



Moving forward beyond 2000

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Abstract

Between 1981 and 1991 car ownership in Lothian increased by 45% and national projections to 2001 indicate a further 20-33% increase. The Council does not wish to build more roads simply to cater for increased traffic. Instead there is a long term aim of giving the streets of Lothian back to people.

Since it was formed it has worked for economic development with improvements in road safety and a healthier environment. The more vulnerable transport users have been aided in part by increasing their degree of segregation from others.

This paper looks at measures:

- 1) which have led to an increase in numbers of local train travellers
- 2) which it is hoped will stabilise the decline in use of local bus services.

In town centres some streets are being pedestrianised, in others footways are being widened by reducing space for motor vehicles. Lothianwide there are now 600km of facilities for cyclists, most also available to pedestrians and segregated from general traffic. This paper looks at:

- 3) measures to assist pedestrians in residential neighbourhoods and in some shopping areas
- 4) ways to promote cycling for recreational and essential journeys so that the 40% increase between 1981 and 1991 continues beyond 2000.



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1 Introduction

This paper looks at aspects of four policy areas where alternatives to the use of the car are being implemented:

railways buses pedestrian routes bicycle ways

Over the past 15 years the infrastructure has been adapted to improve road safety, achieve a healthier environment yet still encourage economic development. Edinburgh now has a bypass enabling people and goods to travel between East or Midlothian and West Lothian. But schemes for inner and suburban ring roads were withdrawn over 15 years ago. Most large communities elsewhere on major roads are bypassed and many inter-urban public transport links have been improved.

As part of a review of the Structure Plan (Lothian Region[1]), that Council together with Edinburgh District Council and the Scottish Office commissioned a transport and environmental study by MVA et al[2]. This showed that Edinburgh's transport problems will worsen unless action is taken requiring substantial investment. Titled "moving FORWARD" Lothian Region[3] has launched a new strategy. Concerns about the role of cars and environmental damage are requiring a reassessment of travel habits and policies so we anticipate and respond to change. Can a transport system be developed to meet needs in a way which provides choice and is sustainable?

Table 1 Travel to work in Edinburgh

	1971 Census	1981 results	1991 [4]	2000 T a r g e t [3]	2010 [3]
car,m/c	29.1%	38.2%	45.8%	47%	36%
pub.transport	46.5%	41.3%	32.1%	34%	41%
walk	19.9%	16.9%	14.5%	16%	18%
bicycle	0.7%	1.4%	1.8%	3%	5%
other	3.8%	2.2%	5.8%	-	-

Table 1 shows that journeys to work made in Edinburgh between 1971 and 1991 saw an increase of 50% in the percentage of people using a car. Using cars more often and for longer journeys causes more: accidents acute traffic congestion
noise and air pollution pressure on parking places
costs for businesses consumption of limited fuel
Greater reliance on cars also causes public transport problems, reduced mobility for people without access to a car and less pleasant and less safe conditions for pedestrians and cyclists.



2 Lothian backs ScotRail

In 1979 the Regional Council [5] issued a Discussion Paper which identified the rail network as being capable of carrying more passengers on local journeys. As a result 6 stations have been built on 3 lines radiating from Edinburgh Waverley and a 4th, freight, line was reopened to passengers with 3 stations at Uphall Station, Livingston North and Bathgate. The Regional Council paid for a branch line to be electrified in conjunction with electrification of the East Coast Main Inter-City Line, and for the provision of refurbished electric multiple units to replace ageing diesel multiple units. New cycle racks and car parks have been provided, and existing ones extended at most of the 25 passenger stations in the region. Several stations have bus feeders.

Rail measures incorporated in the 1985 Structure Plan issued by Lothian Region[6] have now been implemented; the Regional Council's[1] 1995 Structure Plan therefore proposes a further 2 stations in West Edinburgh and 2 stations in West Lothian on existing rail lines. Fife Regional Council, which administers the area on the other side of the Firth of Forth, has been given permission to finance the provision of additional stations and extra rolling stock. This will help Fife residents commuting into Edinburgh.

In 1971 the Registrar General for Scotland[4] recorded 2610 persons resident within what is now Lothian as travelling to work by train. The 1981 figure was 2960. By 1991 this figure had reached 4780 persons. That is 1.5% of all working residents. Since 1986 the Regional Council[7] has been sampling the number of morning peak hour travellers crossing the boundary of Central Edinburgh. A one day rail count varies from year to year but is usually in the range 5000-6000 persons. However the 1994 figure has fallen by 10 percent perhaps as a consequence of the rail strike in the summer of 1994. ScotRail are taking a number of initiatives to win their passengers back.

