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UK NATIONAL PARKS: A ROLE FOR ROAD PRICING?

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ABSTRACT

The National Parks of the United Kingdom are characterised by their beautiful countryside and spectacular rural landscapes. They are also significant trip attracting locations, the dominant transport mode being the private car, which typically accounts for 90% of all journeys made to these destinations. Excessive car use in National Parks is problematic since traffic congestion, environmental degradation, vehicle noise and parking problems serve to undermine the natural and recreational values which they are intended to promote.

Though not widely explored in a rural policy context, recent literature published by key stakeholders has called for research into the potential use of innovative measures such as road pricing in National Park settings. This paper reports on the findings of in-depth interviews with Transport Officers at eleven of the fourteen UK National Park Authorities, which seek to explore the attitudes of this key group of stakeholders in regard to road pricing and the UK National Parks.

The paper concludes that the complexity of the transport planning process, the significance of relationships between key stakeholders, and perceptions of existing transport conditions 'on the ground' in National Parks, would appear to negate the possible application of road pricing in these settings for the foreseeable future. For policy makers and planners, who have long since called for an integrated transport planning approach consisting of incentives and, crucially, disincentives, the findings question the future direction of transport planning in economically attractive, yet environmentally sensitive locations.

1. INTRODUCTION

The fourteen National Parks of the United Kingdom (UK) are characterised by their beautiful countryside and spectacular rural landscapes. They are also significant generators of leisure based vehicle traffic, with over 90% of visitors to these areas arriving by car (Reeves, 2006). Excessive car use in sensitive locations such as these raises many environmental concerns, and serves to threaten the very qualities that make National Parks so attractive to visitors in the first place.

Transport planning approaches in UK National Parks continue to favour the provision of incentive measures designed to make competing modes of transport more attractive to car users. The complementary use of disincentive measures which seek to make car use less attractive to the user are not as evident (Guiver et al, 2008). However, recent publications by key stakeholders (The National Trust, 2005. Reeves, 2006. ENPAA, 2007) have called for research into the potential use of more innovative demand management instruments in these locations. At the same time, recent policy developments in the UK have switched the emphasis for the delivery of one such instrument - road pricing - from central Government to UK local authorities. Significantly, Government guidance on the new approach to road pricing delivery cited National Parks as possible locations in which local authorities may wish to consider the viability of a scheme (Department for Transport, 2006).

The aim of this paper is to report the findings of a qualitative research exercise which, through the use of in-depth interviews, explored the attitudes of Transport Officers within UK National Park Authorities to the concept of road pricing. With road pricing largely rejected as a policy option, discussion further extended to the future of transport policy and planning in a National Park setting. The findings are of significance to transport planners and National Park Authority decision-makers, in addition to those with a broader interest in traffic management and transport planning in environmentally and economically vulnerable locations.

Section two provides a short overview of National Parks in the UK, whilst section three explores the relevant literature pertaining to transport planning and traffic management in these locations. Section four outlines the research method adopted, and section five reports on the findings of the study. Conclusions are presented in section six.

2. UK NATIONAL PARKS: AN OVERVIEW

"A sort of national property in which every man has a right and interest who has an eye to perceive and a heart to enjoy" is how William Wordsworth, the romantic English poet, described the Lake District in the early 19th century. Almost one hundred and fifty years later, the 1949 National Parks and Access to the Countryside Act was passed in Parliament. This provided the foundation for the establishment of National Parks in the United Kingdom (MacEwen and MacEwen, 1987). The Lake District, the Peak District, Snowdonia and Dartmoor were the first to be officially designated in 1951, with six more National Parks created before the end of that decade. The Norfolk Broads were given equivalent National Park Status in 1989, and the new millennium brought with it two new Scottish National Parks - Loch Lomond and the Trossachs in 2002, and the Cairngorms the following year. The newest National Park is the New Forest, conferred in 2005. In March 2009 the UK Government announced that the South Downs was to become a National Park, though it will not formally be designated as such until at least 2011. At the present time therefore, there

are fourteen National Parks in the United Kingdom, with nine in England, three in Wales and two in Scotland. Table 1 summarises key geographic and demographic data particular to each National Park, providing information relating to their year of designation, area, resident population, and number of annual visitor days.

TABLE 1 UK National Park Authorities: A Summary of Key Information
(Source: <http://www.nationalparks.gov.uk/learningabout/factsandfigures.htm>)

National Park Authority	Year of Designation	Area (Square Miles)	Resident Population	Visitor Days per Annum (Million)
Peak District	1951	555	38,000	22
Lake District	1951	885	42,200	22
Dartmoor	1951	368	29,100	4
Snowdonia	1951	840	25,500	10.5
North York Moors	1952	554	25,000	9.5
Pembrokeshire Coast	1952	240	22,800	4.7
Exmoor	1954	267	10,600	1.4
Yorkshire Dales	1954	685	19,700	9
Northumberland	1956	405	2,200	1.5
Brecon Beacons	1957	519	32,000	7
Broads	1989	117	5,700	5.4
Loch Lomond	2002	720	15,600	4.11
Cairngorms	2003	1467	16,000	1.5
New Forest	2005	220	34,400	13.5

A more comprehensive assessment of baseline traffic conditions in each of the National Parks is not available. Vehicles are allowed to move freely in and out of National Park boundaries with no restriction of movement, and there are numerous roads which allow access to and from National Parks. Frequently the only indicator to motorists that they are entering a National Park is by the provision of a road sign. The status quo therefore makes continuous traffic data monitoring in National Parks complex and expensive. As a result, there is no comprehensive or consistent approach to the collection of transport data. Ad-hoc traffic surveys are undertaken in specific locations or on specific roads within National Parks, but this does not allow for detailed comparisons of baseline conditions in each Park to be made. For transport protagonists, a lack of comprehensive traffic data is problematic. Indeed, a recent recommendation in a report by the Council for National Parks (since renamed the Campaign for National Parks) stated that “traffic levels across and within the Parks and their impacts need to be measured more comprehensively and consistently to give a clear picture of the current situation. This will enable NPAs to gain a better understanding of the remedial traffic management measures which need to be developed” (Reeves, 2006, p. 27).

