Exploring Innovation in Policy-making within Central Government : The Case of the UK's Highways Agency

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Public Policy and Administration 2010 25: 137
DOI: 10.1177/0952076709356847

0952-0767
201004 25(2) 137–155

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The Case of the UK's Highways Agency

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Abstract The first and main contribution of this article is its access to the decision-making processes which drive innovation in policy-making within central government. The article will present a detailed case history of how the innovation came about and conclude by highlighting analytic possibilities for future research. The policy in focus is the UK's Traffic Management Act 2004, which passed responsibility for managing incidents on major roads from the police to the Highways Agency (HA), and has been interpreted as a world first in traffic management. The article tracks the Traffic Management Act 2004 from problem identification to a preliminary evaluation. It is then suggested that future research could explain organizational change more theoretically. By taking a longitudinal and multi-level approach, the research falls into a processual account of organizational change. The second contribution of the article is to highlight two novel ways in which this approach is being applied to policy-making, through an institutional processualist research programme on public management reform and empirical investigations using complex systems to explain policy change.

Keywords innovation, policy process, central government, Highways Agency, decision making and traffic management

DOI: 10.1177/0952076709356847
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Introduction

This article addresses the important issue of policy formulation and implementation in central government. It tracks the emergence of a policy and its development until it becomes a statute of law. In particular, the article focuses on the UK's Highways Agency (HA), an executive agency of the Department for Transport (DfT), and evaluates the origin and setting up of the Traffic Officer Service, whereby responsibility for managing incidents on major roads passed from the police to the HA. The powers to allow them to do this were enacted in the Traffic Management Act 2004. This policy was selected for evaluation because it has been interpreted as a world first in traffic management (PA Consulting, 2007).

The first and main contribution of the research is its access to the decision-making processes which drive innovation in policy-making. Research is ongoing and the article reports initial findings. Because research is at an initial stage, the article will present a detailed case history of how the innovation, the UK's Traffic Management Act 2004, came about, and conclude by highlighting analytic possibilities for future research.

The case study is generated from three different types of data covering the time period 2000–8. The main source is a series of interviews and conversations with the senior civil servant who played a critical role in developing the proposal and obtaining political agreement to it (spring 2007–winter 2008) – she is the second author of the article. Her reflections are triangulated with documentary data and survey data. There are three key types of documentary sources: an Incident Management Study published by the Highways Agency (2002), two reports by PA Consulting (2004, 2007) and politician accounts (published in Hansard). The Incident Management Study itself reports the results of a task analysis (discussed later), and the senior civil servant was part of the commissioning process.

The Incident Management Study and the other reports collected and analysed interview data from managers and staff in public service organizations involved with incident management. This included workshops with frontline police officers, highways engineers and contractors which were held to discuss roles. For a more detailed account of the different data sets, the reader is referred to the reports (see reference section). Together, the research strategy provided a rich source of primary and secondary evidence which has been brought together to tell the detailed story of policy in action at multi-levels, from central government to frontline staff (Hartley et al., 2002).

The limitation of the research strategy so far is that it provides a largely descriptive account of the policy process. In the final section of the article, it is suggested that future research could explain organizational change more theoretically. By providing a detailed case history, the research falls into a processual account of organizational change. The second contribution of the article is to highlight two novel ways in which this approach is being applied to policy-making, through an institutional processualist research programme on public management reform and

empirical investigations using evolutionary theory to explain policy change. Both theories are related to issues reported in the case study.

The article is divided into five sections. The first presents the policy problem to be tackled, that of dealing with motorway incidents. The second section discusses the data that was collected in order to understand the problem, a task analysis which outlines the tasks that the police officer has to address in incident management. The third focuses on the policy response, the Traffic Management Bill 2003, and highlights some of the difficulties that were encountered in getting support for turning the results of the task analysis into a new policy initiative. The fourth section details the implementation of the Traffic Management Act 2004. The fifth and sixth sections offer a preliminary review of the policy by assessing its impact on practice and by identifying two paths for future research: institutional processualism and complex systems.

The Policy Problem: Dealing with Motorway Incidents

The problem that we examined was the best way to deal with incidents on the UK motorway network. Clearly, when a major incident occurs there is involvement of the emergency services as well as a host of other people concerned with the removal of obstructions, the repair of the infrastructure, the handling of traffic and the practical decisions required to restore the system to full, effective functioning. In order to deal with incidents as smoothly as possible we need to categorize the series of tasks that need to be undertaken and attempt to make sure that they are accomplished in the 'best' order possible, with a minimum of interference between them. The problem that arises therefore is one of coordination, both in who should coordinate the situation as a whole and what will be the best sequence of tasks.

