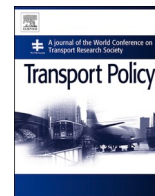




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Mega-disruptions and policy change: Lessons from the mobility sector in response to the Covid-19 pandemic in the UK

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ABSTRACT

There has been widespread interest in the potential for the significant behavioural and policy adaptations rendered necessary by Coronavirus to act as a catalyst for radical longer term policy change in transport. However, this body of work to date has been limited in its consideration of *how* such policy change might be brought about. Translating the lessons from the Coronavirus response to other ongoing strategic challenges such as decarbonisation requires analysis of what the pandemic has revealed about processes of policy formulation and how institutions responsible for policy implementation actually work.

This paper explores the extent to which rapid policy change has actually been possible in the transport sector in England and Scotland during the pandemic, and key examples of how such change has been both achieved and blocked. Two rounds of interviews with senior stakeholders from across the transport sector were undertaken in June and November 2020 to inform the analysis.

We find that the pandemic has accelerated some policy commitments that were already planned, but at a time of huge stress on the whole of government and its partner delivery organisations, the potential to deliver radical policy adaptation was limited. However, Coronavirus is recognised as being a potentially path-changing disruption to existing trajectories in terms of the adaptations to business practices, industry structures, ways of working and the public finances. Paradoxically, whilst recognising these uncertainties, decision-makers are yet to deviate from pre-pandemic planning assumptions and policy plans and this risks missing the opportunities to steer how those changes unfold.

1. Introduction

We have argued previously that disruptions offer an opportunity for policy to change (Marsden and Docherty, 2013). The Covid-19 pandemic and the associated requirements for widespread societal restrictions on where, when, how much and even if we move about potentially presents a major opportunity to re-think transport policy. Many commentators have highlighted the potential for changes to policy to accelerate active travel (Nurse and Dunning, 2020), home working (Chung et al., 2020) and to re-imagine the role of high streets and public space (Considine, 2020). The pandemic therefore represents a major case-study through which to understand the potential for policy adaptation.

The contentions which we established in our earlier work were that:

- 1) The predominance of aggregate flow data and cross-sectional behavioural data hides the degree to which behaviours vary in everyday life in key policy debates. It also marginalises the very significant on-going churn in people's lives both from life events (Clark et al., 2016) but also changing socio-technical configurations (Spurling, 2020)
- 2) People have more capacity to adapt their travel behaviour when faced with new circumstances than is typically understood by looking at what people 'usually' do.

Our fundamental contention was therefore that disruptions act as moments of insight that reveal the true adaptive capacity of the mobility system, and therefore give a guide to the envelope of realistic change that might be made to how we travel around. This has been evidenced through our further research work (Marsden et al., 2020) but also elsewhere (What Works Centre, 2020; Sung and Monschauer, 2020).

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Disruptions, therefore, *could* be a stimulus for policy to change as they present alternative policy pathways which have been hidden by a predominant focus on stability in behaviours and policy. However, it was also observed that, whilst disruptions present opportunities for policy to be adapted, they also pose risks. They are often associated with negative health and economic outcomes and, when set against the policy preference for stability and unease over ‘uncertainty’, risk being indicative of policy failure (Rosenbloom et al., 2019; Chappells and Trentmann, 2018). The desire to ‘get back to normal’ following disruptions can stimulate actions to ‘lock out’ rather than ‘lock in’ the changes which have been seen even when these are generally positive.

These accounts of the potential for policy adaptation, including most of the recent literature on pandemic related behaviours, have been limited in their incorporation of explanations of *how* substantive policy change can be brought about. To understand this requires paying detailed attention to processes of policy formulation, different actors’ assumptions about how their and others’ institutions work, and the relative power and influence that transport actors have as part of the transport policy sub-system in which they interact. In turn this requires reflection on the role of the transport policy sub-system within the wider government machine, and especially the visibility and status of transport and mobility concerns in a crisis affecting all policy areas. Whilst there is a public policy literature exploring rapid versus incremental policy change, limited attention has been given to whether this applies to the transport sector. Indeed, the transport sector has been characterised as a large socio-technical system (Wilson et al., 2007) or a regime (Urry, 2004) which is generally resistant to change. Has the pandemic really undone this resistance to change and if so how? This paper addresses the question as to whether rapid policy change has actually been possible even in unprecedented circumstances, and how change has been either achieved or blocked. It does so through in-depth exploration with key decision-makers in the UK as the pandemic has unfolded.

In the next section, we look to the literatures on incremental and radical policy change and on the politics of disruptions and disasters to establish a public policy perspective on the potential for change. Section 3 introduces our study of how key stakeholders in the governance networks of transport policy in England and Scotland responded during the first nine months of the pandemic to late November 2020. We interviewed representatives of the same 17 stakeholder organisations twice, in June/July and October/November to understand what had happened, what was happening at that time and what they could foresee happening in the coming months. Section 4 sets out the key timeline of events related to transport and the wider pandemic management approach in England and Scotland as well as aggregate data on changing travel patterns. Section 5 presents the analysis of the interview data set against the key themes of policy and institutional change. The final section brings the paper together in a discussion and conclusion. It argues that very little by the way of radical policy change has yet been possible. However, the nature of the Covid-19 pandemic and its impacts right across the economy and society mean that some critical path changing events are unfolding which will indeed have long-term implications for all aspects of transport policy. These are recognised by decision-makers but, as yet, there remains a significant policy inertia and a desire to return to previous policies, plans and business models.

2. Policy and institutional change

To understand the potential for the pandemic to effect rapid policy change requires, as we set out in the introduction, a need to consider how policies are made and how this is influenced by the institutional arrangements and practices in the transport sector. Debates about incrementalism and radical change and the nexus between the two have been on-going for some time in the wider public policy literature (van der Heijden and Kuhlmann, 2017). The section begins by looking at work on the policy process which provides insights into moments of change before reviewing literature on incrementalism and path

dependency which might limit the capacity for change.

Kingdon’s work on policy windows suggests the potential for disruptions to open up policy change (Kingdon, 1984). In Kingdon’s model there are three largely independent streams of problems, policies and politics as shown in Fig. 1. In the usual run of policy making skilled policy entrepreneurs are able to use focussing events (e.g. elections) to align the three streams and create a window of opportunity for policy change (Zohlnhöfer et al., 2016).

Certainly in the case of a pandemic, there is a clear change of context and so the problem stream is potentially open for re-alignment. Things which might have been widely agreed to be ‘difficult’ such as closing roads or changing the ownership of public transport services might become ‘necessary’ and urgent. The politics stream is also changed but in ways which might be quite complex and volatile. What is clear from the pandemic is that even liberal democracies have taken actions placing unprecedented restrictions on individual freedoms that would ordinarily be unacceptable to their electorates in response to the public health imperative (Delanty, 2020). The policy stream may also change with new solutions being brought forward. The literature suggests that, in reality, this will be a re-emphasising of the fit of already known options (Cohen et al., ‘s 1972 garbage can model). Different actor constellations could emerge as important in decision-making however, if their solutions ‘fit’ the policy problem better.

The literature developed around the ‘Politics of Attention’ is also relevant here (Jones and Baumgartner’s (2005)). Through extensive longitudinal review of US policy making, Jones and Baumgartner reflect on why, given the thousands of potential policy problems which governments could focus on, they end up focussing on the few hundred that they do. They suggest that there is often an in-built resistance to policy change, partly the result of having to deliver change through extensive policy networks with conflicting positions on issues. A resultant feature of the policy system is excessive incrementalism. The contrast posed by Jones and Baumgartner is that an inbuilt culture of incrementalism sets up the potential for massive over-reactions to events such as natural disasters when ‘something must be done’ (Jones and Baumgartner’s (2005)). Crises are potentially damaging politically if mishandled and yet a validation of ‘effective government’ if handled well (Rubin, 2016). In the work of Jones and Baumgartner however, there remains evidence that initial claims for radical interventions can be watered down if they require time to be implemented and, in that time, the crisis recedes. Political attention can wander and other agendas re-emerge as more important.

Howlett et al. (2015) critique the policy streams framework for being good at describing how things get onto governmental agendas but not how they subsequently unfold in terms of policy development. Reardon (2018) and Gray et al. (2016) similarly note that insufficient attention is paid to how policy networks constrain or facilitate decision-making. So, there appears to be the potential for new ideas to get on the agenda but whether or not change can be delivered requires greater attention to be paid to the design of, and power relationships evident in, institutional settings.

