

KILLER APPS FOR TRANSPORT DELIVERY

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1. INTRODUCTION

There are two key factors, described in this paper as “killer apps”, that determine whether or not most transport improvements succeed: networking and putting people first when planning solutions. It may not be immediately obvious that a large proportion of all transport delivery in Scotland in recent years has been achieved through the use of these apps. Many would think that the size of a budget, or a manifesto commitment, or new legislation have been more important, but this would disguise the fact that budgets, political commitments and legislation are all derived from public pressure, and that it is through political, social, transport and electronic networks that we communicate.

The key concepts in this paper were developed in the early 1990s as part of a review at the Scottish Office of why some transport schemes happened and others did not (summarised in Halden 1996). These concepts were developed through a European project between 1999 and 2002 (Pearman, Mackie and Nellthorp 2003) and the practical approaches have been developed and refined in the decade since then.

Transport professionals have strong skills in infrastructure supply and management, and as a result transport planning relies heavily on rational models of appraisal. However, real world decisions are made by ‘muddling through’ with remedial action, serial policy making, polycentric power networks and consensus seeking. There is therefore a poor fit between the professional approaches, and the realities of practice. This makes transport planning less effective than it should be.

Decision making in other sectors relies more heavily on simple cost effectiveness analysis to rank priorities and more heavily on promotion and publicity. For example in the health sector cost effectiveness analysis is undertaken in relation to the choice of drugs, and health promotion techniques are widely used to influence behaviour. Within private industry profitability determines viability, and marketing techniques are used to match demand with supply. With simpler analytical appraisal and more widespread use of marketing being used in other sectors, it is worth looking at whether transport planning could learn from these sectors which often appear to be better at promoting consensus.

Transport faces particularly complex challenges as a derived demand, where decisions are spatially linked through a variety of networks. The toolkit to support serial policy making, joint working and micro-feedback loops is still developing with transport planning being recognised as a new profession which has emerged largely since the 1960s. This paper reviews what the experience of the last 20 years suggests might work in the future.

2. NETWORKING

Some networks are instantly recognisable like the railway and motorway networks. It is no surprise that the largest investment decisions in transport have been to extend the obvious networks; the blue line into Scotland from the M74 Carlisle and Glasgow improvement, the development of a dual carriageway network to Aberdeen, and the extension of railway networks to serve towns previously not connected to national rail networks like Larkhall and Alloa. Yet the concept of extending networks, as opposed to promoting individual projects, was not even recognised in transport appraisal until the introduction of the accessibility/network coverage criterion within Scottish Transport Appraisal Guidance in 2003.

Analysis of which transport schemes get built, has consistently been unable to identify clear linkages between cost benefit appraisal results and the decisions made by government. The strongest influence over appraisal has appeared to come from often poorly specified accessibility or integration goals (Mackie 2003).

Some of the schemes with the best ratio of benefits to costs have only been delivered by linking them into networks. Cycle schemes suffered particularly from being local and scattered, so John Grimshaw invented the concept of the national cycle network, and quickly attracted £multi-million investments through the enterprise he started "Sustrans". Even though few people use the national cycle network for long distance trips, the concept of a common national identity is very attractive, with predictable standards and a profile that attracts political interest.

The impact of many small changes to a network is often greater than the sum of the individual parts. As the national cycle network illustrates, these effects are sometimes most important for funding, information and marketing for small schemes. For example, installing a direction sign at a road junction has a local benefit, but it is of much greater value if signs are installed at all junctions so that users have a route to follow. Yet in widespread transport economic theory, individuals are assumed to take independent, autonomous decisions that are not directly influenced by the decisions or opinions of others.

In practice, travel behaviour is usually not based on rational economic principles. Even though a traveller might observe that it is cheaper and faster to travel by bus, peer acceptance may mean that they continue to drive. The impact of the social or business networks is more important than the observations about the availability of transport (DHC 2003). However it has not always been clear who is responsible for organising networks for social, business, political and agency participation in transport delivery.

A study in Glasgow showed that the most important factor affecting mode choice of travel to work was "what will my employer think of me". Understanding how employers shape their views, and working through travel planning processes to improve access for staff, customers and markets could provide a very persuasive nudge to commuters. This can only be achieved if transport companies, agencies and employers are at the heart of business networks. The transport and logistics sectors account for more than 20% of Scotland economy (including more than 15%

of all consumer spending) so delivery will only be achieved by planning how this money is spent. In addition to consumer spending, public investment in transport networks is highly influenced by business networks such as Chambers of Commerce and the M74 Northern Extension and Aberdeen Western Peripheral Road demonstrate.

