many autonomous units. The pragmatic approach was to adopt a 3 tier organisation with a small HQ office determining overall policy and with 6 Divisional Offices (one in each of the former counties) who in turn were responsible for local area offices in each of the 19 Districts.

The extension in 1987 of regulations requiring Compulsory Competitive Tendering led to a comprehensive review of the structure of the Department which resulted in a streamlined 2-tier organisation. Headquarters continued to determine policy, control major capital projects and form the interface with Council committees while 11 new enlarged operational Area Offices provided a direct service to the local communities. The roads design capability was also consolidated into a number of New Works Offices and the whole organisation represented a separation of the client/contractor roles.

December 1991 saw the integration of the Internal Transport Department into Strathclyde Roads and the Department was further adjusted so that there were 3 major groupings - Operations, Planning and New Works, Roads and Transport Direct - supported by a Technical Services Section (responsible for training, quality assurance, quality control, health and safety and systems development) plus an Administration, Personnel and Finance section.

#### A question of names

Although the Chief Officer has always been known as the Director of Roads, until 1991, he reported to the Highways and Transportation Committee



But if the 1970s and 1980s were a period of relative stability, the 1990s have been characterised by a succession of new legislation such as the extension of CCT to construction related services (announced in 1993), more demanding requirements of the New Roads and Streetworks Act, 1991, new requirements under health and safety including the introduction of Construction, Design and Management (CDM) Regulations in March 1995. Meanwhile the Council itself has been pursuing many new initiatives and seeking to be even more responsive to local needs.

These changes were recognised by a further redefinition of the Departmental Structure which distinguished between the Client, Consultant and Contractor functions. The result is an organisation which is leaner and fitter and able to adopt to changing circumstances. It will be interesting to see how the new local authorities cope.



## From Gigha to GEAR

Though the names may sound the same, there is a world of difference between the Hebridean Island off the coast of Kintyre and the regeneration of Glasgow's east end. Both, however, have benefited from the activities of Strathclyde Roads. The following tour of the Region illustrates the wide and varied responsibilities of the department, and its success in fulfilling these responsibilities.

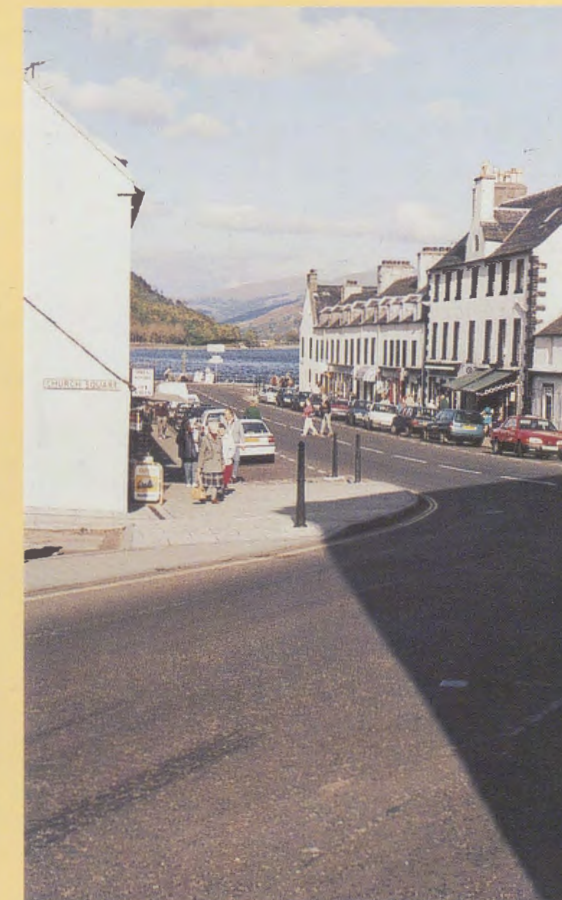
Gigha is connected to the mainland by a ferry which sails from the slipway at Tayinloch. This slipway was substantially enhanced in 1980. It is one of a number of piers and slipways which have benefited from Regional Council investment.

It is now the case that all of the main islands in Strathclyde are served by Roll on - Roll off ferries operating from piers and jetties upgraded by the Roads Department. This serves as a reminder of the general responsibilities the Department has for coastal protection, and the success of the Department in meeting these responsibilities.

Once ashore, the route turns north along the A83, extensively upgraded between Campbeltown and Lochgilphead (1983 - 1989), including the section to Ardrishaig where the Crinan Canal Bridge has also been redecked (1989).

From Lochgilphead to Arrochar, the A83 is a Trunk Road, falling under the responsibility of the Scottish Office. The Roads Department has acted as agents for the realignment of this road. In Glen Kinglas the A815 branches off, taking traffic to Dunoon and Rothesay.

The Laglingarten to St. Catherine's section of this road was improved in 1983 while south of the junction at Strachur, the A886 to Colintrive (for the ferry to Bute) has been extensively altered (1976 -1981).



### Keeping in Touch

Several years ago, special attention was given to winter maintenance on the road leading to the Mull of Kintyre Lighthouse.

The wife of one of the Keepers was pregnant.

### Water Problems

Difficulties encountered in upgrading the A866 included the properties of mica schist formations which, when waterlogged, took on the properties of thick mud. Several slides were encountered, one of which buried a tractor almost completely.

The A83, meanwhile, includes the Rest and be Thankful, scene of many battles between the winter maintenance crews and the elements. South of the Rest and be Thankful the road continues to Arrochar and Loch Lomond, where it meets the A82, connecting Fort William, Crianlarach and the Clyde.

On the A815 again, the route continues on new and improved road to Dunoon, location of one of the Department's comprehensive Town Centre Action Plans.

Our journey continues across the water to Inverclyde, location of one of three Enterprise Zones created in Strathclyde between 1979 and 1989. The Department has worked closely with both the District Council and Enterprise Company to promote the redevelopment of a number of sites such as Customhouse Quay. Greenock and Port Glasgow have both been subject to extensive traffic and parking studies and action is underway in the form of comprehensive Town Centre Action Plans with the Fore Street area of Port Glasgow an early success in environmental improvement.

August 1985 saw the completion of dualling of the A8 on a completely new riverside alignment which provides considerable relief for the residential areas through which the old road passed. It also means that there is now a continuous high quality dual carriageway link from Greenock with its high tech industries to the rest of Scotland and the south of England.

Travelling along the M8 from Langbank, the Compaq factory near Bishopton is passed. The presence of this factory was secured by the speedy response of the Roads Department which upgraded the B815 access at very short notice in 1987.

#### Slippery Slopes

The A83 required special attention from the Geotechnical Unit when unstable slope conditions were encountered. Fortunately, remedial measures were possible, and have proven successful.



#### Band Drains

Not a musical instrument, but rather a reference to the drains used on the riverside alignment of the A8 near Port Glasgow.

Using computers to monitor water pressures and settlement, this scheme represents the first use of such drains in Scotland.

A few miles further on, our journey reaches St. James' Interchange. This stands as one of the finest examples of a fixed price Design & Build Contract. The initial planning and design functions were carried out in-house, with the final contract awarded to Balfour Beatty and Scott Wilson Kirkpatrick. Construction of the £34 million project began in September 1991 and ended two years later, within programme and budget. The Saltire Society awarded St James' its excellence in design and construction award.

From St James' Interchange, it is a 10 - 15 minute journey on the M8 by express airport bus to Glasgow City Centre. Our route, however, turns right, heading south onto the Lincrive Link, enhanced in 1987, and then the Johnstone Bypass, completed in 1992.

From here, we continue south on the Howwood Bypass, opened in 1993.

Together, these works, including St. James' Interchange, are part of the strategy to improve the A737 as a primary route between Ayrshire and the conurbation. The traffic and environmental relief in Johnstone and Howwood is considerable.

The A737 is, in turn, crossed by a specially built bridge carrying the Paisley to Port Glasgow Cycle Route, one of many to have been developed by the Regional Council.

