Infrastructure, planning and the command of time

Submitted to Environment and Planning C: Government and Policy, not for quotation

Tim Marshall[1] and Richard Cowell[2*]

1Department of Planning
Oxford Brookes University
Headington Campus
Gipsy Lane
Oxford, UK
OX3 0BP
tmarshall@brookes.ac.uk

2 School of Planning and Geography
Cardiff University
Glamorgan Building
King Edward VII Avenue
Cardiff, CF10 3WA
United Kingdom
Tel.: +44 (0)29 20876684
Email: cowellrj@cardiff.ac.uk

* Corresponding author

Acknowledgements

We are grateful for the helpful advice of the editor and two anonymous reviewers on an earlier draft of this paper.

Infrastructure, planning and the command of time

Abstract

Governments in many countries have sought to accelerate the time taken to make decisions on major infrastructure projects, citing problems of 'delay'. Despite this, rarely has the time variable been given careful empirical or conceptual attention in decision-making generally, or in infrastructure decision-making specifically. This paper addresses this deficit by analysing decision-making on two categories of major infrastructure in the UK – transport and electricity generation – seeking both to generate better evidence of the changes to decision times in recent decades, and to generate insights from treating time as resource and tracking its (re)allocation. We find that reforms introduced since 2008 have done relatively little to alter overall decision times, but that there are marked and revealing changes to the allocation of time between decision-making stages. While public planning processes have their time frames tightly regulated, aspects led by developers (e.g. pre-application discussion) are not; arranging finance can have a bigger effect on project time frames, and central government retains much flexibility to manage the flow of time. Speed-up reforms are also sectorally uneven in their reach. This indicates how arguments for time discipline falter in the face of infrastructure projects that remain profoundly politicised.

1.0 Introduction

Almost since its inception, the various processes of the planning system have been criticised for being too slow, whether that is the time taken to prepare land use plans (Kitchen 2007), or to determine planning applications (Dobry 1975; Booth 2002). With such criticisms have come calls for speeding up these processes. However, since the 1990s these discourses have come to exert more significant influence on decision-making procedures for major infrastructure. Narratives of 'delay' to 'nationally significant infrastructure' have been used to rationalise a whole suite of institutional changes: towards procedural streamlining, fixed time schedules and the curtailment or staging of opportunities for public engagement. Such trends can be observed in a variety of countries (see Marshall 2012, 2014a, Cowell and Owens 2006).

However, the pervasiveness of these discourses and reforms exposes the relatively limited, unsophisticated attention given to the time variable in decision-making analyses. Certainly, there is an ongoing interest in time management as a facet of performance management (Allmendinger 2011), but the temporal organisation of planning has only sporadically been examined (Booth 2002; Marshall 2002). Although complaints about 'delay' permeate debates about infrastructure decision-making (e.g. Gibson and Howsam 2013; Hyder Consulting 2013), the evidence of delay in planning procedures used to justify reforms is often limited, ambiguous and selective (Booth 2002; Hemming 2012; Levett 2007a, b). More fundamentally, 'delay' is never defined. Meanwhile the numerous critics of streamlining reforms tend to highlight the democratic and environmental risks,

but rarely follow up how with careful analysis of how time is actually re-allocated across decision-making processes, and with what effects.

This paper contributes to these debates in two main ways. The first component is to present an empirical analysis of what has happened to the decision times for major infrastructure in the UK since the 1980s, looking in particular at the effects of reforms enacted since 2008. This is informed by the second component, which begins developing a more nuanced conceptual perspective on time within decision-making, in particular to tease out the merits of treating time as a resource. We adapt elements of Flyvbjerg's questions for phronetic social science research by asking: what is happening to the allocation of time, which elements or arenas are most susceptible to time management and which escape it and, tentatively in this paper, who gains and who loses from these trends and how do they reveal the play of power (Flyvbjerg 2004).

We focus our analysis on the UK, as it offers a particularly resonant setting for exploring these issues. The UK typifies the trends in policy and discourse outlined above. Moreover, the UK's measures to accelerate infrastructure decision times are seen as an exemplar by the Commission of the European Union, which has utilised it in its own proposals for procedural streamlining on 'projects of European significance' (European Commission 2011; Marshall 2014b).

The next section of the paper reviews potential explanations for this increased political attention to decision-time acceleration for major infrastructure, before outlining the

potential for analysing time as a resource and the pitfalls of measurement. The insights derived are then applied to two sectors – transport infrastructure and electricity generating stations – in which decision time data is presented. The final sections discuss the significance of the findings, interpreting the patterns revealed and their implications, and make recommendations for further research.

2.0 Planning, decision-making and the question(s) of time

2.1 Drivers and debates

Concerns to accelerate decision-making for 'major infrastructure' started attracting serious discussion from the 1970s, a period in which the time horizons for deciding on, *inter alia*, new electricity generating stations appeared to be inexorably extending (Owens 1985). For much of the following decades, however, serious efforts to reform infrastructure decision-making processes foundered on countervailing concerns about democratic accountability, legitimacy and public engagement (Cowell and Owens 2006). To follow Wood and Flinders (2014), a logic of discipline (that procedures should be put in place to accelerate decision-making) was contained by logics of democracy. However, from about 2000 onwards in the UK, reform became not just thinkable but *actionable* (DTLR 2001a, 2001b), and an intensification of discourses of delay are a prominent dimension of this shift. As the Secretary of State said in announcing initial reform proposals in July 2001:

> "At present, slow and cumbersome decision-making processes can mean delay and uncertainty for everyone concerned. Much needed infrastructure improvements can be unnecessarily delayed – affecting people's lives on an everyday basis" (DTLR 2001b p 11).

The same phrases kept recurring in subsequent years. For example the Barker Report on land use planning is peppered with references to planning delay, stating for example, that "Taking a major infrastructure project through to planning inquiry and eventual decision can be a very lengthy process. Over 50 percent of power station applications that have gone to inquiry since 1990 have taken at least two and a half years to gain approval, while large transport cases can take several years" (Barker 2006 p 69). Reports proceeding simultaneously on transport concluded thus: "it is clearly a view shared by many – that the system has evolved over several decades to the point at which it can impose unacceptable cost, uncertainty and delay on all participants and the UK more broadly" (Eddington 2006, p 56; see also White 2014).

Discourses of delay informed major reforms, enacted in the UK by the Planning Act 2008 (and amended by the Localism Act 2011), in which steps to contain the duration of decision-making processes featured prominently. Fixed time schedules were introduced for key decision-making stages for specific infrastructure categories, replacing previous procedures, such as local public inquiries, the duration of which was not regulated *a priori* (see Table 1). Reforms also introduced National Policy Statements (NPS), designed to specify and emphasise the 'need' for the infrastructure categories concerned

and thereby prevent such ‘generic’ or ‘policy issues’ being contested at successive project-specific inquiries (DECC 2011). The idea of expediting decisions by splitting ‘generic’ from ‘project-specific’ concerns had been circulating in the UK for decades (see Lee et al 2013), but was now introduced. At the same time, the reforms also required that developers meet specific requirements for public and stakeholder consultation prior to submitting an application – the pre-application stage.

[Insert Table 1 somewhere near here]

The timing of this policy shift itself sheds some light on the drivers. It is hard to interpret the reforms as straightforward policy learning, given the degree of contestation they attracted. An emphasis on procedural speed has long been regarded as a simplistic way of judging the quality of decision-making (Booth 2002). The centralising and streamlining thrust of reforms to infrastructure decision-making processes has been criticised for curtailing opportunities for effective public engagement and for the assumptions made about (central) government omniscience (for example, Owens 2004; Lee et al 2013; Woolley 2010). Indeed, infrastructure decision-making has often been challenged for its struggle accurately to gauge costs and benefits (e.g. Sovacool and Cooper 2013; Flyvbjerg et al 2003), leading to recommendations that major projects ought to be subject to greater democratic oversight and scrutiny, commensurate with the scale of the impacts, yet this is not the direction reforms have taken. In most contexts infrastructure decision-making procedures have been reformulated to inject tighter, central ‘funnelling’ of decision-making (Wolsink 2004), leading to closer containment and staging of the scope

for debate and scrutiny around specific projects (Lee et al 2013; Brand and Watson 2013).

More persuasive explanations of why debates about the effectiveness of planning 'should have become hooked on the questions of managerial efficiency' (Booth 2002, 310) are that it represents a reordering of priorities by the state. The main rationale for 'reducing delay' to infrastructure decision making has long been economic, emanating from business interests in particular, arguing that delayed decisions and lengthy public inquiries impose an economic cost to the specific developer and economy as a whole (Owens 1985). Such pressure has been exercised consistently by the Confederation of British Industry (CBI) since at least the early 1990s (Marshall 2012; CBI and KPMG 2012). The CBI has been unambiguous in its representation of planning: "The government should…urgently and radically improve the speed and transparency of the planning process. For major infrastructure projects, the time taken to hold enquiries must be radically shortened" (CBI 2000 pages 22-23).

