When Policy Recommendations Get Lost in Translation: An Examination of the Express Coach 'Niche' as a Missed Sustainable Mobility Opportunity in the Dominant Inter-city Travel Regime

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Abstract

Public express coach services potentially offer a solution to many inter-urban transport problems, providing additional capacity at a comparatively low financial and environmental cost, and deliverable in a much quicker timescale than the alternatives. Nonetheless, while a number of express coach schemes were recommended in the multi-modal studies commissioned in the early 2000s, none of the schemes has been implemented. The paper adopts a sociotechnical transition perspective in examining how the potentially transformative impact of a revitalised role for the coach has failed to overcome the dominant stability of the regimes of the private road and public rail alternatives. The paper examines express coach schemes recommended in the period 1997-2010. To this end the discourse around 'nascent' coach policy in the early years of the Labour government at the national and regional levels is analysed, exploring the differing perspectives of decision makers, practitioners, current and potential users, and transport industry interests, notably, the dominant national operator (National Express) and newer entrepreneurial entrants. A negative perception amongst politicians of coach services and how they may be viewed by voters is identified as an influential reason for investment in express coach services having been discounted. From an industry perspective, a business focus on the existing key markets of student and older travellers is observed. The coach sector is also found to suffer from policy laissez-faire (beyond responses to occasional safety 'crises'), evidenced, inter alia, by the near-absence of national monitoring data and weak inclusion within policy making arenas. Nonetheless, the paper concludes by examining case studies of successful services and possible disruptive innovations in the coach market to re-assert the potential of express coaches, and summarises the conditions under which development of the express coach niche might occur.

1. Introduction

The multilevel perspective (MLP) within sociotechnical transition theory offers a perspective on sustainable mobility distinct from those of neoclassical economics, behavioural psychology, ecology, and the environmental and political sciences (Geels & Kemp, 2012). Transitions are "non-linear processes that result from the interplay of multiple developments at three analytical levels: niches (the local of radical innovations), sociotechnical regimes (the local of established practices and associated rules) and an exogenous sociotechnical landscape" (Op. cit.: 52). Hence, viewed in terms of transport modes, the surface transport systems landscape can be seen as dominated by a regime in which the car is central, with bus and rail services representing niches within that regime: within as they can be important or even dominant for certain spatial or temporal flows (such as peak-hour travel to the largest city centres) or in the few locations where cars cannot be driven (Venice, the channel tunnel and various small islands).

Within this landscape, however, exist certain persistent niches outside the regime, offering alternatives to the dominant car and subdominant public transport modes. Sometimes these

niches are intermodal, such as edge-of-city park and ride (P&R) services or bike-sharing schemes, which have local salience or importance but do not threaten the regime in any significant way (Parkhurst et al., 2012). P&R is important for visiting particular historic towns or to transfer from cars parks to air terminals, but it has not generally encouraged wider take-up of public transport or reduced use of the car in a significant way. Bike-sharing schemes are used to make short-distance trips within cities, but the overall modal share of cycling remains low in the locations which have implemented them[1]. However, the present paper considers a mode which exists in a niche largely unintegrated with other modes: express coach services (ECS) for interurban travel.

The characteristics of ECSs which would tend to recommend strong policy support and active delivery programmes to promote its take-up. Coaches are low cost to operate compared with rail, the former receiving little public subsidy. European Environment Agency (2013) mode-specific statistics indicate that bus and coach services are in fact slightly more carbon efficient than rail services[2]. Both modes have excellent safety records per passenger-km compared with car travel (DfT, 2013: Table TSGB0107). Nonetheless, in the UK, the out-turn supply of ECSs, and their patronage, remain relatively low compared to rail: there are around 2,500 railway stations but less than half as many coach stops, despite the latter needing a lot less infrastructure investment.