North of Irvine New Town, the A737 joins the A78. Here, the Department has played an important role in developing the areas road infrastructure. Schemes include Long Drive (1977), the South approach Road (1981) and the new dual carriageway link between Irvine and the A77 / A76 Trunk roads south of Kilmarnock, completed in 1986.



#### It's Nice to be loved

The contribution of Strathclyde Roads is too often taken for granted. When someone says something nice about the Department, it is therefore all the more appreciated.

A senior Roads official was returning in the car from a family day out. His son, then in Primary 6, pointed to the Auchenhowie Roundabout on the A807.

"My Dad designed that!", he proclaimed to his school friend sitting next to him in the back seat.

Obviously impressed, the friend replied with the remark, "I wish my Dad did exciting things like that. He's only a bank manager."

Staying in Irvine, the Department acted as agents for the Scottish Office for upgrading the A78 past the Caledonian Paper Mill. In addition, new roundabouts have been constructed on the A77 at Monkton, accessing Prestwick Airport and the Shaw Farm industrial area.

Future development includes the upgrading of the A77 trunk road from Fenwick to Malletsheugh to motorway standard. This project will commence in 1997. The section further south, linking to the Irish Ferry ports, has been subject to a joint study between Strathclyde and Dumfries & Galloway Regional Councils. As the route is completed, traffic calming and other measures will be applied to communities such as Maybole and Girvan.

Near the Whitletts roundabout on the A77, there has been considerable pressure for retail and commercial development. In this case, the Roads Department has acted as expert witness at a Public Local Inquiry into traffic and environmental implications.

The A77 near Whitletts is also marked by notices for the parking voucher scheme which forms part of the Ayr Town Centre Action Plan implemented between 1993 and 1995.

This began as a simple request to consider the pedestrianisation of Ayr High Street. Involvement of a partnership group including the District Council and Local Enterprise Company broadened the scope of the study to make it the first of the new comprehensive Town Centre Action Plans now being pursued in other towns.

#### Service Delivery

The Erskine Bridge Control Centre has doubled up as an emergency maternity ward on at least one occasion.



Action has been taken to remove unnecessary traffic, improve the pedestrian environment and give extensive priority to buses. The scheme also accommodates new development aspirations. Interestingly, following public consultation, it was decided not to pedestrianise the High Street. New measures have been introduced to meet the needs of shoppers and other pedestrians.

The quality of this scheme was recognised nationally when the Scheme was given three awards.

Winner of UK National Traffic Calming Award.

Winner of the British Council Town Centre Environment Award.

Commended in the Street Design Competition.

The A70 continues to Cumnock and the A76 where the Department supervised the construction of a new bypass in 1993. The current implementation of the Cumnock Town Centre Action Plan seeks to capitalise on the traffic relief this scheme offers.

The A70 is also the focus of much of the opencast mining activity which has replaced the traditional deep mining of Ayrshire and Lanarkshire. The Department has worked closely with planning colleagues and British Coal in not only agreeing the most suitable roads for lorry movement between sites and disposal points, but also in encouraging the use of rail for bulk traffic.

The A70, continues east to the M74 where we turn north. The department undertook the design and supervision of the construction of the section between Millbank and Draffan, constructed in three sections between 1984 and 1988 at a cost of £45 million.

#### Doggone

As a result of work being undertaken on Renfrew Road, a Pelican Crossing was deactivated.

A local newspaper subsequently carried a story outlining the plight of an Alsatian dog which was in the habit of waiting at this crossing until someone pressed the call button.

During the roadworks, the patient pooch sat for hours at the deactivated crossing, oblivious to the fact that the 'green man' would not be appearing.



The M74 leads directly north and west to Glasgow, but our route turns left onto the East Kilbride Expressway at the Raith Interchange. This junction has experienced capacity problems at peak hours, leading to the introduction of peak hour traffic signals and spiral road markings.

The Expressway itself was completed in 1983 over difficult ground conditions, ensuing from former mining activity, and now offers access to the Lanarkshire Enterprise Zone, established in 1989. Accessibility to the new development opportunities was further improved in 1994 by the completion of a new junction at Hillhouse Road. This project was part funded by the Lanarkshire development Agency.

High Blantyre lies adjacent to the Expressway. It was chosen as one of the sites investigated to examine the links between lighting and crime. The conclusions of the Glasgow University / Strathclyde Roads study left no doubt that lighting had a major role to play in promoting a sense of security.

Returning to the M74, the route moves towards Glasgow, and the roads current termination at Fullarton Road. The last section of the trunk road was completed in 1994.

Planning permission has now been given for the completion of the final link in the M74, from Fullarton Road to the Kingston Bridge. The route chosen minimises disruption by following the existing railway line as far as possible. It has also been subjected to the most rigorous environmental assessment, as required by the EU, and justified against the criteria set out in the SACTRA report published in 1994.



#### Total Integration

The ferry pier at Rothesay originally boasted a helicopter landing pad, subsidised by Strathclyde Roads. It was perhaps the only location where air, sea, car and public transport were so fully integrated.



The M74 Northern Extension is seen as the last major urban road scheme in Western Scotland. It forms a vital economic link for Ayrshire, Inverclyde and the Glasgow Conurbation, as well as the final regeneration of the east end of Glasgow (the former GEAR area). It is unfortunate that Strathclyde Roads will not survive to see it completed.



### From Cadogan Street to Cadogan Street

Floor five of McIver House in Cadogan Street was the first home of Roads HQ - but only for a few weeks until it was suggested that the thick pile carpets were more appropriate to the Director of Social Work and his entourage rather than the muddy boots brigade. Roads HQ moved downstairs to floor 2. Although the offices were part of the fairly new Anderston complex, they were not air conditioned or double glazed. Hot summer days meant a choice between sweltering behind closed windows or being deafened and gassed by the buses in the bus station immediately below. The Administration of the new Council was carried out in Melrose House just along the street.

Social Work maintained their a presence in McIver House but in 1977 Regional Council Departments consolidated into premises in India Street where the various buildings rejoiced in names such as Viceroy House and Clive House. These were occupied by the Council and subsequently identified as Strathclyde House 1, 2, 3 etc.

Pressures on space from various Departments meant that some sections of Roads such as Traffic and Transportation led a particularly peripatetic existence changing floors in Viceroy House before moving to the High School. A move to Clive House (Strathclyde House 4) was meant to allow the consolidation of the Department in one location, but again the building was shared with Social Work and there were various outstations in Consort House, Elmbank Chambers, Pegasus House and the Guardian Royal Exchange building.

#### Every workers dream

When the local offices in Lochgilphead were finally vacated in 1990, staff held a raffle to win the honour of commencing the demolition.

Christine Johnston was privileged to operate the machine which delivered the first blow to the old structure.



The consolidation of Roads Headquarters also set the foundation for the formation of the major design teams which subsequently undertook work on roads such as the M80 Stepps Bypass and M77 Ayr Road Route.

Finally in 1994 the wheel came full circle when Roads HQ moved en masse to Richmond Exchange as the first and sole occupant of a new building in Cadogan Street - diagonally opposite Melrose House.

#### Other Offices

The Department operates from some 150 separate addresses. Not unnaturally there are many stories attached to some premises. Kilbowie House in Oban was once a rest home for the workers of the Singer Sewing Machine Company. It has had many Scottish baronial features including a magnificent fireplace and Victorian plumbing.

The plumbing was the least of the problems in the Lochgilphead offices which comprised an assortments of huts, caravans and portacabins dating from the 1930's when they were transferred as a "temporary" measure from their original use as site accommodation for the building of the A82 through Glencoe.

Part of Roads HQ is housed in the Eagle Building so named after the eagle symbol which adorned the former premises on the Bothwell Street site and which was the symbol on a brand of cement manufactured by Currie the builders who operated from the site.

Offices in Paisley are haunted by the ghost of an elderly woman. The boiler room is built upon the graveyard of the old Thread Street Church. Reference to premises occupied by the Department would not be complete without mention of a number of multi-storey car parks, airfields on Islay and at Connel, various piers and harbours and, until 1995, the Renfrew Ferry. The Department also has two specialised training centres.