Traditionally city centres are where public transport can have a dominant role. On the western edge of Edinburgh there is however an area of former marshland which is being developed for shopping, industry and office uses. Known as South Gyle or Edinburgh Park, eventually over 20000 people may be employed there. Currently one rail station on its eastern boundary attracts 8% of morning peak travellers to the area from central Edinburgh or Fife. There are proposals for another station to be built



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on a different rail line to serve people living in W.Loathian and points further west. Should developers be asked to fund this? Can the new Edinburgh council afford it? Would trains stop there? Would they have any spare seats for extra passengers wishing to exploit rail's advantage of being segregated from road congestion to travel to this new destination?

3 Lothian loves the bus

Outside the London area the residents of Lothian make the greatest use of public transport in the UK with an average of over 300 journeys per person per year. Most of the journeys are made by bus. In order to improve the reliability of buses some 10 km of bus lane were designated 20 years ago and there have been minor additions since then. There are also a number of 'bus gates' which provide special access for buses to several residential areas, shopping centres etc.

While between 1981 and 1991 bus use measured by the Registrar General for Scotland[4] for the journey to work in Edinburgh declined by 10%, bus journeys in central Edinburgh declined at a slightly slower rate. The morning peak cordon survey yielded 35400 bus passenger crossings in 1994 compared with 38200 in 1986, a reduction of 7.1% over 8 years. This is less than the decline in bus use in Scotland which, for the 8 years ending in 1992/93 shows a decline of 20%. This decline cannot be attributed to fewer buses as Scottish Office figures [8] show bus-kilometres increasing by 20% over the same period.

As approximately 90% of bus journeys in Lothian are provided commercially, the Region's influence in ensuring a good quality, attractive bus service is limited to specifications for tendered services and provision of the road infrastructure. There are 29 bus operators in Lothian and since deregulation in 1986 most of Edinburgh's bus stops have had details of all services added to the bus stop flags. Some 300 of the stops also display timetable information.

My department also took over responsibility for a motley collection of bus shelters. Maintenance policies and procedures were clarified and a programme for installing new shelters was extended. Some have had seating installed.

The Regional Planning Department are also looking into bus stop displays of real time information about approaching bus(es). There are examples of this in London, Southampton and a number of other cities.



While it is good that prospective passengers can be advised that their bus is 8 minutes late, both they and the bus company would prefer the service to be less susceptible to traffic delays. Proposals by the Regional Council[9] for GREENWAYS have therefore been devised for speeding the flow of buses and other road users. The initial Regulations for GREENWAYS were sent to the Secretary of State for Scotland and in January 1995 he indicated he was minded to approve the Order, subject to a few modifications.

The proposals are similar to the Red Route schemes in London. Lanes segregating buses from other traffic are to be marked out with a green slurry seal. On the main road certain areas are to be marked out for loading or short term parking. More signalled crossings are proposed for pedestrians and cyclists and traffic calming measures are being installed on residential side roads to deter extraneous movements by traffic which ought to be using the main road.

The City of Edinburgh Rapid Transit (CERT) system is another measure being promoted by Lothian Region[10] to further upgrade public transport by increasing the frequency of service and greatly reducing bus journey times in the west of Edinburgh. The system is planned to provide a largely segregated reliable, high quality, high speed, purpose built route for buses only between the airport and the City Centre via the expanding development of Edinburgh Park. It will link suburban bus services to the north and south of the route and will interchange with rail at two proposed stations on the edges of Edinburgh Park. It is hoped that proposals can be lodged in Parliament in November 1995.

Table 2 Pedestrian flows

Weekday Two-way flows	13-14 h	09-18h
Princes St, n-side, Edinburgh	10 200	42 600
Waverley Bridge, Edinburgh	-	22 158
George IV Bridge, Edinburgh	-	12 620
High St, Old Town, Edinburgh	-	9 570
Rose Street, Edinburgh	-	8 460
Northumberland St, w-side, Ncastle	5 900	35 000
Church Street, Liverpool	11 605	-
Strøget, Copenhagen	7 060	49 700
Longe Viestraat, Amsterdam	6 350	47 960
Kaufingerstr, Munich (before)	-	72 000
Kaufingerstr, Munich (after ped scheme)	-	175 000

Refs: E & T P[11], City of Newcastle[12], Ramsay[13], Lothian Region et al[14]



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4 A Walk around Lothian

Princes Street, Edinburgh is one of the busiest shopping streets in Europe as shown in Table 2. About 7 years ago the footway on the busy northern side was widened at the expense of one traffic lane. Despite this, a sample of shoppers questioned by E & T P[11] still complained about congestion on the footway, too many people, too much traffic and air pollution.

Consultation is continuing on proposals to make most of Princes St one-way for general traffic (but 2-way for buses and cyclists) and enable the footway to be widened further. As part of a renewal scheme, footways in the High St of Edinburgh's Old Town were widened to improve its environment and E & TP's proposal[11] for improving a pedestrian route between the university, the Old Town and Princes Street is in progress. This benefits residents going to work/college, tourists, shoppers who are also pedestrians.