That networks have not attracted sufficient attention is increasingly recognised. There is a detailed discussion about network theory in Sir Rod Eddington's 2006 report on transport and the economy (UK Treasury 2006). However this was translated into terms not easily understood by the residents of Scotland like agglomeration and connectivity. Eddington did not explain the benefits of using complex technical language, but insight can be taken from other observations (e.g. Mackie 2003) that decision makers draw selectively from complex analysis to support political priorities. If this is the case, transparency in presenting evidence may not always be helpful since complex analytical approaches can be used tactically to help successfully deliver a favoured project. However if the goal is to deliver rational transport analysis to support professional good practice, then we might come to quite different decisions on the language to use (LTT 2010). The benefits of using Eddington's language about "connectivity between houses and retail centres" looks fragile when viewed from the perspective of our other killer app; to engage with people, since people describe this concept more simply as "access to the shops".

3. PUTTING PEOPLE FIRST

Transport attitudes are dominated by the large commercial markets such as car and cycle purchase where people spend their money and where companies invest in developing customer relationships and shaping customer attitudes. Therefore putting people first does not imply accepting at face value what they say. Deliberative questioning about transport often reveals that when people receive some additional information, they form different attitudes and behaviours (e.g. Cairns et al 2005).

However, the investment required in social marketing for transport appears to be beyond what is acceptable in a democracy. This is seen in practice each time government attempts social marketing; opposition political parties criticise what they paint as a misuse of public funds to promote a particular social perspective not shared by the opposition. As a result it has become difficult to distinguish social from political need in much transport decision making (SEU 2003). Politicians are unable to provide the required leadership since they control less than 10% of transport spending, and are unable to secure social goals through regulation and taxation on commercial spending, as they cannot gain public support without larger scale information and marketing campaigns.

Although it is widely recognised that new forms of partnership, innovation and accountability are needed to build a society within which broader issues can be addressed, progress with community planning and bigger society agendas has been relatively low key in transport. In some places social change is still confused with

party political perspectives on change. This politicisation of social aims is described by some commentators as Thatcher's legacy (Marr 2007).

The relationships between transport and society are too important to ignore and must be planned to secure sustainable transport delivery. A new approach is therefore needed. The former Prime Minister Gordon used complex terminology, "post neo-classical endogenous growth theory", to describe this change. The same aims to manage government engagement with industry and communities, has more recently been described by the current prime minister as a "big society". In neither case has the electorate quickly got behind these politicians who are seeking to move beyond the Thatcher legacy – often characterised by the quote "there is no such thing as society".

Nevertheless, recognition has grown that there is potential to market alternative travel behaviour lifestyles. The language of 'smarter choices' has emerged. Using these techniques professionals work through trusted networks to promote change with: businesses planning staff and customer travel, schools planning local neighbourhoods and walking routes for students, and community groups promoting sustainable travel choices. If undertaken well, these behavioural nudges, have emerged as successful and non-patronising ways to encourage behaviour change. For example, in London, Transport for London spending on Smarter Choices approaches has averaged about £50 per head over the last decade and there can be little doubt that brands like "Boris's bikes" have had an impact on social change in transport.

Research into the potential for smarter choices in Scotland (DHC et al 2009) showed the existence of four main trusted networks through which behaviour change could be successfully delivered in Scottish transport:

- Regeneration and investment in the places people live and work
- Building a stronger community spirit in the places people live.
- Health messages and health improvement.
- Environmental aims to protect, save, maintain and improve local places.

In order to engage more successfully with people it is necessary to use the communication tools of choice for each sector in society. Car manufacturers maintain a customer relationship dialogue with car purchasers by recording customer details when they purchase vehicles and then following these up. The customer/provider relationship for roads and public transport is less clear. Customer relationships for public services are largely managed through politicians. However these relationships have proved to be less dynamic and responsive to transport planning than is needed, creating the need for a smarter approach.

The new smart approaches are helping to offer more dynamic two way communications. MyBus services by SPT, MySociety's Fix my Street, GoSmart campaigns, active travel planning, and products developed by DHC like HometownPlus and Loop are just a few of the many examples of successful progress towards customer relationships for social, as well as commercial, transport challenges.