2.1. UK National Park Management and Operation

The administration of each National Park is undertaken by its own independent, central Government funded organisation called a National Park Authority (NPA). The explicit purposes of NPAs in the UK, as set out most recently in the Environment Act (1996, p. 2) are “a) to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks; and b) to promote opportunities for the understanding and enjoyment of

the special qualities [of the Parks] by the public". In the event of conflict between these two objectives, the Environment Act gives priority to conservation and enhancement. A supplementary objective for NPAs is that in seeking to facilitate the two primary aims, they are required to foster the economic and social well-being of local communities in the National Park.

The NPAs form only one part of the local government arrangements in UK National Park settings. Whilst NPAs are statutorily responsible for planning and development control, County, District and Borough councils (the precise arrangement differs between National Parks according to local circumstances) maintain responsibility for the delivery of all other public services within their boundaries. As such, the duty for transport planning does not lie with the NPAs themselves. Instead, the statutory responsibility for transport delivery is the obligation of the local transport authority relevant to each National Park area.

In contrast to many National Parks internationally, those in the UK are not set aside exclusively for the conservation of landscapes and the protection of the natural environment. They are multi-purpose 'living landscapes', containing communities in which many people live and work, and enjoyed by millions of visitors each year (Holdaway and Smart, 2001).

3. TRANSPORT PLANNING AND THE UK NATIONAL PARKS

3.1. A Historical Perspective

In 1945, the Government published a white paper (commonly referred to as the Dower Report) which advocated the creation of National Parks as they are known today. A key facet of the report concerned the potential impacts of private car use within National Parks. Indeed, it was stated that "because motor tourists have unrestricted freedom to use all these primary and good secondary roads and to enjoy the scenery, it does not follow that they have any proper claim for the endless widening and improvement of all such roads to enable them to travel everywhere at high speeds, regardless of the view, and without risk of congestion, however many of them may take simultaneously the same Sunday outing" (Dower, 1945, p. 24). This view was echoed nearly 30 years later in a review of National Park policies (known as the Sandford Report). The report stated that "we hold most strongly that in National Parks environmental quality should be the primary criterion and that the planning of road systems, the design of alterations and the management of traffic must be governed by that criterion" (Sandford, 1974, p. 81). Finally, a 1991 review of the role of National Parks (the Edwards Report) identified that traffic conditions in the National Parks had deteriorated since the publication of the Sandford Report. It was stated that "we believe that National Park Authorities should become leaders in experimental initiatives for traffic management in sensitive rural environments...Park Authorities should be bolder and more imaginative" (Edwards, 1991, p. 53). In summarising these reports, Cullinane (1997, p. 271) concluded that "successive official committees established to review the future of National Parks have recommended that traffic in National Parks should not be allowed to expand to the detriment of the environmental quality of the Parks or the enjoyment of users. Indeed, it is possible to detect a definite progression towards increasingly radical suggestions of ways to control the car as the severity of the traffic problem increases".

Recent transport policy developments in the UK have switched the emphasis for the delivery of one such radical measure - road pricing - from national Government to local

authorities. The Transport Innovation Fund (TIF) has been created which will provide significant financial support (the fund is expected to exceed over £2.5bn by 2014/15) for local authority led transport schemes which incorporate a road pricing element alongside public transport improvements. The TIF process incentivises local authorities to pursue the development of pricing schemes by providing financial incentives not available through other existing transport funding streams (Nash, 2007). Significantly, in TIF guidance published by the Department for Transport (Transport Innovation Fund, 2006, p. 4), it is stated that funding bids will be considered from “individual smaller towns and smaller cities, and other generators of traffic such as airports or National Parks”.

The term road pricing, as discussed in the context of this paper, is used simply to describe the principle of imposing direct charges for road use. Since this paper focuses principally on Transport Officer attitudes to the concept of road pricing, as opposed to the nuances of its practical application, no attempt has been made to further define it. In practice however, there are a number of ways by which charges could be delivered in a National Park setting. These could include (but are not limited to) the imposition of a cordon based charge around an entire National Park, or specific location(s) within it; or the pricing of certain roads within the National Park. Charging levels allied to specific schemes could also vary, for example by vehicle type, time of day or year, or residence of car user (within or outside a National Park for example).

3.2. National Park Transport Planning to Date

The academic literature pertaining to transport planning in UK National Parks reveals a considerable imbalance between the theoretical call for integrated packages of policy measures and practical examples on the ground. Eaton and Holding (1996, p. 64) concluded that “it might well in extreme cases be necessary to implement traffic restrictions and promote an integrated traffic strategy as part of a ‘green’ programme...the time for a sea change in attitudes and policies has come”. Building on this theme, Cullinane and Cullinane (1999, p. 86) stated that “to stand any realistic chance of success...traffic management initiatives in National Parks should comprise an integrated package of ‘carrot’ and ‘stick’ measures which together attract car trips to public transport while simultaneously deterring car use”.