Some residential areas have a poor pedestrian accident rate. A number of other residential areas are also used as through routes by persons outside the area. A variety of traffic calming measures are being implemented to reduce the speed of traffic and discourage through use. In addition to speed humps, cushions, tables, carriageway narrowings, chicanes and footway build-outs are being employed. If traffic speeds have been reduced to nearer 20mph consideration can be given to a Traffic Regulation Order which would formally designate a 20mph zone in accord with Scottish Office [15] regulations.

In the first five areas where calming schemes have been implemented 9% of people interviewed by Scotinform[16] asked for more humps to be installed, 8% asked for other speed reducing measures to be added and 5% asked for their road to be stopped up for through traffic. In this way pedestrians, be they young or old, will feel and be safer in their street. 2% of respondents asked for the humps to be removed.

5 Lothian leads in cycling

Lothian has over 600km of facilities available for cyclists. How has this come about and what effect has this had on cycle use? At the time of the previous local government reorganisation in 1975 Regional and District authorities in Lothian agreed to a policy of purchasing disused railways as they became available, with the Region purchasing those that might have some long term transport use. In the meantime they could



be laid out as walkways for people to walk or cycle along. After requests from the local cycling campaign organisation, SPOKES, the Council commissioned a report from John Grimshaw & associates[17] on how better cycling facilities might be provided. The result, a 30 year programme, was accepted in principle by the Region's Transportation Committee in 1985.

Table 3 Lengths of cycle facility in Lothian
(completed or in progress as of 31 March 1994)

	East Lothian	Mid- Lothian	West Lothian, inc Livingston	Edinburgh
Off-road routes managed by LRC, km	7.5	6.6	391.9	36.2
Off-road routes managed by others (inc Districts) km	23.2	17.3	2.7	39.0
Shared-use footway, km	10.8	3.2	7.8	15.1
Cycle or bus & cycle lane, km	7.0	0.0	0.0	38.7
Total	48.5	27.1	402.4	129.0

During the last few years a capital expenditure programme averaging approximately £1/2M pa has been implemented on cycle schemes to create the size of network shown in Table 3. It is likely that the percentage of capital resources deployed on cycling will increase to 3% of the roads & transport budget.

Councils in Lothian have provided some off-road routes along rivers/burns, along parts of the coast and through a few of their parks. Families particularly like the safety of such routes. Where there is a break in a route traffic signals can be provided to reduce conflicts with motorised traffic.

There are two ways in which some degree of segregation from traffic can be offered when establishing longer links between off-road routes:

- a) by redesignating footways for shared-use by pedestrians and cyclists
- b) by marking out part of the carriageway for use by cyclists

Generally in Lothian, where cyclists are sharing with pedestrians there is no line marked out to segregate them. Where there is segregation it is pedestrians who invade the cyclists' area. All bus lanes, with and contra-flow, are available for cyclists and on some radial routes without bus lanes cyclists benefit from provision of cycle lanes. This was reported by



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Williams[18] as also being done at a few roundabouts with histories of cycle accidents where other measures to assist cyclists have not been possible.

Livingston is a new town in West Lothian which has a segregated footpath system. In 1987 this network was formally made available for shared-use by cyclists and pedestrians. Since then there has been a programme of improving the existing network, extending it to connect with neighbouring communities, and signing the main grid routes.

Table 4 shows a number of ways in which changes in the use of cycles can be measured for the Edinburgh area. Du Feu[19] reports the 1994 increase in SPOKES membership as being partly due to substantial completion of a segregated cycle network in north Edinburgh which was marketed by signing, a household drop of leaflets showing where the routes led, and by an action day in a local park. Pedestrians comprise 70-80% of users on this network using it for going to work, school, shopping and recreation. This reinforces the view that routes should be segregated from traffic, and not just for reasons of road safety.

Table 4 Indicators for growth in cycling

Census:Travel to work	1971	1981	1991			
Edinburgh, No. cyclists	1520	2680	3460			
Edin. central	1968	1977	1984	1987	1991	1994
cordon survey, inbound cyclists	203	330	511	680	583	636
SPOKES	1979	1981	1984	1987	1991	1994
members	283	520	500	512	661	990
Refs. Registrar General for Scotland[4], Lothian Region[7], De Feu[19]						

6 Conclusions

Lothian's investment in transport systems such as railways and off-road cycle tracks for shared-use by pedestrians and cyclists has been shown to be a good policy by their increasing use. Until further funds become available for the CERT rapid transit system the Region's moving FORWARD strategy is looking towards GREENWAYS, a sophisticated form of bus lanes, as one means of improving the attractiveness of buses and so stabilise their slow decline in patronage. Many people start or end their daily journeys on foot. Lothian has not forgotten them and is providing more space for their movement, sometimes by reducing areas allocated to motorised traffic both where they live and in town and suburban centres.



7 References

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