Scottish transport review

Issue 47
March 2010
www.stsg.org
ISSN 1462-8708

An independent publication by
Scottish transport tudies Group
SCOTLAND'S TRANSPORT THINK TANK

WHAT'S INSIDE:

Electric vehicles

Peak Oil

Lessons from History

Latest research and innovative delivery

The Scottish Transport Studies Group (STSG)

STR is the newsletter of the Scottish Transport Studies Group (STSG) and is largely funded from STSG membership subscriptions. STSG was formed in 1984 and now has corporate and individual members from transport operators, industry, national government, local government, universities, and consultants.

The aims of STSG are "to stimulate interest in, and awareness of, the transport function and its importance for the Scottish economy and society: to encourage contacts between operators, public bodies, users, academia and other organisations and individuals with interests in transport in a Scottish context; to issue publications and organise conferences and seminars related to transport policy and research". STSG is a charity registered in Scotland number SCO14720.

Published by LBD • www.lbd.uk.net
Tel. 0131 665 3326

Who decides what goes in STR?

Firstly the members of STSG - We rely on STSG members and others telling us about interesting studies they have completed or knowledge they have. To keep subscriptions low we need members to invest time to share their knowledge. STSG has some funds to commission some analysis and reporting but the editorial work is undertaken voluntarily.

Secondly the Editor Derek Halden, assisted by the STSG Committee tries to fit the contributions into 16 pages and create a readable document.

If you can contribute to STR please e-mail editor@stsg.org

Contents

Our Friends Electric

Derek Halden STR Editor

In this issue of STR we look at the opportunities to develop a new transport economy built around electric vehicles. Scotland has ambitious renewable energy targets so these demand similarly ambitious aims for electric vehicle market growth. There are very strong reasons why Scotland should move fast with the development of Electric Vehicles since:

1. Early adopters of electric vehicles support a virtuous circle of more viable renewable energy resulting in more attractive pricing for future electric vehicles leading to even more competitive renewable energy supplies.
2. Electric vehicle manufacture will be a global industry. First movers will be big winners. It makes sense for Scotland to build a manufacturing capability in a sector where it could potentially lead the world. Just as Finland achieved with mobile phones, Scotland has the potential for a major capability building world class electric vehicle brands.

However the rate of progress will need to accelerate. In STR we first dealt with this topic in 2005 and made very similar points to the ones above. In the five years since then there has been real progress but we still lack the momentum to take us forward in a global market.

The lessons from history discussed later in this issue of STR are sobering. We do not want to repeat the mistakes of previous generations of invention but to learn from them. Scotland can translate a technological lead into long term sustainable economic growth. Is there a more important investment priority in Scottish transport than rebuilding the transport infrastructure to accommodate this new mode? What is clear is that electric vehicles are not a direct replacement for today's cars and lorries but a new way of travelling.

In the new transport ecosystem we will behave differently but in all probability achieve the integration between transport and the wider economy that has been lacking in the oil age.

In the Vanguard

Paul Nelson of Allied Vehicles says that an order for 1,000 electric vehicles could bring costs down by as much as 20%

Allied vehicles are Britain's largest taxi manufacturer and are hoping to expand rapidly in the electric vehicle market. They produce over 3,000 vehicles a year and are skilled in vehicle adaptation as Britain's principal adaptor of wheelchair accessible vehicles

The company's approach is to:

- Identify market opportunities
- Design, prove, build and bring to market appropriate vehicle solutions
- Offer value for money
- Market through dynamic call centre
- Specialist sales forces throughout UK

Its electric vehicles are based on Peugeot Expert and Boxer range. They have the advantage of being

- Acceptable and good looking commercial vehicles
- Zero carbon emissions at point of operation
- Well proven and equipped vehicles which already meet European legislation
- Able to mount batteries under floor not affecting the load area
- Vehicles look like 'normal' LCVs

The vehicles have:

- Lithium-Ferrite batteries and a nominal range of 100 miles
- The maximum speed is 70 mph (governed)
- Re-charge time (from empty): 6-8 hours
- No battery memory therefore possible to re-charge at any point without affecting the range
- Re-charge from 3-phase 32 amp 5 pin source and single phase 13 amp

Communication systems constantly monitor battery condition. This uses GPS system and relays information to centre which immediately identifies any deterioration in cell condition (before the driver would notice anything). This mobilises technician to take steps to rectify and extends battery life and reduces down-time to minimum

Leading the Charge

Rebecca Trengove of Axeon explains that new battery technology is the key to successful electric vehicles.

Axeon is a leading technology developer, designer and manufacturer of complete Lithium-ion battery systems for Electric and Hybrid Electric vehicles (EVs and HEVs). To date, over half a million miles have been driven on the roads of Europe and the US in electric vehicles powered by Axeon Lithium-ion battery systems. Headquartered in Dundee, Axeon operates in several European locations and also has staff based in the US and China.

The Scottish Government now has a unique opportunity to act at a relatively low cost and position Scotland as a global leader in sustainable, low-carbon transport. We believe that the Scottish government should set ambitious targets for public sector fleets and provide financial support to enable them to convert to more expensive but lower carbon-emitting vehicles. Replacing public sector vehicles with electric vehicles at the normal attrition rate would help Scotland to meet its emission targets, and at the same time help to stimulate the growth of a potentially high-value industry. Certainly it is feasible that by 2020 95% of all new vehicle purchases could be low carbon, if a high proportion of these are EV, HEV or PHEV.

5,000 vehicles subsidised for three years at £1,000 per vehicle per year would cost only £15 million, but would make Scotland a global leader in sustainable transport. 5,000 electric light goods vehicles on Scotland's roads would, we calculate, result in CO_2 emission reductions of 43,585 tons of CO_2 a year.

Why Electric Vehicles; why now?

First, there are the environmental considerations: electric vehicles mean no CO_2 emissions at the point of use, no exhaust fumes belching out NO_x, SO_x or other particulates, and reduced noise levels. Second, in these days of apparently inexorable fuel price rises and concerns over energy security, battery power seems ever more appealing; added to this, the batteries themselves are now smaller and lighter, yet more powerful.

Although the technology is currently expensive, Electric Vehicles will probably result in an overall *reduction* in lifetime costs. They aren't liable for road tax or the congestion charge; they have fewer moving parts – the gear mechanism, or catalytic converter for e.g. – which means lower running costs, and recharging an electric car battery costs a mere £1 for 100 miles' range.

Many governments are already providing incentive schemes, allowing their industries to gain traction in developing the necessary technologies: the US provides $2.4 billion funding for advanced batteries, and several governments have introduced tax credits or subsidies for Electric Vehicles.

In 2006 road transport in Scotland produced 10.5 million tons of CO_2 (18% of all Scotland's emissions). The ambitious Scottish Government target for reducing CO_2 emissions by 80% by 2050 makes the case for moving now to embrace the new technology all the more compelling.

> *it is feasible that by 2020 95% of all new vehicle purchases could be low carbon*

Available technology

Looking at what is available on the market today, the range of vehicles includes all-electric vehicles, with an electric motor powered entirely by battery power and a 70 –130 mile range. These have zero CO_2 emissions at the point of use.

Hybrid Electric Vehicles are powered mainly by an internal combustion engine, but with a battery-powered electric motor to provide a power boost. They have a range of 400 miles. In buses this leads to a 20 – 40% reduction in CO_2 emissions; in cars, the savings are akin to those already delivered by a diesel engine.

Plug-in Hybrid Electric Vehicles are still around 2 – 3 years away for mass market; they have a battery-powered electric motor, with a diesel engine to charge the battery. They have a 30-mile range on battery power, 400 miles range when using diesel. In cars, they achieve an 85% reduction in CO_2 emissions.