Table 2 identifies a number of measures that are, or could be, implemented to influence travel behaviour in National Parks. Whilst a number of attempts at traffic management schemes involving elements of vehicle restraint were made during the 1990’s, projects were ultimately withdrawn or abandoned. Their high profile public unpopularity played a major role in this regard (Cullinane et al, 1996). A brief synopsis of such schemes is presented by Cullinane (1997), an interesting example being the Burrator Reservoir proposals in Dartmoor National Park. In this case, Devon County Council and Dartmoor NPA developed an integrated traffic management strategy proposing a series of temporary and permanent road closures around the reservoir - a popular tourist attraction within the National Park - in combination with complementary public transport and cycling improvements. Such was the local opposition to the strategy, particularly the concept of road closures, the proposals were dropped and never revisited. More recent efforts at car use reduction in National Parks have therefore largely been limited to the use of incentives, as opposed to disincentives designed to restrict or discourage car use (Guiver et al, 2008).

TABLE 2 Taxonomy of Transport Planning Measures for Use in National Park Settings
(Source: Steiner and Bristow, 2000 - amended)

	Measure	Description	Expected effectiveness in reducing car use
Incentives	Enhanced public transport provision	Improved frequency, reliability, coverage, service quality	Low/Medium
	Public transport publicity/campaigns	Improved marketing; Improved timetabling	Low
	Cycling / pedestrian improvements	Cycle hire; Cycle routes; Cycleway and footpath improvements	Low
Disincentives	Road pricing	Charging for use of roads, or for access to National Park or specific locations within	High
	Road closures	Prohibiting access for motor vehicles	High
	Rationing - quantity	Access prohibited once a certain level of vehicle numbers reached	Medium
	Parking control	Limiting provision, charging	Low
	Route hierarchies	Advisory routes to keep vehicles on appropriate roads	Low
	Speed limits	Speed limits below the norm for the type of road	Low
	Traffic calming	Vehicles slowed through road capacity reduction or speed humps	Low
	Signposting/gateways	Use of signing to increase awareness of special nature of the area	Low

Public transport has been demonstrated to facilitate visitor spending in local economies, and plays an important role in improving accessibility to rural areas (Guiver et al, 2007). However, there is little evidence to suggest that its use as a stand alone policy measure is significant in achieving a modal shift away from private car use (Holding and Kreutner, 1998; Cullinane and Cullinane, 1999). Accordingly, research has focussed on the identification of the factors behind the problematic implementation of traffic management schemes in rural areas. Regnerus et al (2007) concluded that the problem relates primarily to the interdependence of stakeholders concerned and involved with planning and decision making. In transport terms, this is particularly significant since attitudinal surveys (Ison and Wall, 2002 and 2003; Jones 1991, 1995 and 1998) consistently demonstrate that the strongest support is reserved for transport policies which do not directly restrict car use, but instead provide alternatives or supplements to car use. Beunen et al (2006) concluded that in rural localities negative attitudes to traffic restraint schemes can be reinforced by a lack of alternative transport modes. This can compound car dependency and serve to increase hostility towards restraint schemes. Furthermore, previous research into traffic restraint schemes in rural areas (Holding and Kreutner, 1998; Dickinson and Dickinson, 2006) concluded that opposition to vehicle restraint initiatives is greatest among incumbent populations, who are concerned that to limit vehicle access in a specific location will discourage visitors and harm the local economy.

Internationally, many National Parks routinely charge entrance fees to visitors. In these cases, user fees form an essential part of the revenue stream for National Park operators (Eagles and McCool, 2002). Motivations for access charging are therefore concerned with revenue generation as opposed to any stated form of transportation demand management. In the UK, central Government provides the majority of funding to National Park Authorities. No entrance charges to National Parks are made, though NPAs do generate a small element of income through car parking charges at authority owned car parks.

A number of innovative transport strategies are in place in National Parks around the world, as attempts are made to address increasing traffic levels in these locations. Such schemes may be purely public transport focussed, as in Acadia National Park, USA, which operates a free shuttle bus service, known as the Island Explorer. Other National Parks have been able to implement traffic management schemes incorporating both incentives and disincentives. A brief overview of notable examples is presented in Table 3.

TABLE 3 Notable Transport Schemes Operating in Non-UK National Parks

Location	Scheme Type and Context	Reference
Acadia National Park, USA	Island Explorer Shuttle Bus Service. Free shuttle bus employing real-time information. Revenue generated in part by mandatory payment of a transit fee, added to the Park's entrance fee. Use of the bus service is optional.	Turnbull (2004)
Bayerischer Wald National Park, Germany	High quality bus system, pedestrian and cycle routes, and the seasonal closure of selected roads to private vehicles.	Holding and Kreutner (1998).
Grand Canyon National Park, USA	Closure of historic Hermit Road to private vehicles between March and November. Free shuttle bus services provide access along the scenic route.	Upchurch (2009)
Yosemite National Park, USA	Yosemite Valley Shuttle System. Free network of shuttle buses providing access within and around Yosemite Valley.	Turnbull (2004)
Zion National Park, USA	Peak time (summer) closure of Zion Canyon scenic drive to private vehicles. Canyon only accessible through use of free propane powered shuttle bus system.	Turnbull (2003)

In noting the successful introduction of integrated traffic management schemes internationally, it is important to recognise the fundamental differences in National Park function in the UK and many countries overseas. In particular, the fact that over 300,000 people live within UK National Parks, which are also active workplaces and tourism centres. National Parks in the UK also have multiple access points and a well developed road infrastructure. In implementation terms therefore, this presents different challenges for transport planners than faced by those operating in primarily wilderness areas and less constrained by the influence of residents, businesses and local politics.