#### Digging up the past

A medieval drain runs from Paisley Abbey under the Regional Offices. A Geophysical survey in 1991 caused great excitement amongst the archaeological experts who referred to .....results obtained from the processing of the silt...beyond all expectation. The quantity and quality (!) of a large proportion of the artifactual assemblage recovered is without parallel in the west of Scotland"



The Staff Training Centre in Greenock was established in 1990 to provide an Information Technology training facility. Up to 60 trainees could be accommodated at one time with access to state of the art computer and presentation equipment. During 1994/95 for example, 1420 members of staff benefited from 190 separate courses.

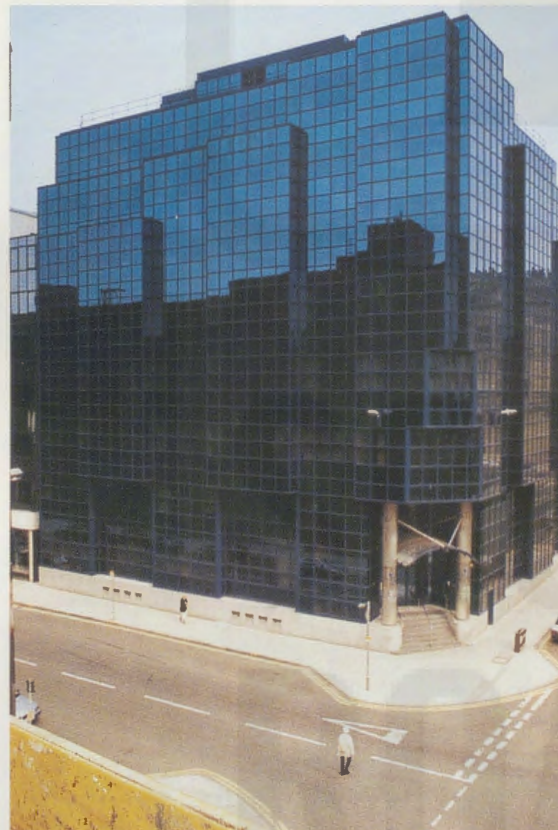
Meanwhile the Roadworker Training Centre at Flemington established in 1979 proved invaluable in allowing the Council to meet its duties and obligations in regard to Health and Safety at Work regulations.

More recently, with the onerous requirements of the 1991 Roads and Street Works Act, the centre became an accredited training centre for carriageway and footway reinstatements.

The success of the Roads Direct and Transport Direct organisations in carrying out work safely to specification owes much to the work of the Training Centre staff.

#### Historical truth

Old maps show that in 1857, the site of Richmond Exchange was occupied by a slate yard. But while the name of the new building is reminiscent of places associated with the 18th and 19th century tobacco trade, there seems no historical reason for it.



### Strathclyde Roads at Work

The day to day work of Strathclyde Roads covers a vast range of roles, in addition to a wide area. Some are presented below.

#### Lighting

It is taken for granted that our streets should be lit during the hours of darkness and that street lighting has an important role to play in promoting road safety and personal security. During 1990/ 1991, a study was carried out jointly by a team of criminologists from the University of Glasgow and members of Strathclyde Roads Lighting section.

This confirmed that there was a definite link between the standard of lighting and both the feeling of security and actual recorded instances of crime against persons and property.

Modern lighting systems are designed to be optically and energy efficient, but while high mast lanterns may be appropriate on motorways, special efforts have been made to install systems which complement the environment in Conservation Areas such as Luss, Guilford Square in Rothesay and Oakshaw in Paisley.

Lighting column designs by Charles Rennie Mackintosh have been brought to fruition by co-operation with the Regional Department of Physical Planning and specialist manufacturers. These units can be seen next to Scotland Street School, the Glasgow School of Art and at Hill House in Edinburgh.

As well as 304,000 street lights, there is a need to light certain traffic signs and, of course, keep left bollards. The electricity bill paid to Scottish Power and the Hydro Board runs to £9.5 million, but interestingly this power consumption is unmetered - with the cost being assessed by agreement on the inventory of units and their nominal power rating.

#### Ladders of success

For a number of years after 1975, the Roads Department was also responsible for the Regional Council's window cleaning service.

The initial reason for this was simple - the lighting section had long ladders.



#### The Light Fantastic

Strathclyde Roads has won numerous lighting awards, for projects covering a variety of locations and developments.

These include:

Kilmarnock Viaduct  
Irvine High Street  
University Avenue, Glasgow

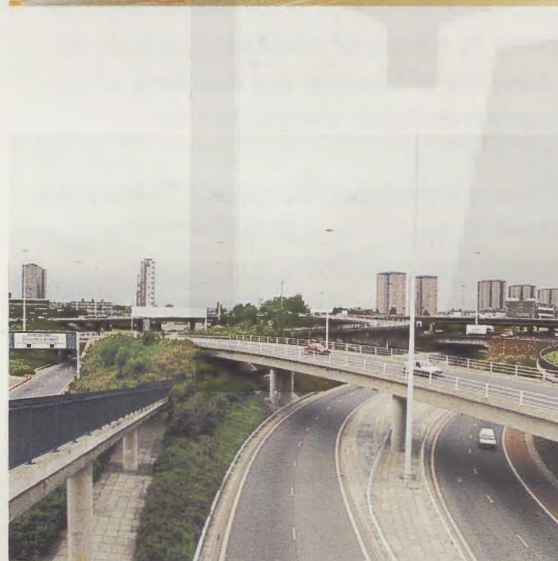
Meanwhile, energy savings are being achieved by the replacement of old tungsten and fluorescent lanterns with energy efficient high pressure (SON) and low pressure (SOX) sodium lanterns.

Prior to 1975, many of the former local authorities had their own separate lighting and electrical departments. However, the Regional Council decided that the Roads Department should be responsible for street lighting on all adopted roads. District Councils were to be responsible for stair lighting, though this was often carried out by the Roads Department on an agency basis.

Initially, maintenance was carried out by the local engineer's DLO team on a "firefighting" basis. Night patrols travelled set routes on fixed rotas seeking faulty units which would, if possible, be repaired on the spot. Failing this, the onus passed to the day shift. The disadvantages of this system were its labour intensive nature and the fact that the client had little or no control over the time taken for repairs or the expenditure involved.

With the advent of Compulsory Competitive Tendering, the lighting function was split between the Area Engineer as client, and a separate DLO organisation which came to be known as Roads Direct. The introduction of a planned maintenance programme in 1989 resulted in much better control of costs, a gradual improvement of lighting units and, interestingly, a shorter time between failure and repair.

Although the Roads Department won all ten 4 year maintenance contracts in 1989, it came up against stiffer competition in 1993. Nevertheless, it still won the contracts in six areas.



### Urban / Motorway Traffic Control Centre

When Strathclyde became the Roads authority in 1975, it assumed responsibility for almost 1000 traffic signals, making it one of the biggest signal users in the UK. The introduction of centralised bulk purchase of equipment and negotiation of maintenance rates allowed Strathclyde to obtain major cost savings over those possible with smaller authorities.

One of the first tasks of the new authority was the approval for the completion of a feasibility study for a Centrally Integrated Traffic Control (CITRAC) system in Glasgow. In the meantime, Strathclyde Region continued with an ongoing programme of updating electromagnetic signal controllers with solid state units.

New technology also allowed the introduction of more sophisticated signalling devices. In 1979, Strathclyde Roads installed the UK's first microwave vehicle detection system, which measures traffic volumes and adjusts signal timings to accommodate flow rates. Subsequently, Strathclyde Region has gone on to become the largest user of such systems in the UK.

Through-out the 1980's, the use of new and innovative technologies remained a central component of Strathclyde Roads traffic control strategy. This is perhaps best illustrated in the upgrade and expansion of the CITRAC system, which specifically sought innovative approaches in its original set-up, and continued to do so in subsequent developments.

Today the CITRAC system is recognised as a world leader of its kind. Its capabilities allow it to provide integrated traffic control for the motorway and surface street network. It can also operate as a variable message system for events such as the 1988 Garden Festival, when temporary signs were installed for car park direction.