Lithium ion batteries are used in preference, as they have a high coulombic efficiency (close to 100%), are environmentally friendly, have low self-discharge and have storage efficiency rates comparable with hydrogen.

Future developments

Turning to the future, battery cell chemistry will require a reduction in costs for raw materials and synthesis. Battery safety – especially in the areas of short circuits and thermal runaway - needs to be improved, and cycle life for Electric Vehicles needs to be in the thousands; for HEVs in the ten thousands. To be effective in the transport industry, batteries will need calendar life of 10 years. Increased Power Density is required for HEV and PHEV batteries, and increased Energy Density batteries are needed for PHEV and EV.

Axeon's analysis for projected improvements in energy density predicts a step change in the performance of Lithium batteries by 2015, providing an energy density almost twice that of petrol.

Battery Management System – a modular solution

Axeon has developed a highly adaptable, universal system for battery management: highly programmable, it is independent of chemistry, capacity, or voltage.

The 'Master/Slave' arrangement is a modular solution: the 'Slave' controls up to 14 cells - regardless of capacity - delivering individual cell voltage and temperature monitoring, cell balancing and hardware protection. The 'Master' can control multiple slaves and monitors current, state of charge, state of health and cycle life. In this way it controls thermal management and provides communication between the Battery Management System and the host application.

With its considerable automotive experience Axeon is well placed to identify the possibilities for industry in a sector where Scotland has the potential to lead the world.

Low carbon vehicles in Scotland – why, how, when and where?

Glen Moon, Atkins

Why

A key driver for the development and uptake of Low Carbon Vehicles (LCVs) in Scotland is the Scottish Government's commitment to reducing CO2 emissions by 50% by 2030 (from 1990 levels) and 80% by 2050[1]. Transport accounts for around 25% of all CO2 emissions in Scotland, and 'greening' the vehicle fleet will be an important contributor to these carbon reduction targets.

The Industry Task Force on Peak Oil and Energy Security has warned that peak oil production may be reached within the next five years[2], and this future scarcity of oil will make the move to more fuel- and carbon-efficient modes of transport of increasing importance.

How

The uptake of LCVs in Scotland is likely to be driven by central government through public sector procurement. Leadership from the public sector will help to demonstrate the viability and reliability of LCV technology and trial the necessary infrastructure and production processes.

The UK Government has announced a £450m strategy to support the creation of a flourishing early market for ultra-low carbon vehicles. This includes the £30m Plugged-In Places initiative, the first phase of which will see 11,000 vehicle recharging points installed in three centres during the next three years.

These measures will be supported by other initiatives to stimulate demand such as DfT's recently announced 'Plug-in Car Grant' (available from 2011) and the Treasury's 2009 initiative, in which companies opting for electrically powered vehicles will benefit from a five year company car tax exemption.

When

One of the key challenges for central government is to decide which of a number of emerging technologies to back as investing in a transitional technology could leave a legacy of redundant and obsolete infrastructure.

The options available include:

- Efficiency improvements to existing internal combustion engines, such as 'Stop-Start' technology and 'greener' diesel engines;
- Increased use of biofuels;
- Hybrid vehicles;
- Full electric vehicles; and
- Hydrogen powered vehicles.

In the short to medium term, continued improvements to existing combustion engines, biofuel use and the steady introduction of hybrid vehicles are likely to be more dominant, as these technologies do not require any major infrastructure.

Full electric vehicles, whilst unlikely to require a widespread upgrade to the national energy grid, will require either on street or on-drive charging facilities, and are currently more expensive than traditional technologies.

Marketable hydrogen vehicles are still some way from being introduced on a large scale, but could ultimately become the dominant technology.

The real breakthrough for hybrid, electric and hydrogen vehicles is likely to occur when mass-manufacturers throw their full resources (and considerable marketing expertise) behind LCVs. The critical threshold will be reached at the point at which each technology becomes a genuinely affordable option to the average car buyer.

The critical threshold will be reached at the point at which each technology becomes a genuinely affordable option to the average car buyer

Where

Common to the rest of the UK, urban and rural areas within Scotland will have differing requirements with regard to LCVs. A denser recharging / refuelling network and shorter, more frequent trips mean that the introduction of electric vehicles is currently more feasible in areas with high density population

Rural areas, with the exception of island communities, are generally characterised by longer trips, rougher terrain and more dispersed settlements. For these reasons, these areas are likely to see a slower uptake of electric vehicles, and a continued dependence upon existing or hybrid technologies. The exception is on island communities where range is less of an issue, and here there are exciting opportunities for micro-electrical generation and self-contained electric vehicle fleets.

1 http://www.scottish.parliament.uk/s3/committees/ticc/inquiries/ClimateChangeBill.htm
2 'The Oil Crunch: A wakeup call for the UK economy', ITPOES, Feb 2010.

The Next Generation

David Densley from Scottish and Southern Electricity (SSE) has been looking at the Energy Infrastructure needed to support Electric Vehicles.

Transition to low carbon generation

EU energy policy is committed to reducing overall emissions to at least 20% below 1990 levels by 2020. Contributing to the achievement of this carbon reduction target, the EU has also set specific targets for increasing the share of renewables in energy use to 20% by 2020, while simultaneously improving energy efficiency by 20% over the same period.

An increasingly well-recognised benefit of this focus on renewable energy is that it will make a significant contribution to the security of fuel supplies by reducing dependency on oil and gas, as global demand for these increasingly scarce commodities accelerates, whilst maintaining the competitiveness of European industries.

In order to meet these targets, SSE maximises the potential of mature technologies: - onshore wind and hydroelectric generation - while investing in future potential of technologies such as deep-water off-shore wind generation, micro generation and smart metering.

Public charging points are now appearing, but there are still issues around standardisation and interoperability, which need to be addressed

Electric Vehicles

The transition to a low carbon economy will bring about other key changes: electricity is likely to become a major transport fuel through electric vehicles (Evs).

EVs produce less CO_2, than conventional cars, even when running on average grid mix energy. They can be charged at night - when demand is low - with houses being supplied by local micro generators, allowing customers to take advantage of Economy 7 rates. At present only single phase charging is available at home. Charging at work would be easy to implement for fleet vehicles, but consideration needs to be given to how the costs of charging staff cars would be met.

Looking to the future, technology improvements and government incentives mean more EVs and Plug in Hybrids will become available. Public charging points are now appearing, but there are still issues around standardisation and interoperability, which need to be addressed before EVs can be offered as a viable alternative to the car buying public.

Transport in the Ecological Age

Peter Head OBE FREng FRSA of Arup has just toured the globe for the Institution of Civil Engineers to develop the debate on how to deliver a new sustainable world economy. He recently presented his findings to the Institution and from his feedback STR summarises the transport lessons for Scotland.

Civil engineers are proud of the legacy of their profession's contribution to the rapid development of human civilisation in the period 1700 to 1900. In a short period, the Industrial Revolution launched much of Western civilisation from the Agricultural Age to the Industrial Age and with it a way of urban living that exploited the planet's abundant resources for the benefit of people in those countries who led it.

Industrial development and urbanisation have continued unabated, without much concern for global consequences, and have spread all over the world as a model for economic growth and for raising quality of life. This development has kept civil engineers at the heart of the design and delivery of the essential infrastructure for energy, water, waste, communications, transport and flood protection. Fossil fuel energy consumption is central to this model of human development, and in designing and building these systems we have created the hard wiring of a non-renewable resource consuming society.

However, our globalising economic system is destabilising the planet's life-support systems, and a global transition is underway to the ecological age of human civilisation.