4. METHOD

Semi-structured interviews were undertaken with Transport Officers (or acting role holders) within UK NPAs. Transport Officers at UK NPAs form only one of many stakeholders in the transport planning policy field in National Park settings, and this paper presents only their perspective. It cannot be assumed that views are representative of other stakeholders. However, Transport Officers are intuitively involved in the National Park transport planning process, and understand the workings of local political systems. They therefore provide an excellent source of information by which to ground this research.

Representatives from eleven of the UK's fourteen National Parks were interviewed as part of this study. Six interviews were completed face to face, whilst five were undertaken by telephone. All but one interview was recorded (handwritten notes were made in this case, supplemented by preparatory notes from the interviewee), and all were transcribed. Of the interviewees, five were dedicated Transport Officers by title. The remaining six all incorporated the remit for transport into their day to day duties, alongside other roles including planning, economic development, visitor and tourism development, and access and recreation management.

Semi-structured interviews were chosen as the appropriate research method for a number of reasons. Whilst there was a clear view of what needed to be investigated, there remained a significant element of room in which respondents might wish to address and approach their answers. Semi-structured interviews allowed interviewees to be introduced to the broad notion of the subject for study whilst still allowing “the interviewee [to] develop ideas and speak more widely on the issues raised by the researcher” (Frankfort-Nachmias and Nachmias, 2000, pp. 167). Furthermore, the complexity and breadth of the area under study made it extremely difficult to fit around either a structured, rigid, and inflexible list of questions (structured interview), or a completely flexible and non-defined conversational approach (open-ended interview).

A framework approach was used in the qualitative data analysis. Ritchie and Spencer (1994, p. 177), define this technique as “an analytical process which involves a number of distinct though highly interconnected stages”. The process involves “a systematic process of sifting, charting and sorting material according to key issues and themes” (Ritchie and Spencer, 1994, p. 177). There are five key stages allied to the framework approach, which are summarised by Pope et al (2000) in Figure 1.

FIGURE 1 - Five Stages of Data Analysis in the Framework Approach
(Source: Pope et al, 2000)

Stage 1: *Familiarisation* - immersion in the raw data by listening to tapes, reading transcripts, and studying notes, in order to list key ideas and recurrent themes.

Stage 2: *Identifying a thematic framework* - identifying all the key issues, concepts and themes by which the data can be examined and referenced. This is carried out by drawing on a priori issues and questions derived from the aims and objectives of the study as well as issues raised by the respondents themselves and views or experiences that recur in the data.

Stage 3: *Indexing* - applying the thematic framework or index systematically to all the data in textual form by annotating the transcripts with numerical codes from the index, usually supported by short text descriptors to elaborate the index heading.

Stage 4: *Charting* - rearranging the data according to the appropriate part of the thematic framework to which they relate, and forming charts.

Stage 5: *Mapping and interpretation* - using the charts to define concepts, map the range and nature of phenomena, create typologies and find associations between themes with a view to providing explanations for the findings.

As prescribed, interview transcripts were examined, with key issues and recurring themes identified by means of coding. Pertinent data was then indexed and organised into specific charts relevant to the subject area, which allowed for controlled analysis and explanation of the research findings. Structuring the data analysis in this way provided a series of clear steps which assisted in the management of large volumes of qualitative data.

5. FINDINGS

Key research findings are presented here in two parts. In the first part, the responses of Transport Officers to the concept of road pricing for use in National Park settings are presented, offering discussion where appropriate. The second part briefly outlines respondents' perspectives of National Parks as centres for transport planning innovation, and preferred future transport planning approaches.

5.1. Opposition to Road Pricing

The concept of road pricing in UK National Parks was, with three exceptions, negatively received by participants, who did not consider its use appropriate in a National Park setting. None of the respondents, regardless of their support or opposition, regarded the implementation of road pricing as likely in the foreseeable future. A range of factors deemed to preclude its use were raised.

Public and Political Unacceptability

The most significant practical constraint was identified simply as the unacceptability of road pricing, both publicly and politically. In terms of visitors, local residents and businesses, opinion was elicited that road pricing would be so vehemently opposed as to preclude any possible implementation. *“Local people and businesses would be absolutely up in arms here at the very suggestion, so there would be a huge campaign against [its use]”*. Recent events in the New Forest National Park serve well to illustrate these concerns.

The New Forest NPA have recently released the draft version of a statutory document called the New Forest National Park Plan. This publication sets out the long term vision and objectives for the National Park by the NPA. In the document, it was stated that in attempts to reduce the issues of road traffic within the National Park, “various tools may be used, such as quiet road surfaces, reduced speed limits, road user pricing...selected road closures (including temporary and seasonal closures), revised road hierarchy, traffic routing, car park location and size, control of verge parking, car-free zones...” (New Forest National Park Plan: Consultation Draft, 2008, p. 56). Elements of these proposals, particularly, but by no means exclusively, the concept of ‘road user pricing’, led to significant local and national media coverage. Of more significance was a press release by Hampshire County Council (the local transport authority for the New Forest National Park) in which the Leader of the Council stated that “Hampshire County Council is responsible for the highways, and road pricing is not on this Administration’s agenda, not in the New Forest or anywhere in the county. We do not think that road pricing is an effective solution, it would not only be unpopular, but would increase pressure on those parts of the network that are not affected and would actually exacerbate rather than relieve problems” (Hampshire County Council Media Release, 2008).