The present paper therefore considers why this outcome has occurred. The MLP is relevant as no one disciplinary orientation provides a single, convincing explanation. Economics, for example, struggles to explain why coach use does not expand in a context in which ECSs are generally available at a lower cost to users than rail or car; in the latter case even in comparison with just the variable costs of use. Whilst coach passenger comfort standards often do not match those other modes, that is in large part a function of commercial decisions about market niche and vehicle specification. And similarly, poorer journey time and reliability performance is not intrinsic to the mode in the way that unreliability arguably is for private car use, once adopted en masse, but instead derives from the failure of policy to provide for the coach. The social psychology of self-presentation and perception, it can be hypothesised, may be another relevant factor in a context in which coach travel may be seen as a 'distressed' purchase: used only by those with no alternative.

However, the political context – which both reflects existing expectations about ECSs and projects them onto the future – is clearly a key part of understanding the role of the coach in contemporary sustainable mobility policy. The first long-distance coach services were operated in the mid-1920s but the 1930 Transport Act imposed registration restrictions and a 30 mph speed limit with the effect of promoting (then still private) rail services. The speed limit was only slowly and incrementally increased in a context of the average private motor car becoming increasingly powerful and with no national speed limit outside built-up areas. Hence, innovation and expansion of coach services was effectively discouraged. Quantity regulation was only removed in 1980 when the sector was deregulated and nationalised operator National Express privatised.

The next section of the paper picks up the narrative from the early years of a privatised industry through which a documentary analysis of national transport policy and the associated transport studies commissioned by central government in the period between 1989 and 2010 is presented. The review sought to identify and explain how ECSs were represented in different types of transport policy/planning documents. It serves to illustrate a lack of government support for ECSs throughout this period, despite repeated calls for investment coming from the transport planning profession at quite different points in time.

[1] Indeed, the highest profile cycling cities such as Amsterdam, Groningen, Copenhagen where cycling could be said to dominate do not have general-purpose public bike-sharing schemes because other services (such as affordable commercial hire) and practices (rail-linked bike sharing and mass, secure parking lots) mean bikes are already available.

[2] Rail services in EEA produced around 41g CO_2 per passenger-km in 2011, buses and coaches 37g and private cars around 120g.

This is followed in Section 3 by analysis of case-studies of actual ECSs representing niches of success, drawing on reviews undertaken by the authors over the last decade. Considering the future, Section 4 then reflects upon technological and policy options that might have a positively disruptive influence on the status of the coach in society and policy – assuming inertia and associated barriers are not so significant as to prevent experimentation, development and deployment. Finally, the paper concludes with consideration of a policy and research.

2. Express coach and transport planning and policy in the period 1989-2010

From the advent of the mass-produced motor car, UK inter-urban transport policy through the second half of the 20th century sought to accommodate and even encourage the wide spread use of the private car (Dudley & Richardson, 2000). This was encapsulated in Margaret Thatcher's 1989 major road building programme entitled 'Roads for Prosperity' (Department of Transport 1989). However, by the early 1990s the public mood had begun to change and two factors contributed to the demise of a continual programme of motorway expansion. Firstly, there were several high profile and costly environmental protests against current road construction projects (for example, at the M3 Twyford Down and the A34 Newbury Bypass); and secondly new evidence from the Standard Advisory Committee on Trunk Road Appraisal (1994) demonstrated that new roads 'induce demand' limiting the potential for new capacity to keep pace with demand. From this emerged a general acceptance and consensus that the growing demand for private car travel had to managed and not simply accommodated.

To improve understanding of alternative approaches to managing a now maturing road and wider transport network whilst limiting environmental degradation, a Royal Commission on Environmental Pollution (RCEP) (1994) report on 'Transport and the Environment' was presented to Government in 1994. This offers an early example (in relatively recent transport planning and policy development) of how an objective / technical analysis leads to a logical conclusion that ECSs have an important role to play in providing inter-urban passenger capacity. The report noted that:

'the most energy-efficient mode is express coach; it looks even more attractive in energy terms because of the relatively high occupancies achieved' (Royal Commission on Environmental Pollution 1994, p.197)

The report goes on to put forward the following two recommendations relating to express coach:

1. "We recommend that transport and land-use planning recognise the role of express coach services and provide full facilities for them in traffic management schemes and at transport interchanges"; and
2. "We recommend that, in considering where high vehicle-occupancy lanes should be designated on interurban roads, highway authorities place considerable weight on the potential benefits to express coach services". (Royal Commission on Environmental Pollution 1994, p.204-205)

New Labour and an era of evidence based multi-modal transport policy

Following a landslide general election victory in 1997, early New Labour transport policy maintained the position of advocating demand management in favour of large scale road building (DfT 1998a). There was also an apparent early willingness for transport investment decisions to be informed by evidence from objective, multi-modal analyses. In this respect, their first roads policy (A New Deal for Trunk Roads (DfT 1998b)) paved the way for a series of 21 multi-modal studies to identify appropriate interventions along significant inter-urban corridors. Contracts to undertake the multi-modal studies were typically awarded to large, multi-national consultancies.