An Ecological Age by 2050

A clear vision is now emerging that the way forward is one of smart responsive simplicity rather than rigid complexity. In the new age, people will easily go to work, school, shops and leisure facilities by walking, cycling or by public transport; leading to better health, lower social care costs and creates a more desirable place to live in and a higher return for property developers.

One of the largest differentiators in the ecological footprint of cities is the relationship between urban density and transport energy use. An average urban dweller in the United States consumes about 24 times more energy annually in private transport than a Chinese urban resident. There is a sweet spot of urban density of 75 persons/ hectare in which transport energy use is reduced through the economic provision of public transport and there is still ample room for urban parks and gardens. Higher urban density combined with good public transport and a switch to use of fuel efficient and renewable energy powered vehicles can decrease transport-related energy use and improve liveability.

Biomimicry – Diversify and Co-operate – A logical approach is to adopt principles that mimic the biological system that we are a part of - the successful organisms on the planet are those that have lived competitively for millions of years within ecosystems without consuming their ecological capital. It is an extension of the sustainability principles where we balance economic, environmental and social impacts.

Land Use planning - Land use planning and local development frameworks in 2050 should be focused particularly on low carbon living, within the environmental limits of the planet. Higher density of land use in urban areas, particularly around public transport interchanges, will mean moving away from car dependency for trips inside urban centres, which will reduce energy consumption and increase quality of life. Orbital public transport routes in outer suburbs can be introduced to create new interchanges with the radial routes. This approach will encourage walking and cycling locally. Increasing mixed use density in existing towns and cities, rather than low density sprawl spreading out into the countryside, will allow energy efficient and renewable energy powered public transport systems like guided buses and trams to be viable, particularly when they interconnect new and existing rail routes. When this is combined with low particulate emissions from vehicles, health problems that have affected high income country citizens can be reduced and avoided and economic benefits will accrue from lower health costs.

Transport in towns and cities - A substantial reduction in petrol and diesel use in private vehicles in urban areas will be a key driver of change. Battery and hydrogen fuel cell powered vehicles for private, public and goods delivery use will be part of the mix, with hydrogen sourced from natural gas or other resources Car clubs will enable people to hire vehicles when they need them and many of vehicles will become low or zero emissions vehicles. Car club use is growing quickly in many cities like London and research has shown that users drive 64% less distance after joining a club. Public transport investment, aided by increases in urban density, in rail, metro, bus and tram and better information systems will enable more journeys to be taken by efficient public transport. Selected road closures will provide more direct walking and cycling access to work, schools, shops and public services.

Removing major road infrastructure from urban areas would free up valuable development land. The City of Vancouver demonstrates how well a city works with no freeways. It comes high up the list of the most liveable cities in the world and has relatively low carbon emissions. Energy consumed in goods distribution in urban areas can be minimised by the use of consolidation centres around the city perimeter which are accessed by intercity rail and road links. Distribution from these centres can be made using a fleet of zero emissions vehicles on an organised basis to minimise travel distances and congestion.

Removing major road infrastructure from urban areas would free up valuable development land

Transport between cities - The energy efficiency of inter-city travel is likely to be achieved through a combination of investment in a high speed rail passenger network (eventually running on renewable energy), using bus and car share priority on motorways, improved information and traffic management systems and improved vehicle and fuel technology. When high speed rail was introduced in Europe rail user numbers doubled, and on some routes - such as the 300 km Paris-Brussels route - air travel dropped to a negligible level. High speed railway investment needs to include the capacity for rail freight movement with links built directly to city edge consolidation centres. This is the area of ecological footprint reduction that will be difficult until renewable fuel supply powered road vehicles are available at competitive prices for long distance passenger and freight use.

Air travel - Growth in air travel from UK airports is still accelerating because of the demand for leisure flights has increased. If this level of usage continues, without any technology changes, then emissions from air travel will become the single biggest source of greenhouse gas emissions by 2050. This is the most challenging ecological footprint reduction issue of all. In low and middle income countries any new airports should be focused on international/ regional travel over approximately 600 km and they should be located on high speed rail routes and connected into local urban areas with mass transit systems. Also, high speed rail investment should have equal priority with roads.

Achieving Delivery

Radical transformation of the infrastructure that supports life on the planet is needed if we are to attain a sustainable future. This requires strong partnerships between public, private, NGO and community groups within national communities and global cooperation, but with existing technology. In partnership with other disciplines, engineers are ready to tackle the challenge of transforming the technologies, infrastructure systems, planning approaches, policies and

delivery mechanisms needed across the world to move all human development onto a sustainable pathway, which attempts to stop and reverse destruction of the eco-system on which we depend for life.

One skill that is in short supply is the ability to manage complex systems and deliver sustainable outcomes through design and performance specification, quality management and whole life system operational management. Engineers have global experience, are adept at multidisciplinary team working, which will be essential for success and can design and deliver these new infrastructure systems.

Crude Awakenings

STR looks at why key transport players and STSG members such as Stagecoach, Virgin and Arup are saying that the oil crunch will be more important for transport than the credit crunch

A new report on the 'Oil Crunch' prepared by the independent task force on peak oil highlights that virtually every sector of our economy is still dependent on oil. Our transport system, which is central to our economy and social fabric, is largely dependent on fossil fuels and older combustion technologies. This is especially important for the UK and other developed economies, which have for decades been so reliant on low-cost oil.

Peak Oil

The idea that cheap oil is available and abundant is one of the great economic presumptions of our times. However it is inevitable that global demand will move to a point where it consistently exceeds supply. The effect must be a structural increase in oil prices, coupled with the prospects of oil shortages and a consequent increase in market volatility. The only questions are "how soon, and by how much?"

The evidence that defines global oil reserves and extraction rates indicates that the global peak production rate for oil is likely to occur within the next decade (maybe within 5 years) at a value no higher than 92Mb/d (million barrels per day). This compares with the current record extraction rate of 87Mb/d set in July 2008. The UK, as a net and rising importer of oil, gas and coal, is becoming increasingly exposed to competition for supplies from other energy importers. The insulation from international supply pressures provided when the UK was self sufficient in oil and gas supply is now eroding quite quickly.

transport is most exposed to the effects of global supply constraints and price shocks

Economic consequences

While electricity generation and heating have been moving away from oil, the transport sector is consuming an ever larger share of the UK's oil-based energy demand. Road and air transport's share of oil demand in the UK has been rising steadily, exceeding 50 percent of overall consumption in 2008.

Of all the different sectors of the British economy, transport is most exposed to the effects of global supply constraints and price shocks. Despite efforts to promote energy efficiency and the use of alternative fuels, ground and air transport remain stubbornly dependent on petrol, diesel and kerosene. These oil-based liquid fuels simply cannot be substituted in the short to medium term. Biofuels, for example, currently only account for 2.6 percent of the fuel supplied for road transport in the UK. Global supply restrictions and price volatility will therefore pose a growing threat to the UK's transport sector as the global oil crunch hits home.

Countermeasures

We all have a need to travel, and transport is key to the economy and so many aspects of society and our daily lives. Yet we cannot escape the fact that the sector faces two massive converging challenges which require significant changes. Lower carbon technology for cars is advancing rapidly, with mainstream hybrids and a push for mass-market electric vehicles with a supporting plug-in charging network. We are also seeing cleaner engines, trials of sustainable biofuels, fuel efficient driver training programmes and in-cab technology, as well as steps to reduce the weight of vehicles.

Rail is already a relatively energy efficient mode of transport, with a lower environmental impact than other modes and a good combination of high speed and efficiency, but the long lead times for rail improvements mean we need to plan ahead now for tomorrow's railway, particularly for new lines. There needs to be a long term strategy, which looks beyond the current five-year programme to a time when the public and private sectors can invest in increased capacity and enhancements that encourage people to switch from cars and planes.