Issues of decision-making time have thus become bound up with cost and effective delivery ('delivering to time and to budget'), over the claims for better deliberation or democratic oversight and accountability (Flinders and Wood 2014). Explanations as to why such arguments have started to win out for infrastructure points to a convergence of developments in the economic sphere, related to conceptions of the politics of neoliberalism or neoliberalisation. One strand in which time is prominent is the restructuring of many parts of the Keynesian Welfare State settlement, with "old style"

state forms portrayed as cumbersome and inflexible, compared with contemporary business practices. One can therefore see post-2000 developments as an extension of New Public Management into the infrastructure consenting sphere (Flynn 2012; Allmendinger 2011). A second strand concerns how governments utilise moments and narratives of crisis as opportunities to press for change (Agamben 2005). Climate change has amplified such crisis narratives (Kuzemko 2014), and has been used to rationalise the urgency of delivering massive investment in low-carbon energy generation over efforts to secure broadly-based democratic legitimacy for project decisions (MacKerron 2009; Lee et al 2013).Yet moves to accelerate the delivery of infrastructure can be observed in many categories of development – in road transport, for example - which can hardly be badged as low carbon. A third strand concerns the growing role of the private sector in infrastructure provision, including from the privatised utilities. Over time, one can observe a wider "financialisation of infrastructure" (O'Neill 2013), whereby new financing mechanisms related to private, international equity funds are used ever more widely, with fund managers expecting to see equally advantageous or smooth processes across different contexts (Hawkey et al 2013), whether for new toll roads, airports or energy projects. In this context, protracted deliberation over projects consents – both uncertain duration and uncertain outcomes – is a risk which threatens delivery and adds to the price of finance, and which states have found increasingly difficult to tolerate.

To summarise, while discourses of delays to infrastructure decision making are not new, their growing effectiveness in rationalising streamlining reforms can be related to increasing emphasis on economic priorities within politics more generally. Such

arguments are international in their constitution and reach. A more refined grasp of the power and limits of such economic rationalities might be gained if one tracks more closely efforts to re-shape the temporality of infrastructure decisions, and their effects.

2.2 Why and how time matters

Seeking in some systematic way to trace the shifting temporalities of infrastructure decision-making regimes is an under-developed exercise (though see Owens 1985), yet the potential value of doing so is manifold. Most immediately, the presentation of better evidence on the time taken for making major infrastructure decisions could generate better-informed debate, and help challenge the circulation of casual distortions about 'delay'. One might find that reforms justified as delivering swifter decisions may not have accelerated the delivery of infrastructure, or that the finger of blame for extending time frames has been pointed in the wrong direction. Although much ire has been directed at planning, and especially at public inquiries, previous analysts indicate that such components are not necessarily the longest part of decision-making process or the overall delivery schedule (Owens 1985; Marshall 2002).

From an analytical but also more critical perspective, there is an argument for treating time as a resource and tracing its allocation. Infrastructure decision-making regimes may seek to order time between stages and arenas of the process but, in turn, such actions have distributive implications for different actors. Time is a dimension of the opportunity structures for public and interest group engagement in a polity (Kitschelt 1986), in that

the capacity of different actors to engage with decision-making processes is affected by the time period in which arguments can be assembled and resources raised. Marshall (2002, 175) showed how the compressed time schedule introduced for producing Regional Spatial Strategies made it difficult for truly bottom-up engagement, while advantaging the organised, permanent and well-resourced (mainly, though not entirely, business elites). This is not to say that extending timescales invariably benefits less well-resourced actors. At the protracted inquiry into the Sizewell B nuclear power station, environmental organizations found maintaining a presence immensely challenging (O'Riordan et al 1988).

There is also the issue of reach: for which parts of decision-making processes – and, by implication, for which actors, issues and sectors – have time scales been regulated and compressed, but for which parts is there still flexibility? Can opponents (or perhaps proponents) exploit 'delay' as a tactic to influence outcomes? How time is allocated and used may thus be revealing, not least in terms of the exercise of power between the various parties involved in decision-making processes (Flyvbjerg 2001). Tracing the allocation of time can also inform debates about politicising and depoliticising forms of statecraft (Flinders and Wood 2014), where depoliticisation entails the displacement of political activity, 'typically beyond sites and arenas where it is visible to non-participants and hence amenable to public scrutiny' (Hay 2014, p.302), into technocratic spheres.

To recognise that the allocation of time warrants closer attention does not mean that the time frames of decision-making processes for major infrastructure are straightforward to measure or interpret (see Ball et al 2009; Allmendinger 2011). Three complications arise.

Firstly, 'infrastructure decision-making processes are not wholly constituted by simple, unitary, linear processes, moving from application (by the developer) to consent (by a singular public authority). If the time-frame from application to consent is a dominant measure of decision times, it neglects the tendency of major infrastructure projects to be subjected to many layers of consenting process, including licensing as well as planning consent, often proceeding in different arenas (Gibson and Howsam 2013). Indeed, coordination of multiple consent procedures is a further strand of decision-making streamlining, and a goal advanced by the Planning Act 2008. This multi-strandedness makes it hard to attach a block of time to a single purpose.

Secondly, 'the project' that is up for determination can have fuzzy boundaries. Projects may vary after an application has been made. Allowing modifications to be made to the initial application within the consenting procedure may provide useful flexibility to developers but extends decision times, if focused on the application rather than the project (Allmendinger 2011; DCLG 2014; White 2013). Similar ambiguities arise about how to measure successive, revised applications. Projects may also be intrinsically connected, such as the requirement for grid connections entailed by new power stations (Glasson et al 1998). As Allmendinger suggests (2011, 120), '(m)uch of the process of securing an implementable permission lies outside of the formal process'.

The third set of complications is that measurement is not a neutral exercise. What is measured and the way that data is interpreted can reflect divergent framings of 'the problem' that infrastructure decision-making processes are meant to resolve. Thus Booth (2002) unearthed the Royal Town Planning Institute defining delay as 'unnecessary time' (House of Commons 1978), but this simply raises the question as to what the *necessary* purposes of decision-making processes are. Problems of interpretation arise from the fact that the temporality of decision-making is rarely the only thing being ordered, with issues of timing often linked with demarcations of what is open for deliberation and at what spatial scale. A good example would be the NPS created in the UK arising from the Planning Act 2008 reforms, which seek to define the national need for certain categories of infrastructure, and thereby provide a supportive policy basis for determining infrastructure projects and a mechanism for containing and staging discussion, with the expectation that they can make the determination of individual infrastructure projects more efficient. The logic and value of such manoeuvres has been widely questioned (Marshall 2002, 172; also Owens 2004), but whether they have the desired effect reflects the simultaneous regulation of temporal and discursive boundaries.

The non-neutrality and complexity of tracing decision times also arises from the way in which consenting processes, and their temporal form, are always an abstraction from a much wider and, often fuzzily bounded set of deliberations about infrastructure projects, which unfold across a multiplicity of venues, with varying degrees of openness, often

over much longer periods of time than specific, formal decision-making procedures. This is true even if we focus on the formal arenas of decision *taking* (Bachrach and Baratz 1962); such fuzziness multiplies if we entertain the political assemblage of influence, rationality and legitimacy construction by which decisions are *made*.

This can be illustrated by a set of public debates organised in the south of France on various transport and energy schemes as part of the Commission Nationale du Debat Public system of early non-binding deliberative processes, now required for all major projects. Fourniau et al (2012) analysed the "portée" or reach of those public debates, and revealed the complex play of time in a system based on wide and measured public deliberation. Public debates have often set off new "configurations" which may create new patterns of interest interplay and conceptual framing of a project for years after the four-month long debates (see also Hajer 2003). The Omega project, a global study of transport mega projects, reached similar conclusions: a prominent recommendation related to the importance of giving a project "time to breathe", in order to generate the best chance of achieving truly sustainable and legitimate projects (Omega Centre 2012). To advance such recommendations requires a polity in which the broad, societal deliberation of projects and their policy context is recognised as a valued and legitimate part of decision making, rather than a risk to efficient project delivery. Whether such wider deliberations are measured as part of infrastructure decision times or not also show the clear value judgements - whose time matters? what is important? - bound up in the issue of measurement.

3.0 Methodology

Our analysis now proceeds to two sets of empirical analyses of infrastructure decision-making times. We focus on transport and energy, in recognition that both infrastructural sectors have been of strategic concern, and both have long been subject to special decision-making procedures, run by central government. Within each sector we examine a set of 'routine' projects and those that might be regarded as more exceptional: in transport, this is small-scale roads, ports and rail schemes then major airport and rail infrastructure respectively; in energy, combined-cycle gas-turbine power stations (CCGTs) represent the routine category and nuclear power stations the exceptional. This captures an important distinction, as exceptional projects bulk large in the construction of narratives of delay, yet may be unrepresentative of infrastructure projects generally.

For each category of infrastructure, we have sought to measure the duration of key stages of the decision-making process: particularly the time taken from formal application to consent and, within that, the duration of any public inquiry or examination. Where possible we have structured the analysis to cast light on the situation prior to and after the 2008 reforms. Where information is available, we have sought to track the time spent in pre-application activities, though this is most readily achievable for post 2008 Act processes where pre-application consultation is subjected to greater regulatory oversight and documentary evidence.