### The cutting edge

The 1981 upgrade of the CITRAC system specifically sought to promote innovative technology. This foresight has subsequently allowed expansion and adaptation to provide many useful features, including temporary signing for the Garden Festival and variable signal controls to accommodate emergency vehicles.

### Priority for Emergency Services

Strathclyde's Roads are often described as the economic lifeline of the Region. There are cases, however, where the analogy becomes more literal. The motorway network is now vital for ambulance movements transferring patients between hospitals.

Technology has been employed in Glasgow's urban traffic control system. This is used to give immediate priority to fire engines and other emergency vehicles at traffic signals. The facility is used over 1000 times each month.



### Safety First

Besides offering effective traffic control, the CITRAC System also contributes to wider improvements in Road Safety.

This fact was recognised in 1985, when CITRAC was awarded the AA's Silver Star for Road Safety.

Another vital feature of the CITRAC system is its ability to accommodate emergency vehicles. Using specialised computer programmes, it is possible to set up a 'green-wave', in which the movements of Police, Fire or Ambulance services are given priority as they approach signal controlled junctions.

The motorway control system has consistently remained at the forefront of technology. From its implementation in 1980 to the present day, the gantries, signal units and CCTV cameras have acted as important tools in the management of traffic on Glasgow's motorway network.

This capacity has been upgraded to include ramp control and diversion, in 1984, expanded infrastructure provision, from 1985 and closer integration with wider motorway control systems, from 1990.

Currently, work is underway to integrate CITRAC with the Forth Estuary Driver Information and Control System (FEDICS), which provides a similar function for the Trunk Road network across Central Scotland. When this integration is complete, CITRAC controllers in Glasgow will operate the system on a day to day basis. The CITRAC Control room was upgraded in 1995 to accommodate this new role.

On a smaller scale, Strathclyde Roads has promoted the use of new facilities for pedestrians and cyclists in many locations. These include Scotland's first PUFFIN crossing, which uses infra red systems to detect pedestrian levels and adjust signals accordingly.

Strathclyde Roads has also begun to install TOUCAN crossings which have specific facilities for cyclists to cross with pedestrians. These form part of the wider initiatives being undertaken to promote cycling and sustainable transport across the Region.

#### Above and beyond the call of duty

Strathclyde Regional Council pioneered the use of video technology to monitor traffic levels in the 1970's. The first site chosen in Lanark Division was Whirlies Roundabout.

Unfortunately, the only site suitably elevated for the survey was on top of the adjacent crags. Even then, it proved necessary to set the camera on top of a lighting tower suspended over the crags.

A volunteer to man the camera was chosen by the usual method (most junior engineers first).

The successful applicant, Gordon Morrison subsequently displayed great courage and devotion to duty by successfully filming the morning peak in difficult conditions.



#### Winter Maintenance

Scotland has a widely varying climate, in which extremes of temperature, wind, rain and snow are possible. The varying landscape of Strathclyde also produces tremendous contrasts. The coastal lowlands of the Clyde Estuary present different conditions from the upland areas of Argyll and Ayrshire.

Despite these variations, and the vagaries of the weather, there is an absolute requirement on the part of Strathclyde Roads to undertake a programme of winter maintenance.

Consequently, when snow or ice are predicted, it falls to staff of Strathclyde's Roads Direct to undertake the work of gritting and clearing the roads. In the 21 years of Strathclyde Roads, the technology available for this task and the resources devoted to it have changed greatly.

Today satellites, radar and new computers are used in conjunction with local weather watchers and private companies to offer the best range of advice. Backed up by on-road sensors and local reports, these form the basis upon which the decision to act are made. In making this decision, a precautionary principal is adopted, as is to be expected when lives and livelihoods are at stake.

Therefore, when bad weather is predicted, all non-winter maintenance tasks underway at the time are suspended, and Roads Direct begins its gritting or clearing programme. In extreme cases, additional resources are sought from District Councils and local contractors.

Each year, a stock of almost 200,000 tonnes of salt is established, with around 300 gritters available to spread it. Since 1975, Strathclyde gritters have deposited almost 2.5 million tonnes of salt, enough to cover a road 13 million miles long.



When work commences, priority is given to main routes, bus routes and roads leading to Hospitals, schools etc. Pre-determined routes are driven and logged to ensure the maximum coverage in the shortest possible time.

Problems are encountered in many aspects of winter maintenance. Small temperature variations can mean that no icing takes place, making salting wasteful in financial terms. At over £4 million per year, this is no small issue. Also, salt in large quantities can damage the environment. It is important again that unnecessary gritting does not take place.

In addition, salt corrodes metals, including bridges and cars. Protection for these is costly and time consuming, and attempts have been made to develop alternative de-icing materials. These are all far more expensive than salt, however, with the nearest alternative, Glycol, being 20 times more costly. Despite this cost, Glycol is used on several bridges, where monitoring and spraying controls are available. These include the Erskine and Kingston Bridges. In the latter case, Glycol was introduced after the corrosive problems partly associated with salt use were discovered.



### *The European Connection*

It is particularly ironic that Strathclyde should be abolished in 1996 at the same time as other European countries are embracing the principles of subsidiarity outlined at Maastricht and devolving increasing powers to directly elected regional governments.

The Scottish Office itself acknowledges that the larger the population and area represented, the greater the weight given to the views put forward and has referred to the fact that Strathclyde has had "... particular authority in handling European issues and representing its views at Community level either alone or in conjunction with other regions in the Community."

Strathclyde Roads has been very active and influential in its dealings in Europe initially in pursuing European grants for roads projects and more recently in participating in such initiatives as car free cities and various groupings involved in promoting telematic applications.

Equally, the European Community contributes greatly to the work of the Regional Council. Many initiatives, including Town Centre Action Plans, Route Action Plans, Road Schemes, Piers & Harbours and Cycle Routes benefit from European funding through a series of programmes. This source of funding has become increasingly prominent, and now forms an important component of innumerable development packages.

Co-operation with Europe, however, is not an area for the fainthearted. It requires a mastery of acronyms, such as ERDF, EIB, Objectives 1 and 2, SIDO, SEP, DRIVE, PROMETHEUS, POLIS and TABASCO, to name but a few.

### Eurospeak

The term POLIS has a nice Scottish ring to it, conjuring up images of black and white chequered caps. The reality is more prosaic - Promoting Operational Links with Integrated Services - and refers to initiatives such as the Councils CITRAC system and other driver information projects.



The Regional Council's involvement in some of these initiatives is set out below.

**POLIS** - Promoting Operational Links with Integrated Services.

SRC have been active members of the Polis network of European Cities and Regions and have just completed its 5th year of membership of the Polis Management Committee and 3rd year of holding the position of treasurer. The Regional Council held the Polis Presidency (via Councillor Charlie Gordon) for 1994 - 1995 which involved staging the Annual General Assembly in Glasgow in 1994.

**DRIVE** - Dedicated Road Infrastructure for Vehicle Safety in Europe.

As part of the Drive 2 research and development programme, we have participated in quarterly meetings held by the Commission. This has meant giving an input and making presentations to Area 3 (urban traffic control) and Topic Group 9. SRC has joined the Drive 2 project Eurocor as followers and much of the research work being developed on ramp metering, diversion routing and mathematical modelling is being used in our Tabasco project bid.

**TABASCO** - Telematics Applications in Bavaria and Scotland

This is a multi - million pound bid to the EU for funding under their 4th Framework Programme (i.e. DRIVE 3). The project links Strathclyde, Lothian and SOID with Munich, Nuremberg and a range of other European cities, consultants and contractors. If the bid is successful, the grant will help bring forward many elements of the CITRAC 3 motorway control replacement contract and a range of public transport priority measures contained in the Millennium Plan.



**UTTFF** - Urban Traffic Telematics Forum

**CITILEC**

Investigating the promotion and use of electric vehicles in the pursuit of healthy cities initiatives.

SRC have participated through the presentation of technical papers, with the UTT forum and staged a meeting in Glasgow in October 1994.