Ongoing electrification must be a priority, as well as greater use of regenerative braking, and designs for more efficient rolling stock. High-speed rail could deliver modal shift from domestic airlines, as we have already seen on the West Coast main line in recent years. However, the cost is significant - anything from £34 billion to £69 billion. In addition, the timescales are 20 years away and passenger projections already point to some rail lines being full up by 2020 or 2025.

There is also a danger that the focus on technological advances in cars is making consumers and government complacent. New technologies in cars - or buses - will not be a complete solution: central to our transport revolution has to be a package of measures to deliver behavioural change and secure modal shift.

There is a real need for more integration of sustainable transport policies with land use planning. Public transport could be well placed to deliver the low-cost, quick win solutions that we need. Delivery requires partnership between transport operators and local authorities. It also needs brave politicians with long-term vision.

Technology will take us some way along the road, but behavioural change, modal shift to greener, smarter bus, coach and train travel and measures to support these modes will make or break our efforts to deliver a reduced oil-dependant, low carbon transport future. Workplace travel plans can reduce long-distance commuting in cars.

Transport policies designed to protect the disadvantaged members of society should be regarded as particularly important. Examples include the provision of better public and community transport services, and policies to help operators maintain affordable fares. Contingency planning is also essential in the event of fuel shortages to prioritise key work groups, public transport and essential deliveries.

News Digest

Scottish Transport as reported in the press

TRANSPORT, ENERGY & CLIMATE CHANGE

In a February 2010 report to the Scottish Government on *Scotland's path to a low-carbon economy*, the UK Committee on Climate Change has concluded that it will be challenging to meet Scottish targets for emission reduction to 2020 unless the EU adopts higher targets for cuts by that year. The Committee Report says that the ambitious Scottish target of a 42% cut between 1990 and 2020 may have to be cut to 38% if there is no global deal on steeper cuts. As the Scottish target includes aviation and shipping, a 42% cut would require cuts of 44% in sectors other than aviation and shipping

Opportunities in transport mentioned in the Report include: improved efficiency in use of conventional fuel; widespread shifts to electric and hybrid cars and also demand-side measures.

It also recommends consideration of:

- wider promotion of Smarter Choices, Smarter Places
- parking and bus lane priorities for low carbon vehicles
- support for electric car charging infrastructure at home and in public places
- purchase of low carbon vehicles for the public sector fleet
- promotion of eco-driving
- enforced (and possibly lower) speed limits on motorways
- an integrated transport and land use strategy

AVIATION

The £180m transfer of air traffic control from Manchester to an expanded base at Prestwick has been completed, but Search and Rescue Operations will transfer from Prestwick to Glasgow in 2012.

BAA has announced £25m of investment at Glasgow over the next two years and is stepping up efforts to ensure new direct flights and replacements for the 7% of airport passengers formerly handled by Flyglobespan.

Though continuing to support a rail link, BAA Glasgow is contributing £1m to the M74 extension, improving roads in the airport zone and expanding dedicated bus access.

Edinburgh should have the first direct flights to Lithuania this summer plus new flights to Stockholm and Oxford. Ryanair is continuing aggressive expansion at Edinburgh with new routes to Marrakech, Faro, Paris and Kaunas. Nine existing routes will also have higher frequency

BAA reports passenger traffic in 2009 as having fallen substantially:

	Total Passengers	% change from 2008
Edinburgh	9.05m	+0.6
Heathrow	65.91m	-1.5
Glasgow	7.22m	-11.3
Stansted	19.95m	-10.7
Aberdeen	3.00m	-9.4

In a December report, the UK Climate Change Committee has supported extra runways at Heathrow, Stansted and Edinburgh, but argues for passenger growth at UK airports of no more than 60% by 2050, including a relative shift away from London area airports. This growth is much lower than in the previous Aviation White Paper and is seen as compatible with stabilising CO_2 emissions from UK related aviation at 2005 levels. A significant shift to short-haul high-speed rail is expected.

FERRIES & SHIPPING

Following discussions with Stena, First Minister Alec Salmond has announced a £200m new Stena terminal two miles north of Cairnryan. This will replace Stranraer by late 2011 and reduce crossing times to Northern Ireland by 25 minutes

Western Ferries is to bid for the Gourock-Dunoon route and is planning a service to Arran competing with CalMac on the Ardrossan-Brodick route by 2012. The company is still in dispute with the tax authorities on whether the tonnage regime or normal company taxation should apply.

SPT budget cuts include withdrawal of the Renfrew Ferry from the end of March, though other options for retaining a ferry link are being discussed with private operators. The Stagecoach demonstration of an amphibious bus link (an 'amfibus') attracted much media attention.

RAIL

Lord Adonis has announced further rail electrification in NW England to be completed by 2016.

Changes in East Coast Anglo-Scottish services are not now likely until May 2011 rather than December 2010. In setting a framework for East Coast passenger trains returned to the private sector, Lord Adonis wants this to include 'express business services' in less than 4 hours between Edinburgh and London, but pathing problems may prevent this

Tenders have been invited for the construction and maintenance of the Edinburgh-Central Borders rail route. Award of the full contract will come after May 2011, though a formal start to construction took place on 3 March. £45m has already been spent on this scheme. Transport Scotland has launched a consultation on future strategies for rail freight.

The final vote on the Scottish Budget confirmed the proposed cancellation of the Glasgow Central-Airport (GARL) project, though work will continue on capacity improvements at Central and on the line to Paisley. John Swinney rejected suggestions that the project could be financed within Network Rail funding of Edinburgh-Glasgow Rail Improvements (EGIP).

Work continues on the details of the £1.5bn + STPR Project 24 which gives priority to an improved national rail network and intra-conurbation schemes linking the south-west across Glasgow to the east and north.

NESTRAN is consulting on a rail action plan for the north-east. Suggested priorities include a rail halt at Kintore, better bus-rail integration, extended park and ride at Stonehaven and more services between Stonehaven and Inverurie, integrated with plans for improved Aberdeen-Inverness services.

Fife Council has dropped a St Andrew's rail link from the Local Plan, but is keen to see progress on rail Park and Ride at Rosyth.

BUS, TRAM & TAXI

A new study is to investigate whether another Edinburgh tram route (City-Centre-Edinburgh Royal-Newcraighall) can be justified by the added benefits of employment growth in the biomedical zone close to the Royal infirmary. A third route east from the city is also being considered. Expected works to improve the quality of multi-modal (rather than only rail/tram) interchange at Gogar may take project costs over £35m.

Edinburgh and East Lothian are withdrawing free transport for those living between 2 & 3 miles of school. This will generate an annual saving around £450,000.

Mark Savelli, MD of First Glasgow has called for more urgent action to create a city centre bus network attracting car users, improving conditions for existing users of busy corridors and cutting city car use. The RAC is concerned that this may reduce the road space available for car users. Without action to provide effective bus priority at times of congestion, First argues that further contraction of services will be inevitable.

SPT expects that bus network support will have to rise in 2010/11 and is re-introducing the Bus Route Development Grant, withdrawn under the financial concordat with local government. Initial grants will support service improvements between East Kilbride and Hamilton, while work has been authorised on a major upgrade of the rail/bus/taxi/car interchange at Hamilton.

Edinburgh software developer Gordon Christie has devised a free download telling Apple iPhone users how many minutes they need to wait for the next bus. The project now has the backing of the City Council and Lothian Buses.

In England, steps have been taken to modify Bus Service Operator Grant (BSOG) to relate it to extended use of smartcards and the number of passengers carried.