There are several connected schools of thought on incrementalism, radical change and the punctuated equilibrium model as a conceptual framing for policy development (Lindblom, 1979; Hall, 1993; Howlett and Migone, 2011). Most of the work has focussed on stability within specific policy sub-systems, relying on the influence of dominant policy communities and institutional ways of working which act as a friction to change (Fernandez-i-Marin et al., 2019). However, May et al. (2009) suggest that there is a need to pay attention to what happens between policy sub-systems, how large exogenous shocks reverberate unevenly across different government bodies, and how important it is more generally to understand the impacts of instability on policy formulation. Fernandez-i-Marin et al. (2019, p3), studying the impact of economic crises across the whole policy system found that “economic crises lead to increasingly incrementalist patterns of policy change in crisis-remote policy subsystems and make policy punctuations in these areas less

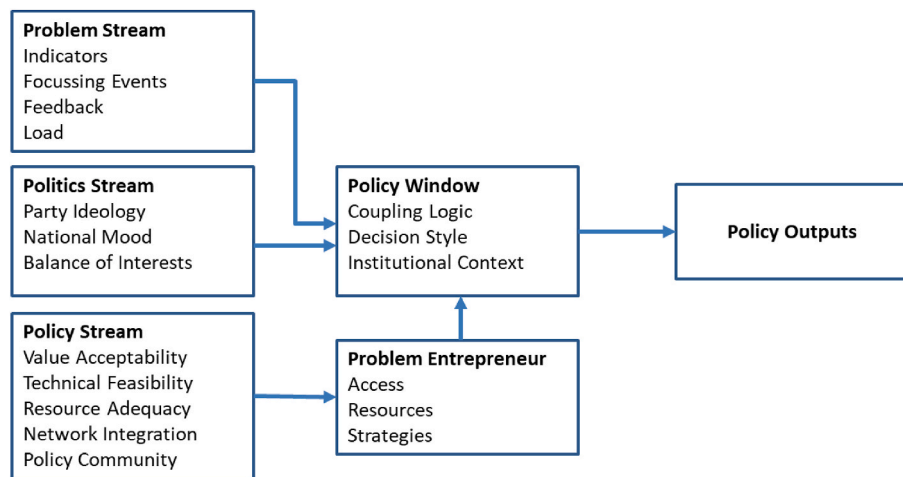


Fig. 1. Diagram of Kingdon's multiple streams approach (adapted from Jones et al., 2016).

likely". In the case of Coronavirus the restrictions on everyday life have had profound impacts on education, healthcare, organised sport, entertainment, employment as well as the role and functioning of the transport system. The levels of public debt acquired to mitigate the worst of the health and economic impacts are unprecedented in peace time, and will have significant impacts on the discourses about how states rebuild their economies after the pandemic. It is therefore of huge empirical interest and strategic importance to understand better how the policy concerns and possible recovery trajectories of sectors such as transport are treated by the state. It is also critical to understand the extent to which influence the broader sweep of structural and macro-level policy reform undertaken by governments to support socio-economic rebuilding, if at all.

Path dependency literature focuses on how the institutions involved in decision-making, the rules systems through which decisions are made, and the ways in which actors and networks engage become mutually reinforcing and more difficult to change over time (Low and Astle, 2009; Sorenson, 2015). Of particular importance is the notion of contingency, where choices available in a policy system today are conditioned by previous policy choices (North, 1990). The path dependency literature would suggest that even in a crisis, there is a likelihood that existing modes of problem resolution and mechanisms for action will predominate. This may though be an overstatement resulting from the tendency for path dependency research to think about stability rather than change (Kay, 2005). The scale and urgency of the situation precipitated by the pandemic could generate sufficient necessity to innovate or re-imagine the delivery of policy and so provides an important opportunity to learn about the influence of path dependencies when faced with rapidly changing circumstances.

In summary, different literatures point to various mechanisms through which large scale disruptions such as this pandemic might act as important moments when there is real potential for radical policy adaptation but the institutional literature points to why this potential may not be realised. Consideration of these literatures leads us to three key questions:

- How do policy sub-systems behave when faced with disruptions across whole of government?
- In what ways do institutional path dependencies limit the pace and nature of the governance response?
- Which policy windows are opened and which are closed by cross-system disruption?

To understand these questions requires in-depth engagement with those actors involved in developing policy responses from a local to a national level during the pandemic and the approach adopted is set out

in Section 3.

3. Methods

The method adopted here was a novel longitudinal panel of expert policy maker interviews across the public and private sector and national, sub-national and local government and NGOs including elite actors.¹ Individuals from 17 organisations were interviewed having been identified as part of a purposeful sampling strategy designed to capture knowledge from critical information-rich people in key senior positions (see Patton, 2002; Suri, 2011, Fig. 2). Organisations from different scales of government and transport operating companies were included to generate a clear understanding of funding and policy changes to all of the main modes and networks, and to be able to explore this in national and local settings in England and Scotland. The individuals identified provided insight into how different elements of the transport policy sub-system, from strategic policy formulation through to service delivery, were responding to the demands of the pandemic. The sample does not contain any predominantly rural local authorities but does contain major city region combined authorities which have a mix of highly urbanised and more rural areas. We note that this data set will be unique in so far as it is extremely difficult to get senior policy actors to engage in such activities during a crisis given the pressures they face. None of the people we approached declined to participate and they represent leading executives, civil servants or politicians in their respective fields.

Most interviews (N = 13) were conducted with a single individual, the remainder being interviews with either two or three people. The same people were interviewed each time with the exception of one member of a group interview (Bus and Coach) who was not involved in wave 2, and an additional national government stakeholder (National England 2) being added to wave 2 of the panel after recommendation by a colleague.

All of the interviews were conducted over Microsoft Teams by the authors and were all of 1 h in duration. Each round of interviews took the form of a set of semi-structured conversations based around a common set of questions which can be found in the supplementary materials. The questions were tailored somewhat for each stakeholder (e.g. discussions of bus patronage or cycling uptake applied differently) and were informed by recent data on usage and policy announcements.

¹ The research was part of a larger COVID19 Transport, Travel and Social Adaptation Study which includes a three wave longitudinal household panel survey in 10 regions across Great Britain and qualitative panel interviews with over 100 citizens.

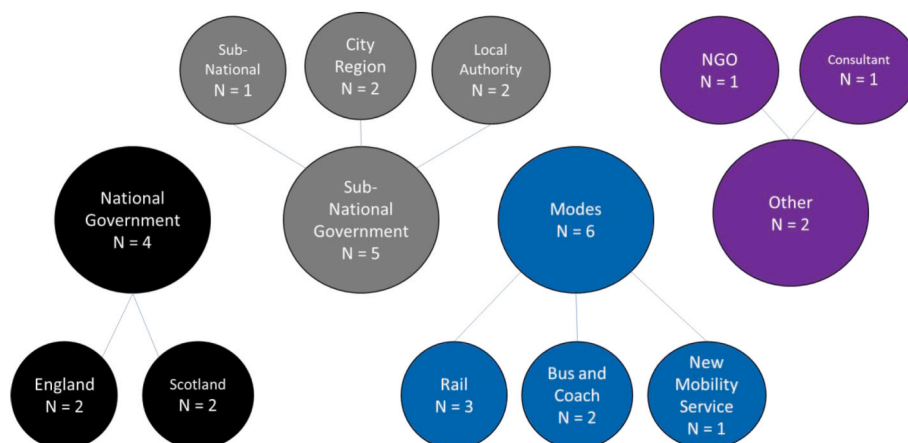


Fig. 2. Expert sample for longitudinal interviews.

In Wave 2, we used the responses from the interviews in Wave 1 to prompt reflection on how things had changed (e.g. “Back in June you suggested that the messaging was confusing because ...”). This was, by its nature, bespoke to each interview but sat within the overall structure of the question set.

The interviews took place between 20th May and 18th June for round one of the interviews and between 5th October and 4th December for round two of the interviews. This broadly coincided with a period where actors were contemplating an end to the first complete lockdown and then, in wave 2, anticipating or experiencing the second full lockdown (See Fig. 3). In each case, more than half of the interviews were completed in the first third of the survey period with one or two being difficult to schedule which extended the period. The interview schedule was not piloted but proved to fit to the length of time allotted and enabled flexibility across the different stakeholders.

Whilst full transcripts of the interviews have been produced the analysis presented here has been based on extensive summaries which were produced immediately after each interview from notes taken during the interviews themselves, and which included direct quotes that could be checked for accuracy from the Microsoft Teams recording. In total, this material comprises around 100 pages of data. Our analytical approach was a descriptive/interpretive lens where we clustered responses around a series of themes, including those which were identified by the literature review. We took the decision to thematically cluster the findings as we progressed and sought validation from participants about our analysis by sharing research highlights from our findings at the end of each round of interviews as part of our assurance process. The themes which we used are in Table 1.

A methodological observation is how rapidly the narrative could change during even our relatively short period of interviews, for example as a new set of restrictions or easing of restrictions was announced by government.

This research has been based on experiences in England and Scotland. The interconnectivity of places, the strategies of virus management, the structure of the transport industry, institutional traditions (see Hirschorn, 2020) and the relationship between governments and citizens has been revealed to be very different across the world and has produced hugely different social and health outcomes (Ashraf, 2020). Comparative studies of how the policy responses play out over time will be hugely significant in advancing our understanding of the policy process in different settings and we hope this article provides some structure to such exercises.