**EU Contracts**

Senior staff from Strathclyde Roads have been contracted to the Commission to provide expert assistance to the UTTFF and POLIS.



## Action for Town Centres and Main Roads

Rising traffic levels, combined with changing shopping patterns, concerns over the environment and social issues have led in recent years to growing calls for action in Town Centres and on main roads.

Strathclyde Roads, in partnership with bodies such as District Councils, Enterprise Companies and Community Groups responded to these calls by developing a series of Action Plans for particular Town Centres or Routes.

Town Centre Action Plans stem from Strathclyde Regional Council's long standing policy of promoting existing urban centres. They differ from previous attempts at traffic management in that they seek to integrate transport and land use policies. The aim is to create a balance of access demands and improve the environment for pedestrians. This, in turn, makes the Town centre a more attractive place to live, work, shop and play, so promoting economic and social improvement.

In pioneering the concept of the Town Centre Action Plan, Strathclyde Regional Council anticipated Central Government policy by several years. Only recently have moves been made nationally to promote existing centres and restore balanced access to them.

For each Action Plan, a process of consultation and development is undertaken. By 1996, this process had resulted in three completed schemes, Ayr, Oban and Cumnock, with studies advanced in many others, including Kilmarnock, Dunoon, Hamilton, Wishaw and Airdrie.

In each case, a different solution to the problems identified has been adopted. This reflects the individual character of the Town, the issues facing it, and the positive effect of the consultation process in meeting the concerns voiced.

### Tickets Please

Research carried out forty years ago indicated that bus conductors had fewer heart attacks than bus drivers. We now know that they accumulated their exercise walking up and down the bus stairs.

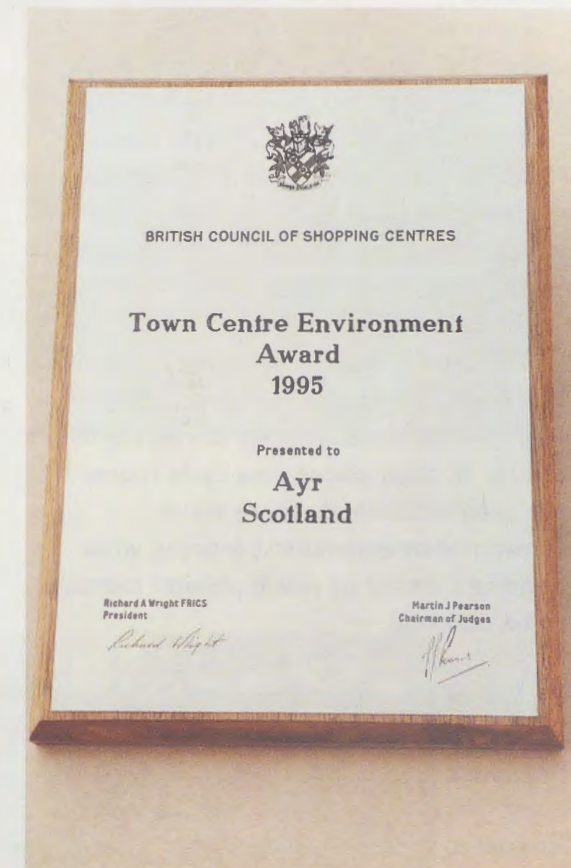


Route Action Plans are intended to manage the demand for travel by promoting environmentally less damaging forms of transport, such as buses, while restraining inessential traffic. By using revised traffic management measures, parking controls, and new signalling systems, a co-ordinated package is developed to meet the particular needs of the route involved. This route could be a major urban arterial route, a village high street or a rural main road.

The Route Action Plan is designed to balance the needs of residents, businesses, pedestrians, bus passengers and car drivers. As with Town Centre Action Plans, the proposals for a route are established through consultation and participation with many bodies, including District Councils, Enterprise Companies and the Scottish Office.

By 1996, Route Action Plans had been developed on many routes, including A77 - Fenwick to Mallettsheugh, A85 - Oban to Taynuilt and the A807, in Bardowie and Balmore. Plans for Maryhill Road in Glasgow were also well advanced.

Town Centre Action Plans and Route Action Plans form part of Strathclyde Roads wider initiatives to meet environmental and accident levels established nationally and internationally. They also contribute to local improvements, illustrating, once again, the breadth of responsibility held by Strathclyde Roads.



## Cycling

In Strathclyde, and the UK in general, levels of travel undertaken by cycle are lower than those elsewhere in Europe. Partly, this reflects limited provision of cycle facilities, both in terms of routes for cyclists, and in the presence of secure storage in offices, stations etc.

In recent years, Strathclyde Regional Council, in partnership with other bodies, has begun a programme of developments to redress this balance. In many places, new cycle routes have been established. These serve recreational or commuter purposes, while providing a means by which physical exercise can be obtained.

The first of these opened in 1988, when the Glasgow to Loch Lomond Cycle Route was completed. Subsequently, routes have opened linking Glasgow to Irvine and Ardrossan, Glasgow to Paisley and Glasgow to Cumbernauld, via a safer signed route designed specifically for commuters.

Plans are in place, and work underway on other routes, including longer distance routes to Edinburgh and Dumfries, and additional commuter routes to Milngavie, East Kilbride and on Great Western Road and New City Road. The development of these routes will allow a greater potential for journeys to be completed by a very environmentally friendly form of transport. Also, it will contribute to wider initiatives, including the Healthy Transport and Fit for Life Campaign, which promote health and fitness.

In addition to the larger schemes designed to promote cycling, more general efforts are being made to improve access by cyclists. Dropped kerbs, which also allow movement by pedestrians with mobility handicaps, are becoming more widespread. Trials have also been undertaken with TOUCAN Crossings, which allow cyclists to cross with pedestrians.

### The perils of flying

Organisers of the Fit for Life Campaign were aghast to be told by Transport Museum Security Staff that if even one of 200 helium filled balloons used in the ceremony were to be released and reach the ceiling, the infra red detection system would set off the Museums fire alarms.

As a precaution, all of the balloons were taken outside. Unfortunately a school party arrived, assumed the balloons were for them, and took them back into the building. Thankfully, each child kept a firm grip on their balloon and the ceremony passed off without incident.



Further efforts have been made to promote the use of cycles through the provision of cycle racks in many locations. Proposals for streetscape and pedestrian improvements in many locations include additional provision for cycle racks.

In late 1995, Strathclyde Regional Council completed the first junction improvement designed to give greater priority to cyclists. The use of advanced stop lines was introduced at the junction of Byres Road, University Avenue and Highburgh Road. Such developments could be extended in future as part of wider cycling proposals.



## Parking

Strathclyde Regional Council is responsible for over 40,000 parking spaces, from on street metered spaces to multi-storey car parks.

The role of parking is essentially one of supporting retail and office functions, by allowing shoppers and workers to commute to their destinations.

In Strathclyde Region, and Glasgow in particular, parking restraint has been employed to minimise the proportion of long stay parking in favour of public transport use by daily commuters, which in turn would free parking resources for shoppers and tourists.

This theme has become more important given the increased drive for out-of-town shopping developments. Typically, the availability of readily accessible parking at such centres is seen as one of their strongest advantages over traditional shopping areas.

By maximising the efficiency of parking use in towns, therefore, the potential exists to allow them to compete effectively with new developments, which, in turn, may contribute to reducing demand for such developments and, consequently, the growing dependence on car borne travel.

The success of parking restraint in Glasgow City Centre is illustrated by the fact that levels of long stay parking have not increased despite growth in car ownership and increased parking provision.

Parking Direct, the Direct Labour Organisation arm of parking, became responsible for all Regional Council car parks in September 1994, thus improving the service to the public as well as the training and image of the staff.



Strathclyde Regional Council has also completed works to make existing car parks more attractive as parking locations. The Roads Department was the first in Scotland to win awards under the secured car park scheme instituted in November 1994.

The scheme promotes the improvement of safety standards for existing and new car parks, through lighting, signing, CCTV and other measures.

Four car parks received awards in February 1995.