The Scottish Government has moved to cap spending on the compensation presently provided for free bus travel. To ensure savings of £18m, payments to operators are to be cut from 73.6% to 67% of normal fare payer ticket prices.

McKindless has ceased bus operations in Glasgow and Lanarkshire following an investigation by the Traffic Commissioner. The company had 45 buses and 150 staff.

ROADS & PARKING

FTA continues to campaign for fuel tax concessions for lorry operators in the March budget while the AA has argued that the rise in fuel tax scheduled for April may actually reduce income by discouraging car use. The LidDems state that they would make the introduction of road charging a priority in the situation of a hung UK Parliament

The Scottish Government has approved plans for the 28 mile Aberdeen Western Peripheral Route – citing substantial benefits for the north-east of Scotland. Quoted costs are £300m to £400m. Funding is not yet confirmed but the mechanism is likely to involve private funding.

A landslide warning system is to be installed on A83 at Rest and be Thankful.

R J McLeod has gained the £6.5m contract for dualling 2.5km of the A75 between Cairntop and Barlae. This should open in 2011 and will involve use of part of the former Dumfries-Stranraer rail formation.

Falkirk and West Lothian Councils and SESTRAN are seeking acceleration of the £28.6m project to improve 3.2km of the A801 at the Avon Gorge. Improvements are planned on the A9 at Moy and Newtonmore plus design work on A9 dualling from Birnam to north of Dunkeld.

Alost 100 objections have been received to the Forth Crossing Bill now being considered by the Hybrid Bill Committee. The Transport and Climate Change Committee has called for evidence on public transport aspects of the proposals. In order to contain car traffic, adjacent local councils are pressing for stronger action by Transport Scotland to improve public transport both before and after completion of the additional crossing. The Council of Economic Advisers to the Scottish Government has urged the use of private finance for any additional Forth crossing, while The Scottish Chamber of Commerce has concluded that building the bridge may be dependent on a return to tolling.

UK government has announced a £400m programme to boost all-electric cars and incentivise companies willing to produce these. Capital costs remain double those of petrol cars, though running costs are much lower, partly due to road and fuel tax exemptions. Green MSP Patrick Harvie is seeking electric pool cars for MSPs.

Glasgow City Council is about to invite tenders from a private company to run a city car club, cutting traffic and emissions. The Edinburgh Club now has 3000 members.

NHS Lothian has confirmed that, as a PFI project, charges will be applied at the 1,176 space car park being built on green belt at Little France. Edinburgh City Council is to add 500 metered bays near the city centre but has faced opposition given the recession and the availability of empty spaces

WALKING & CYCLING

Sustrans has published its monitoring of the cycle network showing demand up from 28.3m in 2007 to 31.3m in 2008, but cycling remains around 1% of all trips compared to 20%+ in Denmark and the Netherlands. The Scottish Government aim is cycling at 10% of trips by 2020. It has also asked local councils to spend at least 50% of their 2010-11 *Cycling, Walking and Safer Streets* allowance on cycling.

Initial findings from the government-funded Dundee Active Travel project show that about one-third of those contacted have changed their habits to include more walking and some extra use of cycling and local buses. Car trips are down 11% though the lack of an agreed park and ride strategy has meant that many people in the region still use cars into central Dundee.

The Bike Station in Edinburgh has been awarded a £750,000 government grant to encourage people to use cars less. Free bus passes and bike loans are being offered to get people out their cars. A safe on-line route finder for cyclists has also been launched in Edinburgh at www.edinburgh.cyclestreets.net

BUSINESS NEWS

FirstGroup has won the contract for spectator transport at the 2012 London Olympics.

Allied Vehicles, the accessible taxi and electric vehicle business based at Possil in Glasgow experienced an 80% fall in profits to £111,000 in 2009. Employment had fallen from 380 to 350, but good niche prospects were seen in the changing vehicle market. The company has supplied electric vehicles to Glasgow City Council.

Babcock Rail is to shed 300 jobs, half being in Scotland over the next six months, following a Network Rail decision to defer almost a quarter of scheduled track renewals.

Changing Trends in Passenger Movement in Scotland
How the past can inform the future

Tom Hart, formerly Department of Economic History, University of Glasgow

Looking back over a century and a half of passenger transport, we can identify three key turning points when the nature of passenger movement changed.

The decade **1900-1910** saw a shift from railways to motorised roads – chiefly characterised by a significant increase in bus, van and lorry use, but with strong political interest in car travel. There was also a sub-period of strong interest in electric tram development between 1890 and 1914, but this soon changed to a focus on bus use.

The second major turning point came around **1955-65,** with a major shift of interest to mass car use, HGVs and aviation. The exponential growth in intra-UK and international passenger movement was fuelled by continuing rises in real incomes and a high desire for mobility and leisure travel, aided by innovations in technology.

The most recent change in behaviour came at the beginning of the new century: the years **2000-2010** saw a shift of interest away from increasing car use to surface public transport, walking and cycling. Energy, climate change and local environmental and health issues have become more important, and the same period saw a substantial slowing in aviation growth.

Estimated Average Passenger Miles per head by Scottish residents: scale and modal share of post-1870 growth in passenger movement

	1870	1900	1960	2000	2050 Scenario 1	2050 Scenario 2
Walking	580	600	350	270	350	300
Pedal cycle	10	60	70	60	150	80
Horse	140	140				
Tram/bus/DRT		100	1,150	950	1,250	1,000
Water	40	80	80	80	100	60
Rail	180	500	300	330	800	500
Car		20	800	5,500	4,000	5,000
Air			150	1,500	1,800	3,000
TOTAL	**950**	**1,500**	**2,900**	**8,690**	**8,450**	**9,940**
Outwith Scotland	50	120	320	2,000	2,500	3,600

Between 1870 and 2000 the table shows an accelerating expansion of mobility, but also substantial shifts in modal share from around 1900 and 1960. By contrast, 2000-2010 data shows a substantial slowing in the growth of mobility, but improved performance from public transport, especially by rail. The share of travel by Scottish residents beyond Scotland rises from a low base to around 22% of all travel by 2000. Travel into Scotland also rose, but Scotland moved from being a net gainer from visitors in 1900 to a net loser by 2000, despite substantial absolute growth in tourism.

Predictions for 2050 are speculative, but both 2050 Scenarios point to a significant slowing of growth in movement, more pronounced in the 'greener' Scenario 1.

Lessons for the Future

There are three main lessons we can draw from the turning points referred to above:

- The need to pay greater attention to the probability/desirability of trend change
- The need for greater caution in approving investments in inappropriate infrastructure
- The need for greater progress in relating budgets and fiscal/regulatory policies to objectives, changing consumer attitudes, good information and systematic monitoring

By way of illustration, we can look at the Times of 4 March 1890, which concluded that the new Forth Rail Bridge was 'magnificent engineering but commercially unsound', a product of competing rail companies rather than of planning. This makes the point rather well, as it can be argued that the bridge might have offered better value as a combined road/rail bridge - like the Sydney Harbour Bridge, completed some 40 years later.

Similarly, the huge expansion of Glasgow Central Station around 1900 came just at the time when electric trams were making heavy inroads into inner suburban rail travel. More recently, we have the example of the three-lane rural M74 being extended to Gretna in the late 1990s, despite claims that road traffic growth on this route was long past its peak. In reality, Anglo-Scottish road flows have remained almost stable since completion of this expensive and under-used route.