Express coach schemes as outcomes from the multi-modal studies

Consistent with the recommendations put forward earlier by the Royal Commission (1994), these technical analyses, led by transport planning professionals, also concluded that express coach had an important role to play and deserved investment in specific areas. Our

review of the technical reports revealed that at least seven inter-urban express coach or bus schemes were recommended (Table 1). The most significant of these were proposals for a London Orbital coach network; a network of coach interchanges on the M4-M5 corridor and an express coach network for the Thames Valley area.

Table 1: **Express coach or bus schemes recommended in the multi-modal studies**

Scheme title	Proposed in
Cambridgeshire Guided Busway	Cambridge to Huntingdon Multi-Modal Study (Mouchel 2001)
Coleshill interchange hub and spoke bus and coach services	West to East Midlands Multi Modal Study (Jacobs 2003)
High Quality Bus and Coach Corridors	London to Ipswich Multi Modal Study (Mott Macdonald 2002)
London Orbital Coach Network and Strategic Coach Authority	London Orbit Study (KBR 2002)
South West England Coachways and Service Improvements	London to South West and South Wales Multi-Modal Study (Halcrow 2002)
Thames Valley Bus and Coach Network	Thames Valley Strategic Bus and Coach Network (Colin Buchanan 2009)
West Midlands Super-showcase Bus Network	West Midlands Area Multi-Modal Study (Aspen Burrow Crocker 2001)

The London Orbital coach network and strategic coach authority

To reduce the need to widen the M25, consultants KBR (2002) recommended (in the London Orbit multi-modal study) a network of new coach services providing orbital journeys in two rings around London (along the M25 and 15 to 25 kms outside) and along connecting radial motorways and principal roads, including links with rail and underground stations. It was envisaged that the network would use high quality vehicles with spacious facilities for on-board working, and a high standard of staff service.

KBR also recommended a Strategic Coach Authority to coordinate delivery of the orbital coach network. This would:

- define the services which should be operated in terms of vehicles, routes, frequencies, interchanges, fare structures and levels, and the quality of service which should be offered;
- tender the proposed services on a franchise basis, in a manner similar to that used for the provision of local bus services in London;
- apportion revenues from 'through tickets' between operators and between modes;
- be responsible for the provision and management of good quality interchanges for its services; and
- secure road space from local authorities and the Highways Agency to provide the priorities necessary to ensure the reliability of the services.

It was suggested that the coach network could be developed incrementally, starting with the inner orbital services (using the M25). Interchanges would initially be located at Gatwick Airport, Heathrow Airport and Watford. Radial services would be deployed on the M3, M40, M11 and M23. The inner orbital services would then be expanded before the outer orbital services were deployed.

South West and Wales to London coachway stations and service improvements

This scheme was put forward by consultants Halcrow (2002) through the London to South West and South Wales Multi Modal Study. The consultants recommended the construction

of a sequence of coachway interchanges along the M4-M5 at Taunton, Weston-Super-Mare, Bristol, Swindon, and Chieveley. These would be accompanied by increased coach service frequencies along the corridor.

The Thames Valley regional coach network

This scheme initially emerged from the Thames Valley Multi-Modal study (Atkins 2003a) which identified a potential general role for express coach services in the area and acknowledged links with the similar proposals put forward in the London Orbit study. The South East Regional Assembly of the time (now disbanded) subsequently commissioned further work and a more specific network was developed first by Atkins (2003b) in their Express Bus and Coach Study and later by Colin Buchanan Associates (2009). The proposal was to develop a hub and spoke network through the south east of England, to fill in gaps in the region's rail network. Nine potential coach links were identified. Of these, the following four routes were considered to have the most potential in the short term: Newbury to Basingstoke; Bracknell to Windsor to Slough; Maidenhead to Slough to Heathrow; and Slough to High Wycombe.