The Motorists Forum, which was set up in 2000 by the Government quango, the Commission for Integrated Transport, to represent the views of the 'responsible motorist' in the development of transport policy (Rickett, 2000: 20–1), became concerned about the level of congestion caused by incidents. They commissioned the HA to carry out a study to see whether it was possible to reduce the time taken to clear incidents with the suggestion that a performance indicator be agreed to halve by 2004 the average time taken to clear the effects of serious incidents (HA, 2002: i). The study was commissioned in 2001. The proposal put forward by the successful bidder was for an essentially qualitative study. The study gathered information to provide a greater depth of understanding of current practices in the UK and experiences elsewhere. More specifically, it identified current practices, the sequencing of actions and interactions between the organizations involved and key issues and areas for improvement.

Nine key issues were identified. The first reveals the complexity of incident management. There was a lack of definition about roles and responsibilities of participants and no national guidelines or procedures. In terms of roles, there was

little perception and recognition of the range of participants involved in clearing up after accidents. The police were often the first to receive notification of an incident (as receiver of '999' calls). Fire and rescue services (FRS) responded to incidents involving fire, hazardous materials, medical emergencies, life support or rescue. Ambulance and paramedic services provided an essential service to the injured. Transportation agencies operated and maintained the road network, including their maintenance agents and contractors. Hazardous material cleanup services and environmental protection agencies such as the Environment Agency get the road ready for re-use. Private towing and rescue companies are often under contract to one of the agencies involved in incident management, but they may independently patrol the highway or be contracted by the motorist. Information and private traveller information providers, which include public agencies and private companies, collect, process and disseminate traffic and transport related information to benefit travellers.

In addition, the report found that most incidents are minor and require police attendance only. It was reported that the FRS attend 3% of all incidents and ambulances somewhat less. In one county, this could equate to less than 10 road traffic incidents per month for the FRS. However, much of the analysis on management of incidents concentrates on the 3% of major incidents (HA, 2002: 9).

In terms of responsibilities, the study brought into sharp focus the differences in work and culture between the different organizations. Some organizations operate around the clock and are response-orientated while others are not. Police officers are trained to assume command and make unilateral decisions, whereas fire and rescue personnel act in teams. Private sector organizations, like towing companies, are profit-driven and therefore mindful of the amount of time they are involved and the resources they apply. Media often view an incident primarily for its relative newsworthiness and may not give adequate consideration to additional information from which the travellers could benefit.

The other eight key issues are worth identifying to reveal the logistical problems of incident management:

- Inadequate training for site management;
- Difficulties in pinpointing the location of an incident, particularly when they are reported via personal mobile phones. These are not linked to any location referencing systems (unlike emergency roadside telephones) that the emergency services are able to access;
- Many of the organizations involved in incident clearance do not follow the same boundaries as the emergency services which themselves may follow slightly different boundaries or cover more than one county;
- The emergency services can access the site by using the hard shoulder to reach the scene of an incident or try to part the traffic in the middle of the running lanes. Non-emergency services do not carry blue lights on their vehicles and frequently have to 'battle' through the tailback to get to the incident;

- At the scene, the senior police officer present was accepted as the lead but this was not always clear to the non-emergency services;
- Time taken to plan and set up diversion routes;
- Difficulties with vehicle recovery such as having the right equipment, needing to close the opposite carriageway and the work being unpaid;
- Provision of accurate and timely information to motorists was considered a low priority.

A major and interesting part of the report, which was unusual for one commissioned by the HA, was a detailed task analysis to gain a clearer understanding as to what actually goes on during the unfolding of an incident. This helped inform the development of new policy designed to respond to what had been revealed, and thereby to improve the overall processes required to deal as smoothly as possible with a severe incident.

Task Analysis: Identifying Police Officer Tasks in Incident Management

In order to understand the many different and varied ways that 'incidents' can occur and unfold and to frame policy changes that will speed up and improve the way incidents are handled, incidents need to be represented in terms of a set of possible constituent elements. The report showed that the core 'incident management' tasks, defined as those occurring once the 'incident manager' (police officer) reaches the incident, can be broken down into four distinct phases:

1. Phase A: initial arrival and making and acting on primary assessment;
2. Phase B: setting up a sterile area, making and acting on secondary assessment;
3. Phase C: setting up, developing and maintaining working infrastructure, making and acting on tertiary assessment;
4. Phase D: post-emergency phase management.