Looking forward

We can't be certain that the growth in total mobility would slow to the degree shown in the estimates for 2050 and that there might not be a wider range of difference between the two scenarios. However, consumer spending patterns can already be observed shifting away from a high preference for mobility (notably from car use over longer distances) towards the conflicting pressures of a desire for a healthier lifestyle and the continuing growth in electronic communication and entertainment. Added to this is the restraining influence on mobility growth of the need to give greater attention and investment to decarbonisation. The growth in the use of car clubs and hire cars is set to continue.

Even in Scenario 1 the estimated growth to 2050 is comparatively modest – though certainly a reversal of trends from 1960 to 2000 – but this still leaves scope for substantial absolute growth in the tram/bus sector, including DRT and taxis. The latter sectors may well provide better value in the future than conventional buses or greatly extended tram systems, especially for trips away from core routes in conurbations.

Winston Churchill said that those who fail to learn from history are doomed to repeat it. What is needed today is a more critical examination of the links between transport and the real economy and an awareness that we can learn from history: what appear to be 'normal trends' can change surprisingly quickly, and politicians and the business sector can take time to appreciate the need for new approaches.

There is a high risk of 'big' projects being authorised at a time of changing trends, and relative neglect of the importance of smaller schemes (including demand management and fiscal/pricing measures), which may offer a better fit with changing objectives and patterns of movement. Those in business and in the public sector need to be alive to changing trends and demonstrate the necessary flexibility to adapt swiftly to those changes.

A Book review of "Transport and Communications - Scottish Life and Society" - K. Veitch

By Professor Duncan Ross, University of Glasgow

It was famously said of Donald Dewar that the reason he never applied for a passport was that he feared travel would narrow the mind. The eighth volume in the Scottish Life and Society Compendium of Scottish ethnology is an enormously rich and endlessly fascinating discussion of the impact of transport on the Scottish mind over the last 800 years. But this is no mere history of transport – it also includes communications – and demands that the authors think hard about the relationship between the Scottish people and their arts, forms and technologies of communicating with each other and the outside world. It serves to remind us, that the 'culture of movement' and the desire to talk to each other, are fundamental and closely linked human imperatives, in which Scots have engaged with great enthusiasm. This history of transport and communication is then, a history of human interaction set against the particular challenges of Scottish topography and society.

The book is divided into five broad sections. The first three deal with water, land and air transport. The first two of these have, respectively eight and eleven chapters; the third has two, reflecting not only its much more recent arrival on the scene but also its more limited impact on the creation of Scottish ideas and the construction of Scottish society. The weaving of transport into the broader tartan of Scottish life is admirable. David Ditchburn, in reviewing maritime ports and transport from 1200-1560, suggests that the Scottish attitude to the sea was fairly ambivalent. The nineteenth century – reviewed by Kathryn Moore – was profoundly different, and in many respects completed the reorientation from east to west of outward-looking Scots. The section on Land Transport deals with both roads and rail – and includes discussion of coaches, cycling and bridges. There is a neat symmetry between this last and the chapter on traditional ferries. Tom Hart provides a wealth of penetrating detail in chapters on the economic and social impact of road and rail travel in the twentieth century, while John Burnett offers a reflection on Railway Life. Donna Heddle's chapter on the impact of aviation in the Northern Isles sits interestingly alongside Alison Taubman's discussion of networking remote communities, one of the eight 'communications' chapters in the fourth section. Alastair Dodds on cycling articulates effectively with Alastair Durie on Tourism, which is one of four – including John Hume on museums – in the 'wider contexts' section.

the 'culture of movement' and the desire to talk to each other, are fundamental and closely linked human imperatives

This book brings together a vast array of material and insight on how transport and other forms of communications technologies have determined the shape of contemporary Scotland and Scottish society over the last eight hundred years. But it also asks questions about the present and the future. In the nineteenth and twentieth centuries, transport technologies provided the means for people and goods to travel to, around and (crucially in many instances) from Scotland: will new technologies result in individuals travelling less but communicating more? Are there new forms of economic activity that will continue to bring the world to Scotland, but reduce the imperative for Scots to leave into the wider world? Finally, it seems almost churlish to ask for more in a volume that gives so much, but I missed two things. The first is a careful and integrated discussion of transport policy at government level. This has clearly not been optimal, thought eh Scottish Parliament at least offers the opportunity to think in a more holistic manner. The second is a discussion of the communications technology that was invented by a Scot (who held US citizenship and worked in Canada) and which has done perhaps more to change the country than any other: the television. But this is a wonderful collection of essays, and should be widely read by all those interested not just in transport, but in Scottish history and culture.

Reducing the impact of road haulage on the community

Katherine Soane and Carl McCarthy AECOM

No one wants extra HGVs in their neighbourhood. HGVs can be perceived to create significant local negative externalities such as; noise, road damage, local air pollution, congestion whilst in transit, and whilst parked create noise, litter, and attract crime. There are a number of solutions to this:

- Freight Routing – through maps and signage – keeping HGVs on appropriate roads.
- HGV Parking Strategies – by developing and signposting appropriate local strategies giving HGV drivers firm guidance as to where to park
- Driver Training – SAFED can improve driver behaviour and efficiency
- Communications – the importance of engaging local and transit HGV population, through bringing together drivers informally and through formal Freight Quality Partnerships (FQP)
- Consolidation Centres – can help reduce vehicles accessing town centres and improve the delivery experience of the clients
- Encouraging the development of intermodal freight solutions.
- Delivering and Servicing Plans – a policy mechanism approach to developing effective and efficient delivery strategy to individual sites and areas. A very effective mechanism for dealing with large scale events such as The Commonwealth games or The new Forth Road Bridge

Examples of implementation of such measures show how to provide local benefits, help haulage operate better in local areas, and facilitate the attainment of emissions targets.

APPRAISAL AND ANALYSIS

A NATIONAL CARBON FOOTPRINT FOR LAND USE AND TRANSPORT

Jeff Davidson & Kevin Lumsden, MVA Consultancy and Stephen Cragg, Transport Scotland

The Climate Change (Scotland) Bill has and ambitious 80% reduction target. The policy implications are yet to be seen at the national, regional and local level. A number of 'behavioural change' initiatives, combined with dramatic improvements towards alternative fuel technologies and lower vehicle emissions, could deliver these cuts in emissions.

However, current 'core' analysis assumptions do not reflect the emerging strategies for delivering emissions reductions. At present, current assumptions lead to a significant rise in road based emissions rather than reductions. The extent to which these assumptions need to be revisited in the light of the recent setting of emissions reduction targets and the anticipated delivery of these is clearly a key issue for future analysis.

CARBON MEASUREMENT AND MANAGEMENT FOR TRANSPORT

Henry Collin, Transport Scotland and John Fox, Halcrow Group Ltd.

The Climate Change (Scotland) Act and the priorities of Scottish Government place the reduction of emissions at the heart of the central purpose of achieving sustainable economic growth.

It is important to focus on the levers which can be used to drive sustainability through the supply chain; tackled both directly, principally through procurement processes, and indirectly through contributing to and sharing best practice, encouraging change and being open to new and innovative working methods.

From the carbon management system piloting to date, there is a clearer picture of the proportions and amounts of carbon embodied in road structural maintenance activity (by material type, construction method and other factors such as location). These primary datasets will grow as new project data are returned, enabling a detailed contemporary analysis of energy and emissions. This will allow the agency to direct future activity on carbon efficient methods as part of an integrated process for addressing best value, infrastructure durability and sustainability.

Transport Scotland looks forward to the opportunity to work with wider stakeholders to encourage consistency in carbon measurement, management and reduction as fully as possible.