4. Coronavirus policy context in the UK

The UK experienced its first two known cases of SARS CO-v2 viral infection – hereafter ‘Coronavirus’ – on 3rd February from two students

returning from China. As with many countries, adaptations to daily life began to be made by individuals in advance of firm government action. Initially favouring a basic public health strategy of promoting hand washing and physical distancing, it was not until the 23rd of March that the UK went in to ‘lockdown’, i.e. a general ‘stay at home’ order and the enforced closure of non-essential activities² from which it was not released until June. The profile of infections, deaths and the main changes in activity restrictions levels from the start of the pandemic to the end of our second round of interviews are shown on Fig. 3.³ The full picture is complex with many regular updates and nuances to rules, particularly on local restrictions, which are not necessary to communicate here.⁴ The UK strategy did not avert one of the highest per capita death rates from the virus in Europe, and indeed globally, which provides an important backdrop to any transport policy reflection (Stewart, 2021).

The outturn data for changes in the use of motorised transport is shown in Fig. 4, with equivalent cycling data shown in Fig. 5. A sample of key decisions which impacted particularly on the transport sector is set out in Table 2. Here we reflect on the broad sweep of transport behaviour change over the period. First, it is highly notable that the reductions in travel volumes *preceded* the formal introduction of lockdown in the UK by 2–3 weeks. The initial lockdown was very restrictive in closing schools, requiring those who could work from home to do so and closing all non-essential businesses. This is reflected in the collapse of public transport patronage and substantial decline in car and goods vehicle trips. Physical distancing restrictions were set at 2 m which limited the effective capacity of public transport to around 30% of pre-Covid levels. As Fig. 5 shows, there was a considerable boom in cycling which was largely leisure trips as part of the one daily opportunity given for exercise. By the end of June, 5% of the population (1.3 million people) had bought a bike (Long, 2020).

Over time, the restrictions on which parts of the economy were allowed to function were relaxed, although it was not until mid-June when hospitality began to re-open. Levels of car use and public transport grew over time in late summer/early autumn. Whilst car traffic reached levels of around 85–90% of its pre-Covid peak, bus reached only 60% and rail 40%. In England, physical distancing limits were reduced

² See <https://www.gov.uk/government/speeches/pm-address-to-the-nation-on-coronavirus-23-march-2020>.

³ A very serious second wave of infections and deaths took hold in the UK immediately after the end of our second round of interviews in December 2020.

⁴ Coronavirus was also the most stringent test to date of the UK’s asymmetric system of devolved government and the devolved administrations themselves. See McCorkindale and McHarg (2020) for a review of the key issues as they pertain to Scotland.

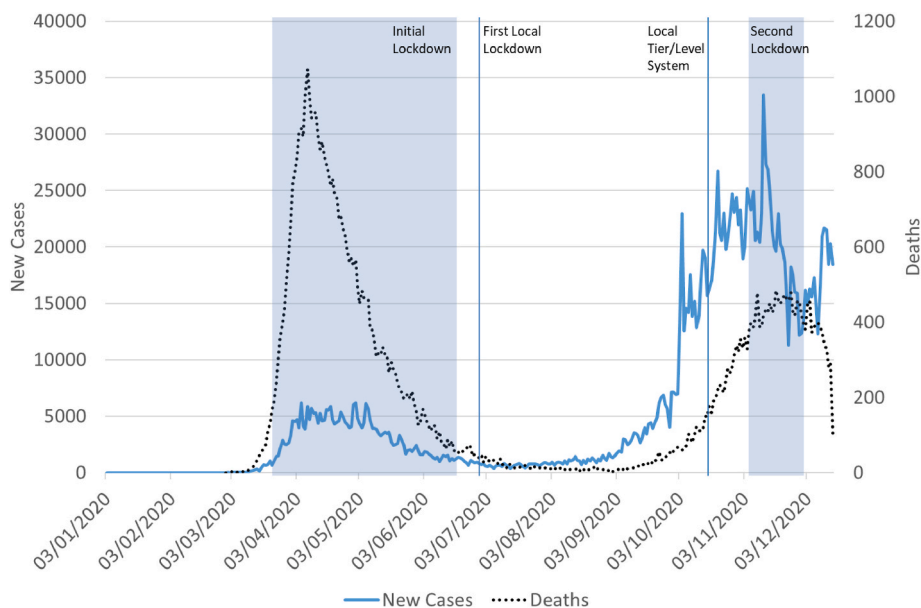


Fig. 3. Coronavirus cases and deaths for UK with major changes in restrictions marked.

Table 1
Themes used to cluster insights.

| Theme | Descriptor |
|------------------------|---|
| Preparedness | How had organisations planned for pandemics and how did their preparedness help |
| Messaging | What kinds of communication was being provided and by whom – in particular with reference to social distancing guidance and avoiding public transport |
| Funding | How had emergency or additional funding been decided and routed and when in the process |
| Modal Use | How were travel patterns changing and who understood what about why these patterns were seen |
| Wider Impacts | How were city centres performing and what other shifts in sectors such as retail were being monitored |
| New Policies | Which new transport and related policies were being implemented, which had opportunities opening up and which were being closed down by the pandemic |
| Forecasting | What time window(s) for forward planning were being used |
| Uncertainties | What issues were making looking ahead difficult and what would enable those to become clearer |
| Governance Issues | What processes, institutional norms and which organisations were determining what got done and how, and what was proving easy/difficult to achieve |
| Recovery | What types of projects and policies were being thought about to stimulate recovery after the pandemic and what logics underpinned these |
| Changes to World Views | Had the pandemic made the participants rethink any aspects of how the mobility system might work |
| Data | What data were being used and what was missing |

to ‘1 m+’ on public transport and additional supply was provided ahead of demand to avoid overcrowding on any services. By early September, once the schools returned, around 90% of rail and almost all buses were in service although usually to adapted timetables (Interview data).

In general Scotland has taken a more cautious approach to reopening activities and the key differences are highlighted in Table 1 (see also McCorkindale and McHarg, 2020). Of particular note were the retention of 2 m ‘where possible’ and not supporting a limited return for office workers in the Autumn. An important contextual difference is the fiscal structure of devolution: Scotland’s funding settlement derives from a UK Government block grant transfer determined by a largely population-based formula (the so-called ‘Barnett Formula’). In practice, this means that when the UK Government makes decisions to provide additional public expenditure support for e.g. rail services or buses in

England, then an additional formula based payment or ‘consequential’ is added to the Scottish budget. However, for services such as the Clyde, Hebridean and Northern Isles ferries where no such equivalent exists in England, there is no consequential pass through and so funds have to be found from within the wider Scottish budget.⁶ In general however, our respondents painted a broadly similar set of issues and options in both England and Scotland and so this article treats the sample as a whole, leaving the implications of devolution for further work.

5. Findings

The thematic findings have been clustered around the three key questions which emerged from the literature review in Section 2. The section concludes with an overall reflection on the difficulties which decision-makers reported on taking decisions during a rapidly developing crisis. The final section also sets out some of the longer-term changes or risks to previously held planning assumptions which our interviewees could agree upon.

5.1. Transport as a policy sub-system

The pandemic is, first and foremost, a profound public health crisis. All of the stakeholders interviewed were clear across both waves of the research that transport stakeholders and organisations were rule takers and not shapers or influencers of public health decisions. Choices such as those over when to move into strict lockdown, significantly reduce public transport provision, and the 2 m and ‘1 m+’ thresholds for physical distancing were taken to reduce the risk of transmission of the virus, with little or no consideration of the knock-on impacts on the transport sector more generally.

The transport sector was largely (and arguably somewhat remarkably) unprepared for Coronavirus, despite a global pandemic having been listed as the number one risk on the UK Government national risk register for many years.⁷ This simple fact had not cascaded down into

⁵ <https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic>.

⁶ The Scottish Government also has extremely limited borrowing powers. See <https://www.gov.scot/publications/scottish-public-finance-manual/borrowing-lending-and-investment/borrowing-lending-and-investment/>.

⁷ See <https://www.bbc.co.uk/news/uk-politics-54523761>.