Government response to the express coach recommendations

Despite this quite strong evidence based advocacy from the transport planning profession (which had after all been commissioned by central government), none of the express coach schemes described above were taken forward[3]. Indeed having initially advocated the ideal of demand management in favour of road building, the New Labour government later adopted a more pragmatic approach to their management of the inter-urban networks. This change of emphasis was partly triggered by political events such as protests against the fuel duty escalator in 2000 (during which haulage companies blockaded fuel depots and refineries, severely disrupting supply chains to supermarkets, schools and hospitals).

This change of emphasis was captured in parliament by a question from Mr Tim Collins to the Secretary of State for Transport on 9th July 2003 (House of Commons Debate 2003):

> "I will not ask the Secretary of State to apologise for the shocking blind alley down which the Government went after 1997 when they seemed to believe that, if they stuck their head in the sand and refused to build any new roads at all, the needs of business and motorists would simply go away."

Continuing on a somewhat contradictory line of questioning, Mr Collins goes on to ask:

> "On buses and coaches, why has he specifically rejected the recommendation of the M25 orbit multi-modal study for a strategic authority to create a high-quality orbital coach network?"

To which the Secretary of State for transport (Alistair Darling) responds:

> "Given everything that the hon. Gentleman said about bureaucracy, I am astonished that his one new policy announcement is that he wants a strategic authority for coaches. I should have thought that running buses and coaches was best left to existing organisations, rather than to a new quango set up to do it".

This exchange serves to illustrate the lack of political appetite for public sector financing of or intervention in the express coach market.

Emerging recognition of a niche role for express coach in the era 2003-2010

The government's next roads policy (DfT 2003) softened its stance against road building, but maintained emphasis on demand management. There was recognition of a strong case for additional lanes along stretches of motorway that were already operating at or above their design capacity (the M6, M1, M25) for much of the day. And it was further suggested that those links suffering from peak hour congestion would benefit from better traffic management strategies.

[3] Of the seven schemes listed in Table 1, only the Cambridgeshire guided bus scheme, which is least like a coach service, has been delivered.

This developed into a later commitment to hard shoulder running in a 2008 paper (DfT 2008a) which also introduced and developed the concept of the "managed motorway" – a strategy encompassing measures such as hard shoulder running, variable speed control, high occupancy vehicle lanes, tolled lanes and HGV lanes. Within this approach came a first explicit if tentative policy mention of a role for express coaches (DfT 2008a, p. 39):

"Express coaches potentially provide a more efficient way of getting the best out of network capacity than single or low-occupancy cars, although they currently account for less than 0.5 per cent of traffic flows on motorways. We will explore further with the industry and other stakeholders, as part of our wider programme of work on future strategy, the role the coach could play, building on the benefits of delivering a more reliable road network and installing priority measures such as the M62/M606 high-occupancy lane."

The potential for coach interchanges to be established at motorway service stations is also documented in a 2008 policy on motorway service areas (DfT 2008b, p19):

"Coach interchanges allow coach operators to increase the overall efficiency of coach movements. Feeder coaches bring passengers to the interchange, from where they can then be taken to a variety of destinations. By permitting an interchange at an MSA, it might be possible to reduce the need for coaches to leave the motorway to exchange passengers at a facility on the local road network. Provided that no extra trips are likely to be generated, the Highways Agency has no 'in principle' objection to the establishment of this type of facility at an MSA."

A policy for the rail network

An independent policy for the rail network was developed alongside roads policy in 2007 (DfT 2007) arguably confirming an end to the aspiration of multi-modal inter-urban transport planning. This rail policy advocated capacity management in the medium term, but acknowledged a need for additional rail capacity after 2030. Initially, Government favoured conventional lines, but the position later shifted to favour high speed rail. The change of Government position appears to have been motivated partly by developments in neighbouring European countries, and partly by the realisation that fixed infrastructure costs are not significantly increased by high speed operation. In keeping with the 2007 rail policy (DfT 2007), the overarching objective for the high speed line was to provide additional capacity in the face of expected overcrowding problems on all transport corridors to the North West after 2030.