NPAs are dependent on local authority support for the delivery of transport initiatives. In a sensitive political climate this seems set to discourage the pursuit of measures feared to be controversial or unacceptable to stakeholders. As Holding and Kreutner (1998, p. 182) describe, “planners making decisions about such matters as road closure and parking charges are part of the local democratic system and responsible to political masters, who wish to be re-elected”. Furthermore, as set out in the Environment Act (1996), each UK National Park Authority has a board of between 18 – 30 appointed members. It is the members who maintain overall responsibility for decision making and policy direction. Local

authorities are responsible for the appointment of just over half of National Park Authority board members, with the remainder appointed by the Secretary of State for the Environment. A number of Secretary of State appointees must also be local parish representatives (proposed by relevant Parish Councils, but formally ratified by the Secretary of State). Consequently, at any one time more than half the board members of any NPA are also locally elected councillors serving on one or more of county, borough, district or parish councils. Theoretically therefore, any controversial policy position taken by a NPA (such as support for a road pricing scheme for example) may have political implications for board members in terms of their re-election as local councillors. This raises the question as to whether, in political terms, support for transport investment in the National Parks represents a vote winner. Perhaps more significantly in terms of the possible implementation of schemes such as road pricing, it may well be a vote loser.

Traffic Problems Are Not Severe Enough

Respondents identified congestion, parking and environmental issues caused by excessive peak time car use within National Parks as problematic. In many instances however, interviewees downplayed the regularity of these events. Issues arising from car use were perceived largely to be periodic as opposed to endemic. *“There are a few sites, on a few days of the year – I wouldn’t want to overstate it – where there are too many cars”*. As a result, road pricing was deemed unrealistic since traffic problems were neither severe enough, or perhaps more saliently, consistent enough to justify its use. Simply, the perception was that traffic problems in the National Parks hadn’t reached a level whereby it was realistic to consider the implementation of any kind of road pricing scheme. A number of studies (Johansson and Mattsson, 1995; Ison, 2004) have concluded that for road pricing to find favour amongst the general public there must be a consensus that the level of congestion is severe enough to warrant its use. From the point of view of Transport Officers at least, such consensus was not forthcoming.

This finding illustrates some of the complexities of the National Park transport planning process. Citing visitor surveys and additional NPA research, a range of literature (Reeves, 2006; ENPAA, 2007, as two examples) identifies traffic volumes as threatening to the special qualities of the National Parks and undermining visitor experience. Interview respondents also supported these assertions, though the issue was largely perceived to be periodic as opposed to endemic. However, as noted, very limited traffic data is available, and it is difficult therefore to quantify the extent of ‘the problem’. Perceptions of car use are anecdotal and subject to personal interpretation. What one person views as ‘too many cars’ may be different entirely from someone else’s perspective. Perhaps for transport or traffic problems to ever be coherently used as ‘indicators’ by which to facilitate ‘action’ in National Parks, two things need to happen. Firstly, traffic data monitoring must be improved, and undertaken consistently across all National Parks. Secondly, more research should be undertaken in order to identify levels of social ‘acceptability’ relating to key traffic impacts in National Parks. An example from the field of environmental management helps to illustrate this point.

Smyth et al (2007) identify that ecological indicator programs are being developed to assist with the management of sensitive environmental systems worldwide. They also note that the use of indicators can be used to facilitate adaptive management approaches, but only in the event that acceptable levels for the indicators have already been defined. Acceptable levels were defined by Smyth et al (2007) as “explicit statements of the desirable range of measured values of each indicator” (p. 302). Crucially, the authors

assert that “the process of establishing acceptable levels should incorporate not just ecological understanding but also societal values...that is they must reflect the environmental conditions that are socially desirable or acceptable” (pp. 301-302). Smyth et al (2007) therefore explored an approach based on the use of normative theory which would allow for the definition of acceptable levels for ecological indicators to be made. The study used a set of eight indicators relating to areas of concern in the Lake Champlain Basin, USA. A stakeholder survey was used to measure respondent normative evaluations of varying levels of each indicator, and aggregated social norm curves were used to determine levels at which indicator values shifted from acceptable to unacceptable. The authors reported that for seven of the eight indicators used, clear preferences were identifiable from the norm curves. On this basis, the authors stated that “if indicators that translate ecological conditions into social consequences are carefully selected...the normative approach has considerable merit for defining acceptable levels of valued ecological system components” (p. 301). The application of such an approach in the transport field would certainly help in the quantification and analysis transport ‘problems’. As such, research into the transferability of this approach as a means by which to assess social preferences for characteristics relating to transport impacts in National Parks would be particularly interesting.

Lack of Realistic Alternatives to Car Use / Alternative Measures Not Exhausted

Observations of inadequate public transport provision to and from, and within and around National Parks, led to the rejection of road pricing on the grounds that existing services do not offer a real alternative to car use in the National Parks. *“I think road pricing would be very, very difficult and the biggest problem would be providing viable alternatives. Until we can provide good alternatives it won’t be viable. If you ask people to pay something extra, on top of what they already pay, you should provide them with a reasonable alternative and I think that is the whole nub of the problem of road pricing in National Parks”*. Steg (2003) asserts that for road pricing to become publicly acceptable, feasible alternatives to private car use need to be both available, and advertised. In the case that these alternatives are not present or known about, individuals will oppose pricing policies on the grounds that their freedom to move is restricted and their quality of life threatened.

In an era of de-regulated bus services, it is the responsibility of the local transport authority to subsidise bus services as and when they deem it appropriate. This creates inherent problems with public transport provision in National Parks, since funding for leisure travel is often at the bottom of transport authorities’ priorities list when allocating subsidies for bus services. Services essential for travel to work, education and important public services are afforded higher priority.

For protagonists of road pricing in National Parks, this is a difficult barrier to overcome. Advocates seeking to implement road pricing schemes should seek to ‘frontload’ benefits and phase in costs, since proposals become more attractive when the benefits come early and the costs late (Rom, 1994). Indeed, Jones (2003), concludes that the success of a road pricing scheme depends on the ability to implement an appropriate package of up-front measures prior to its introduction. In the UK, any local authorities making a successful TIF bid would be allocated money by which to improve public transport prior to the introduction of any pricing measures. However, citing the dispersed nature of visitor travel patterns to and from National Parks, respondents questioned whether public transport could ever be designed to meet the needs of car users in such a way that road pricing could ever become acceptable.