The bulk of the tasks occur in phases A, B and C. The quality of performance in these three phases, which may all occur during the very early part of the incident, can have a major impact upon downstream clearance times.

There are two types of role involved in dealing with incidents. The first were the specialist roles filled by the FRS, ambulance, recovery, road maintenance and the second role is that of the de facto manager. The latter role was normally filled by a police officer who took overall responsibility for the situation. The specialist roles are convergent and involve goal-oriented, highly focussed work with a clear assessment – action – completion format where good performance is easy to assess. The incident manager role is divergent, however, and involves creating an ongoing, transient organizational infrastructure in which the other specialists (which may well include the police in other roles) undertake their work.

The key cognitive skill of the incident manager is to build and maintain an accu-

rate mental model of the incident so that appropriate situational knowledge and knowledge from other domains and constraints can be integrated into the decision making and planning process. Other key cognitive skills are the ability to scavenge for information repeatedly and proactively; to maintain and test the veracity of the models; the ability to cope with and reduce areas of uncertainty; the ability to deal with multiple streams of information; the ability to prioritize and the ability to construct rapidly and modify short and medium term action plans on an ongoing basis. In large incidents, this is a considerable mental activity and one that is not wholly apparent to the observer, but nonetheless critical for that.

Responsibility for the management of incidents is distributed over time, over different people and different organizations. Although traffic police normally arrive first on motorways and trunk roads, in rural areas the FRS may be first to the scene as may be section officers in urban areas. The control room function also has some form of incident management responsibility. Control of complex incidents was handed over to a senior sergeant sooner rather than later. In addition, more senior officers may come out to large incidents. Functional liaison occurred at task level, supervisory level and management level. The mantle of control was distributed and mobile.

The need to collect evidence for a later court hearing adds to any clearance time. Detailed area searches can be time consuming but are not common. The normal activities of an accident investigation (AI) officer can be undertaken quite quickly with sketch book, measuring tape and camera. One problem, though, is getting the AI officer on site in a timely manner as such individuals are rare – possibly only one or two in a county police force.

A major issue in larger and more complex incidents was the organizational heterogeneity of the response team, given that more agencies are needed, including increased numbers of specialists and having to negotiate organizational boundaries.

The analysis divided the process of clearing up incidents into 26 main tasks, from awareness of the incident through to managing distal effects, and converged on three types of category (see Table 1):

1. Information processing – passing and processing information around the system;
2. Action management – normal management functions, such as planning, monitoring and checking, evaluating, prioritizing, planned allocation of priorities, coping with undetected circumstances, forming a conceptual model of what is going on;
3. Action tasks – causing action to be taken and may be expected to result from action planning and communication inputs.

Reflecting the main task analysis, the tasks are mainly, though not exclusively, undertaken by traffic police in the data sample accessed in this study. Also, the ambulance service tasks were not included because, apart from ensuring access,

Table 1 **Results of task analysis (HA, 2002: 42)**

Main task	Information processing tasks	Action management tasks	Actions	Total
Awareness of incident	16	16	1	33
Location of incident	9	18	3	30
Mobilisation of emergency services	3	6	3	12
Guidance of emergency services	1	6	2	9
Getting to incident	0	6	4	10
Operational liaison	3	1	1	5
Make initial assessment at scene	3	6	1	10
Create safe work environment	0	7	4	11
Make secondary assessment	0	7	0	7
Act on secondary assessment	2	2	6	10
Manage traffic flow	0	18	1	19
Make tertiary assessment	0	5	0	5
Act on tertiary assessment	1	4	0	5
Manage initial arrive of FRS	0	3	3	6
Manage members of public	0	2	5	7
Construct infrastructure	0	17	2	19
Make quaternary assessment	0	10	0	10
Act on quaternary assessment	3	1	0	4
Main phase – police	0	13	0	13
Main phase FRS	5	3	4	2
Accident investigation	2	5	18	25
Clearance	4	14	6	24
Inspection	0	0	5	5
Declare road open	1	4	0	5
Open road	0	3	2	5
Manage distal effects	0	2	1	3
TOTALS	53	179	72	304

they have a self-contained task that is not part of the incident management task. In contrast, the FRS does tend to be more involved in incident management.