It is apparent that a complementary role for express coach was not considered in developing this strategy for the inter-urban rail network, instead being tentatively seen as a means of managing capacity on the road network (as evidenced by the 2008 roads policies), but with no specific plans for funding support or interventions.

3. Case studies of success

Despite this apparent failure of policy regarding strategic national ECS development, a number of niche services have nonetheless developed over the years. In the present section we summarise these, examining to what extent there are common factors explaining their success.

Oxford to London coach services: Two companies, Stagecoach (Oxford Tube) and Oxford Bus (Oxford Express) have competitively operated coach services on the Oxford to London route for many years. Both companies provide an almost turn up and go service (every 10 to 15 minutes), employing very high quality vehicles to appeal to London commuters (an atypical market for coach operations). Indeed, the comfortable working environment on offer with free Wi Fi is actively marketed. These services are able to successfully compete with rail for commuters by offering significantly cheaper fares (£15 for a single (Oxford Tube 2014) compared to £29.60 for rail (National Rail Enquiries 2014)) even though the journey time to central London is around 40 minutes longer.

Lewknor coachway station: For many years, the Oxford Tube has called at a coach stop just off the M40 junction 6 close to the small village of Lewknor. Stagecoach were not initially

motivated by a desire to capture a prospective passenger market which appeared limited given the rural location. Instead, this additional stop meant that the service qualified for the Bus Service Operators Grant which is only available for routes, or parts of routes with stops less than 15 miles apart. Nevertheless, an unanticipated market demand later emerged, with London commuters driving from as far afield as the larger regional towns of Aylesbury and Thame to intercept the Oxford to London coach services. This led to a need to control unregulated parking close to the coach stops and a demand responsive mini-bus service was later initiated to collect passengers from local rural villages.

The success of the Oxford to London coach service also motivated Buckinghamshire County Council to promote the development of a dedicated coachway interchange at High Wycombe (close to the M40 at junction 4). After securing planning permission, the scheme was later shelved following the global recession and consequent Department for Transport spending review of 2010.

Stagecoach Megabus: The entrepreneur Brian Souter began the Megabus arm of his Stagecoach bus and coach operation in 2003. In an effort to disrupt the established long distance coach market operated under the National Express brand, Souter set out to attract the youth market by introducing 'low(er) cost' coach travel. With the now wide availability of the internet and associated e-commerce, Megabus were in a position to imitate many of the yield management and marketing approaches of the low cost airlines and fares were offered for as low as £1 in exchange for a no thrills experience. Even having restricted access to many of the major bus and coach terminals (including London Victoria for a time) has been turned to an advantage. Megabus successfully serve niche regional locations (which are not on the rail network or necessarily served by National Express) and enhance their student offer by calling at University campuses (e.g. Bournemouth and UWE). After ten years of UK operations, Stagecoach Megabus reported operating "more than 100 coaches to more than 60 towns and cities in the UK and Europe…" and carrying "around five million customers a year". They have since established a successful operation in the US, claiming to have kick-started growth in the US coach market after many years in long term decline (Stagecoach 2013).

Kings Ferry Kent and West of England Operations: Established in 1968, 'The Kings Ferry', operates 36 ECSs for commuters from 188 stops in Medway towns of North Kent to Docklands, the City of London and London Victoria. High-frequency users are a feature of the service and a unique travel culture has emerged around the services, including the engagement of 38 regular commuters as ticket checkers in exchange for free travel. High specification vehicles are deployed, rivalling rail comfort[4], while at the same time weekly and annual fares are around 50% lower. In addition to the relative cost and level of service attributes, a key factor in success is seen as being the direct routing between Kent, to the southeast of London, and the key destinations which are in East Central London, making this a spatially-influenced niche.