RAILWAYS

IMPACT OF THE RECESSION ON THE RAIL SECTOR AND ITS RESPONSE

Chris Heywood and Rob Sheldon, Accent and Ben Condry, ATOC

How can the rail industry respond to the recession? This was explored by looking at how the rail industry response had compared with responses in other business sectors. There has been frustration that it was not possible through the franchise structure, and to some extent through regulation to be as flexible on pricing as the industry has wanted to be. Key impacts identified are:

- Demand - There was an 8% net decrease in rail commuting trips and a 13% net decrease in rail business trips by company staff. The main reasons for making fewer rail commuting trips were more home working and fewer staff. The main reasons for fewer rail business trips were a lower requirement because of the recession and using conference calls/ web meetings more or instead of making trips.
- Awareness of pricing and products - Businesses thought rail represented very poor value for money compared to other modes. First Class tickets were very poorly rated in terms of value for money. Off Peak and Standard Class Advance tickets were most positively rated with over a 40% saying each was good or very good value for money.
- Impact of recession by business sector - Rail was perceived to have been poor in terms of them trying to help business consumers through the recession. The business areas which were seen as having done best were utilities and telephone/ mobile/internet companies. The business areas which were seen as having suffered worst as a result of the recession were restaurants, hotels and airlines. Rail was mid-table.

THE WIDER ECONOMIC BENEFITS OF HIGH SPEED RAIL IN SCOTLAND

Peter Fuller, John Godwin, Iain Paton, Halcrow Group Limited

High Speed Rail would provides Scotland with a major opportunity for significant economic growth and world-class business development. However that HSR alone will not deliver these benefits, but requires complementary measures through the positive support of government, local government and business.

Changes in governance are needed to support more joined-up action within both national and local government and between national decisions on HSR routing and local/regional action on complementary measures. Unresolved this could prove to be the biggest barrier to reaping the full rewards of HSR. Transport Scotland is not currently a member of the Government's Strategic Forum, the body charged with driving alignment across Government and its national agencies.

As journey times are reduced, an expanded catchment area increases the scale of city regions and maximises agglomeration benefits. Opportunities and benefits created by the development of a single economic space and integrated labour market in the Central Belt should be recognised as a strategic priority. Glasgow and Edinburgh need to understand and exploit economic and market trends and undertake focused interventions that exploit their full potential. Land use and infrastructure plans, policies and proposals provide the opportunity to spread wider benefits intra-regionally. Other areas will not experience the same benefits directly; therefore, the transport network must continue to develop to ensure these areas gain as many access and distributional benefits as possible.

ROADS, TRAFFIC AND PARKING

DECRIMINALISED PARKING ENFORCEMENT IN SOUTH LANARKSHIRE

Donald Gibson, South Lanarkshire Council

The complexity and effort involved in decriminalised parking may appear to outweigh the benefits. However, it is clear from those local authorities which have adopted Decriminalised Parking Enforcement powers, that a return to the "old way" of working would be a backward step.

In South Lanarkshire, an effective traffic management strategy which allows shoppers to park, buses to use bus stops and taxis to get into taxi ranks. Short stay parking regulations have been, and continue to be, adjusted to meet the demands of the local area, following the changes in usage patterns due to enforcement. Loading areas are more effectively managed and traffic flows better. Regulations in residents' areas are now enforced, and are generally welcomed. Overall congestion is noticeably reduced.

WALKING NETWORKS IN DUNDEE

Gillian Iversen, Atkins

Primary routes for walking in Dundee are the high quality pedestrianised streets in the city centre. These streets are well connected to the surrounding routes and there is large amount of space available to pedestrians. However other walking routes face much more significant problems including: wayfinding to and from the train station, severance means that some residents in Hilltown may feel "cut off" from services and some services, particularly health, are not well located which may be a problem for mobility impaired residents. Analysis of walking routes shows that there are "quick wins" available to improve pedestrian movement, and longer term aspirations for more significant investment.

CRASH PROFILES OF FLEET DRIVERS

Phil Darby Edinburgh Napier University, Will Murray, Interactive Driving Systems and Stephen Ison and Mohammed A Quddus,Loughborough University

Employees driving for work have a proportionately high risk of involvement in a fatal or serious road traffic collision. For example, it has been estimated that 25% of UK road accidents involve someone driving for work. Across the EU, 34% of work fatalities involve road traffic or transport accidents. These collisions are not confined to large trucks but include many smaller vehicles where driving is secondary to the employees' main tasks.

Fleet risk management has focused on safety and the behaviours of drivers rather than asset management and cost controls. Segmenting the driver groups within fleet vehicle claim data helps to explain the crash behaviour should be used more widely employing all possible data when investigating fleet safety.

UNIFIED TRAFFIC MANAGEMENT AND CONTROL IN EDINBURGH

Alistair Malcolm, City of Edinburgh Council and Andrew Reid, Halcrow Group Limited

The new Urban Traffic Management and Control System for Edinburgh comprise a comprehensive Route Management and Car Parking Guidance System (for off street car parks), providing driver information on available car parking spaces via on-street signs. An Automatic Number Plate Recognition system was implemented in 2007/2008 to collate information on journeys into and out of Edinburgh and provide information on road network status, and journey time monitoring. This allows information to be disseminated to the travelling public via website or on to other parties such as Traffic Scotland.

SCHOOL TRANSPORT SAFETY IN ABERDEENSHIRE – TRANSLATING INK INTO ACTION

Richie Fraser, AECOM

Two fatal accidents in September 2008 occurred in the Aberdeenshire Council area and prompted action amongst partner authorities. However, these could have happened anywhere.

Partnership working and support from a range of public and private partners, at both the local and national level, has been a central factor in taking forward safety improvements. Collaborative work between transportation engineers and officers based in the education section has been crucial. While the transportation section possess the road safety skills necessary to develop new signage and other engineering-based measures, the direct links into schools as provided by colleagues in the education section has helped secure support for taking forward trials involving pupils, such as 'SeeMe' pilots, and disseminating materials and information, like the 'Bus Stop!' campaign.

The importance of early consultation, and developing a culture of joint-working and shared responsibility have also been obvious factors central to the successful development. At the outset initial meetings with operators revealed apprehension about taking part. Some operators, felt that a trial of new school bus signage was just another way of 'having a go' at the operators. Some operators were also opposed to fitting signs that could 'damage' their buses in the shape of nuts and bolts fixtures necessary to fit folding and removable signage to the outside of buses. However, by consulting with the drivers from the outset the majority of operators have been able to recognise the very real potential to deliver significant visibility improvements to school bus signage and have thus participated willingly. Providing greater project ownership and local responsibility to the school transport operators has helped to foster a 'teamwork' approach between the Council and operators, which in turn has secured their support for the trial.

Through the use of press releases and other publicity materials on the work being undertaken by the Council, the consistent message has been promoted that where school transport safety is concerned, everyone has a role to play (pupils, parents, schools, bus operators, and motorists) and there is no single solution to improving school transport safety.

MARKETING AND MANAGEMENT

CHANGING THE MINDSET

Derek Halden, DHC, Jillian Anable, Aberdeen University, Michael Young, Scottish Government and Ian Maxwell, Scottish Government

Research has shown that residents of seven Scottish towns are keen to build stronger, healthier and cleaner communities. People consider they live in good neighbourhoods, but have concerns for the future. However, investment programmes are only sustainable if what they leave behind can be sustained beyond the initial investment phase. This relies on local people, elected members and many transport professionals significantly changing their current perceptions.

Transport improvements have often been viewed narrowly in terms of infrastructure or services. The pilots are testing the scope and opportunity for transport delivery to grow beyond traditional boundaries to lead a change in culture. People can be fickle, so marketing and promotion techniques need to be appropriately targeted. By encouraging smarter travel choices the sustainable towns can become smarter places.