Of 304 individual subtasks identified, 179 (59%) involved action management, 53 (17%) were information processing tasks and 72 (24%) were action tasks. This was probably the most significant finding from the study. Evidence from interviews and workshops suggested that preparation and training for incident management concentrated on command structures and completion of the specified activities whereas information processing tasks were lumped together under a general and unexpanded heading of 'communications' and largely invisible management activities that made up 59% of tasks, were largely ignored. This finding

explains an observed disparity between traffic officers undertaking the work and the world of operational analysis which failed to give due importance to the cognitive skills and operational competencies required. The traffic officers are left with the correct perception that they are undertaking a skilled and specialist task that seems unmentioned and unacknowledged by the analysts.

Two conclusions could be drawn from this analysis. First, improvement of incident management performance requires that those who are managing the incident are properly trained in undertaking cognitive, action management types of activity, including not only basic cognitive competencies, but also an awareness of errors, faults, risks and how they may occur and how they can be managed, so they can be best avoided. This was absent from any formal training scheme. This aspect was not recognized and not valued except by the actual practitioners. Second, if incident clearance (a significant part of the incident management activity) is to be improved, it is unlikely to do so if it does not explicitly address 59% of the task, pay minimal attention to 17% of the task and only attend in detail to 24% of the task, which in any case depends quite extensively on the other two components. The interesting issue here, therefore, is to see how policies can be framed, which can help in the actual responses to situations of this type, where in real time the agents must both take decisions, which affect what will happen, and also learn about the internal and external details. Such situations are common in many fields of practice such as administration, education, management and medicine, and the problem that is adaptive response. The example of incident management is presented here in order to provide a successful practical example on which to reflect. The next part of the article analyses the emergence of the Traffic Management Act 2004.

Policy Response and Formulation: Traffic Management Bill

Innovation and Consensus

Turning data, the results of the task analysis, into a new policy will be explored by clarifying the innovation, highlighting how consensus was achieved and then acknowledging the difficulties that were encountered during political scrutiny. The study threw up a wide range of issues but, in order to put some coherence to the recommendations, it was decided to provide just eight under seven categories with both short and long versions of these being provided. Arguably the most radical was the second, which recommended institutional change, that the HA should take on the key role of developing, negotiating, implementing and monitoring better incident management procedures. In particular, the report recommended that

> there needs to be a lead body/agency from amongst the stakeholders responsible and accountable for taking forward, encouraging, enabling and funding initiatives regarding incident management. Some acceptance in terms of responsibility for overall incident management monitoring is first required and this may necessitate the creation and

> funding of a senior co-ordinating role in the organizational structure of the Highways Agency. This role should be interfaced with area or sub-regionally based incident managers who would have responsibility for implementation of new operational procedures and best practice guidance. Although a multitude of organizations are involved in incident clearance, the only one that has congestion monitoring as one of its key performance indicator is the Highways Agency. (HA, 2002: 56)

These recommendations were then reported to a group of invitees, including the DfT, motoring organizations, Motorists Forum and police in June 2002. The senior civil servant recalls that, after she announced the recommendation that the HA should take over responsibility from the police for managing the incident clearance process, there was a silence in the room until one person at the back said 'what a good idea', which then started a discussion on the proposal. The civil servant admits she has often wondered what would have happened if that person had not spoken out.

In considering the radical proposal that the overall responsibility for incidents should pass from the police to the HA, officials and ministers at the DfT and the Home Office agreed that a formal review of the roles and responsibilities of the HA and the police should be carried out. PA Consulting was appointed to take forward the review. The aim was to align delivery responsibilities with the organization most suited, from both a policy and operational perspective (PA Consulting, 2004).

The mapping process identified that the current alignment of roles and responsibilities reflected historical developments rather than organizational objectives. It demonstrated how the police were carrying out activities that did not contribute to police objectives nor were the police staffed to undertake them adequately. The review also identified geographical differences in working practices, a lack of standardization and a failure to disseminate best practice (PA Consulting, 2004). The review found, using activity data provided by the police forces, that traffic police spent only 5% of their time on crime-related tasks and the majority of their time on tasks that could be undertaken by other organizations. It also highlighted the discrepancy between the strategic importance of the trunk road network, which carries 36% of all vehicle kilometres travelled and on which congestion was estimated to cost the UK economy £2.6 billion annually, and the resources allocated for incident management, which were estimated to be only £86 million annually.