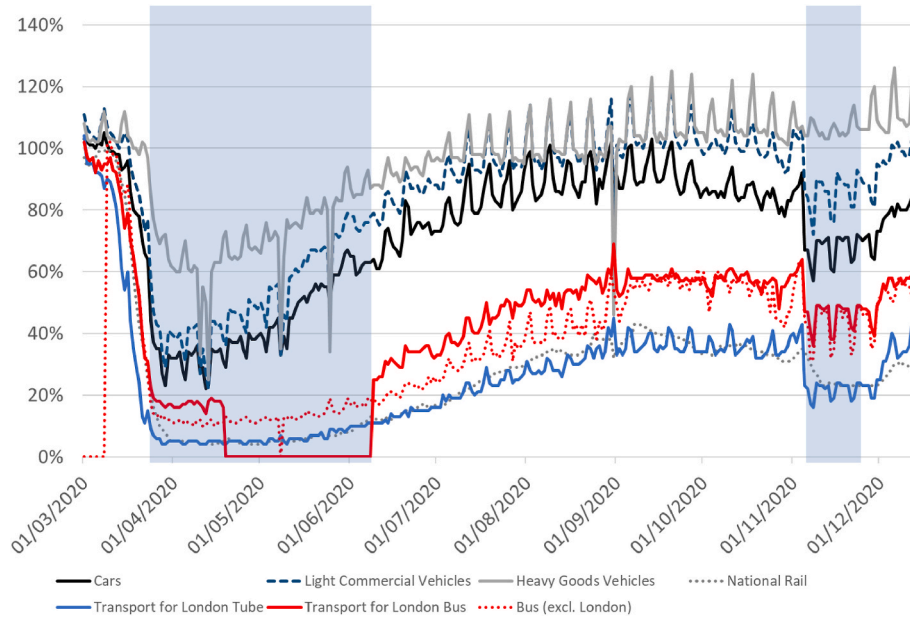


Fig. 4. Percentage change in miles travelled relative to an equivalent day or week.⁵⁵

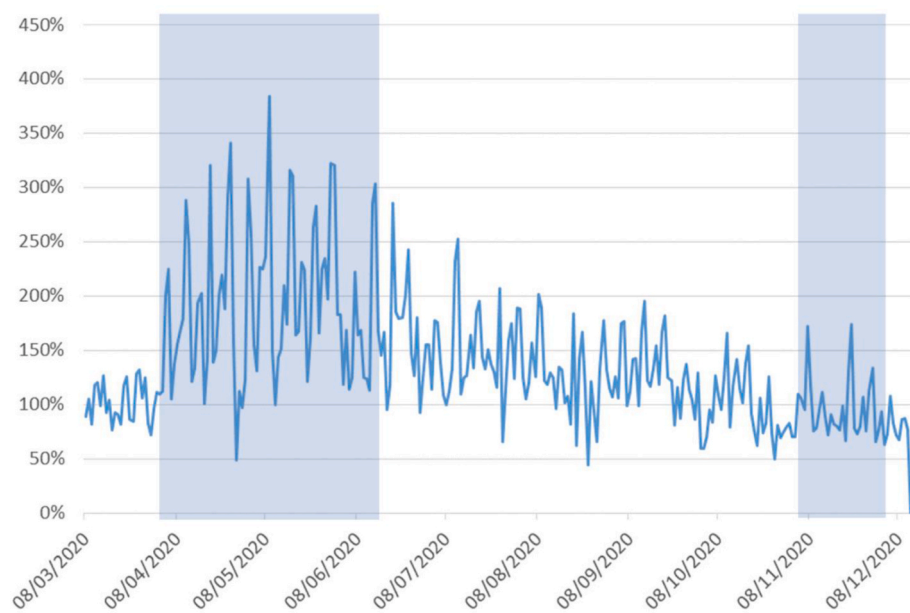


Fig. 5. Percentage change in miles travelled relative to an equivalent day or week for cycling.

operational planning in any significant way. Despite the very clear recognition that public transport was an essential service for key workers, pandemic plans described to us focused almost solely on the implications of operational staff absence as an impact on business as usual as opposed to any consideration of the scale and impact on society of lockdown and/or mass fatalities from the disease itself. There had been no studies of transmission risk in public transport conducted by our stakeholders or which they were aware of and therefore the sector also had little to offer upwards to government in terms of evidence to inform its decision making with regard to public health.

Very shortly after lockdown, recognition was widespread that Coronavirus represents a profound economic crisis as well as a direct public health crisis. Whole sectors of the economy were stopped or significantly curtailed with £70Bn of spending commitments announced by September 2020, predominantly on supporting the wages or

livelihoods of workers or businesses affected and health interventions (NAO, 2020). The levels of additional subsidy committed to re-establish public transport services (£5.4Bn in England in the period to September 2020) are huge from a sectoral perspective, but relatively small in terms of overall Government spending (8% by value and 4% by number of spending pledges).

So, whilst transport was recognised as important in the on-going provision of services for key workers who might not have access to a car, it is still a small part of a much bigger set of issues which were dynamically unfolding. One of the key markers of how much the management of this crisis was being driven by a small group of decision-makers from the public health domain was the stark, simplistic messaging to “Avoid Public Transport”. None of the behavioural psychologists on the Government’s Independent Scientific Pandemic Insights Group on Behaviours (‘SPI-B’) are recognised travel behaviour

Table 2
Timeline of key transport related policy changes March–December 2020.

| Date | Action | Source |
|----------------|---|---|
| 18th March | Government announces first phase of social distancing: schools closed, avoid gatherings and non essential travel self isolate if ill or vulnerable | https://www.gov.uk/government/speeches/pm-statement-on-coronavirus-18-march-2020 |
| 23rd March | Government announces lock down–shelter in place, no gatherings, leave home only for basic necessities, medical care, solo exercise or to work if absolutely necessary | https://www.gov.uk/government/speeches/pm-address-to-the-nation-on-coronavirus-23-march-2020 |
| 23rd March | Rail Emergency Management Arrangements put in place with all cost risk taken by Government. Train Operating Companies receive maximum 2% fee | https://www.gov.uk/government/speeches/rail-emergency-measures-during-the-covid-19-pandemic |
| 3rd April | £167 m bus rescue package announced to fund running of 50% of all services on top of £200 m of payments that would have been due normally and £30 m top up funds for new essential services. Services to run with no net profit. | https://www.gov.uk/government/news/almost-400-million-to-keep-englands-buses-running |
| April to May | Transport Scotland confirms with operators the re-allocation of Bus Service Operators Grant and Concessionary Fares Support for operators with obligation to deliver 25–35% of services. | https://www.transport.gov.scot/public-transport/buses/covid-19-support-grant/ |
| 28th April | £10 m Spaces for People Fund announced for Scotland for accelerating walking, cycling and disabled access | https://www.sustrans.org.uk/our-blog/projects/2020/scotland/spaces-for-people-making-essential-travel-and-exercise-safer-during-coronavirus/ |
| 9th May | £2bn fund for walking and cycling over 5 years announced including £250 m to be spent on emergency active travel measures | https://www.gov.uk/government/speeches/transport-secretarys-statement-on-coronavirus-covid-19-9-may-2020 |
| 14th May | Transport for London receives £1.6bn emergency funding, including a £500 m loan and a commitment to increase bus and underground fares 1% above inflation and limits to concessionary fare users | http://content.tfl.gov.uk/extraordinary-funding-and-financing-agreement-may-2020.pdf |
| 26th May | A further £20 m announced for Scottish Spaces for People Fund | https://www.transport.gov.scot/coronavirus-covid-19/transport-transition-plan/adapting-our-transport-systems/ |
| 28th May | £254 m more bus funding announced for a further 12 weeks | https://www.gov.uk/government/news/almost-400-million-to-keep-englands-buses-running |
| 29th May | Tranche 1 Emergency Active Travel Fund allocations announced for urgent schemes including pop up infrastructure (£42 m) | https://www.gov.uk/government/publications/emergency-active-travel-fund-local-transport-authority-allocations |
| 15th June | Wearing of face masks on public transport compulsory with limited exemptions (e.g. young children) | https://www.bbc.co.uk/news/uk-53045386 |
| 19th June | COVID-19 Support Grant - Restart (CSG-R) launched in Scotland to support additional services with £191.3 m being announced in phases (June, August, October, December) through to March 2021 | https://www.transport.gov.scot/public-transport/buses/covid-19-support-grant/ |
| 26th June | Review of 2 m social distancing guidance to allow spacing of 1 m minimum where 2 m is not practicable such as on public transport | https://www.gov.uk/government/news/pm-announces-easing-of-lockdown-restrictions-23-june-2020 |
| 30th June | Launch of e-scooter trial rules in England by Department for Transport | https://www.gov.uk/government/publications/e-scooter-trials-guidance-for-local-areas-and-rental-operators |
| 7th July | £9 m in emergency funding for Glasgow Subway and Edinburgh Tram to end of September, extended in September and December to total £21 m through to March 2021 | https://www.transport.gov.scot/news/emergency-support-for-glasgow-subway-and-edinburgh-trams/ |
| 27th July | Launch of Department for Transport Gear Change strategy | https://www.gov.uk/government/publications/cycling-and-walking-plan-for-england |
| 8th August | Bus services outside London receive up to £218.4 million of support over eight weeks, with further rolling funding at up to £27.3 million per week afterwards. Tram services received up to £37.4 million over 12 weeks with funding to be reviewed at the end of the period. | https://www.gov.uk/government/news/government-extends-coronavirus-support-for-buses-and-trams-total-funding-tops-700-million |
| 21st September | Emergency Recovery Measures Agreements (ERMAs) introduced for rail for up to 18 months. At the end of the agreements current franchises will expire. Management fees capped at 1.5% | https://www.gov.uk/government/speeches/rail-update-emergency-recovery-measures-agreements |
| 31st October | Settlement agreed with Transport for London to 31 st March 2021 of £1bn, of which £95 m is loans. Conditions include fares increases, operational efficiencies, expansion of ULEZ, cancelling Crossrail 2 preparatory work, additional TfL board scrutiny from central government. | https://www.gov.uk/government/publications/transport-for-london-settlement-letter |
| 13th November | Tranche 2 Emergency Active Travel Fund allocations announced for longer term schemes including pop up infrastructure (£175 m) | https://www.gov.uk/government/publications/emergency-active-travel-fund-local-transport-authority-allocations |

experts. Whilst all of our interviewees understood that this was a message derived directly from the need to avoid transmission of the virus through overcrowding on vehicles and at stops, they were also acutely aware that it would be hugely damaging to public confidence in public transport in the long-term.