Alongside this application-based account (Allmendinger 2011) of consenting processes, we have sought to incorporate parallel and preparatory processes within our analysis where possible, to situate the measurement of formal decision times within the wider duration of infrastructure project delivery. To do so, requires careful delineation of what is under discussion with some risk of inconsistency, but to focus solely on formal procedures would be no less distorting. As noted above, measurement is not a neutral exercise and in focusing on formal parts of the consenting process there is a risk of reproducing a narrow emphasis on decision-making efficiency. Although the entities we seek to measure are inevitably fuzzy and contested, it is still possible to use the results as a foundation from which useful insights can be generated about infrastructure decision-making temporalities and the allocative effects of procedural reforms.

Our primary sources of data for these assessments are documentary, especially decision letters produced when consents are issued, which often convey dates for intermediate stages and any public inquiry or examination. Our research has also benefited from access to two unpublished sources of secondary data: Hemming (2012) and Cowell (1995).

4.0 Analysis

4.1 Transport cases

Here three sets of projects are examined. The first relates to schemes decided under the 1992 Transport and Works Act regime which governed most schemes from 1992 to the coming into force of the 2008 Act, and continues to do so for all schemes below the 2008 Act thresholds. These are compared with the small number of decisions taken under the 2008 Act. The other two sets look at major airport and rail schemes.

Transport and Works Act schemes compared to similar schemes under the 2008 Act

For the period 1992 to 2010, this section draws directly (with the author's permission) on the analysis undertaken by Christine Hemming (2012), in which she analyses the Transport and Works Act 1992 (TWA) cases. The average time from application to decision is around two years, and only just over half the cases involved any public inquiry (see Table 2). For the cases after 2000, nearly all went to public inquiry but, despite this, the average time to decision has been reduced to 1.9 years. As Figure 1 shows, the time taken up by public inquiry for the post 2000 cases has been much shorter – by just over two months - with the exception of one case where the inquiry took almost a year. The most time-consuming stages are from the application to start of the inquiry, averaging over eight months, and the time from inquiry report to decision, averaging nearly six months.

[Insert Table 2 somewhere near here]

[Insert Figure 1 somewhere near here]

For ten transport schemes decided under the 2008 Act the relevant time periods can be seen in Figure 2, below. This does not include the time taken up by judicial review challenges, but this only affected one scheme: the Heysham to M6 Link Road; probably the only scheme which was highly controversial. The decision period from application to consent was very consistent, ranging from 14 to 16 months. The pre-application consultation is done in phases in different ways in each case, so it is hard to determine the exact length. In the M1 junction upgrade extensive consultation took place in 2009 and 2010, followed by formal pre-application consultation in two phases in 2011 and 2012. In the Redditch rail scheme case, there were three phases of formal pre-application consultation, lasting from September 2011 to August 2012, but one can either calculate this in terms of the whole period (11 months), or include only the formal consultation periods (nearer 3-4 months in total).

[Insert Figure 2 somewhere near here]

So, although one needs to be careful in generalising from these cases, current experience points to a different pattern to that of before the 2008 Act regime, with a slightly shorter time period for the core decision period, depending on which parts of the process one includes. This 'gain' of up to six months may have been offset in some cases by longer phases before the core decision-making period (an issue returned to below when we considered gas-fired power stations). In any event, how far this gain of up to six months really mattered to the applicants (largely Network Rail and the Highways Agency) is unclear.

Airport cases

There have been a number of applications to extend regional airports in the last 20 years, but here the focus is just on major projects at three sites. Two projects dominated airport questions in the 1990s – Heathrow Terminal 5 and Manchester second runway, whilst the new runways at Heathrow and Stansted have been the key zone of debate since the early 2000s.

Manchester's runway took either 42 months or 28 months, depending on whether one counts from the submission of the first or second application –illustrating the difficulty of capturing decision times for continually evolving projects. The working-up-time beforehand took about three years, and the time to opening after consent was about four years. Opposition to the project was considerable throughout, with campaigns contesting the scheme through a nine month public inquiry, and direct action seeking to halt the construction long after consent had been given by in January 1997. Thus there was a roughly ten year period from conception to completion. The 28 months formal consenting phase takes up under a quarter of this period, with half of that consisting of the post inquiry stage.

Stansted airport saw two inquiries on major issues. The G1 inquiry on allowing more air movements and passengers lasted five months in 2007, within a process which lasted from application to the local council in April 2006 to the Secretary of State granting consent in October 2008: thirty months in total. The G2 application for a second runway was submitted in March 2008, but had still not reached public inquiry in May 2010, after being called in. It was then withdrawn, given the new government's clear statement of

opposition to the proposal. If these are considered lengthy timescales, the time dedicated to the formal processes was testimony, as at Heathrow, to the inability of pro-development interests to secure a consensus around the expansion, the strength of the opposition (Hayden 2014), and thus to shifting national policy.

Heathrow Terminal 5 is especially significant as those pressing for streamlined consenting seized on it as ideal for the construction of a "delay discourse" from the late 1990s onwards (Griggs and Howarth 2013), yet Levett (2007b) summarises well the case for considering Terminal 5 unique and therefore inappropriate evidence for any reform argument. It was a scheme that had been worked up over many years by the British Airports Authority (BAA), and exhibited extreme complexity on many levels. It was this complexity, above all, that made the public inquiry and subsequent decision making so protracted. Roy Vandermeer, the Inspector, argued in his subsequent reflections on the experience (House of Commons Procedure Committee 2002) that a considerable part of the three years and ten months inquiry period resulted from changes either by the applicant or in government policy, as the inquiry progressed, due to complex features not properly considered in the preparation of the scheme. To this was added the enormously controversial nature of the project, making government very nervous about the management of the inquiry and the timing of the final consent. This case is thus in the special category of other highly politicised airport expansions, like Schiphol (Huijs 2011), Frankfurt or Munich, sagas which have run on over several decades. It can be argued that the application to consent phase neatly (some might say properly) matched this category status.

This argument is bolstered by the experience since 2001 in decision making on Heathrow. The 2000s saw a long period of attempts by BAA and the government to grow a case for a third runway, the collapse of this case at the 2010 election, and then a new phase of searching for resolution, via the attempt to generate consensus through a supposedly cross party device, the Davies Commission, sitting 2012 to 2015. Heathrow's plans for the third runway were withdrawn days after the election in May 2010, having never reached the stage of planning applications, but the contestation had lasted already some years, growing out of the 2003 White Paper's in principle support for this scheme. Again, what is quite clear is that lengthy time scales are endemic in any decisions on Heathrow expansion.

Such cases suggest that we are watching societal decision making or legitimacy-constructing devices, which do not respect precise formulas. The airport cases show varied time dynamics, related to the political balance of power and play of arguments, which then seem to have conditioned the length of the formal consenting stages, and whether in fact these stages were reached at all, rather than the consenting procedures themselves exerting determinate effects on time frames.

Major rail schemes

A striking feature of the reform regime flowing from the 2008 Act is that it has not been used for the largest infrastructure scheme now proposed, HS2: a new high-speed railway line from London to Birmingham. That will be decided through a parliamentary Hybrid Bill, as were two of the other three schemes to be examined here (see Table 3). It is not

completely clear why the Hybrid Bill route was chosen for the Channel Tunnel Rail Link (CTRL) Bill, Crossrail and now HS2. Such procedures are not necessarily swift, and so legitimacy construction is almost certainly one motive. Another may be that in such highly controversial cases as CTRL (now rebaptised HS1) and HS2, governments may feel they have more control over parliamentary progress than in planning processes of pre-or post-reform varieties.[1]

[Insert Table 3 somewhere near here]

Reviewing the data in Table 3 shows that in each case, the formal decision-making process is only a small segment of the pathway from formulation and announcement to completion. Much of this long time period can be attributed to two connected factors: the difficult institutional backdrop of rail privatisation and the creation (as became evident) of a dysfunctional new regime; and the difficulties of negotiating private funding in this period. Consenting processes occupied much less time than financing and related issues. Nevertheless, the lengthy time that (say) Crossrail spent going through Parliament is striking, given the absence of major opposition to the scheme; one might hypothesise that this lengthy time period may have suited government and other interests, in providing time to accumulate the diverse funding sources deemed necessary. With Thameslink, complexities arising from the diverse impacts of the scheme have helped cause the extended time frame, though it too has been affected by financial and organisational difficulties. Again, it is hard to read the slow pathway to delivery *as the result of* the chosen consenting regime.

The evidence suggests that major railway schemes of this kind, rather like the major airport expansions, have their own characteristic time configurations. HS2 shares these, even though the rail system in the UK has arguably "settled in" and a clear decision was taken early on that finance would be a state responsibility, removing much of the time friction seen in the above three cases. In spite of that, HS2 only reached Hybrid Bill submission stage in November 2013, about five years after the firm commitment to the project by government.