- Buchanan Car Park, Glasgow - Gold Award
- Cambridge Street Car Park, Glasgow - Gold Award
- MacDowall Street, Paisley - Gold Award
- Charing Cross Car Park, Glasgow - Silver Award



## Environmental Considerations

Transport is an essential component of modern living, supporting economic and social development. Many aspects of transport provision and use are, however, harmful to the environment, either by the production of pollutants, or through the destruction of environmental resources.

Through-out its 21 years, Strathclyde Regional Council actively pursued the goal of minimising the environmental impact of transport in its area. This has been achieved by integrating the many components of both public and private transport, and supporting moves towards alternative forms of travel.

The central components of the Regional Council's Transport Strategy were updated in 'Travelling in Strathclyde', and comprise.

- Taking further action on demand restraint.
- Making more effective use of existing transport infrastructure.
- Enhancing the quality of the public transport network.
- Limiting road construction to cases where it accommodates necessary movement and facilitates environmental and public transport improvements.
- Taking action to reduce the number of accidents in the transport system.

This strategy has proven successful in many respects. In addition, measures have been taken within the Roads Department to promote environmental goals.

Public Transport provides almost 70% of peak hour journeys to Glasgow City Centre.

Long Distance Cycleways have been developed across many parts of the Region.

Parking policies have effectively restricted commuter journeys to Glasgow City Centre.

Town Centre Action Plans have improved the environment for pedestrians in several Towns.



Traffic calming has been introduced in residential areas, promoting environmental and safety benefits.

The Regional Council has promoted 'brown-field' and 'in-town' developments whenever possible.

Air Quality monitoring is undertaken wherever a potential problem is identified.

Improved efficiency gritters are used to minimise the impact of salt on the environment.

Traffic impact studies are required for all major developments.

The Regional Council vehicle fleet is being switched to use diesel, rather than petrol, and efficiency of use is being promoted.

Recycled materials are used where possible in roads and streetscape developments.

Offices now recycle paper and other consumables, with an emphasis on waste reduction.

Recycled stationery products are now used as standard in Roads Department offices.

By implementing these, and other procedures, Strathclyde Road Department has been able to contribute to the Council's overall steps towards environmental protection and sustainable development.

The growth in concern over environmental issues is likely to continue in future, and Strathclyde Regional Council's success in accommodating the demands such issues present will be an important foundation for the Unitary Authorities.



### Special Projects/Specialist Units/ Road Safety

This is not a reference to espionage activities or SAS style units running amok in Council Offices, but rather a reflection of the economies of scale afforded by the size and structure of the Roads Department itself and the need to perform specialised tasks in technically demanding areas.

Strathclyde Roads possesses a number of specialist units, some of which are presented here.

**CITRAC** has already been highlighted in its role as the traffic monitoring and control unit for Glasgow and the motorway network.

**AIP**, or Accident Investigation and Prevention, is a unit set up to monitor accident levels on the Regions Roads and develop schemes to reduce incidence of accidents where problems are identified. The unit is part funded by the Scottish Office, and includes direct liaison with Police staff.

The range of projects covered by the AIP Unit ranges from single junctions to comprehensive schemes for major roads. New signing, lighting and carriageway markings are amongst the measures adopted, with each improvement tailored to suit the particular circumstances.

The operation of the AIP Unit is one of the main components in Strathclyde Roads efforts to improve Road Safety in the Region.

**Environmental Unit** - Environmental concerns are also central to the operation of the Roads Department. As part of the work completed on road projects, noise and vibration assessments have been longstanding responsibilities. More recently, air quality has gained prominence as an issue in its own right.

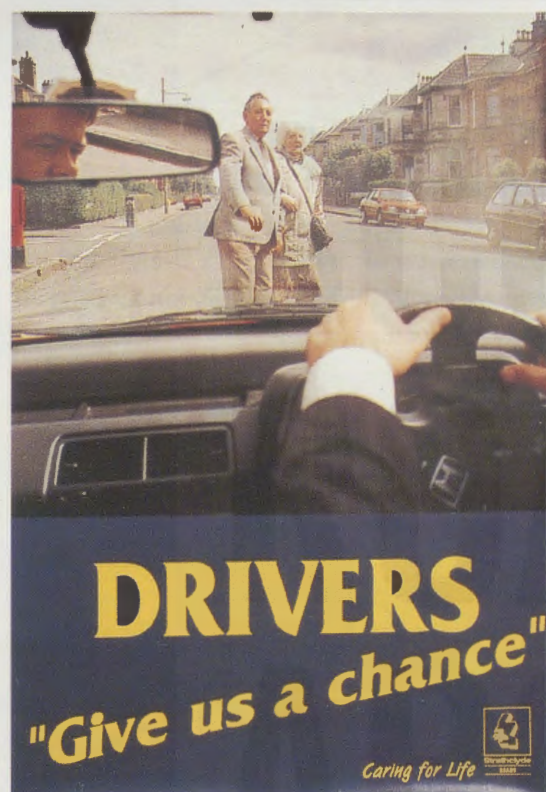
### Climb any Mountain

The history of engineering is marked by pioneering achievements and technical advances. In many respects, the progress of design, construction and maintenance through the years has been one of setting new standards and overcoming progressively greater obstacles.

For Strathclyde Roads, this is illustrated by some of the problems faced by the Department in undertaking its duties.

The East Kilbride Expressway was built in spite of numerous mine shafts and the presence of burning coal bings, which made progress dangerous as well as difficult.

Work on Crowhill Road required the filling in of a former sandstone mine which was the largest hole in the West of Scotland.



The Environmental Unit in Strathclyde Roads has developed in response to the changing demand placed upon it. Originally, the unit concentrated on assessment of noise stemming from new road development. Properties being exposed to noise levels above an identified threshold could, consequently, be identified and provision made for insulation.

This role extended to cover noise and vibration from construction activities. Limits to times of operation for construction could be set in response to studies, which also identified properties that might qualify for pre-emptive insulation, offering protection against the construction noise. In this role, liaison with Environmental Health Departments is common. The Environmental unit also provides technical input to Environmental Assessments on noise, vibration and air pollution matters, a matter of growing importance given the increased awareness of such issues.

**Road Safety** - The formation, in 1991, of the Road Safety Sub-Committee of the Roads and Transportation Committee provided the commitment of Elected Members necessary to attain positive results of the Road Safety Units. Some of these results are:

11 Local Road Safety Units in Network Offices plus Road Safety and Accident Investigation and Prevention Units in Headquarters.

A wide range of Road Safety education, training and publicity programmes for road users of all types and all ages.

Major programmes are available for under fives and for children of primary and secondary age and most schools participate in these. Cycle Training is also undertaken in some 600 primary schools each year with some 12,000 children taking part. Pre-driver training is carried out in many secondary schools along with other projects.

Programmes are also available for drivers, motorcyclists, horse riders and the elderly.



Two advisory groups consisting of Road Safety Training Officers, and representatives from Strathclyde Police, Education, Social Work and Public Relations were formed in 1992 to review and develop programmes in the areas of education and publicity. This corporate approach, in conjunction with the work of the AIP Unit, has helped greatly in progressing towards the target of a one third reduction in accidents by the year 2000.