“I was surprised as anybody in the sector when the PM did the first briefing about avoid public transport ... I cannot remember whether I just shouted at the TV or I put my head in my hands” (National Government, England).

This is perhaps the most stark example of transport as a rule taker that we heard from any of the interviewees, demonstrating that the transport sector seems to have had little influence on both this most fundamental of messaging with regards to its own operation and sustainability, but also the timeframes over which to prepare and react to such fundamental disruption. In short, as a policy sub-system within government, transport is some way from the heart of critical decision-making.

5.2. Path dependencies

Two aspects which significantly shaped how decisions unfolded in the transport sector were the number of immediate operational issues to be addressed in response to unprecedented changes in travel behaviour and the speed with which these needed to be addressed. This was true across all scales of government, transport service providers and even the NGOs and other bodies working in partnership with them.

In the UK bus industry, operators had as little as one to two weeks of cash reserves to sustain operations and so an urgent response was required from central government if the sector was to avoid collapse. These circumstances necessitated a new approach to funding incumbent operating companies but also rethinking how existing subsidies (e.g. for concessionary fares) would work in conditions of vastly different demand patterns. By contrast, the rail industry, which operated on a much more highly regulated basis with detailed franchise agreements let by government already had a statutory process available through which operators could exit their commercial contract commitments and move to an Emergency Management Arrangement providing an agreed level of service at fixed cost to government. Nonetheless, given the huge loss of cash flow, with passenger reductions of more than 95%, such decisions also had to be made quickly to maintain the operational viability of services.

Given that the crisis presented a period of two weeks at most to act, it is perhaps unsurprising that the search for solutions on how to organise the funding of public transport largely focused on pre-existing mechanisms. As noted above, the legislative arrangements for the rail industry⁸ moved swiftly initially to Emergency Management Agreements where the companies were given a specified volume of rail services to deliver and paid a fee for doing so. The operational specification of the rail network had therefore moved away entirely from the commercial basis on which it had been run since 1994 in a matter of weeks. However, a complete overhaul of the rail franchise system had already been proposed as part of a pre-pandemic Government commissioned review, albeit one that had seen its publication repeatedly delayed (Williams, 2019). The approach to re-working franchises would probably have been phased in as franchises naturally came to an end, but an acceptance of a need to reform was already in place. The pandemic accelerated the reform, although it is important to state that the form of provision of rail services after the pandemic has yet to be determined.

For bus, in order to avoid (perceived) legal issues over state aid,

⁸ The original infrastructure owning company in the privatised rail sector, Railtrack, collapsed in 2002. The rail sector therefore has some relatively recent experience of applying the emergency measures contained in its governing legislation.

emergency funding for the sector had to be delivered through a mechanism of contracting for service provision. The choice was whether to do this nationally or locally. Both in England and Scotland these funds have been channelled nationally despite there being an elaborate multi-level governance arrangement for transport including bus policy in both countries (Marsden and Docherty, 2019). Publicly owned and operated systems such as light rail/tram networks were able to fall back to some degree on cash reserves which local authorities are required to hold. This deferred, rather than removed, the need for financial support for a short period given the scale of patronage loss also seen on these systems but this gave national governments additional time to respond. The past choices of institutional arrangements shaped the speed and nature of the response required.

Particularly in the first wave of interviews participants remarked on how quickly decisions on issues such as emergency funding were being taken by central government. They contrasted this with the deliberately slow and bureaucratic workings that characterised decision making prior to the pandemic. The size of policy networks involved in decisions was reported to have shrunk which reduced the potential for conflicts and sped up decisions. There were perceived downsides to this: whilst channels were open for feeding in concerns, decisions were regularly being taken which took our participants by surprise, such as the length of funding settlements or changing guidance on mask wearing. Several elite interviewees recounted hearing about critical decisions for the first time at the same moment as the public: “We find ourselves listening to the 5 o’clock briefings wondering what’s coming next” (Local Government, England).

The vastly increased levels of public subsidy currently being made available for public transport represent a major change in the overall direction of policy to commercialise provision that has been unfolding for 40 years (see Cowie and Ison, 2018). Local government stakeholders argued that the pandemic opened up a window of opportunity to do things differently by exerting more public sector control over the bus industry, something that many had been seeking to bring about for some time. The reality was quite different for two main reasons. First, the pandemic was hugely resource intensive in almost every organisation. In both local and national government, staff were redeployed to front-line Coronavirus-facing roles, with consequent reductions in strategic capacity in regulatory decision making just at the moment when the window for alternative approaches opened for the first time in years. In the bus and rail industries, attention was focussed on the safe mothballing and later recommissioning of bus and rolling stock fleets, re-designing how users would access services to meet physical distancing requirements, and managing staff safety at work. Coupled with this there were the same management issues facing all organisations of moving activities on-line and dealing with staff absences due to illness. It was put to us that, at least in the early stages, there was essentially no capacity to consult or to think about changing approaches to governance.

The second reason follows from more than a decade of austerity and the extent to which local authority capacity had been hollowed out during the period following the global financial crisis in 2008. Even if there had been a will to hand more powers to local authorities to manage the situation ‘on the ground’ (which it was far from clear was the case), it was suggested by our interviewees that only a handful would in fact have had the expertise to do so (NGO, Consultant and National Government). A ‘mixed-model’ where some powers were devolved to some authorities (supported by City Region Actors) but not others was described as too complex to deliver and hence justify given the intensity of the crisis (National Government). The feasible action set was shaped by past decisions on the limited role of local government in transport provision. Several years of devolution of transport to the largest cities appears not to have resulted in any meaningful establishment of trust or deeper accountability for spending funds by national government. Indeed, in London, the Department for Transport exerted increased control by placing new policy, efficiency and governance oversight

conditions on the Mayor of London (DfT, 2020a) reversing, to some degree at least, what has been universally accepted to have been an effective devolution reform.

5.3. New policy windows?

The emergency adaptations made to public transport funding mechanisms were therefore focused on preserving the existing networks and avoiding the collapse of the organisations that own and operate them. This section focusses on new policy opportunities that emerged during the pandemic and their implications.

One of the most salient policy responses was an Emergency Active Travel Fund in England and an equivalent Spaces for People programme in Scotland. These were developed in the early weeks of the pandemic reflecting the need to provide alternative means of local travel for essential purposes such as food shopping given the limited capacity on public transport and the requirement to maintain physical distancing between increased numbers of people using local neighbourhood centres. This coincided with a more than doubling of cycling (see Fig. 5) as people were allowed to exercise outside the home during lockdown. Whilst some local authorities were very proactive in seeking funds from the schemes, others were more reticent. The consensus view from our interviewees was that the schemes tended to reward authorities such as the larger city councils with sufficient capacity to have an existing pipeline of active travel schemes that could be accelerated once additional funding was made available. The powers to implement experimental and temporary traffic management orders already existed but a small modification was made to the process for approval in England to allow for digital communication of proposals.⁹ The Department for Transport launched a major new walking and cycling strategy in England in early May which set out a £2bn five year programme of funding for active travel.

The focus on active travel marks an important policy change in two principal ways, first by representing significant reallocation of road space away from the car, and secondly by the pace of its implementation. However, despite planning to move ‘at pace’, it in fact took several months for the funding for Round 1 of the schemes to be agreed and assigned in England. Interviews confirmed that authorities had largely brought forward schemes they already had ‘on the shelf’ (Local Authorities, NGO) and that the English national strategy ‘Gear Change’ (DfT, 2020b) had been planned anyway with the funding already committed prior to the pandemic (National Government, England). By the time of our November interviews the early optimism about the pandemic being a trigger for substantially increased levels of walking and especially cycling had largely evaporated, the spring spike in cycling levels having largely disappeared.