4.2 Energy cases

Nuclear power stations: Hinkley C vs Sizewell B

Until Heathrow T5, the inquiry into the nuclear power station Sizewell B was the apotheosis of the 'big inquiry', sitting and hearing evidence for 340 days between 1982 and 1985. When nuclear power returned to UK energy policy agendas in the 21st century, it is unsurprising that government saw the acceleration of consenting procedures as necessary to pave the way (DTI 2007; Hatchwell 2015). Given this connected history, it is illustrative to compare the decision times for Sizewell B with its successor – some 25 years later – at Hinkley C, Somerset, determined under the Planning Act 2008.

As Figure 3 shows, there are broad commonalities in the overall time frames of the two projects, but the distribution of time between the component stages is dramatically different. For Sizewell B, it is the public inquiry itself that dominates, with a further two

years spent writing the inspector's report. With Hinkley C, key stages of the process – the examination, the production of the recommendation and decision – met the statutory time frames of the 2008 Act (see Table 1, above), but the period from initial announcement to the start of examination, and between examination and (possibly) construction have been much longer . Charting the reasons behind these shifting temporalities helps illuminate what the 2008 Act reforms have achieved.

[Insert Figure 3 somewhere near here]

Sizewell's duration can be attributed to the fact that this inquiry, perhaps to a unique degree (O'Riordan et al 1988), was deliberately given a broad remit that extended into issues of energy policy, including the 'need' case for new nuclear, costs, and safety. Indeed, issues of need and cost occupied most of the first year; the safety case occupied most of the second year, with 'local planning and environmental considerations' estimated by O'Riordan et al (1988) to occupy no more than 15% of the inquiry's proceedings. With Hinkley C, the 2008 Act procedures required that the examination – a nominally equivalent process to the public inquiry, though with greater emphasis on written submissions - should be substantially confined to local matters, on the basis that wider strategic issues had been settled in the NPS. Indeed, the inspector's report spent most time dealing with issues that could be regarded as site specific (ecology, construction traffic, etc) while any strategic issues raised during the examination were ruled as *ultra vires* (see Davey 2013 para 6.6.3(i)). If the 2008 Act process was invoked successfully to compress the time frame of the examination, this has clearly not

condensed overall time frames. For Hinkley C, much of the time that elapsed between first project announcements and consent was occupied by pre-application activities, including four stages of formal consultation (White 2013), and the wider issues that were partly incorporated into the Sizewell B inquiry were, for Hinkley C, to unfold in other venues.

One dimension is the process of establishing the need case for new nuclear power, which emerged through successive government policy statements from 2005 (MacKerron 2009) and culminated in the NPS for energy, which set down national support for nuclear power and listed candidate sites, including Hinkley C. Consultation on the NPS paralleled the pre-application stages of Hinkley C. Another dimension is economics. Unlike Sizewell B, Hinkley C came forward within a broad policy context that such investments should be made by the private sector, but it became clear from the project's inception that the state would have to orchestrate market support arrangements so that external finance for such massive and risky investments could be viable. So, years were spent developing new arrangements under the auspices of Electricity Market Reform, and a 'strike price' for the electricity to be supplied by Hinkley C, much of it under contractual secrecy. Subsequent to this, the legality of offering such support to nuclear power became the subject of a European Commission State Aid inquiry, the decision of which attracted legal challenges from the Austrian government and others.

The case of nuclear power shows the difficulties of disentangling specific projects from wider supportive policies, yet ignoring these policies and the contestation that surrounds

them risks giving a distorted impression of how long project decisions take to assemble. Factoring them in suggests a picture in which, for all the reforms and vilification of 'the big inquiry', the time frame from announcement to realisation for Hinkley C overall have proved little different to those for Sizewell B.[2] One retort might be that the decision-times for Hinkley C reflect a whole series of 'one off' activities (the NPS, Electricity Market Reform, the State Aid inquiry) which, once settled, would not recur, thus allowing subsequent projects to be decided more quickly.[3] However, this hypothesis depends on the wider assumption that nuclear power technologies themselves, and the multiple policy landscapes into which nuclear power is embedded, can be kept stable over time (O'Riordan et al 1988; Sovacool and Cooper 2013). This did not happen after Sizewell B, and it has yet to be demonstrated for successors to Hinkley C.

Comparing CCGT decision-times from 1988 to 2015

The advent of modestly scaled combined-cycle gas turbine (CCGT) electricity generation technologies seemed to reverse the inexorable trend towards lengthier power station consenting times seen with coal and nuclear projects through the 1980s (Owens 1985). Like all new projects over 50MW in capacity, consents have been issued by central government through procedures at one remove from conventional land use planning. To that extent, the 2008 Act reforms to the consenting regimes have been a more modest adjustment of long-term conventions, executed under the Electricity Act 1989. In terms of analysis, CCGT power stations also represent a relatively homogenous form of major

infrastructure, being used for over 100 project proposals since the late 1980s, facilitating the production of a longer time series.[4] The data is set out in Figure 4 below.

[Insert Figure 4 somewhere near here]

The data suggests that there has been little overall change in average decision times from application to consent over the decades or, from the more limited data available, since the 2008 Act reforms. The average time from application to consent is 15 months for 1989 Act decisions and 16-17 for 2008 Act decisions. Decision times were undoubtedly more variable under the 1989 Act: some as little as four months, some over four years. Decision-making procedures under the 1989 Act have not been subjected to fixed scheduling (see DECC 2007), such that decision times for CCGTs could become lengthy, and this has happened principally for two sets of reasons.

One set arises from the interactions between chosen project and chosen site. Most CCGTs were consented relatively quickly because they utilised existing industrial or fossil-fuel power station sites, thus fomenting little organised opposition. In some cases, however, the sites chosen were more controversial or, more often, the side-effects that spilled beyond the site – construction traffic, the extraction or discharge of cooling water into sensitive ecosystems, or air pollution – attracted the concerns of publics, statutory conservation bodies and the local planning authority. Only three CCGTs consented under the 1989 Act went to a public inquiry. Where this happened, decision times were longer than the average - 31, 28 and 28.5 months - even though the actual inquiry proved short

(less than two weeks in each case). The second set of reasons arises from wider policy turbulence around the combustion of gas for electricity generation. A number of CCGT applications through the 1990s were affected by the crisis in British coal, intensified by electricity privatisation, and government reviews of the rapidly expanding use of gas in electricity generation. Six consents were issued on 15th November 2000, with 'decision times' apparently extending up to 44 months. Yet this date coincides with the lifting of stricter consenting policy on gas-fired power stations, under which some of these applications might have faced refusal (Simmonds 2002). One might say that delay allowed consent. Even without the innovation of NPSs, Section 36 procedures for CCGTs project decisions have been able to deflect challenges on issues of need.

Only five CCGTs have been consented to date under the 2008 Act at the time of writing (August 2015), but these begin to show that time is now disposed quite differently across the various stages of the decision-making process, especially pre-application. Under the 1989 Act, pre-application consultation was left to the discretion of developers and proved highly variable, shaped to some extent by EIA scoping and preparation, but with no requirements for informing the local planning authority or affected publics, and leaving no consistent documentary record. Data gathered by Cowell (1995) from local authority planning files for applications submitted between 1988 and 1995 suggest a mean period of 5.8 months for pre-application activities.[5] The 2008 Act introduced detailed, formal requirements for pre-application public and stakeholder consultation, which must be approved by the Planning Inspectorate before an application can proceed to examination. Nevertheless, the organisation and duration of the pre-application actions can still be

considered as under the control of the developer, and are not subject to temporal regulation.

Pre-application discussion periods ranged from 9 to 44 months , with a mean of 20.6, which suggests that this stage of proceedings is longer than under the 1989 Act.[6] One plausible explanation is that the reformed arrangements give much greater encouragement to developers to improve proposals and satisfy consultees prior to application. Under the 1989 Act, such discussions still took place, but would be more likely to occur post-application and, moreover, consent officers in central government were willing to allow time for further negotiation on impact analysis, mitigation and compensation measures that would make the project more acceptable, and appeared to treat this as preferable to allowing objections to trigger a public inquiry. One might read this as temporal flexibility in the service of good environmental management and legitimacy construction, activities which are now concentrated on the pre-application stage.

The fragmentation of the decision-making process undoubtedly affects apparent decision times for energy projects. Under Section 36, power stations and grid connections have been treated as separate applications, even though necessarily connected, with grid projects having high potential for controversy. A plangent illustration is the Wilton CCGT on Teesside, consented in just four months in 1990, but the 400kV grid line enhancements associated with it infringed on a National Park and took seven years to consent. This project was subsequently held as an example of planning delays (Barker

2006), though it would also be a good example of the limited integration of project assessment procedures (Glasson et al 2008).[7]

5.0 Discussion

A key finding is that, across these sectors as a whole, there is limited evidence to suggest a major change to the time frames for determining infrastructure projects, with few significant signs of reductions since the 2008 Act reforms. For most 'major infrastructure projects', 18-24 months has been the typical duration of consenting procedures from the 1990s onwards. There is, however, strong evidence of a redistribution of time between different components of decision-making processes, showing an uneven reach to time regulation and compression. This is revealing of wider power relations in a number of respects.