However, people who might benefit most can be the least likely to pay attention to the new approaches. There is potential to tap into current social and travel trends and encourage more sustainable patterns of behaviour, but equitable approaches may require investment to be purposefully targeted at harder to reach groups, who may feel most threatened by change.

There are no reasons why similar cross sector working cannot be applied elsewhere

iCYCLE

June Graham, Argyll and Bute Council

Many classrooms across Argyll and Bute are equipped with interactive whiteboards and this technology enables teachers to create an environment that engages, stimulates and enriches the learning of all students. Using new software "ActivInspire" teachers were able to create an inventive interactive resource.

The vision with 'iCycle' was for teachers to be provided with time saving, pre-prepared 'flipchart' lessons, facilitating interactive learning, and flexible enough to suit differing abilities.

Road Safety Scotland supported this pioneering resource to link to existing materials. Together the team has identified and filled a gap in road safety educational resources in an extremely innovative way using the latest technology. It is hoped that this will give the children a skill that they will have for the rest of their life. Further information about the software can be obtained from www.prometheanplanet.com

INDEPENDENT TRAVEL IN KIRKWALL

Lynda McClurg, Atkins

Independent Sustainable Travel provides travel training to encourage and enable residents and visitors to Kirkwall to be able to maximise their mobility. If a 20 year old man with learning difficulties has spent his entire life being driven to school, to home, to youth clubs to sports centres then his view of life will be very different from his peers. It is hard to imagine the boost in confidence that can come, even at a late age, from doing things independently and making your own way in life. Opening up these opportunities for as many people as possible is what independent travel training is all about. By autumn 2010 it is anticipated that there will be a system in place where travel training will continue into the future with the day care centres carrying out the training and gaining much needed assistance from volunteer groups.

PERSONALISED TRAVEL PLANNING IN DUNDEE

Neil Gellatly, Dundee City Council and Caley Slidders, JMP Consultants Ltd

There is much that the transport profession can learn from other sectors particularly the health sector about behavioural change. From the experience in Dundee, it is evident that the health sector is enthusiastic to understand how transport behavioural change can be incorporated into health promotion activities.

There is also potential for the health sector to learn from transport about how to implement behavioural change, both on a one to one basis with individuals and within community settings.

It is important to be careful to promote health improvement without inadvertently exacerbating health inequalities. The health poor are not reporting increases in activity levels at the same rate as those in good health. However, by continuing to focus on identifying alternative mechanisms for engaging with hard to reach groups the work can prevent the widening of the health inequalities gap.

transport behavioural change can be incorporated into health promotion activities

BEYOND THE NUMBERS: THE STORIES BEHIND PERSONALISED PLANNING

Scott Gibson, East Renfrewshire Council, John Geelan and Kirsty Davison, Steer Davies Gleave

PTP in Barrhead has shown that benefits of personalisation are broad and cover:

- Health & Wellbeing - Increased exercise and healthy eating
- Local Facilities - Including use and awareness of local facilities and infrastructure
- Strengthened Community Networks - Including joining community groups
- Independence of Individuals - Including going out alone, travel to school, feeling of empowerment
- Mode Shift – changing travel behaviour

The impacts of the initiative are being measured from:

- Spend in local shops obtained from retailers
- Number of requests for health and active travel related resources
- Participation in walking or cycling events
- Attendance at fitness classes
- Time spent taking part in active travel
- Awareness of groups available
- Membership of groups in the town
- Patronage of community facilities
- Enquiries to support groups

PARTNERSHIPS

DESIGNING STREETS – THE POLNOON CASE STUDY

Ali Malik, Waterman Boreham and Susie Stirling Scottish Government

Streets make up a significant proportion of the public realm in built-up areas. It is therefore essential that they are well designed and make a positive contribution to the overall quality of the development. Polnoon, the new neighbourhood of Eaglesham, has been created through an extensive process of pre-application design consultation with the emphasis on partnership. Implementing the design processes outlined in PAN 76 on Residential Streets has been achieved with:

- **Commitment from project managers -** It takes time and commitment to pursue joint planning but with dedicated project managers who have a very clear vision of the outcome, as well as a drive to achieve it, they can play a key role in keeping the built industry moving forward.
- **Multidisciplinary teams -** The skill base of a team reflects the ultimate quality of a development. To create a new place does require a mixture of professionals working together, such as planners, architects, designers, engineers, and landscape architects, as well as people with sharp economic knowledge, to ensure that the vision is always on target. The key players should be identified early on in the process.
- **Design skills -** There is no substitute for good design skills. Not everyone has a 'natural eye' for design but with training and experience, more planners and road engineer can help to feel more confident about design. Good place making needs to become expected.
- **Simplicity of understanding masterplans -** Understand the three basic components of a masterplan i.e. buildings, movement and open space.
- **Ground control -** The sub-surface infrastructure such as sewers, services and general road design considerations need to be given a high importance, within the design process, to ensure adequate space and clearance from buildings and landscaping is provided for within the masterplan. This can be helped through early involvement with design professionals and statutory consultees.

TRANSPORT – A CROSS CUTTING ISSUE IN EAST AYRSHIRE

Alan Murray and John Walls, Strathclyde Partnership for Transport

Cross sector working reveals transport related barriers to delivering better public services. Tasks for improved planning and delivery of services in East Ayrshire were to:

- Improve signposting of services and dissemination of information amongst partners and stakeholders;
- Take forward SPT's 6 point plan 'Step Change for Bus';
- Develop the Integrated Care Transport Initiative with Strathclyde Partnership for Transport, East Ayrshire Council, Scottish Ambulance Service and Coalfield Community Transport;
- Promote travel planning and active travel opportunities and improving access to employment, services including education and healthcare and community activities
- Improve Safety and Security

There are no reasons why similar cross sector working cannot be applied elsewhere

This proved to be a ground breaking exercise but there was little rocket science involved. It has proven to be worthwhile because it has resulted in improvements to partnership working and delivering added value. There are no reasons why similar cross sector working cannot be applied elsewhere.

IMPROVING RURAL ACCESSIBILITY

Dr Rebecca Johnson & Jon Parker, Integrated Transport Planning and Malcolm Craig, Commission for Rural Communities

Best practice in tackling rural accessibility depends on:

- Consultation - the need to be honest with consultees, for example to explicitly state that a bus service could be removed to eradicate doubt and enables the consultees to focus on coming up with a workable solutions rather than trying to save something that has been deemed unsustainable or ineffectual. If the function of the consultation was to inform the design of the solution to the problem, then the authority should begin with as few pre-conceived ideas about the scheme as possible.
- Partnerships - Partnership working is a key aspect of accessibility planning. An overall partnership leader is needed to facilitate decision making and follow-up on the elements of work that partners have agreed to undertake. Partners need to be carefully selected and need to be passionate and able to bring some value to it, whether that is through offering time, money, or decision making capabilities within their organisation.
- Innovation - Taking a network approach to revising public transport in a rural area can have a positive impact on the quality of service provision. Sometimes small changes can make a big difference to local people. Project ideas were inspired by a range of sources and indicate the importance of listening to residents, partners and colleagues when ideas are being developed. Many projects included had been generated by council departments other than transport and the application of the accessibility planning team skills enhanced development and delivery.
- Funding - Some authorities are struggling to identify funding to drive forward accessibility planning but successful project achieved funding through a wide range of sources.
- Flexibility - Continuous modification process is very valuable during project development. The need to be flexible is also an important factor for working in partnership with other organisations. This is because the partners' goals and ambitions need to be taken into account alongside those of the LTP2. Without a willingness to compromise in some areas the success of the partnership may be stymied.