Two other announcements were also made which were identified by interviewees as having been brought forward by the pandemic and having the potential to play a part in a ‘green recovery’ for transport different to that trajectory envisaged before the pandemic. The first, in England, was the introduction of a series of city centre e-scooter pilot zones (DfT, 2020c). This too had been planned but was brought forward. Its credentials as a solution to travel problems were weak given that the scooters are operating in city centres which have had only a fraction of the footfall normally seen (Local Government, England). Finally, the decision on phasing out the sale of Internal Combustion Engine Vehicles (by 2030) was brought forward as part of a 10 Point Green Recovery Plan announced by the Prime Minister (Johnson, 2020). Again, this had been subject to a consultation and was an announcement that would have been made in any case in the run up to Glasgow hosting COP26 in November had that gone ahead on its original dates (National

Government, England).

Therefore, we were directed to examples from across the policy space suggesting substantial capacity for governments to accelerate policy work which was already underway ahead of normal timescales but not to develop new policies. Harder to identify and understand are the policy changes which would have happened but which are now stalled or cancelled. The Transport Decarbonisation Plan has, as one example, been put back a few months due to the volume of policy announcements for other purposes and the introduction of Clean Air Zones was delayed.

5.4. Strategic foresight?

No-one currently making transport policy in the UK has lived through a policy crisis of this nature and magnitude. There was universally high levels of uncertainty across all of our interviewees and across both waves of the interviews. For example, when asked to make projections six months ahead as to where levels of demand might be we were repeatedly told that the planning timescales were currently weeks not months. The cognitive dissonance of this was remarked on and should not be underestimated given decision makers’ careers are often focused on projects that take years if not decades to come to fruition. A public transport industry representative told us “Last time [in June] we were talking about ramping up, now we’re going backwards ...” and that they were “not so much about putting dates on things” but thinking about what would need to happen when different pandemic restrictions could be lifted. It was suggested that no-one knew where things would re-start from once physical distancing requirements were removed. The critical questions were about the timescale and efficacy of vaccines. Even so, in late November, it was still unclear to our interviewees what would happen “I don’t know, I’d be lying if I said I did” (National Government, Scotland).

A loose categorisation of the impacts that our interviewees could agree upon was:

- The experience of the pandemic – amplified by the unprecedented ‘avoid public transport’ messaging discussed above – would be materially damaging for public transport patronage in the medium to long term, and would be worse for rail given its stronger orientation towards city centre commuting and business travel which has largely shifted on-line;
- Following on from the above, any recovery in public transport patronage would take a long period of time, more like years than months, and potentially build slowly;
- That working from home would be lower than it was during pandemic restrictions but very much higher than pre-Covid;
- That business trips would not return to near pre-pandemic levels because of the cost and productivity advantages of, and levels of experience in, using internet teleconferencing tools;
- Some people would not return to public transport at all (either due to ongoing public health fears and/or embedded change in travel habits) and would move to travelling by car;
- On-line shopping would remain higher than pre-pandemic and there would generally be more freight movements especially for home delivery
- Any shift to home working has the potential to lead to fewer but longer commutes by relocating further away from workplaces that are travelled to less often;
- The relocation of people to the suburbs may offer opportunities for more and better local amenities which people could access without the car.

Views on changes to active travel were more mixed with uncertainty about whether the rise in leisure travel could be converted to the commute. Whilst many believed that ongoing physical distancing restrictions could lead to car traffic growth as former public transport users switch mode, others were less sure given the potential overall

⁹ <https://www.gov.uk/government/publications/reallocating-road-space-in-response-to-covid-19-statutory-guidance-for-local-authorities/traffic-management-act-2004-network-management-in-response-to-covid-19>.

reductions in commuting and business travel. We feel it important to note that there had been very little engagement with businesses or city centre property developers and owners to understand the dynamic at the heart of this issue, which is how and where will people work in future. We were also surprised by how little mention there was of the impacts of the anticipated severe recession on different types of travel and different places.

One of the most immediately striking elements of the interviews, which persisted across both waves, was the dissonance between the narrative on the one hand that whilst ‘everything’ in the wider economy was changing (as set out in the bullet points above), those with responsibilities for long-term strategic planning were continuing to function as if nothing out of the ordinary was happening at all. For example, Highways England (HE), which manages the motorway and trunk roads network in England receives funding from a partial ring-fencing of Vehicle Excise Duty, and so have a designated long term funding pool from which to deliver their £27bn roads programme. Whilst we were informed that HE is actively looking to understand what changing work and business practices might mean for future traffic demand, there was no suggestion that projects ready for implementation that had been justified on the basis of pre-pandemic demand assumptions would be re-evaluated. Similarly, some organisations involved in strategic planning for large scale public transport schemes within or between urban areas told us that although the economic justification or ‘business case’ for these kinds of projects already appears to be potentially much more uncertain (or even in some cases unviable) given the substantial change in travel demand, there was no inclination to do anything other than continue with them. Thus although there remains (and will do for some time) an absence of any clear knowledge about the potential envelope of travel demand over even the medium term, there has not yet (as of March 2021) been any substantive alteration made to the planned capital investment profile for transport infrastructure. In England, consistency with the national transport forecasts and wider econometric modelling assumptions has long been seen to be central to the success of individual projects’ business cases for funding (see Lyons and Marsden, 2021). We were told by several participants that until the Department for Transport issues an edict to change how scheme development and appraisal takes place then business as usual will prevail. By contrast, the policy actors in Scotland were more alive to likely programmatic impacts, partly because modelling outcomes have been less important in scheme prioritisation, but also because the Scottish Government’s second Strategic Transport Projects Review was ongoing at the time of the onset of the pandemic.

One of the common responses to the uncertainty from all interviewees involved in strategic planning and business case development was that, if the initial rationale for a scheme could not be justified post-pandemic, then effort was likely to be made first to justify the scheme with respect to a different logic rather than explore alternatives to the scheme itself. By November, rail sector respondents were fluent in articulating the scope to recast spending on electrification and new rolling stock from the previous rationale of capacity expansion objectives to decarbonisation if the commute did not recover substantially. If this kind of pivot were not possible, then repurposing funds within the transport sector for other reasons such as addressing investment and economic performance imbalances was identified as a priority. This desire to safeguard funds despite material change to the circumstances under which they were allocated is undoubtedly characteristic of large social-technical systems such as rail and road networks given the scale of industry investment and the power of the tight policy networks that are able to ‘lock-in’ spending.

6. Discussion and conclusion

Reflecting on the intersection between the literature on radical and incremental change from Section 2 and the interview data we generate some important findings. First, the pandemic has actually proven to be a

very *limited* window to enact change in transport policy. Indeed, rather than being a crisis put to work and not to waste, perhaps Coronavirus is simply too big a crisis for a distant policy sub-sector that receives comparatively little government attention to mobilise as a means to realign the direction of the policy stream. Coupled with this, the need to take decisions quickly and focus on maintaining operational resilience has also contributed to the reinforcement of existing institutional mechanisms which were stretched and made to fit the new circumstances. Previous decisions to reduce the regulatory capability and influence of the public sector in many places set a path for action dominated by central government control and focused on preserving the entities responsible for existing operational provision. Thus the crisis reinforced the centralising tendencies of the UK Government particularly with respect to the scope for city-region level transport bodies to adopt distinctive policy approaches.

Those policy changes that were implemented were already in the pipeline and have been accelerated in an attempt to intervene expediently faced with challenges such as the need to maintain physical distancing. So, whilst it can be argued that the political stream has felt a clear need to respond, any change in the nature or direction of the policy stream has actually been very limited. At a more local scale some authorities have raised the profile of active travel interventions which *could* mark a substantive change in direction of policy over the medium to long term, although this remains uncertain. To date however, levels of spending in places that have received funding amount to less than £1 per capita (\$1.3 US), which given the very low active travel infrastructure base in the UK suggests the narrative of rapid change here is running ahead of action. Those schemes that were progressed were reported to have been done so most efficiently by those local authorities retaining the greatest professional skills base and who already had coherent plans. This assessment was neatly summarised by one local authority respondent who told us “What does this mean for transport? We will continue to do what we’re doing” (Local authority, England).

So, what might we conclude about the potential for disruptions of the scale of the pandemic to act as catalysts for substantial, and potentially radical change? Above all, our analysis leads us to think carefully about the timescales over which we consider it possible to implement policy change, how our institutions define expectations about the speed of response, and the role of individual professionals within the institutions responsible for transport policy. The politics of attention literature would suggest little likelihood of change beyond what was seen in the eye of the crisis. Once that short-term window is closed and something else is on the agenda then the chances of re-igniting policy debate is limited. However, and particularly for large socio-technical systems such as transport with highly organised policy networks, the idea of an immediate and sustainable shift in direction seems somewhat fanciful. We were particularly stuck by the testimony of some interviewees who, having wished for a more progressive or radical policy environment for many years, found their organisations unable to change policy priorities in what they perceived as an opportunity to do so. Added to this, the rather fixed nature of land-use and the transport networks and associated journey characteristics associated with connecting those land-uses also means that the absolute scope for change on the ground in the short term has obvious limitations. One year into pandemic restrictions it is difficult to see change as anything other than incremental.