In terms of what is happening to the allocation of time – which elements or arenas are most susceptible to time management? – the research shows that it is planning and associated processes like public inquiries that were often the focus of narratives of delay, and it is these public-led components of decision-making processes that have been subject to greatest temporal regulation. To date, the statutory time-frames of the 2008 Act, from formal acceptance of an application through to the delivery of a decision, have largely been followed. Under this regime, extensive public hearings are now unlikely to occur for certain categories of infrastructure. This is partly because of the emphasis on

written representations, but also because the regulation of time is linked to a containment of the scope for deliberating key policy issues: the introduction of the NPSs may thus have gutted the system of most of its more fundamental contestation.

However, closer analysis of previous procedures also shows that, for many infrastructure projects, public inquiries were never so frequent or as lengthy as the delay discourse might suggest. Moreover, if the Hinkley nuclear power station exemplifies a project where the 2008 Act reforms have shortened formal consenting processes, it also shows how rendering infrastructure decision-making 'quicker' can depend on what is considered to be part of the process. The Hinkley experience also supports Jasanoff's (2007) suggestion that where contentious issues are squeezed out of the system in one place (like the economic and environmental merits of nuclear power as a means of decarbonising energy), democracies may find ways of dealing with them in another (e.g. various levels of debate over the National Policy Statements and legal challenges to the EU State Aid inquiry decision; Owens and Cowell 2010; see also Crompton 2015).

Preliminary deductions can be made about who gains and who loses from this time compression regulation. The business sector were major proponents of the 2008 Act reforms, as a device for addressing 'delay', and the result has been greater consistency – if not necessarily net reduction – in decision times, narrowly construed. How far business benefits depends on how one views pre-application consultation. The time duration of pre-application consultation is not subject to ~~a maximum~~formal limits, such that developers retain discretion here. There are minimum procedural requirements to be met,

and analysts recognise a quid pro quo between time spent in pre-application consultation and swift formal consenting procedures (White 2013). Moreover, developers can combine time spent engaging in such public-facing activities with private decisions, such as checking the financial viability of project proposals or choosing between competing investments (Gibson and Howsam 2010), and the latter may be more important determinant of overall duration. Nevertheless, by 2014 the Government was acknowledging business concerns that requirements for pre-application consultation were 'too lengthy and onerous' (DCLG 2014, para 10), and looking at ways to increase the scope for project modification after application (White 2013). Pro-developer arguments for temporal flexibility continue to exert power. This leads to a broader concluding point, apparent across our two sectors, that it is often the time spent organising finance that is the major determinant of infrastructure project temporalities, especially for sectors such as nuclear power (Hatchwell 2015) and major rail schemes where potentially controversial balances between public and private funding must be struck.

Implications for the public and pressure groups require further investigation, though it is clear that any such research would need to extend beyond public inquiry arenas, insofar as these have been less pivotal in the temporal dynamics of many infrastructure projects than criticism of them might suggest. Similarly, the effects of re-casting the temporal structure of decision-making needs viewing alongside the effects of streamlining reforms on what is open for discussion, where, and the weight given to dissenting views (see Rydin et al 2015). If those wishing to contest more fundamental issues of need, economics and sustainability are utilising other apertures (Crompton 2015), we need to

consider how these may be accessible to very different constellations of organisations and publics.

Across the reforms, significant power is retained by Central Government. It has the power to consider how delivery and democracy might best be integrated. A key example is the 2011 Localism Act, which abolished the independent decision-making body (the Infrastructure Planning Commission), and returned decision-taking to Government Ministers. Central Government also retains significant flexibility over which sectors to apply speed-up regulation. This is revealing in itself. While the Government has been swift to impose streamlining reforms across some sectors, for others there remains an unwillingness to contain the duration of decision-making, and a retention of flexibility to use diverse time-shift devices, such as special commissions, White Papers and various forms of Government Bill. The stately progress of major rail schemes HS1, HS2 and the airports sagas are witness to this, as was the long delay in issuing the National Networks NPS (not finalised until December 2014: Department of Transport 2014). A simple materialist reading might suggest that business elites find it easier to tolerate slower time frames in some sectors than others, notably major rail schemes - a broadly loss making industry where public finance is critical to progress - yet the failure thus far to fast-track decisions over airport capacity in the south-east scarcely fits this picture.

A more nuanced explanation for the uneven time compression of infrastructure decision-making, is that streamlining reforms remain difficult where particular sectoral development trajectories remains intensely politicised, and especially where this

politicisation may have electoral consequences. This may be a reflection of the sector and contested debates about 'need' (Hayden 2015), making it difficult to produce fixed statement of national policy (Owens 2004) but siting geography also matters, with development of many types having faced significant protest in rural and affluent south-east England (Cowell and Murdoch 1999), where the political price of amenity (Gregory 1971) can be severe. Here, finding new airport capacity has failed to secure significant cross-party unity, and intense conflicts in this region around HS2 are also electorally salient to the main political parties. We might contrast this with energy. With nuclear power, despite its significant complexity and risks, the main UK political parties have become supportive, and in siting terms new nuclear capacity has been channelled to existing 'nuclear oases', enjoying strong local support (Blowers 2009). In such circumstances, the streamlining of decision-making processes becomes thinkable and actionable. One can also see the opposite happening with on-shore wind in England, where the growing electoral salience of public opposition emanating from specific projects has led the 2015 Conservative Government to act to pass planning decisions on wind farms over 50MW to local planning authorities (BBC 2015).

These observations return us to earlier discussions about drivers. Where governments judge that there is limited scope to depoliticise certain sectors, projects and/or sites, then we can observe limitations to the traction of otherwise influential narratives of 'delay' and crisis that are otherwise powerful drivers of infrastructural decision-making reforms. Overall, governments seek to balance control and flexibility, for political manoeuvre and

electoral reasons. It may be that in, some sectors, the sense of needing a longer debating and detailing period is widely shared, and serves a non-negotiable legitimising purpose

Our research also provides a useful evidence base for a more refined analysis of the construction and deployment of 'delay' discourses in major infrastructure. It is important to realise that delay discourses are constructed, and constructed far more intensely in some sectors than in others. Thus the discourse of 'delay' around airport capacity in south-east England is not ubiquitous, with less evidence of a delay narrative being constructed in relation to HS2, as with Thameslink or Crossrail, even though these were schemes with extremely lengthy gestation and approval periods. Outside academia, however, counter discourses that assert the positive value of having longer periods of deliberation have become hard to find in the UK (though see Mount 2015), though conditions remain more conducive elsewhere in Europe (see for example BMVBS 2012; Conseil d'Etat 2011). What we can see is the wider strategic deployment of delay discourses by project opponents. For example, the ongoing difficulties of the Hinkley C nuclear power station–have seen critics representing delay as endemic to nuclear energy, and one further reason to discount the contribution of nuclear power to swiftly delivering a decarbonised energy system.[8] Yet in so doing, the power of a master discourse of 'delivery' and the need for timeliness is reinforced.

6.0 Conclusions

Our analysis of the decision times for major infrastructure has helped to broaden understanding of the temporalities of this much contested area of public policy, and indicated how research can expand the focus of debate beyond the often binary political discourses calling for 'quicker decisions' or 'more public engagement'. We show that decision-times, for most infrastructure projects, have not changed significantly in recent decades, but there is a more marked redistribution of time between different components of decision-making processes, and the uneven regulation of time frames between projects and sectors. This helps to reveal the balance of power between actors as well as the uneven traction of economic arguments for streamlining and depoliticisation. There is, of course, a need to replicate such research on other infrastructure categories; renewable energy being a prime contender. There is also an urgency to this, as in the UK and other countries downward pressures on decision-making time frames are unrelenting (see White 2013).

While our data has its limitations, our inclusion of an array of projects, 117 in total, shows how a focus on specific 'exceptional' projects like Heathrow T5 can misrepresent what is happening to decision times across a wider gamut of infrastructure. Similarly, whatever the uncertain merits of public inquiries as a mode of public engagement and evidence investigation, it is clear that their duration only rarely significantly shaped the overall time frames for most infrastructure projects. Only for Hinkley C might one conclude that the 2008 Act procedures reduced decision times because it was subjected to a shorter public examination: but issues addressed previously *within* nuclear power station public inquiries have unfolded instead in other arenas.

A number of implications arise from our results, with relevance beyond the UK case. The first is to consider whether conceptions of 'moral hazard' can help to evaluate these trends. Applied most visibly to bank bail outs, the concept may have some purchase on institutional arrangements in which project proponents can put forward more controversial and risky schemes, in sensitive locations, in the belief that one of the potential penalties of such behaviour – a protracted decision-making process – has been delimited by the state. Questions arise about the quality of scrutiny in time-trammelled processes and the possibility of transfers of risks. Actor dimensions warrant closer analysis, too, such as the performance of different actors within 'streamlined' apertures and in arenas outside formal planning mechanisms; the scope of different actors to influence overarching policies and the 'rules of the game'; and how Parliamentary scrutiny – often held up as the 'right place' to debate infrastructural need – performs in this regard (see discussion in Mount 2015).