Additionally, road pricing was identified one of a long list of transport planning measures that could realistically seek to be implemented in National Parks. *“There are still a broad range of options to ‘test’ before road pricing will figure on the radar. It is a policy of last resort if all else fails”*. Whilst the most acceptable transport planning measures are often deemed to be the least effective in reducing car use, public support for them suggests that their implementation prior to the introduction of road pricing is an important pre-requisite in terms of securing public acceptability (Jones, 1995). In this case, respondents identified the fact that these alternative measures had not yet been explored, and road pricing was rejected.

Contrary to the Aims of the National Park

One of the two core aims of all UK National Park Authorities is to promote understanding and enjoyment of the special qualities of National Parks. Concern was raised that the imposition of a road pricing scheme would conflict directly with this aim. To seek to charge for the use of cars was therefore perceived to directly restrict the accessibility of the Parks, a move which would go against the founding philosophy which supported the National Parks’ creation in the first place. Equity concerns were also raised by two respondents, who felt that the imposition of a scheme would serve to differentiate the gap between rich and poor. *“I’m concerned that the more affluent will be able to use their cars and do whatever they want, whilst the poor are told to use public transport”*. Similarly, the impact of road pricing was perceived to *“exacerbate the cost of an already expensive day out, thus limiting people’s horizons”*.

5.2. Support for Road Pricing

Only three respondents considered road pricing of one type or another to be a realistic instrument to consider for use in a National Park context. *“I think we are crying out for a rural test case for road user charging. Yes, London and Manchester, they are congested, but so are places round here but on a smaller scale. It still impacts on people’s quality of life and visitors’ experience of the National Park. People see road pricing as a sure fire vote loser though, and that’s the bottom line”*. The primary benefit expected to arise from the imposition of road pricing concerned the revenue that a scheme may raise, and which could then be hypothecated for use in other transport related projects, primarily public transport improvements. Further support for road pricing was founded on perceived environmental benefits accrued from a reduction in vehicle traffic. However, what support there was for road pricing was tempered by an acknowledgement of the difficulties faced in getting people to even consider its use, let alone seek to implement it. Indeed respondents – due to the barriers outlined previously – simply did not believe that the climate existed in which any progress towards delivering such a scheme existed.

Respondents were asked if they could ever envisage a scenario by which road pricing would be implemented in a National Park. The consensus was that a national scheme, which would by its nature incorporate National Parks within it, introduced at the top of the political spectrum, was the likeliest way that road pricing would become reality for National Parks. One opposite view was that the desire for road pricing in National Parks must come from the bottom up, since *“if it is ever going to be coming, I think it somehow has to come from the community that it’s going to affect. We need people to tell us that they want road pricing because it will benefit them”*. A counter point was raised during another interview that *“to actually create something like this bottom up is difficult*

because people's tolerance of congestion and landscape impacts of cars is so high". It was suggested that people's everyday experience of urban congestion (many of the UK's National Parks are located within a short distance of large urban populations) means that traffic problems they encounter in National Parks are going to be far less significant than they might encounter in their day to day lives. Therefore, to expect popular support for a road pricing scheme from visitors to National Parks would be unrealistic.

5.3. Favoured Future Transport Planning Approaches

Aside from road pricing, respondents were not questioned directly on the potential use of any other transport planning instruments in National Park settings. Instead however, they were asked if they envisaged National Parks as suitable locations in which to trial innovative traffic management and transport planning schemes, as called for in the 1991 Sandford Report. In addition, respondents were asked what kind of transport planning measures they would like to see introduced as part of an innovative new approach. The results are summarised in Table 4 below.

TABLE 4 Transport Officers' Favoured Future Transport Planning Approaches

	Transport Planning Approach	Frequency of Response
Incentives	Public Transport Improvements/Integration	9
	Improved Public Transport Service Marketing	4
	Community/Demand Responsive Transport	3
	Park and Ride	3
	Public Transport Travel Grants for Under Represented Social Groups	1
	Personalised Travel Planning	1
	Free Bus Travel for Children	1
	Expansion of Cycle Hire Facilities	1
Disincentives - excluding road pricing	Speed Limit Reductions	3
	Route Management	1
	Higher Parking Charges	1
	Vehicle Ban (in small area of National Park)	1
	Trial of New Road Surfaces	1

In all but one case, respondents embraced the concept of National Parks as locations in which to trial and experiment with innovative transport planning measures. Environmental concerns emerged as a key theme throughout the interviews, and were the foundation for this strong support, as respondents stated a desire to reduce the environmental impacts of transport within their Parks. Responses revealed an emphasis for a continued focus on the provision of incentives as a means by which to reduce car and encourage more sustainable travel. New public transport schemes were the favoured central element of any new or innovative approach to transport planning. Little support was raised for the possible introduction of disincentive measures as part of any innovative new transport planning approach. What discussion there was around disincentive measures focussed on the difficulties of their implementation, regardless of Transport Officer support or opposition. Parking charges provide an interesting illustration of this debate.