Sharing value in managing and delivering customer relationship services between sectors offers the prospect for greater benefits than different sectors working alone. This is a fast emerging area with banks, mobile phone manufacturers, telecom network providers, public authorities and transport operators all seeking an increased stake in the new smart delivery. Public authorities can potentially seek to maximise their social role by offering 'citizen smartcards' with a range of functions covering banking services, travel concessions, leisure services, library cards, and other functions.

4. NETWORKS AND MARKETING

Linking infrastructure investment with effective marketing programmes can help to overcome traditional barriers to transport delivery. In 1998 when Henry McLeish, as a Fife MP and Scottish Office Transport Minister, reviewed options for a new Upper Forth Crossing it might have been expected that he would choose the option that would most directly relieve traffic problems in Fife. However he instead supported the case to plug Clackmannanshire into the trunk road network, with a new bridge branded as the Clackmannanshire Bridge. Fife was already well networked and the people of Scotland could generally find it on a map, which was not the case for Clackmannanshire. The Clackmannanshire Bridge brand was confirmed shortly before opening, and it would be difficult to say whether the bridge has had greater benefits for Clackmannanshire through reduced congestion or improved marketing.

Similar combined approaches to networks and marketing are being piloted by Scottish Government to create smarter places where travellers make smarter travel choices. The results of the pilot programme will not be available until later in 2012, but interim reports already demonstrate the benefits of this sort of approach.

Key elements of successful delivery show how the recruitment of residents to local membership schemes, and as local champions, paves the way for programme delivery. For example if there is an active champion in a street for traffic calming, then other residents will defer to the enthusiast, and the street can become safer. However, if public authorities seek to promote such projects without building the neighbourhood support first, then projects are vulnerable to the emergence of alternative random community leadership which may end up being in opposition to plans that would otherwise have been in the social interest. A key part of meeting society's needs is to help build a strong local society, rather than see society as a random collection of individuals.

Incentives and support need to be continued consistently over time. There needs to be an efficient balance between investment in infrastructure, service delivery and promotion. Some places need large scale investment in infrastructure before promotional activities can succeed, particularly if potentially less safe modes like walking and cycling are to be promoted. At a Council level, incentives can be

managed through community programmes such as leisure services. For individual sites, travel plans and personalised marketing provide the feedback loops on scheme delivery. In all cases, success depends on a smart and responsive dialogue between government and the community. Many of the successes so far in Scotland have come from working through schools and community groups. Some schools in Scotland have maintained and developed local community routes to schools, shops and bus stops for over 15 years making continual improvements to local transport (SE 2005).

5. LINKING PEOPLE AND NETWORKS IN SOCIAL NETWORKS

Looking to the future, new types of social and business networks are becoming increasingly important. New networks create new transport challenges since there are close interdependencies between transport, the economy and society.

In the 19th century, the developing rail network helped cities to strengthen their position as major centres. The 20th century was the age of the motor car widening the range and choice of viable locations to suburbs and out of town locations. At the start of the 21st century, the fast developing electronic information, communication and transport networks are set to make equally profound impacts on transport.

Facebook, LinkedIn and Googleplus are very young companies, and it is too early to say precisely what best practice in public engagement towards transport delivery will be. However it is already clear that business, social and technology networks need to be used alongside physical networks to improve public engagement through the latest smart approaches.

As part of the preparation for a transport future less dependent on oil, new more expensive energy sources for transport will increase their market share. Replacing vehicle fleets, and infrastructure, with new vehicles and facilities will take many decades, but the research suggests that sustainable lifestyles will become as important for social inclusion in the 21st century as car ownership became in the 20th century.

Currently the gap between public understanding of transport policy and the policies sought by professionals, means that change is slow, unpredictable and stalled by lack of consensus (DHC 2007). However social networks can lead to rapid change. New pricing mechanisms, technologies and lifestyle changes in transport could gain momentum very quickly.

Future transport will increasingly be defined in terms of accessibility, flexibility and information (BCSC 2006). Informed travellers will be more sophisticated consumers and travellers will increasingly rely on mobile communications with satellite navigation to help choose shopping locations. As social technology becomes pervasive, the companies and agencies administering these media will gain market power for transport delivery. The technology will also help to support resilience in

transport systems and supply chains through improved technology tracking vehicles and goods in real time.

6. MANAGING NEW ROLES

Organisations and staff can appear complex, but people within organisations behave fairly predictably once incentives and motives are understood. Performance management identifies what it is that transport planning wants to achieve, and translates this into incentives for staff, contractors and other stakeholders to engage progressively to deliver the defined goals. Mapping core aims through to operational incentives including staff contacts, and structuring management and reporting around these aims, is one of the surest ways to link policy with delivery (I&DEA 2010).