Recently, in 2013, Kings Ferry has sought to extend its niche for the first time beyond the Kent-London corridor, with two ECSs (four services each per day) connecting the SevernSide settlements of Weston-super-Mare, Clevedon and Portishead to the growing number of large employment sites now located on the northern edge of Bristol. However, in this case public sector pump priming subsidy is involved, and both services are designed to serve origin-destination movements that are not catered for directly by rail, thereby complementing rather than competing with rail. The West of England operations have a less developed and emerging but very different culture e.g. although many could save money buying season tickets, there seems to be some resistance to commit to the purchase of multi-journey tickets. Another difference with the Kent services is the use of park and ride car parks to widen the effective catchment of the services to residential areas of recent construction which have internal road networks which are hard to serve with full-size coaches, thereby seeking to use modal integration to position the ECS niche on the periphery of the dominant regime.

[4] For example, enhanced leg-room reclining seats, air conditioning, electric sockets at every seat, wifi, toilet.

Common factors in the success of ECSs

Three factors can be identified from these case studies as being common to the success of ECSs. Firstly, there is the significant demand for leisure and commuter trips to Central London from regional towns and cities. The car-dominated mobility regime within London has for decades been weaker than other parts of the UK, due to limited road and parking capacity, combined with a national rail policy which has emphasised a high level of recovery of the costs of running the network from ticket sales. This discourages travel to central London by private car. The weakening of a car-dominated mobility regime in (parts of) other regional centres like Bristol has the potential to create similarly favourable conditions for ECSs; as is evidenced by the emergence of operations like the Kings Ferry commuter service to the northern fringe employment areas of Bristol.

Secondly, each of the case studies described above relies on strong demand from *specific markets*. The large student population in Oxford as well as older citizens are both important markets for the Oxford to London services. Megabus also target towns and cities with significant student populations, and serves some university campuses directly.

Thirdly, successful coach services are often designed to fill gaps in the rail network and to penetrate parts of urban centres that are not directly served by rail. Hence equivalent rail journeys which involve a significant interchange become relatively less attractive. For example, ECSs provide direct access to the West End from Oxford and to the City from Kent. Fare levels are also a critical aspect in competition with rail.

However, it is also notable that these features are not necessarily ubiquitous, emphasising the importance of entrepreneurial factors in the promotion and success (or otherwise) of new coach operations.

4. Potential for Future 'disruptive' innovations

With this notion of entrepreneurship in mind, the paper now moves on to discuss the potential for 'disruptive' innovations in the coach sector. This discussion draws heavily on the ideas of a number of visionaries working in academia, environmental campaigning as well as the transport sector itself; all of whom have recognised the untapped technical potential of express coach and have sought to use this to challenge the dominance of the private car-oriented inter-urban mobility regime.

A comprehensive network of out of town coachway interchanges: The economist Alan Storkey first put forward the idea of a network of out of town coachway interchanges in a series of papers developed in the early 2000s (Storkey 2003). He argued that uncompetitive inter-urban coach service journey times predominantly arise from the regularly diversion of services away from the trunk road network and into town centre coach stations. Not only does this make routes long and convoluted, but coaches also face significant delays in local congestion. Storkey argued that such delays could be avoided if services instead called at interchange points located at junctions along the trunk road network (similar to Parkway stations in the rail sector). Passengers would transfer onto local (public) transport to serve the trip ends. With a national network of coachway interchanges, inter-urban coaches would rarely need to leave the trunk road network. Storkey's ideas were subsequently advocated by the commentator, author and green campaigner George Mobiot in his book on climate change mitigation (Mobiot 2007).

Although there is some-way to go before Storkey's vision of a national coachway network is realised, a handful of successful coachway style interchanges have nevertheless emerged in response to market demand over recent years, with initiatives being promoted by both the public and private sectors. For example, Milton Keynes has had a coachway interchange at M1 junction 14 since 1989 and this was re-developed partly with public funding in 2010. The success of the rural Lewknor coach stop on the M40 junction 6 was discussed earlier. National Express services using the M4 call at the Reading Calcot Coachway (next to M4 junction 12). This is simply a series of bus stops located in a Sainsbury's supermarket car park but it eliminates the need for coaches to travel into Reading town centre.

The urban planning academic Peter Headicar (2009) has also argued that ECSs are uniquely placed to support the changing transport needs of our evolving towns and cities, in providing connections between the new lower density urban fringes and satellite towns that are not necessarily accessible by rail.