The fieldwork for the review included workshops with frontline police officers, highways engineers and contractors to discuss if the HA could take on new roles. To the surprise of the HA, these 'frontline' workshops were highly supportive and welcomed the idea of more active involvement. The process was then repeated at more senior levels that were more sceptical about the feasibility of transferring functions (PA Consulting, 2007). A consensus was achieved: that the majority of activities on trunk roads could either be shared with, or led by, the HA (with the exception of a few core policing activities, such as the use of CCTV for incident

management and to detect criminal activity, on-road response to criminal activity and the investigation of fatal and serious collisions; PA Consulting, 2004).

If the transfer was to be implemented as proposed, it was expected that this would free up the equivalent of 540 full-time police officers from roads policing (Hansard, 2004b). To deliver this approach, three main changes were required. First, seven new regional control centres needed to be introduced, jointly staffed by the HA and police, to manage resources on the trunk road and coordinate incident supervision. Second, the 'HA Traffic Officers' were established – these uniformed HA staff would patrol the trunk road network and deal with many non-core activities currently undertaken by police. Third, a national enhancement to the existing contractor-provided Incident Support Units to ensure a consistent service, response times and livery (PA Consulting, 2004).

A single, national set of standards and protocols for incident management, control and monitoring for the trunk road network, agreed with the police, was also identified as critical to the safe running of transferred services. The Association of Chief Police Officers (ACPO), DfT, HA and Home Office all agreed with the recommendations and pressed for speedy implementation (PA Consulting, 2004). Because the proposal involved two departments of state, the policy was referred to the Prime Minister's Delivery Unit (PMDU). Apart from the pressures on the HA from growing congestion and the declining police resources on traffic policing, some high profile incidents had put HA under the microscope. Critical failures, such as 'White Friday' when snow closed the M11, had led to questions over whether the HA could deal with major incidents (PA Consulting, 2007). On 30 January 2003, thousands of drivers were trapped in their vehicles for up to 20 hours on the M11 motorway in Cambridge and Essex due to heavy snow. The HA was criticized for failing to grit the motorway properly (BBC, 2003).

The Chief Executive of the HA gave a presentation to Tony Blair who apparently told the HA 'to get on with it'. This could have referred to either planning or delivery. It was taken as 'delivery'. In June 2003, the Secretary of State for Transport, Alistair Darling, announced the publication of the review to the House of Commons and the decision to recruit, train and deploy a uniformed motorway patrol service, operating round the clock, with powers to take action and a focus on taking on whatever steps were necessary – as soon as possible – to get traffic flowing.

The roles and responsibility review was completed in November 2002 and it was envisaged that implementation would take about a year to plan and deliver. As it turned out, policy and delivery were developed in tandem for six months and were described by one of the participants as a 'white knuckle ride'.

Difficulty during Political Scrutiny

The Traffic Management Bill was introduced on 11 December 2003 and published on 12 December 2003. The second reading on Monday 5 January was announced almost immediately after its introduction. In addition to the three reviews during

policy development, there should have been an in-depth study by the Transport Select Committee. However, given the speed with which the Bill was introduced, there was not time for this. This led the Committee, chaired by Mrs. Gwyneth Dunwoody to comment:

> Since the timetable has been so rushed, we confine ourselves to drawing upon work we have already done in our previous inquiry, and in our current inquiry into Traffic Law and its Enforcement, and using that work to identify questions which should be considered during the passage of the Bill. (House of Commons Transport Committee, 2003: 3)

Further:

> We consider it absurd that the Government should allow only four sitting days between its introduction and its second reading and should ignore the fact that the Select Committee is currently inquiring into one of the Bill's central policies. (House of Commons Transport Committee, 2003: 9)

The Bill almost foundered at the second reading. The Secretary of State had a difficult time defending the Bill as the reading coincided with media coverage about speed cameras which were not related to the Bill. Mrs Dunwoody's irritation about the timing of the Bill came through in her comments:

> We are creating for the first time, almost since the time of Robert Peel, a group of officers who are not police officers, who are not town beagles, who are not collectors of bits of paper to stick on parked cars. We are creating a group who will have the power to take big decisions that could enable those who have been involved in serious accidents to escape prosecution, which would enable large numbers of people who have considered they have been hard done by to find themselves in the position where they have no recourse to any appeal. Above all, we could see the situation where the general public begins to question the common sense of the House of Commons. When that happens, frankly we are all at risk. (Hansard, 2004a: col. 60)