The operation of car parking in National Parks is a largely disaggregated affair. A range of local government authorities (National Park Authorities, county, district and borough councils, Forestry Commission, The National Trust) may each be responsible for separate areas of car parking within a National Park. Subsequently, a range of parking operations and charges across a single National Park may be in place. This makes the co-ordination and development of a Park-wide parking strategy difficult, principally because there are so many organisations involved. Furthermore, concerns were raised about the unintended side-effects of any change to parking policy. The most serious was deemed to be verge parking, or 'the shunting effect', whereby displaced motorists or those unwilling to pay for parking simply leave their vehicle at the side of the road. Theoretically such behaviour could be mitigated against through the use of yellow lines or other parking enforcement initiatives. However serious concern was raised about the suitability of the use of such approaches in the context of the rural environment, the danger being the 'creeping urbanisation' of what is supposed to be a natural and tranquil area. Regardless, the whole parking charge debate is largely undermined by the fact that in vast areas of UK National Parks it is possible to park a vehicle without incurring a charge

Despite this, the fact that parking charges of one form or another are in use in certain locations within National Parks raises an interesting question with regards to the road pricing debate. Simply, in the minds of the public and politicians, what differentiates a parking charge from a road user charge? Why is it deemed acceptable for local authorities or NPAs to levy parking charges in National Parks, whilst the mere consideration of a road pricing scheme seems to be quickly dismissed? What is the ultimate difference in acceptability between a charge for road space (road pricing), and a charge at a point of destination (parking charges)? Perhaps, as a number of respondents stated, it is primarily related to the negative perceptions of road pricing by the public at large; a mood of which local and national politicians are clearly in touch with. *"I think the moment for road pricing has almost gone politically. Perhaps it will come back, presented in a better way. The public appreciation of it is a rough concept, rather than a specific proposal isn't positive"*. If the key issue is essentially a cosmetic one, then does future acceptability hinge on innovative scheme design, clever marketing, and strong political will? And if so, might National Parks, or areas within them, provide a suitable location for a trial? The interviews yielded no evidence that the time is right to consider this a possibility, but perhaps the long term potential of road pricing in UK National Parks should not yet be completely written off.

6. CONCLUSIONS

The planning of transport in UK National Parks is a complex process, and one in which attitudes of, and relationships between, key stakeholders play a critical role in influencing policy decisions and determining what is achieved. It is these relationships which may ultimately determine how successful attempts may be to reduce the impacts of transport in National Parks.

From the point of view of Transport Officers at UK NPAs, this complexity, combined with the perception of existing transport conditions 'on the ground', would appear to rule out the use of road pricing as part of any experimental transport or traffic management initiatives in the foreseeable future. Whilst recognition of the negative environmental impacts of private car use in National Parks exists, no consensus was revealed to suggest that traffic levels had reached such significant levels that the use of such a measure is

required. Furthermore, existing levels of public transport provision were deemed inadequate to provide a realistic alternative to car use. In addition, the public and political acceptability which would need to exist in order for road pricing to be considered for implementation was not considered to be forthcoming. Instead, respondents favoured the continued provision of public transport schemes for the immediate future of transport planning in National Park contexts.

Influenced by local politics, competing social, economic and environmental priorities, and restrictive public attitudes, little preference for the use of other disincentive measures was revealed. These findings prompt the question of ‘what next?’ for transport planning in UK National Parks. Tangible externalities relating to car use are already felt in the National Parks, and demand for leisure trips seems set to increase (Dickinson et al, 2004). Whilst well intentioned and socially necessary, public transport initiatives, already constrained by decreasing budgets for rural transport provision, show no significant impacts in achieving modal shift. This would seem to endorse a coherent, if somewhat uncomfortable truth that “in view of the car’s predominant role, adapting motorised traffic flows and/or parking practices [is] vital” (Beunen et al, 2008, p. 138).

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8. REFERENCES

Beunen, R., Jaarsma, C.F., and Regnerus, H.D., (2006). Evaluating the effects of parking policy measures in nature areas. *Journal of Transport Geography*, (14), pp. 376-383.

Beunen, R., Regnerus, H.D., and Jaarsma, C.F., (2008). Gateways as a means of visitor management in national parks and protected areas. *Tourism Management*, (29), pp. 138-145.

Circular 12/96. Environment Act 1995, Part III, National Parks. Department of the Environment, (1996).

Cullinane, S.L., (1997). Traffic management in Britain’s National Parks. *Transport Reviews*, 17 (3), pp. 267-279.

Cullinane, S.L., and Cullinane, K.P.B., (1999). Attitudes towards traffic problems and public transport in the Dartmoor and Lake District National Parks. *Journal of Transport Geography*, (7), pp. 79-87.

Cullinane, S.L., Cullinane, K.P.B., Fewings, J., and Southwell, J., (1996). Rural traffic management: The Burrator Reservoir experiment. *Transport Policy*, 3 (4), pp. 213-224.

Department for Transport, (2006). Transport Innovation Fund. Available from website: <http://www.dft.gov.uk/pgr/regional/tif/transportinnovationfund>

Dickinson, J.E., and Dickinson, J.A., (2006). Local transport and social representations: challenging the assumptions for sustainable tourism. *Journal of Sustainable Tourism*, (14) 2, pp. 192-208.

Dower, J., (1945). *National Parks in England and Wales*. London, UK: HM Stationary Office, Department of the Environment.

Eagles and McCool, (2002). *Tourism in National Parks and Protected Areas: Planning and Management*. CABI: UK.

Eaton, B., and Holding, D., (1996). The evaluation of public transport alternatives to the car in British National Parks. *Journal of Transport Geography*, (4) 1, pp. 55-65.

Edwards, R., (1991) *Fit for the Future. Report of the National Parks Review Panel*. CCP 334, Countryside Commission, London.

English National Park Authorities Association, (2007). Position Statement: Transport. Available from website: http://www.nationalparks.gov.uk/transport_policy.pdf

Frankfort-Nachmias, C., and Nachmias, D., (2000). *Research Methods in the Social Sciences*. Worth: New York.