Dedicated Express Coach or High Occupancy Vehicle Lanes: Transport entrepreneur Peter Miller has developed Storkey's vision and argued that a network of dedicated coach lanes coupled with high frequency services could technically deliver inter-urban passenger capacities that are competitive with new rail lines and delivered at a far lower cost – challenging the argument that the problem of inter-urban passenger capacity can only be addressed by high speed rail or continual expansion of the motorway network. The system would be similar in style to the intra-urban Bus Rapid Transit networks that are able to deliver high capacity passenger transport systems at a fraction of the cost of rail alternatives (see Curitiba, Brazil or Bogota, Columbia). Whilst this is a credible technical proposition, it is currently politically unpalatable as illustrated by the decision to remove the controversial M4 bus lane which operated between 1999 and 2010. With little consideration of the bus lane's objective effect on traffic flows, the scheme was cast as a symbol of the New Labour government's 'War on the motorist' by the incoming Conservative – Liberal Democrat coalition government and subsequently disbanded.

Yield management and flexible routing: With a high frequency service operating on dedicated express coach lanes, and with smart phone access to mobile online booking systems, Miller has also identified potential to develop dynamic yield management and flexible routing responding in real time to customer demand. In a blog posting, Miller (2012) explains "where demand has reached a sufficient level it will be possible to optimise the allocation of passengers to vehicles using 'Destination Dispatch' algorithms (as used with elevators) by first establishing the required destination for each passenger on arrival and then allocating them to vehicles in such a way as to reduce the number of scheduled intermediate stops that each vehicle has to make".

Express coach trains with docking on the move: Miller (2014) has also envisioned a future system in which high capacity CoachTrain vehicles never leave a dedicated network of inter-urban express lanes. CoachTrains would be fed by local services that dock seamlessly and 'on the move' at designated transition points. Such a futuristic vision is becoming more credible, given latest developments in automated vehicle technology (now being led by powerful tech corporations such as Google), moving us closer to a truly intelligent transport system in which the current norms of private vehicle ownership and human vehicle control are reduced or eliminated.

5. Conclusion

A number of factors have been considered to explain how ECSs have been restricted to niches mostly outside, or in a few cases on the periphery of, the dominant regime of car-oriented mobility; in other words, the marginalisation of the coach. Both historical inertia and recent policy decisions are significant: our review of policy and planning (since 1990) confirmed that national government support for ECSs has remained almost absent, despite repeated recommendations to the contrary from the transport planning profession (put forward in technical analyses conducted across a decade). It is clear that ECS exhibits policy near-invisibility, intermittent and often reactive and negative regulatory attention, for example to address safety concerns after occasional high profile incidents, despite the coach being a relatively safe mode. Some of the legislation introduced on safety grounds also has a weak safety justification: ECS are unable to use the third lane on UK motorways, even if encountering slow vehicles such as overtaking Heavy Goods Vehicles in lanes 1 and 2. The regulation may have more to do with 'delaying' private car users who are exceeding the national speed limit than the safety of coaches overtaking within their permitted speed.

Another feature of laissez-faire, is the limited and uncertain data about ECSs. The two operators National Express and Stagecoach Megabus[5] together claim 23 million boardings on scheduled services per year whereas there were 1.5 billion national rail journeys of all

[5] Includes Stagecoach Europe services, but the operations remain UK focussed.

lengths (DfT, 2013 Table TSGB0102). Concerning long-distance trips, the National Travel Survey shows that for all trips over 50 miles, rail has a market share of 14% whereas bus – in fact including private hire as well as scheduled bus and coach services – has a share of 4%. Notably, the market share is more balanced for trips 250-350 miles in length (16% rail; 10% bus, although on a total sample size for this range of 1,676 trips). This suggests it is in fact the shorter range trips where coach is missing out, despite rail speed advantages being greater at the longer range (DfT, 2014 Table NTS0317).