More radical and truly path changing implications might yet arise from the pandemic in due course, with some of these identified explicitly by many of our interviewees. The more plausible potential outcomes that we discussed in our interviews included:

- 1) Increased general acceptance in both the policy community and across the public more widely that more active travel is essential for improved public health, key to creating more liveable, high quality urban environments, and something which can actually be delivered by the policy system over relatively short timescales;

- 2) The potential for substantial decline in the peak hour commute may result in a strategic rethink of the purpose and funding model which underpins the transport system, but for rail in particular given its particular demand characteristics;
- 3) The switch of business trips to on-line platforms, which, if sustained, at the very least challenges the existing justification for many large infrastructure projects for longer distance travel often predicated on the value of time ‘lost’ whilst travelling;
- 4) The generation of a new dynamic between city centres and suburbs which, whilst unclear, at least has the potential to radically change how cities work, what happens where, and therefore why many people travel as part of their everyday lives.

Taken together, these shifts would represent a scale of disruption marking out the pandemic as an event of historical importance in terms of the development of transport and mobility. If those people who have worked from home during the pandemic continue to do so for two days a week this will take around 15% of trips and car miles out of the morning commute (Marsden et al., 2021). This could fundamentally alter the economics of the property market, car ownership and public transport provision for everyone. Such changes would have substantial distributional impacts and such post-pandemic adjustments might become another locus of political tension over social inequality. This is what makes the preference for planning as if the pandemic has just been a ‘blip’ as so important. It is not that our interviewees do not recognise that things could change, it is just that they are not yet able to, or in some cases even interested in, tackling what this might really mean.

The future position of public finances, political attitudes to fiscal repair and the socio-economic restructuring effects of the impending recession also need to be factored in to thinking about changing policy pathways. In the UK, the Office for Budget Responsibility forecasts that the recession will be the worst for 300 years (Lilly et al., 2020). Although the OECD¹⁰ has warned against a return to austerity as a response to the economic challenges of Coronavirus, the March 2021 budget indicated that the UK government may well choose to move away from simply printing money to subsidise the economy – and within this, public transport networks – before long (Bloomberg, 2021). How and at what pace this happens, and how the future tax and fares revenue mix is structured was identified as likely to have profound long-term impacts on the industry recovery and therefore the options available to citizens. This is a very different situation to the Global Financial Crisis of 2008/9 where public transport turned out to be quite resilient (Veeneman et al., 2015). During the pandemic, public transport has taken an unprecedented hit both operationally and reputationally in most countries, and as governments eventually seek to reduce financial support for activities across the economy, there will be many other sectors competing with transport for funding. It may yet stimulate a need for further institutional or regulatory change.

Although there is a yearning in some parts of the policy system to ‘get back to normal’ or a ‘new normal’, we would argue that this is flawed thinking. Individuals, communities, businesses, supply chains and governments have all adapted their activities, and for a sufficiently lengthy period of time for some of these behaviour changes to become materially embedded. The debt stock and the debate on what to do about it have been transformed and it is at least possible that, in combination with the longer term adaptations in travel behaviour that are plausible as a result of the pandemic, we will see new policy pathways to emerge. There is an obvious opportunity to try and align recovery measures with an acceleration of the transition to zero carbon, especially given the focus on more local- and active travel during the pandemic. However, as the crisis recedes, the space for other arguments emerges. The potential longer-term changes our interviews explored would create winners and losers, some of them very wealthy and influential interests such as those

in the commercial property sector who have a vested interest in promoting a return to patterns of consumption and work as similar to pre-pandemic conditions as possible. Similarly, transport institutions still seem firmly rooted in embracing growth as a means to justify infrastructure expansion and may yet be slow to adapt to the necessity for lower demand futures to meet the Paris Climate Agreements (Brand et al., 2020).

Whilst we can look forward to the lifting of physical distancing limitations at some point in 2021, the unfolding impacts of Coronavirus on our ways of living and our transport systems will take much longer to play out. Our research suggests that there are important contextual and institutional reasons why radical change was not likely to happen quickly, but that does not mean that it could not be profoundly important in the years ahead.

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Declaration of competing interest

None.

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Appendix A. Supplementary data

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References

- Ashraf, B.N., 2020. Socioeconomic Conditions, Government Interventions and Health Outcomes during COVID-19. *Covid Economics* 37, 141–162. <https://doi.org/10.13140/RG.2.2.21141.5520>. In this issue.
- Bloomberg, 2021. U.K.’s go-big budget masks cuts seen as austerity 2.0 [Online] Available at: <https://www.bloomberg.com/news/articles/2021-03-04/u-k-s-go-big-budget-masks-spending-cuts-seen-as-austerity-2-0>. (Accessed 9 May 2021).
- Brand, C., Anable, J., Ketsopolou, I., Watson, J., 2020. Road to zero or road to nowhere? Disrupting transport and energy in a zero carbon world. *Energy Pol.* 139, 111134. <https://doi.org/10.1016/j.enpol.2020.111334>.
- Chappells, H., Trentmann, Frank, 2018. Disruption in and across time. In: Shove, E., Trentmann, Frank (Eds.), *Infrastructures in Practice: the Dynamics of Demand in Networked Societies*. Routledge, Abingdon.
- Chung, H., Seo, H., Forbes, S., Birkett, H., 2020. Working from home during the Covid-19 lockdown: changing preferences and the future of work [Online] Available at: <https://www.birmingham.ac.uk/Documents/college-social-sciences/business/research/wirc/epp-working-from-home-COVID-19-lockdown.pdf>. (Accessed 15 December 2020).
- Clark, B., Chatterjee, K., Melia, S., 2016. Changes in level of household car ownership: the role of life events and spatial context. *Transportation* 43 (4), 565–599. <https://doi.org/10.1007/s11116-015-9589-y>.
- Cohen, M., March, J., Olsen, J., 1972. A garbage can model of organization choice. *Adm. Sci. Q.* 17, 1–25. <https://doi.org/10.2307/2392088>.
- Considine, S., 2020. Good Growth by Design Recovery Roundtable: High Streets and Town Centres. Report for Mayor of London [Online]. https://www.london.gov.uk/sites/default/files/ggbd_high_streets_meeting_note.pdf. (Accessed 15 December 2020). Available at.

¹⁰ <https://www.ft.com/content/7c721361-37a4-4a44-9117-6043afee0f6b>.