Ministers almost lost faith with the Bill following the second reading. The challenges for the officials were to regain ministers' confidence and obtain a robust programme for the Bill when enacted to achieve delivery. The third reading was on 16 March 2004 and Royal Assent was received on 22 July 2004. The proposal was only to introduce traffic officers in England as this was the responsibility of the HA. However, Part 1 of the Act also enabled the National Assembly for Wales, as the traffic authority for trunk roads in Wales, to establish a Welsh Traffic Officer service to operate on motorways in Wales. These powers have not yet been taken up by the National Assembly but amendments to the Motorways Regulations will assist them as and when traffic officers are adopted in Wales.

Policy Implementation: Traffic Management Act 2004

To roll out a new service across the motorway network in one step was unthinkable – there were too many stakeholders, too many staff were required and safety could not be compromised. It was agreed that the HA would pilot the service in

one region, the West Midlands, where partnership arrangements were already in place between four police forces and the HA. The whole process was kept very tight. The team carrying out the review of roles and responsibilities comprised one consultant, the HA/ACPO liaison officer and an HA engineer. At its peak the implementation team comprised less than 10 consultants and was often much smaller. The delivery team consisted of around 100 people (PA Consulting, 2007). The pilot project in the West Midlands started operations on 24 April 2004.

Implementing the traffic officer service was seen as something the HA could do rapidly in order to tackle congestion, which was why it was quickly approved by ministers and funding was swiftly provided. (It was estimated that transferring roles would require one-off set up costs of £72 million and ongoing costs of £57 million a year.) The downside to this rapid approval for those charged with developing the policy and delivery was that the initiative attracted considerable attention. In the latter part of 2003, there were three reviews at the same time: the National Audit Office focused on tackling congestion which slowed down progress; the PMDU which speeded up progress; and a 'gateway review' by the Office of Government Commerce (OGC) which was at about the right pace. The OGC is an independent Office of the Treasury, responsible for improving value for money in Government procurement. A gateway review examines programmes and projects at key decision points in their lifecycles before they can move on to the next stage. The OGC review was helpful. As mentioned above, there had been three people on the review team. The OGC appreciated the continuity in that, at subsequent stages, they dealt with the same people. They recognized that greater resources were needed and instructed the HA to provide them, which they had to do.

A critical point in 2003 was the decision of whether to outsource or in-source the traffic officer service. Given that, since the HA had begun in 1994, the trend had been to outsource as much as possible, the decision was taken, unusually, to in-source the service. The argument for doing this rested on the need to obtain cultural change within the organization so that it became more responsive, working 24 hours a day and every day of the year.

The last of the seven regional control centres (RCC) (in the East Midlands) was launched on 21 February 2006 by the Secretary of State, Alastair Darling. The intention was that these would be manned jointly by the police and HA. In some areas, like the West Midlands, this still happens, but elsewhere they are almost wholly staffed by HA staff. The purpose of the RCCs is to operate round the clock answering emergency roadside telephones, setting overhead electronic signs and dispatching motorway patrols.

On 25 July 2007, Tom Harris, Parliamentary Under Secretary of State for Transport, announced that the HA had completed the full transfer of traffic management functions from the police, and the traffic officer service was fully operational, fulfilling the agreement with all 39 police forces. Now that the Traffic Office Service is fully established, the HA will measure the effectiveness through a performance framework and publish the results in its annual report (DfT, 2007).

Policy Review: An Assessment of the Impact on Practice

There has not yet been a major assessment of the setting up and outcome of the traffic officer service. The article will now review the Traffic Management Act 2004 from two perspectives: its impact on practice; and suggesting paths for future research. Starting with practice, three issues that could be investigated are: (1) did the policy achieve what it set out to do; (2) what were the impacts upon the HA as an organization; and (3) what were the impacts for those employed as traffic officers?

Did the Policy Achieve What It Set Out to Do?

The starting point for the research was to see if it was possible to reduce the time taken to clear incidents on the motorway network. There has not yet been any definitive evidence whether or not this has been achieved, though the HA website refers to traffic officers attending 900 incidents a day on English motorways. It is probably fair to say that libraries are full of Government studies, undertaken at great expense but not acted upon. The Incident Management Study was an exception. All eight recommendations were acted upon. The actual implementation of the recommendations happened as soon as the policy had been enacted. So, in this sense, it did achieve what it set out to do, and within a relatively short timescale as well as freeing up the police to concentrate on their core activities. However, within this success, there is also failure.