A second implication is that if 'speed up' reforms tend to redistribute time between processes and actors rather than reduce overall decision times, then it ought to make it easier to argue that the time could be re-allocated in more productive and creative ways. After all, if there has been little change in overall delivery time for major infrastructure then this is one less reason to curtail the use of more open and potentially deliberative processes. 'Flexible' approaches to the treatment of 'end of the pipe controversies' called for by Hajer (2003), allowing more reflexivity between site specific issues and wider

policy direction, or less restricted *ex ante* deliberations suggested by Fourniau (2012), offer alternative pathways.

A further implication concerns the need to specify and elevate the public value of wider deliberative processes, in a political environment where discourses of 'infrastructure delivery' readily drown out wider questions of ends, and managerial reforms readily badge such questioning as 'delay'. A case can be made that containing and accelerating planning processes for major infrastructure development is an under-considered dimension of socio-technical lock-in to particular development pathways (Unruh 2000), and has been applied most forcefully (albeit unevenly) to precisely those infrastructures where societal questions of sustainability are most profound. There are vital but unexplored connections between literatures on infrastructure, planning and sustainability transitions.

Acknowledgements

An earlier version of this paper was presented at the Planning Research Conference in Oxford Brookes University, 11th September 2014 and at a seminar at Newcastle University, 22nd April 2015. The authors are grateful to the participants of these events for their helpful feedback, and to the anonymous reviewers at *Environment and Planning C* for their insightful comments.

References

Agamben G, 2005, *State of Exception*, (University of Chicago Press, Chicago)

Allmendinger P, 2011, *New Labour and Planning. From New Right to New Left*, (Routledge: London).

Bachrach P, Baratz M, 1962 "The two faces of power" *The American Political Science Review*, **56**, 947-952.

Ball M, Allmendinger P, Hughes C, 2009, "Housing supply and planning delay in the south of England", *Journal of European Real Estate Research*, **22**(1), 151-169

Barker K, 2006, *Barker Review of Land Use Planning*, Interim Report, July (HM Treasury, London)

BBC, 2015, Queen's Speech 2015 – bill by bill, 27th May, http://www.bbc.co.uk/news/uk-politics-32898443, accessed 13th August 2015.

Blowers A, 2009, "Why dump on us?" *Town and Country Planning*, **78 (**1) 33-37.

Booth P, 2002, "A desperately slow system? The origins and nature of the current discourse on development control", *Planning Perspectives*, **17**, 309-323

Brand P, Watson P, 2013, "The resurgence of 'government': recent policy initiatives and the new legitimacy crisis", AESOP / ACSP Congress Dublin, July 15-19th 2013

BMVBS (Federal Ministry of Transportation, Building and Urban Development) (2012) „Handbuch für eine gute Bürgerbeteiligung" zur Planung von Großvorhaben im Verkehrssektor, BerlinCBI, 2000, *Manifesto: Towards 2010*, (CBI, London)

CBI/KPMG, 2012, *Better Connected, Better Business, CBI/KPMG Infrastructure Survey 2012*, September, (Confederation of British Industry, London).

Conseil d'Etat, 2011, *Consulter autrement, participer effectivement (Rapport public 2011)*, Paris: La documentation francaise.

Cowell, R. 1995 *Environmental Compensation, Sustainability and Planning: The case of the Electricity Supply Industry* unpublished Ph.D. thesis, Cambridge University

Cowell R, Murdoch J, 1999 "Land use and the limits to (regional) governance: some lessons from planning for housing and minerals in England", *International Journal of Urban and Regional Research***23**(4), 654-669

Cowell R, Owens S, 2006 "Governing space: planning reform and the politics of sustainability"*Environment and Planning 'C', Government and Policy***24**(3), 403-421

Crompton A, 2015, 'Runaway train: public participation and the case of HS2', *Policy and Politics* 43(1), 27-44.

Davey E, 2013, Planning Act 2008. Application for the Proposed Hinkley Point C (Nuclear Generating Station) Order, 19th March 2013, (Department for Energy and Climate Change, London)

DCLG, 2013, *Planning Act 2008.Guidance for the Examination of Applications for Development Consent*, (Department for Communities and Local Government, London)

DCLG, 2014*Government Response to the Consultation on the Review of the Nationally Significant Infrastructure Planning Regime*, April, (Department for Communities and Local Government, London)

DECC, 2007, *The consenting process for onshore generating stations above 50MW in England and Wales, a guidance note on Section 36 of the Electricity Act 1989*, October, (Department for Energy and Climate Change, London)
DECC, 2011 *Overarching National Policy Statement for Energy* (EN-1), (Department for Energy and Climate Change, London)
DECC, 2014, Implementing Geological Disposal. A Framework for the Long-term Management of Higher Activity Radioactive Waste, July, (Department for Energy and Climate Change, London)
Department for Transport, 2014 *National Networks National Policy Statement*, December, (Department for Transport, London)
DTI, 2007, *Meeting the Energy Challenge: A White Paper for Energy*(Department for Trade and Industry, London)
DTLR, 2001a *Planning: Delivering Fundamental Change*, ((Department for Transport, Local Government and the Regions, London)
DTLR, 2001b *New Parliamentary Procedures for Processing Major Infrastructure Projects*, (Department for Transport, Local Government and the Regions, London)
Dobry G, 1975, *Review of the Development Control System*, Final Report, (HMSO, London)
Eddington, R, 2006, *The Eddington Transport Study: Main Report*, HM Treasury and Department of Transport, London)
European Commission, 2011, *Energy Infrastructure. Priorities for 2020 and Beyond – a Blueprint for an Integrated European Energy Network*, DGEn, (European Commission, Luxembourg)
Flinders M, Wood M, 2014, "Depoliticisation, governance and the state", *Policy and Practice***42**(2), 135-149.
Flvjbjerg B, 2001, *Making social science matter* (Cambridge University Press, Cambridge)
Flyvbjerg B, 2004, "Phronetic planning research: theoretical and methodological reflections", *Planning Theory and Practice***5**(3), 283-306.
Flyvbjerg B, Bruzelius N, Rothengatter W, 2003, *Megaprojects and Risk*, (Cambridge University Press, Cambridge)
Flynn N, 2012, *Public Sector Management* (Sage, London)
Fourniau J-M et al, 2012, *La Portee de la Concertation: Modelisation sociologique des effets de la participation du public aux processus decisionnels*, final report of project, two volumes, retrieved 10/7/2013. Available at http://concertation.hypotheses.org/
Gibson E, Howsam P, 2010 "The legal framework for offshore wind farms: a critical analysis", *Energy Policy***38**, 4692-4702.
Glasson J, Therivel R, Chadwick A, 1998, *Introduction to Environmental Impact Assessment*, (UCL Press, London)
Gregory, R, 1971, *The Price of Amenity: Five Studies in Conservation and Government*, (Macmillan, London)
Griggs S, Howarth D, 2013, *The politics of airport expansion in the United Kingdom*, (Manchester University Press, Manchester)

Hajer M, 2003, "A frame in the fields: policymaking and the reinvention of politics", in *Deliberative Policy Analysis. Understanding Governance in the Network Society*, Eds Hajer M, Wagenaar H, (Cambridge University Press, Cambridge) pp.88-110

Hatchwell P, 2015 'Nuclear: will heat turn to light?' *ENDS Report* 482, April, 29-33

Hawkey D, Webb J, Winskel K, 2013, "Organisation and governance of urban energy systems: district heating and cooling in the UK", *Journal of Cleaner Production* 50, 22-31.

Hayden A, 2014 "Stopping Heathrow Airport expansion (for now) lessons from a victory for the politics of sufficiency', *Journal of Environmental Policy and Planning***16**(4), 539-558.

Hay C, 2014 "Depoliticisation as process, governance as practice: what did the 'first wave' get wrong and do we need a 'second wave' to put it right?" *Policy and Politics* **42**(2), 293-311

Hemming C, 2012, *The Road to Hell? A Personal Analysis of Government Failure*, unpublished report (December 2012)

House of Commons, Planning Procedures, *8th Report of the Expenditure Committee*, 3 vols, Session 1977-1978, vol. 2, pp.87-108.

House of Commons Procedure Committee, 2002, *Major Infrastructure Projects: Proposed New Parliamentary Procedures,* (House of Commons Procedure Committee, London)

Huijs M, 2011, *Building Castles in the (Dutch) Air: Understanding the Policy Deadlock of Amsterdam Airport Schiphol 1989-2009*, doctoral thesis, Delft University.

Hyder Consulting (2013) *Evaluation of Consenting Performance of Renewable Energy Schemes in Wales*, Main Report, Volume 1, January, (Hyder Consulting (UK) Limited, Cardiff)

Jasanoff S, 2007, *Ungoverned Reason: The Politics of Public Rationality*, Leverhulme Lectures, University of Cambridge, 16, 17 and 18 May

Kitchen T, 2007, *Skills for Planning Practice* (Palgrave, Basingstoke)

Kitschelt H, 1986, "Political opportunity structures and political protest: anti-nuclear movements in four democracies", *British Journal of Political Science***16**, 58-95.