Despite difficulties in identifying comparable patronage data, there is no doubt that, as a result of being excluded from the dominant regime, ECS market share remains small compared to rail, through the operation deterrent mechanisms such as long journey times which result from the absence of effective highway priority[6] and a comparatively limited network and (on many routes) low frequencies. Therefore coach operators have generally sought to provide for specific markets, themselves on the margin of the car-dominated regime: travellers with limited disposable income who are unwilling to pay for rail travel and travellers who value particular attributes of the coach service, such as continuous, direct contact with a service operator – the driver – who can often be relied on to assist with loading baggage.

Hence students and older citizens are key users of the coach[7]. Such groups lack the political organisation and representation of rail and car travellers. Influential and articulate professionals typified by the 'London commuter' are over-represented amongst the former, whilst a range of motorist and freight haulage representation bodies have for decades strongly put the case for private road users. In contrast, the statutory representation body Passenger Focus does not run a national coach passenger survey, as it does for the rail network. The sectorial representation group which engages in consultation with Government, the Confederation of Passenger Transport, is concerned with the 'bus and coach industry' as a whole. Given the much larger scale of local bus operations in terms of passenger boardings, this may limit the effective voice of the coach subsector: whilst the operators may be overlapping in their commercial interests, the transport systems and operations have significant differences. National politicians are likely to have limited recent direct experience of typical public coach travel. Without strong political representation, government regulatory engagement with ECS has generally been to 'solve' safety problems which occasionally come into focus following high-profile crashes. Hence, one of the advantages of the coach – its modest absolute needs – is also an Achilles' heel: if infrastructure for high quality services is not essential, what is the case for providing it?

A similar situation applies at the European level: there is no EU Trans-European network for express coach services, apparently as specialist infrastructure is not identified as necessary. There is no publication of ECS statistics separate from those of local bus, nor any obvious policy to promote coach travel as a medium and long-distance mode, where instead the vision is a hugely ambitious project for rail to dominate the mobility regime by 2050 through a "50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport" (CEC, 2011). Similarly to the UK level, the EU regulatory focus is on construction and emissions standards, safety performance and equipment, and harmonising speed limits (enforced through compulsory speed limiting devices) below those permitted for private cars (for which in many Member States speed enforcement is weak).

These factors have to date acted in combination to prevent the innovations described in Section 4 from challenging the current car dominant regime. However, drawing on the

[6] The bus and coach priority lane on the M4 Motorway near Heathrow Airport was an exceptional experiment famously used by the Prime Minister's car on security grounds. It was removed amid a contested debate around its efficiency, but temporarily reinstated for the 2012 Olympics, when the coach temporarily played a more significant role in the transport system, and was used by high-profile travellers.

[7] A report by consultants Steer Davis Gleave (2009) indicated that 33.5% of UK coach passengers were aged under 30 while a further 47.5% were aged over 50.

examples of success discussed in Section 3, it is conceivable that a more significant breakthrough for ECS could arise, given favourable conditions resulting from the convergence of a number of related factors and trends.

First, continued weakening of private car-dominated mobility regimes in densely populated local areas with limited road and rail capacity could increase the wider viability of ECS in providing direct commuter connections to employment sites located outside current rail catchment areas. Thus ECS would become a more visible norm for commuting to work. Second, technological change (foreseen or otherwise) particularly in the domains of automated vehicles and alternative fuel technologies could begin, potentially quite rapidly over the course of the 21st century, to alter the ways in which public and private transport systems are organised and consumed in and between urban areas. Third, entrepreneurs in the coach/passenger transport market could seek to exploit new opportunities arising from the convergence of these two potential trends, catalysing an increased demand for ECS; and fourth, a longer term reduction in government access to financial capital following the global economic shocks of 2007-8, coupled with increased public and hence political acceptance of ECS, might act to increase the attractiveness of public investment in ECS as a cheaper and yet effective alternative to medium and long-distance rail.

In drawing the paper to a close, we lastly note that the coach has also too often been overlooked as an object of research. There exists great potential for further studies to improve our understanding of

1. perceptions of coach transport amongst the public, planning professionals and decision makers,
2. motivations for travelling or not travelling by coach for different journey purposes,
3. the coach journey experience, and
4. how and why new coach markets emerge and grow.

Such improved understanding has an important part to play in supporting the emergence of ECS as an important feature of a new sustainable mobility regime dominated by low carbon transport options used and shared efficiently and equitably.

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