- Cowie, J., Ison, S., 2018. In: *The Routledge Handbook of Transport Economics*. Routledge, Abingdon.
- Delanty, G., 2020. Six political philosophies in search of a virus: critical perspectives on the coronavirus pandemic. LEQS Paper No. 156/2020, [Online]. In: LSE 'Europe in Question' Discussion Paper Series. Available at: <https://www.lse.ac.uk/europe-an-institute/Assets/Documents/LEQS-Discussion-Papers/LEQSPaper156.pdf>. (Accessed 15 December 2020).
- DfT, 2020a. Transport for London Settlement Letter [Online]. Department for Transport, London. Available at: <https://www.gov.uk/government/publications/transport-for-london-settlement-letter>. (Accessed 15 December 2020).
- DfT, 2020b. Gear Change: A Bold Vision for Cycling and Walking [Online]. Department for Transport, London. Available at: <https://www.gov.uk/government/publications/cycling-and-walking-plan-for-england>. (Accessed 15 December 2020).
- DfT, 2020c. E-scooter Trials: Guidance for Local Areas and Rental Operators [Online]. Department for Transport, London. Available at: <https://www.gov.uk/government/publications/e-scooter-trials-guidance-for-local-areas-and-rental-operators/e-scooter-trials-guidance-for-local-areas-and-rental-operators>. (Accessed 15 December 2020).
- Fernández-i-Marín, X., Hurka, S., Knill, C., Steinebach, Y., 2019. Systemic dynamics of policy change: overcoming some blind spots of punctuated equilibrium theory. *Pol. Stud. J.* <https://doi.org/10.1111/psj.12379>.
- Gray, D., Laing, R., Docherty, I., 2016. Delivering lower carbon urban transport choices: European ambition meets the reality of institutional (mis)alignment. *Environ. Plann. Part A: Economy and Space* 49 (1), 226–242. <https://doi.org/10.1177/0308518X16662272>.
- Hall, P., 1993. Policy paradigms, social learning, and the state the case of economic policymaking in Britain. *Comp. Polit.* 25, 275–296. <https://doi.org/10.2307/422246>.
- Hirschhorn, F., Veeneman, W., 2020. A multi-level governance rescue for public transport during the COVID-19 crisis in The Netherlands. In: Paper Presented at the International E-Conference on Pandemics and Transport Policy (ICPT2020), 7–11 December, Japan.
- Howlett, M., McConnell, A., Perl, A., 2015. Streams and stages: reconciling Kingdon and policy process theory. *Eur. J. Polit. Res.* 54, 419–434. <https://doi.org/10.1111/1475-6765.12064>.
- Howlett, M., Migone, A., 2011. Charles Lindblom is alive and well and living in punctuated equilibrium land. *Pol. Soc.* 30 (1), 53–62. <https://doi.org/10.1016/j.polsoc.2010.12.006>.
- Johnson, B., 2020. PM Outlines His Ten Point Plan for a Green Industrial Revolution for 250,000 Jobs [Online]. Cabinet Office, London. <https://www.gov.uk/government/news/pm-outlines-his-ten-point-plan-for-a-green-industrial-revolution-for-250000-jobs>. (Accessed 15 December 2020).
- Jones, B.D., Baumgartner, F.R., 2005. *The Politics of Attention: How Government Prioritises Policy Problems*. The University of Chicago Press, Chicago.
- Jones, M., Peterson, H., Pierce, J., Herweg, N., Bernal, A., Lamberta Ranea, H., Zahariadis, N., 2016. A river runs through it: a multiple streams meta-review. *Pol. Stud. J.* 44 (1), 13–36. <https://doi.org/10.1111/psj.12115>.
- Kay, A., 2005. A critique of the use of path dependency in policy studies. *Publ. Adm.* 83 (3), 553–571. <https://doi.org/10.1111/j.0033-3298.2005.00462.x>.
- Kingdon, J.W., 1984. *Agendas, Alternatives and Public Policies*. Little, Brown, Boston, MA.
- Lindblom, C., 1979. Still muddling, not yet through. *Publ. Adm. Rev.* 39, 517–526. <https://doi.org/10.2307/976178>.
- Lilly, A., Tetlow, G., Davies, O., Pope, T., 2020. The Cost of Covid-19: the Impact of Coronavirus on the UK's Public Finances [Online]. Institute for Government Whitehall Monitor Snapshot. <https://www.instituteforgovernment.org.uk/sites/default/files/publications/cost-of-covid19.pdf>. (Accessed 15 December 2020).
- Long, J., 2020. 1.3 million Brits bought a bike during lockdown [Online]. *Cycl. Weekly*. Available at: <https://www.cyclingweekly.com/news/latest-news/1-3-million-brits-bought-a-bike-during-lockdown-458354>. (Accessed 15 December 2020).
- Low, N., Astle, R., 2009. Path dependence in urban transport: an institutional analysis of urban public transport in Melbourne Australia, 1956–2006. *Transport Pol.* 16 (2), 47–58. <https://doi.org/10.1016/j.tranpol.2009.02.010>.
- Lyons, G., Marsden, G., 2021. Opening Out and Closing Down: the treatment of uncertainty in transport planning's forecasting paradigm. *Transportation* 48, 595–616. <https://doi.org/10.1007/s11116-019-10067-x>.
- Marsden, G., Anable, J., Chatterton, T., Docherty, I., Faulconbridge, J., Murray, L., Roby, H., Shires, J., 2020. Studying disruptive events: innovations in behaviour, opportunities for lower carbon transport policy? *Transport Pol.* 94, 89–101. <https://doi.org/10.1016/j.tranpol.2020.04.008>.
- Marsden, G., Anable, J., Docherty, I., Brown, L., 2021. At a Crossroads: Travel Adaptation during Covid-19 and where Next? [Online] Centre for Research into Energy Demand Solutions, Oxford. Available at: <https://www.creds.ac.uk/publications/report-at-a-crossroads-travel-adaptations-during-covid-19-restrictions-and-where-next/>. (Accessed 15 December 2020).
- Marsden, G., Docherty, I., 2013. Insights on disruptions as opportunities for transport policy change. *Transport. Res. Pol. Pract.* 51, 46–55. <https://doi.org/10.1016/j.tra.2013.03.004>.
- Marsden, G., Docherty, I., 2019. Governance of UK Transport Infrastructures. UK Government Office for Science. Future of Mobility: Evidence Review [Online]. Government Office for Science, London. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/780871/governance.pdf. (Accessed 15 December 2020).
- May, P.J., Sapotichne, J., Workman, S., 2009. Widespread policy disruption: terrorism, public risks and homeland security. *Pol. Stud. J.* 37 (2), 171–194. <https://doi.org/10.1111/j.1541-0072.2009.00309.x>.
- McCorkindale, C., McHarg, A., 2020. Combatre la pandémie de la COVID-19 a Escòcia. *Revista Catalana de Dret Públic* (Specia), pp. 256–265. <https://doi.org/10.2436/rcdp.i0.2020.3560>.
- NAO, 2020. Covid-19 Cost Tracker. September 2020, [Online]. National Audit Office, London. Available from: <https://www.nao.org.uk/wp-content/uploads/2020/09/COVID-19-cost-tracker-2020-09-08.pdf>. (Accessed 15 December 2020).
- North, D.C., 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge University Press, New York.
- Nurse, A., Dunning, R., 2020. Is COVID-19 a turning point for active travel in cities? *Cities Health*. <https://doi.org/10.1080/23748834.2020.1788769>.
- Patton, M., 2015. *Qualitative Research and Evaluation Methods*, fourth ed. Sage, Thousand Oaks, CA.
- Reardon, L., 2018. Networks and problem recognition: advancing the multiple streams approach. *Pol. Sci.* 51, 457–476. <https://doi.org/10.1007/s11077-018-9330-8>.
- Rosenbloom, D., Meadowcroft, J., Cashore, B., 2019. Stability and climate policy? Harnessing insights on path dependence, policy feedback, and transition pathways. *Energy Res. Soc. Sci.* 50, 168–178. <https://doi.org/10.1016/j.erss.2018.12.009>.
- Rubin, O., 2016. Natural disasters and politics. In: Dahlberg, R., Rubin, O., Vendelo, M.T. (Eds.), *Disaster Research: Multidisciplinary and International Perspectives*. Earthscan Publishing, Oxon, pp. 82–96.
- Sørensen, A., 2015. Taking path dependence seriously: an historical institutional research agenda in planning history. *Plann. Perspect.* 30 (1), 17–38. <https://doi.org/10.1080/02665433.2013.874299>.
- Spurling, N.J., 2020. Parking behaviour: the relationship between parking space, everyday life and travel demand in the UK. *Land Use Pol.* 91, 103872. <https://doi.org/10.1016/j.landusepol.2019.02.031>.
- Suri, H., 2011. Purposeful sampling in qualitative research synthesis. *Qual. Res. J.* 11 (2), 63–75. <https://doi.org/10.3316/QRJ1102063>.
- Stewart, C., 2021. Incidence of coronavirus (COVID-19) deaths in the EEA and the UK 2021. *by country*, [Online] Available from: <https://www.statista.com/statistics/1111779/coronavirus-death-rate-europe-by-country/>. (Accessed 15 December 2020).
- Sung, J., Monschauer, Y., 2020. Covid-19 Is Changing Our Behaviour and Transport Energy Use Patterns: what Can We Learn from the Lessons of the Past [Online]. International Energy Agency. Available from: <https://www.iea.org/articles/change-s-in-transport-behaviour-during-the-covid-19-crisis>. (Accessed 15 December 2020).
- Urry, J., 2004. The 'system' of automobility. *Theor. Cult. Soc.* 21 (4–5), 25–39. <https://doi.org/10.1177/0263276404046059>.
- Van der Heiljman, J., Kuhlmann, J., 2017. Studying incremental institutional change: a systematic and critical meta-review of the literature from 2005 to 2015. *Pol. Stud. J.* 45 (3), 535–554. <https://doi.org/10.1111/psj.12191>.
- Veeneman, W., Augustin, K., Enoch, M., d'Arcier, B.F., Malpezzi, S., Wijmenga, N., 2015. Austerity in public transport in Europe: the influence of governance. *Res. Transport. Econ.* 51, 31–39. <https://doi.org/10.1016/j.retrec.2015.07.005>.
- What Works Centre, 2020. COVID-19: Public Transport Disruptions and Behaviour Change [Online]. Available from: https://whatworksgrowth.org/public/files/COVID-19_Public_transport_disruptions_and_behaviour_change.pdf. (Accessed 15 December 2020).
- Williams, K., 2019. Rail Review Chair Says Franchising Cannot Continue in its Current Form [Online]. Department for Transport, London. Available from: <https://www.gov.uk/government/news/rail-review-chair-says-franchising-cannot-continue-in-its-current-form>. (Accessed 15 December 2020).
- Wilson, J.R., Farrington-Darby, T., Cox, G., Bye, R., Hockey, G.R.J., 2007. The railway as a socio-technical system: human factors at the heart of successful rail engineering. *Proc. Inst. Mech. Eng. - Part F J. Rail Rapid Transit* 221 (1), 101–115. <https://doi.org/10.1243/09544097JRR78>.
- Zohlhöfer, R., Herweg, N., Huß, C., 2016. Bringing formal political institutions into the multiple streams framework: an analytical proposal for comparative policy analysis. *J. Comp. Pol. Anal. Res. Pract.* 18 (3), 243–256. <https://doi.org/10.1080/13876988.2015.1095428>.