Kuzemko C, 2014, "Politicising UK energy: what 'speaking energy security' can do", *Policy and Politics***42**(2), 259-274.

Lee M, Armeni C, de Cendra J, Chaytor S, Lock S, Maslin M, Redgwell C and Rydin Y,2013, "Public Participation and Climate Change Infrastructure"*Journal of Environmental Law*, **25**, 33-62.

Levett R, 2007a, "A White Paper for planning growth" *ECOS***28** 2, 79-81.

Levett R, 2007b, *Deconstructing Barker, a report for CPRE on the Planning White Paper* (CPRE, London).

Marshall T, 2002, "The re-timing of English regional planning", *Town Planning Review***73**(2) 171-195

Marshall T, 2012, *Planning Major Infrastructure,* (Routledge, Abingdon)

Marshall T, 2014a, "Infrastructure futures and spatial planning; Lessons from France, the Netherlands, Spain and the UK", *Progress in Planning*, **89**, April 2014, 1-38.

Marshall T, 2014b, "The European Union and Major Infrastructure Policies: The Reforms of the Trans-European Networks Programme and the Implications for Spatial Planning", *European Planning Studies*,**22** (7), 1484-1506

MacKerron G, 2009, 'Lessons from the UK on urgency and legitimacy in energy policy-making', in Eds I Scrase, G MacKerron *Energy for the Future: A New Agenda* (Macmillan, Basingstoke), pp76-88

Ministry of Justice, 2012, *Judicial Review: Proposals for Reform*, December, (Ministry of Justice: London)

Mount A, 2015, *Opening Up Infrastructure Planning. The Need for Better Public Engagement*, (Green Alliance, London)

Omega Centre, 2012, *Mega-Projects Executive Summary*, Omega Centre, Bartlett School of Planning, UCL, London, retrieved 2/10/2014
http://www.omegacentre.bartlett.ucl.ac.uk/about_us/news/20130410_OMEGA_Executive_Summary.pdf

O'Neill P, 2013, "The financialization of infrastructure: the role of categorization and property relations", *Cambridge Journal of Regions, Economy and Society*, **6**, 3, 441-454.

O'Riordan T, Kemp R, Purdue M, 1988, *Sizewell B. An Anatomy of the Inquiry*, (Macmillan, Basingstoke)

Owens S, 1985, "Energy, participation and planning: the case of electricity generation in the United Kingdom", in Eds Calzonetti F and Soloman B *Geographical Dimensions of Energy*, (Reidel, Dordrecht), 225-253

Owens S, 2004, "Siting, sustainable development and social priorities", *Journal of Risk Research* **7**, 2: 101-114.

Owens S, Cowell R, 2010, *Land and Limits: Interpreting Sustainability in the Planning Process*, 2nd Edition, (Routledge, London)

Rydin Y, Lee M and Lock S (2015) 'Public engagement in decision-making on major wind energy projects', *Journal of Environmental Law* 27, 139-150.

Simmonds G, 2002, *Regulation of the UK Electricity Industry*, Industry Brief, (University of Bath, Bath)

Sovacool B, Cooper C, 2013, *The Governance of Energy Mega-Projects* (Edward Elgar, Cheltenham)

Unruh G C, 2000, "Understanding carbon lock-in", *Energy Policy***28**(12), 817-830.

White M, 2013, 'Attaining the age of consents: five years of the Planning Act 2008', *Journal of Planning and Environment Law*, 100-148.

Wolsink M, 2004, "Policy beliefs in spatial decisions: Contrasting core beliefs concerning space making for waste infrastructure", *Urban Studies*, **41**(13), 2669-2690.

Wood M, Flinders M, 2014, "Rethinking depoliticisation: Beyond the governmental", *Policy and Politics*, **42**, 2, 151-170

Woolley O, 2010"Trouble on the Horizon? Addressing Place-Based Values in Planning for Offshore Wind Energy"*Journal of Environmental Law*, **22**, (2) 223-250

Table 1: Timetabled stages of the infrastructure consenting process

Stage of process	Duration	Where prescribed
To decide to accept application for Development Consent Order	28 days	Legislation: Section 55(2) of the 2008 Act
For relevant representations to be lodged	Not less than 28 days	Legislation: Section 56(a) and 56(5) of the 2008 Act
Period for the examining body to identify initial issues	21 days	Guidance (DCLG 2013)
Notice of preliminary meeting of the Examination	21 days	
Examination	6 months	Legislation: Section 98(1) of the 2008 Act
Planning Inspectorate to issue report	3 months	Legislation: Section 98(3) of the 2008 Act
Secretary of State to issue decision	3 months	Legislation: Section 139 of the Localism Act 2011, amending the 2008 Act.

Table 2: Analysis of cases under Transport and Works Act 1992 now falling under Planning Act 2008 regime (reproduced with permission from Hemming 2012)[9]

	Number of cases	Average time to decision (years)	Number to public inquiry	Number refused
All applications	20	2.2	11	2
Applications since 2000	8	1.9	7	0

Table 3: Decision process and times for major rail schemes

Scheme	Formulation and previous application	Submission of Application	Consent	Opening	Key Planning Challenges	Time from announcement to opening
Channel Tunnel Rail Link	Route announced 1989	Hybrid Bill submitted November 1994	Royal Assent December 1996	Route to London St Pancras November 2007	Discussions over route through Kent and steering it to more acceptable areas, early 1990s	25 months (28 years)
Crossrail	Conceived 1941, 1974, or Central London Rail Study of 1989; previous consent attempts through Private Members Bill, Transport & Works Act	Hybrid Bill submitted February 2005	Royal Assent July 2008	2018	Few major planning challenges	41 months (29 years)
Thameslink	Formulated late 1980s, consent attempt through Private Members Bill	Transport and Works Act order submitted November 1997, amended 1999; public inquiries June 2000 to May 2001, a second in 2005	Planning permission granted October 2006	2018	Heritage impacts around Borough Market	108 months (29 years)

Figure 1: Analysis of post-2000 Transport and Works Act 1992 cases involving public inquiry (reproduced with permission from Hemming2012)