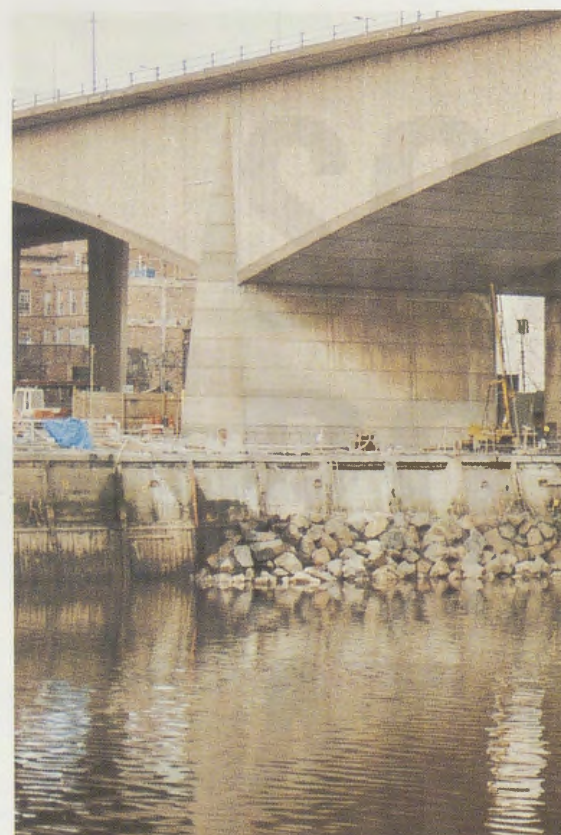
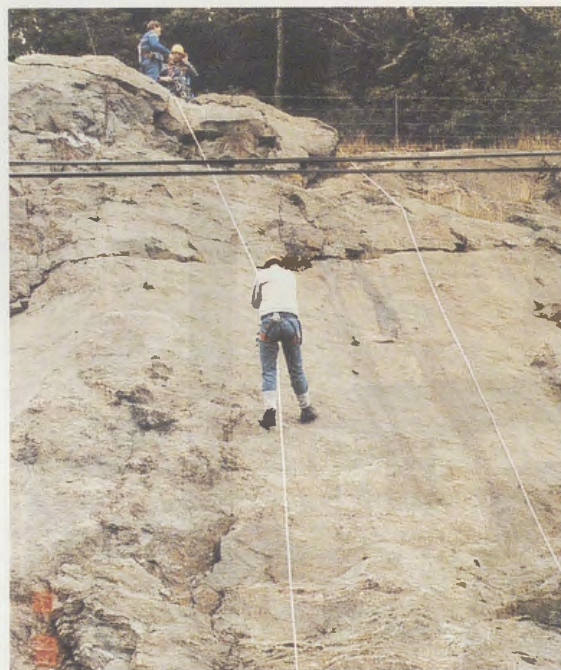
Since that time, the Education Advisory Group have devised a number of major resources, including Ways to Safety, which is available for all schools. The Publicity Advisory Group have organised a number of campaigns on speeding, the elderly, cycling and young drivers.

**Quality Control** - Strathclyde Roads is responsible for the provision of footway and carriageway materials used by millions of people. It is obviously important that the quality of these materials is as high as possible, both for safety and economic reasons.

A Quality Control section exists to investigate and advise on materials and standards used within the Roads Department. This unit also investigates failures, inadequate performance and deviations from required specifications. In this way, standards are maintained and enhanced, and a value for money service is provided.

**Geotechnical** - Another important special unit provides Geotechnical services. This involves supplying advice and expertise on soil and rock conditions and ground water properties in areas of interest. It also prepares contracts for, and advises on, site preparation works and construction applications.

This unit is very important in its role both as engineering support, and its wider capacity as an agent for investigating areas of contamination. In this capacity, the unit offers advice to other offices within the Council, and liaises with bodies such as the Regional Chemist and Environmental Health Departments where appropriate



## Commercial Services

Central Government legislation introducing competitive tendering in some aspects of service provision meant changes for the Roads Department in the 1980's.

In response to the need to compete for work, Roads and Transport Direct were created. They act as commercial organisations, applying for annual contracts both within the Strathclyde Regional area and beyond.

By 1994, Roads Direct was winning over £40 million in work, and employed 200 staff and 1450 operatives. Roads Direct competes for the provision of such services as lighting, road maintenance, kerbing, traffic management and road marking contracts. In this role, it has proven very successful, especially in regulating the contracting and material supply markets in the West of Scotland, illustrating the effectiveness of the public sector in competing with the private contractors.

Commercial Services Roads direct arm enabled Roads to be the first Department of the Regional Council to be Quality Assured to BS 5750, Part 2 for safety fencing.

Transport Direct, similarly provides vehicle maintenance and transport organisation. It also provides bus services for education and social work needs, school meals delivery and special needs children. Special requests are also carried out for the Fire and Police Services, and vehicles are available in emergency planning situations.

Currently, Transport Direct is responsible for over 4,000 vehicles, including 460 buses. This fleet is serviced and operated from a series of depots, stretching from Lochgilphead to Lanark. Over 700 staff are employed in service and driving roles, producing a turnover of over £17 million. In addition, it runs the sign manufacturing shops at Bellshill and Castlebank, Glasgow.



### Waves Direct

Roads and Lighting are not the only fields of work for Roads Direct, who, have responded to this need by undertaking works on sea walls and general coastal protection.

Strathclyde is an area where protection from the sea is widely required, given that the 4800km of coast is longer than that of France.

Not only is it longer, but it also tends to be slightly colder and wetter, and offers marginally less potential for topless bathing.

C'est la vie.

### Lollipop Direct

In the last gasp of the Regional Council, the Department increased its Direct workforce by 1600.

It took on School Crossing Patrol functions and the patrollers from Strathclyde Police.

The role of both bodies is crucial in meeting demands for special services. Each has proven itself capable of responding both to the needs of the commercial market, and the requirements of public service provision.



## Design & Construction

Preceding sections have outlined some of the broad roles and responsibilities of the Roads Department in Strathclyde. From these, its diversity of projects and abilities is well illustrated. The Department has, throughout its 21 years, consistently done more than 'build Roads'.

It is equally true, however, that the Roads Department has successfully developed some of the most significant and important road schemes in Scotland. These range from the motorways of the Central Belt to smaller, but no less significant roads in Lanarkshire, Ayrshire and Argyll & Bute. Other responsibilities include maintenance and environmental works, drainage, marine contracts, bridges and traffic calming in sensitive areas.

The Roads Design unit, which acts as the consultancy arm of Strathclyde Roads, has responsibility for these functions. It has over 450 employees, and a turnover of £13 million. It is by far the largest Local Authority Design Office in the UK, and also one of the most efficient and qualified, having been awarded Quality Assurance Registration under ISO 9001:1994 (formerly BS 5750). The Design unit is based at offices in Glasgow and five local centres throughout the Region. Together, these offices, and their predecessors under earlier structures have promoted schemes across the Region. Some of these are presented below.

**Monkland Motorway** - better known as the M8, the Monkland motorway was one of the first major road schemes undertaken by the Regional Council, with Stage 1 being opened on 30th May 1975. The final links to Baillieston were opened on 25th April 1980.

The construction of this motorway required the capping of numerous mine shafts, 13 for Stage 2 alone, and vast quantities of peat extraction.

## Public Involvement

During a public meeting for the M8 near Easterhouse, one resident spent some time examining a plan showing land take for the proposed motorway. The following conversation then ensued.

"Haw Jimmy" (a senior Roads Official)

"Yes"

"Kin youse no move tha' road?"

"Not Really, are we affecting your property?"

"Naw, bu' if youse banjo ma hoose, Ah' could ge' a new yin'; am' fed up wi the yin ah' huv".

Unfortunately, this request could not be accommodated.



The building of the motorway also required consideration of pedestrian requirements which were met by a series of footbridges and underpasses.

**M80 Stepps Bypass** - The Stepps Bypass links the M8 at Provan to the A80 at Hornshill. The 7.3 km of dual carriageway, jointly funded with the Scottish Office, took 31 months to complete, largely due to the construction sequence at Provan.

An enormous amount of earthmoving, over 1 million cubic meters was required, which, together with the presence of major traffic routes, meant a complex series of traffic control measures.

Future developments will see the M80 extended to Haggis Interchange, thereby linking to the M9 and M90, and the motorway network to the east and north.

**M77 Ayr Road Route** - the 11km route of the M77 extends southwest from Glasgow to Ayrshire, which will benefit greatly from the final completion of the route.

Jointly funded by the Scottish Office, the route was first determined in 1965, with detailed design commencing in 1983. Following Public Inquiry in 1989, planning permission was granted and work commenced on preparing contract documentation.

The M77 used a 'Design & Build' contract, which requires the contractor to carry out Quality Assurance and works certification, which is then checked by the clients representative. This type of contract was used for St. James Interchanges, experience of which made progress a little easier.