This requires an evidence based transport delivery culture, supported with effective audit. The design of performance measurement is best done from the bottom up, where the staff who manage service delivery design their own measures to fit into the core policies and performance management principles. In deciding what is to be measured, it is important to establish simple ongoing mechanisms to ensure that data will always be available to measure and monitor progress. Where improvements are not being achieved as planned, there should also be direct links back into management decision cycles to ensure that timely changes are made. It is important to ensure that the management chain, and the policy chain, match by directly relating community, corporate or service objectives to performance measures.

Currently the debate about the Scottish constitution is healthy, as it identifies the issues where current legislation, funding and taxation work against transport policy aims in Scotland. There will be substantial benefits for Scottish transport from this debate, whether or not the constitution is changed, or simply specific elements of legislation, funding and taxation.

Procurement policy also needs to move forward to be better aligned with good transport planning practice (I&DEA 2010). Ways of harmonising leading professional and public accountability practice includes the use of forms of contract that ensure that private providers operators have incentives to grow transport customer income. Transport is a derived demand so public investment should ideally lever much greater private investment. Working with potential suppliers, perhaps through co-production arrangements, helps to identify optimal solutions and training and support are critical for both purchasers and suppliers.

7. FEEDBACK AND DIALOGUE

All such changes need to be supported with an effective promotion and marketing activity, to ensure good communication putting public needs at the heart of transport delivery. Communication depends on joining the existing conversation with five popular conversations used in current marketing being:

- Helping people care for their communities – Transport brands need to be closely associated with social, cultural and environmental aims of the community. People want to fit in and feel part of the community. If it is not socially normal to travel in a particular way then marketing can help to overcome these barriers by explaining why things are changing.
- Getting closer to people and their needs – Marketing can explain how use of the transport system affects the experiences of everyone who lives there. Walking to the shops keeps places free of traffic and using the bus helps to sustain services and bring fares down for everyone.
- Marketing must be accurate – If transport solutions are marketed which are not better than the choices that the traveller might otherwise have made, then the marketing will undermine everyone associated with providing the inaccurate information.
- Consistency shapes behaviour – Marketing helps people to discover how they can make best use of the transport system and mould it into their lifestyles. Helping people to build their lives round efficient transport demands consistency of provision and not over promising on service delivery. Changes to transport services need to come from the community upwards. Top down proposals to change transport will often be politically unstable, but honest top down marketing can help to build sustainable approaches.
- People want to enjoy what they do – Efficient transport is sometimes viewed as worthy but unpleasant. There is a need to change these perceptions. Marketing can tell stories about new business contacts made on the train, or friends made on the bus or simply feeling healthier and happier.

Marketing has moved on from telling and selling, and now uses increasingly sophisticated techniques to align sales or other objectives with changing customer lifestyles. These changes look set to be consolidated through mobile communications, which will mean that people increasingly expect more timely messages delivering connected convenience via trusted sources. For travel, there is an opportunity to add a mobile sales channel for all payments and information and using the technology that travellers already carry is extremely cost effective. Most people will have an incentive to get information or to pay for something without cash and provided they can sign up and use the mobile technology then a dialogue can develop between user and providers of transport (Masabi 2011).

By offering users the option to pay by results, with the tariffs for transport being linked to performance, the industry has an opportunity to build trust in what is

becoming the largest sector for consumer spending. Provided the transport sector can develop and nurture good relationships with its customers, the sector can drive economic growth and become a more dominant player in the economy and society.

Declining public budgets are probably more of an opportunity than a threat. In the past public spending on transport has been faced with completely unreasonable expectations from consumers and industry. The public investment makes up less than 7% of total transport spending so cannot possibly balance unsustainable investment in much larger budgets for consumers and industry. If less is expected of public spending, it may be that more progressive engagement will be achieved between the public and the providers of transport, potentially allowing better transport to be delivered in the future.

8. CONCLUSIONS

Optimising networking methods to deliver a more joined up society offers the prospects for much better progress with transport delivery. The emerging toolkit of evidence based partnership working, backed up with management incentives and audit, demonstrates what can be achieved. However, further work is needed to make the best current practice more standard across the transport industry.

The transport industry is very conservative, and has been slow to adopt the latest techniques for networking to understand transport users and engage with the public. Provided the transport sector can now develop and nurture good networks, the sector can use these killer apps of 'networking' and 'a focus on people' to drive economic growth and foster social linkages delivering better transport.

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