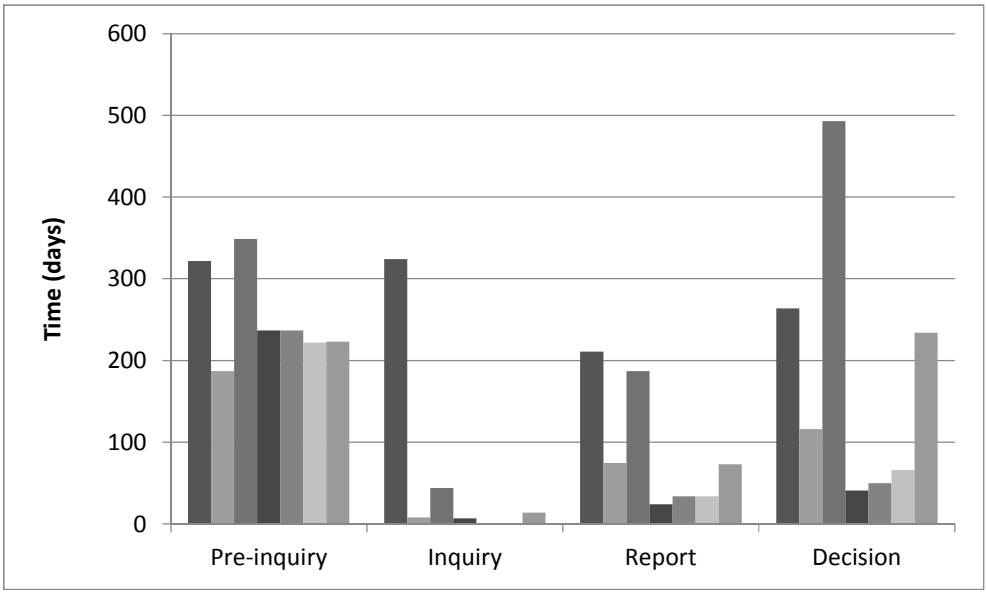
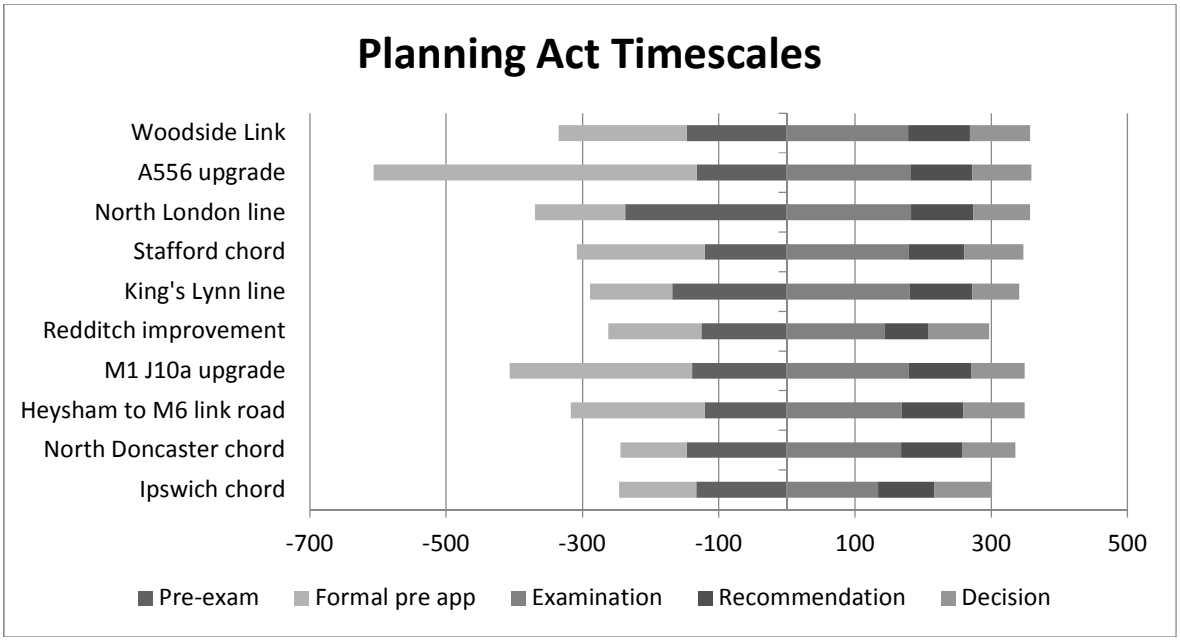
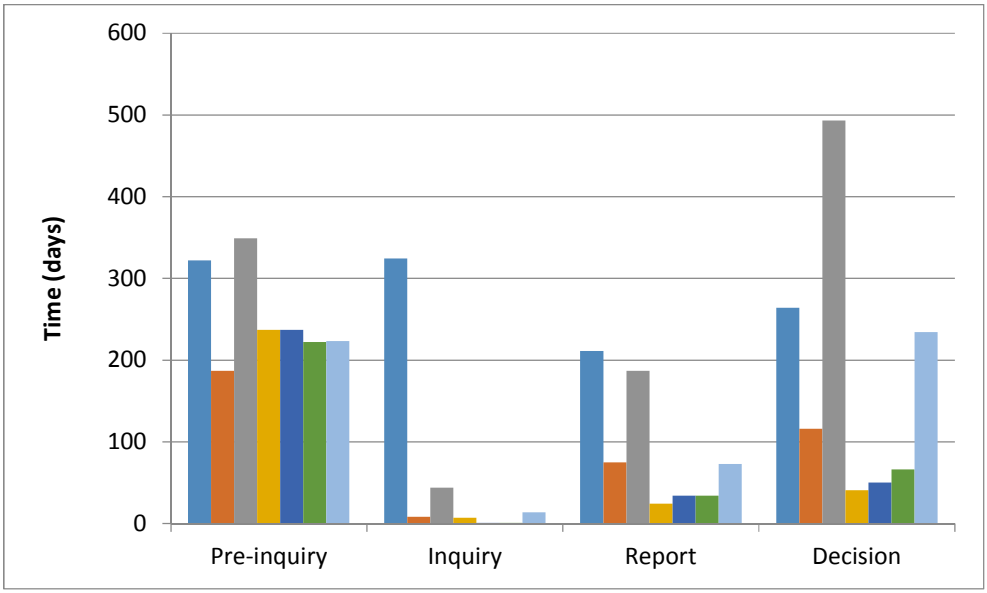


Figure 2: Analysis of small transport schemes decided under Planning Act 2008 (to September 2014)




600
500
400
300
200
100
0
Time (days)
Pre-inquiry
Inquiry
Report
Decision

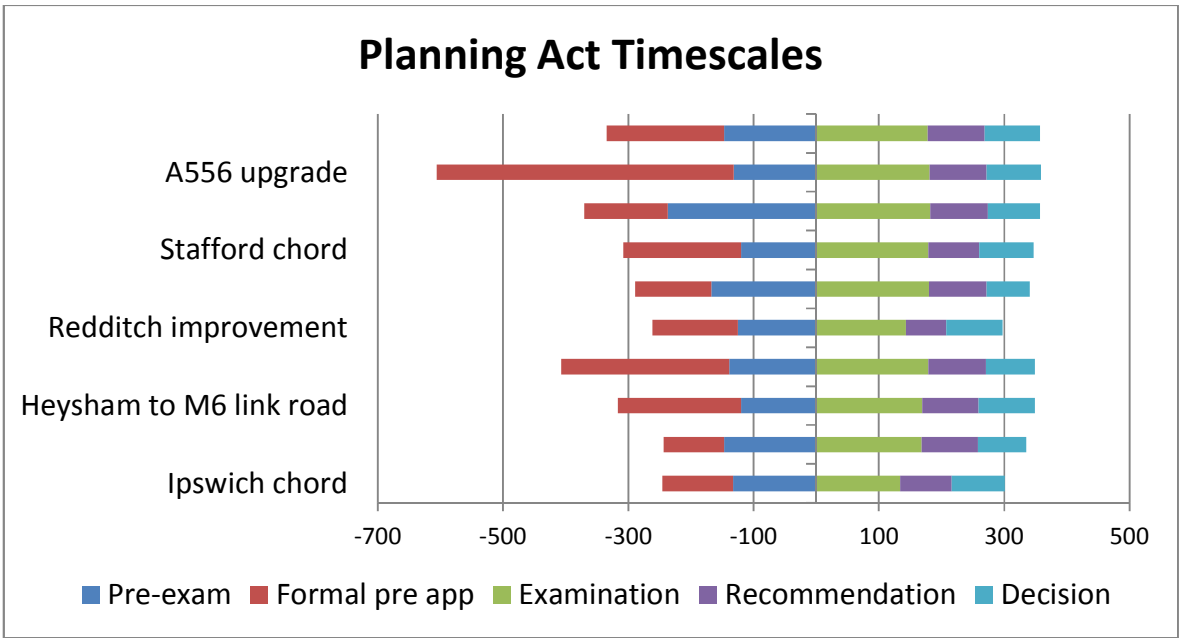

Planning Act Timescales
A556 upgrade
Stafford chord
Redditch improvement
Heysham to M6 link road
Ipswich chord
-700
-500
-300
-100
100
300
500
Pre-exam
Formal pre app
Examination
Recommendation
Decision

Figure 4: Decision times for Combined-Cycle Gas Turbines (CCGTs) 1988-2015

Notes: data compiled from CCGT projects that have proceeded from application to consent, setting aside those that were withdrawn before consent was issued. It does not include applications to vary consent made after initial project was consented, though it does include in time calculations where variations where made to initial application before that application was concluded. Early applications (Corby, Peterborough, Roosecote, Great Yarmouth, Brigg, Fellside) were consented by the local planning authority under the Town and Country Planning Acts (1971 then 1990). 'Minus' figures is time taken in pre-application parts of the planning process, such that the '0' marks the point of application.

Endnotes

[1] White (2013) points to the large numbers of local planning authorities affected, which would make other procedures highly complex.

[2] At the time of writing (August 2015), it had not in fact been confirmed that Hinkley C would go ahead.

[3]Both Sizewell B and Hinkley C projects have been represented as the vanguard of a larger expansion of nuclear power for Sizewell B, see David Howell, statement to the House of Commons 18th December 1979), and one should note that an earlier Hinkley C nuclear power station did in fact receive consent, relatively swiftly, in 1990, only to be abandoned.

[4]Data covers period from 1988 (when, for a period, some non-CEGB promoted power stations were determined by local planning authorities), until August 2015, covering applications under Section 36 of the Electricity Act 1989 and those under the 2008/2011 Acts which have begun to supersede the 1989 Act procedures. As the account makes clear, data on pre-application discussion times can be measured with some consistency after the 2008 Act but not under previous procedures. For this, we rely on data collected by Cowell 91995) for the period up until the end of 1994, and then data is not available until the arrival of cases under the 2008 Act. The data set also does not include projects that were refused consent or otherwise abandoned. 93 project decision times are therefore plotted in Figure 4

[5]This average is generated from the 22 cases where application files and interviews give some indication of the start of pre-application discussions with local planning authorities; to avoid undue distortion it does not include those where there is no evidence of any such consultation, rather than in all cases counting this as zero months.

[6]By timing pre-application periods under the 2008 Act from the first meeting with the Planning Inspectorate we would acknowledge that this is measuring the whole period, informal and formal, with formal pre-application procedures defined by invoking Section 46 of the 2008 Act.

[7]In principle, the 2008 Act procedure offers greater scope for associated development connected to nationally important infrastructure to be considered at the same time as the main project application.

[8]See for example http://www.jonathonporritt.com/blog/hinkley-point-beginning-end accessed 13th March 2015.

[9]At http://www.dft.gov.uk/publications/two-applications/ consulted on 2nd October 2012.