Guiver, J., Lumsdon, L., and Weston, R., (2008). Traffic reduction at visitor attractions: the case of Hadrian's Wall. *Journal of Transport Geography*, 16 (2), pp. 142-150.

Guiver, J., Lumsdon, L., Weston, R., and Ferguson, M., (2007). Do buses help meet tourism objectives? The contribution and potential of scheduled buses in rural destination areas. *Transport Policy*, 14 (4), pp. 275-282.

Hampshire County Council Media Release, (2008). County Council Responds to New Forest National Park Plan. Available from website: <http://www3.hants.gov.uk/communications/mediacentre/mediareleases.htm?newsid=274822>

Holdaway, E., and Smart, G., (2001). *Landscapes at Risk? The Future for Areas of Outstanding Natural Beauty*. Spon Press: London.

Holding, D.M., and Kreutner, M., (1998). Achieving a balance between “carrots” and “sticks” for traffic in National Parks: the Bayerischer Wald project. *Transport Policy*, (5), pp. 175-183.

Ison, S., (2004). *Road User Charging: Issues and Policies*. Ashgate: Aldershot.

Ison, S., and Wall, S., (2002). Attitudes to traffic-related issues in urban areas of the UK and the role of workplace parking charges. *Journal of Transport Geography*, (10), pp. 21-28.

Ison, S., and Wall, S., (2003). Market and non-market based approaches to traffic-related pollution: the perception of key stakeholders. *International Journal of Transport Management*, (1), pp. 133-143.

Johansson, B., and Mattsson, L., (1995). *Road Pricing: Theory, Empirical Assessment and Policy*. Kluwer: Dordrecht, NL.

Jones, P.M., (1991). Gaining public support for road pricing through a package approach. *Traffic Engineering and Control*, (25), pp. 194-196.

Jones, P. M., (1995). Road Pricing: The Public Viewpoint. Chapter 9 in Johansson, B., and Mattsson, L-G., (eds). *Road Pricing: Theory, Empirical Assessment and Policy*, Kluwer: Dordrecht, NL.

Jones, P.M., (1998). Urban road pricing: public acceptability and barriers to implementation. Chapter 12 in Button, K.J., and Verhoef, E.T., (eds). *Road Pricing, Traffic Congestion and the Environment*, Cheltenham: Edward Elgar.

Jones, P.M., (2003). Acceptability of Road User Charging: Meeting the Challenge. Chapter 3 in Schade, J., and Schlag, B., (eds), *Acceptability of Transport Pricing Strategies*. Elsevier: Oxford.

MacEwen, A., and MacEwen, M., (1987). *Greenprints for the Countryside? The Story of Britain's National Parks*. Allen & Unwin: London.

Nash, C., (2007). Developments in transport policy – road pricing in Britain. *Journal of Transport Economics and Policy*, (41) 1, pp. 135-147.

New Forest National Park Authority, (2008). New Forest National Park Plan: Consultation Draft. Available from website:
<http://www.newforestnpa.gov.uk/webversionrevisednationalparkplan.pdf>

Pope, C., Ziebland, S., and Mays, N., (2000). Qualitative research in health care: analysing qualitative data. *British Medical Journal*, (320), pp. 114-116.

Reeves, R., (2006). Tackling Traffic: Sustainable leisure transport in National Parks – an overview of National Park Authority involvement. A report by the Council for National Parks. Available from website: www.cnp.org.uk/docs/Tackling_Traffic_full_report.pdf

Regnerus, H.D., Beunen, R., and Jaarsma, C.F., (2007). Recreational traffic management: The relations between research and implementation. *Transport Policy*, (14), pp. 258-267.

Report of the National Park Policies Review Committee (the 'Sandford Report'), (1974). Oxford, UK: HM Stationary Office, Department of the Environment.

Ritchie, J., and Spencer, L., (1994). Qualitative data analysis for applied policy research. In: Bryman, A., and Burgess, R. G. (Eds). *Analyzing Qualitative Data*. Routledge: New York.

Rom, M., (1994). The Politics of Congestion Pricing. In *Curbing Gridlock: Peak-Period Fees to Relieve Traffic Congestion*. Transportation Research Board: Washington D.C.

Smyth, R.L., Watzin, M.C., and Manning, R.E., (2007). Defining acceptable levels for ecological indicators: an approach for considering social values. *Environmental Management*, (39), pp. 301-315.

Steg, L., (2003). Factors influencing the acceptability and effectiveness of transport pricing. Chapter 12 in Schade, J., and Schlag, B., (eds). *Acceptability of Transport Pricing Strategies*. Elsevier, Oxford.

Steiner, T.J., and Bristow, A.L., (2000). Road Pricing in National Parks: A Case Study in the Yorkshire Dales National Park. *Transport Policy*, (7), pp. 93-103.

The National Trust, (2005). 'Visitor Travel: Policy from Practice'. Available from website: http://www.nationaltrust.org.uk/main/w-visitor_transport_policy_from_practice.pdf

Turnbull, K.F., (2003). Transports to Nature: Transportation Strategies Enhancing Visitor Experience of National Parks. *TR News*, (224), pp. 15-21. Transportation Research Board: Washington D.C.

Turnbull, K.F., (2004). Transportation Partnerships in the Parks: Cooperative Initiatives Serves Visitors, Protects the Environment. *TR News*, (233), pp. 14-23. Transportation Research Board: Washington D.C.

Upchurch, J., (2009). Preserving an Historic National Park Roadway – The Hermit Road. Compendium of Papers from the 88th Annual Meeting of the Transportation Research Board: Washington D.C.