**Bonhill Bridge** - The new bridge over the River Leven at Bonhill was opened in July 1987, replacing an earlier structure dating from 1898. The design of the new bridge was intended to reflect, as closely as possible, that of its predecessor.

To this end, the advice of the Royal Fine Arts Commission was sought early in the design process.

**Paisley Ring Road, West Flank** - this road, under construction in 1996, forms the final link in the provision of a town centre relief route for Paisley.

Together with the Town Centre Action Plan developed for Paisley, this road will considerably improve the environment of the town, and the ease of movement for drivers around its edge.

**Salen to Tobermory** - the main road to Tobermory is inadequate to carry the numbers and sizes of vehicles using it. The road is, however, the only suitable route for commercial traffic accessing the north of Mull.

The improvements to this road will encompass improvements to passing places, carriageway strengthening, and regrading of existing sections.

Together, these will facilitate commercial traffic, aid timber extraction and provide a more suitable route for tourist visitors.

**A886, Strachur to Leanach** - the A886 is the main access to the Cowal Peninsula and Colintrive. Many sections have been improved by Strathclyde Roads through the years, but works on this section will bring substantial benefits to the area by improving access and safety for the route.

These improvements will, again, allow greater opportunities for local industries and tourist development.



**Park & Ride** - there are many locations across the Region where Roads Design have co-operated with the Passenger Transport Executive and other bodies in the provision of car parking. These car parks form part of wider initiatives to promote the use of public transport and reduce reliance on the car.

Also, at MacDowall Street in Paisley, a park & ride scheme has been developed with bus connections to the town centre. This project is designed to reduce levels of car traffic in the main pedestrian areas.

**Cycle Routes** - Roads Design have played an important part in developing cycle routes in the Region. These include the Cumbernauld to Glasgow Safer Signed Cycle Route, which is the first commuter cycle route in the west of Scotland.

Again, this project supports the wider transport objectives of reducing car travel by promoting alternative means of transport.

**Traffic Management** - There are many places in Strathclyde where Roads Design Offices have contributed to traffic calming measures. These include Croy, Peel Glen Road, Drumchapel and Hillhead Road Kirkintilloch.

In each case, the traffic calming is designed to meet local needs, making the presence of the local area office particularly important. In general, however, traffic calming schemes are designed to promote road safety and environmental improvements.

**Maintenance** - with over 13,000 km of road, 4500 structures and footways, the task of maintenance in Strathclyde is a considerable one. The task includes all public roads and, by agreement the Trunk Road network in the Region. It also requires inspection of every public road bridge and trunk road bridge, including the Erskine and Connel Bridges.



Works undertaken by the Design section also include refurbishment of the twin 750 meter tunnels of the Clyde Tunnel. This included concrete refurbishment and repairs to associated deck slabs.

**Environmental Works & Streetscape** - great emphasis is now being placed on the quality of environment experienced by the community at large. Many schemes have been developed which meet this need.

The schemes developed include those for Candleriggs and Royal Exchange Square in Glasgow and School Wynd in Paisley. As future developments take place, so the need for such high quality schemes will continue.

From this summary, it is clear that the work of Roads Design, like that of the Department, covers an enormous range of activities. In each case, however, it has been possible to develop considerable expertise in performing the required tasks, which has in turn, allowed an effective and high quality service to be provided.



## To Boldly Go...

Through-out its lifetime, Strathclyde's Roads Department has pioneered many forms of development, construction methods and materials. Many of the changes have been evolutionary rather than revolutionary, because the need for change has often been anticipated. It was often galling when a local authority elsewhere in the UK proclaimed the use of a 'new' idea or claimed a first for something which had already been introduced by Strathclyde Roads.

Back in 1976, Strathclyde was the first local authority in Scotland to embrace the concept of shared roads in residential developments. More recently, the council was the first local authority to require traffic calming measures to be built into new residential road layouts and to require developers to commission a safety audit of proposed roads before construction consent is given.

Through its publication of guidelines for streetscape and the development of roads, the Regional Council has played an important role in ensuring high standards of development are reached and maintained.

Strathclyde Regional Council promotes the use of innovative technologies in many aspects of its work. The CITRAC system has undergone several upgrades, each of which has utilised the best technology available. It is now recognised as a world leading system.

Strathclyde also led the way by installing the UK's first Microwave Vehicle Detection System. Such systems are used to regulate traffic signals, or to measure speeds and flows. Strathclyde Roads Department is now the largest use of MVD's in the UK. Similarly, Strathclyde is the first Scottish Authority to employ speed monitoring cameras with sign displays, on the M8 in Glasgow.



### One I made Earlier

The M74 upgrade between Millbank and Draffan was featured on BBC's Blue Peter. The technology was presented as producing an 'instant motorway'.

At no point, however was it suggested that the work undertaken involved an old washing up liquid bottle and some sticky back plastic.



In 1984, the contract to improve the M74 between Millbank and Draffan pioneered the use of continuously reinforced carriageway technology.

The pursuit of road safety is a central concern of the Roads Department. The requirement to complete a safety audit for new residential roads is only one component of the package of measures being introduced. Strathclyde has pioneered the use in Scotland of red light violation cameras and speed cameras. These have proven successful in reducing accidents and average speeds on selected routes.

Pedestrian safety issues have been addressed by the use of Puffin and Toucan crossings, which measure pedestrian levels automatically and allow cyclists to cross with pedestrians.

Conditions in several town centres have been improved by the introduction of new pedestrian measures. These now include the use of pneumatic bollards to restrict vehicular access to shopping areas. Strathclyde is the first authority in Scotland to employ the use of such bollards, in Quarry Street, Hamilton.

Conditions for cyclists have further been improved by the ongoing development of a network of cycle routes through-out the Region. These include the first commuter cycle route in the west of Scotland, from Cumbernauld to Glasgow, and a series of routes designed for leisure use. The cycle routes also support the Fit for Life Campaign.

The changing face of modern infrastructure provision is illustrated by the introduction of new style contracts. St James' Interchange was, at the time of its construction, the largest fixed price Design & Build contract in the UK.

Similarly, the contract for the M77 Ayr Road is a Design & Build. At over £50 million, it is the largest such contract awarded by Strathclyde Roads Department.



## Conclusions

Strathclyde Regional Council, in its 21 years of service, has sought continually to provide the best possible service to all those who live in its area. It has been successful in introducing strategies supporting the economic, social and environmental protection and improvement of a widely contrasting area.

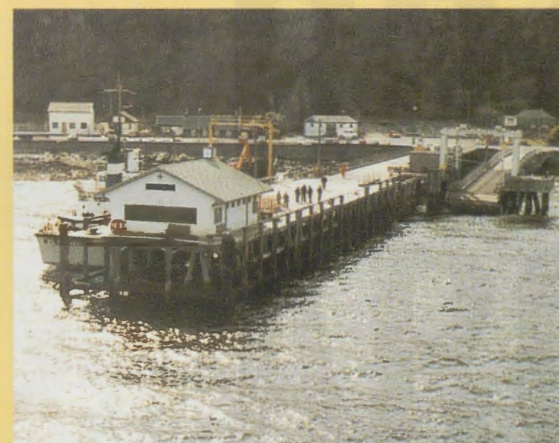
The Regional Council has also been very effective in voicing the concerns of its residents in the UK and Europe. Its contribution to national and international initiatives is widely recognised.

The Roads Department has played a central role in this task. Today, many innovations pioneered by Strathclyde Roads are adopted by other authorities and bodies, and the Department is recognised as being of the very highest ability.

This success is due to efforts of all those who have supported the Roads Department in its changing role, and the co-operation of other Departments and groups who have made so much of the progress possible.

From the Island of Mull to Ayrshire, Lanarkshire and the Inner City of Glasgow, the work of Strathclyde Roads Department has been central to the ongoing redevelopment of the Region.

Through the work of Strathclyde, the new Unitary Authorities have been given a solid foundation upon which to develop their own transport strategies.





SCOTTISH  
ROADS  
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