What Were the Impacts upon the HA as an Organization?

A major decision taken by the HA was whether to outsource the traffic officer service or to set it up in-house. It decided to do the latter. The reason given was to achieve culture change. Discussions with HA staff have also suggested that it may have been in order to boost the role and significance of the organization. It certainly resulted in a much greater profile for the HA and new branding as a '24/7 organisation'. The HA nearly doubled its number of staff from around 1800–2000 by a further 1500 (1200 traffic officers and 300 control office staff). But to what extent the organization as a whole really was living up to its own publicity is questionable.

When the project had been given the go-ahead details were still being worked out, and one of the development team questioned whether the HA was ready for the implications of moving from an organization that was completely 'white collar' administrative-based to one that combined a substantial percentage of 'blue collar' 'industrial' staff. This issue is pertinent within the context of the British civil service which has included different 'classes' of officials with different types of work, pay and conditions. This is much less frequent these days when most of the civil service can be described as 'administrative'. Administrative and industrial staff are, nonetheless, still found, for example, within Ministry of Defence establishments where both types operate alongside military personnel.

It is one situation when two types of staff on different pay and conditions develop organically, but there can be issues when one is suddenly introduced into an organ-

ization that already has a long-standing and totally different culture. The pay and conditions for the traffic officers have caused them concern, and this was noted by the Transport Select Committee (House of Commons Transport Committee, 2006). For comparison, the pay of an on-road traffic officer is around the same as the top of the scale for an administrative officer and bottom for an executive officer.

Whilst making much in its publicity about the traffic officer service, the HA failed either to integrate the new service and associated activities (such as operating traffic control centres) with the existing cultural and organizational arrangements or to change the existing culture of the HA to the new ethos of a '24/7' organization. The senior civil servant sounded out a range of staff within the HA and found that their involvement with, or knowledge of, the traffic officers was very limited or almost non-existent. There were relatively few staff who had direct involvement with the traffic officers or the regional control centres, even though they comprised nearly half the staff of the organization.

What Were the Impacts for Those Employed as Traffic Officers?

This apparent disconnect between the white-collar side of the HA and the traffic officer service appears to have resulted in alienation of the traffic officers. This has been manifested in noticeable turnover rates (ranging from 17.5% for on-road officers in 2004, 5.4% and 5.6% in 2005 and 2006 and increasing to 7.66% in 2007) (Hansard, 2007: col. 1180W) and turning inwards for self-support. Informal chat pages were set up by the traffic officers to share their experiences and anxieties in the absence of meaningful support from across the organization. Not ensuring that there was real integration was a major failing on the part of the HA. So to fill the gap, new networks have been developed which may, over time, further exacerbate the feeling of separation from the rest of the HA. Much of the angst is being directed at the current Chief Executive of the HA.

The feeling of alienation was picked up by the Transport Select Committee (2006), which was shocked at the reports it received that traffic officers have access to few information technology resources, and that they are generally being asked to work in poor conditions. This was refuted in the HA's response to the Committee together with the criticism by the committee that the Chief Executive refused to meet union officials to discuss issues of concern to the traffic officers. It is not possible to comment critically on the extent of the grievances aired at the Transport Select Committee but it does appear to be indicative, along with other signs such as separate chat rooms, of some malaise and alienation from the rest of the HA. This situation is probably indicative of a scenario that happens across government where the expertise, energy and drive are focused on developing policy. Implementation is left without adequate support and those involved have to make the best of it. In the absence of (apparent) strong leadership from the bureaucrats within the HA, the traffic officers have had to self-organize and gain support from each other.

Policy Review: Future Research

The research possibilities are briefly presented here to invite readers to develop them alongside the authors. By taking a case study approach, the research falls into a processual account of organizational change because it is rooted in contextualism. Contextualism draws on empirical rather than theoretical knowledge (Glaser and Strauss, 1967; Strauss, 1987) and assumes that change is historical, contextual and processual (Pettigrew, 1990, 1997). Change is historical because it interconnects horizontally through past, present and future time, is contextual because it interconnects vertically through different levels of society, and is processual because it interconnects context and action. Context and action interconnect because: 'Context is not just a stimulus environment but a nested arrangement of structures and processes where the subjective interpretations of actors perceiving, comprehending, learning and remembering help shape process' (Pettigrew, 1990: 270; see also Giddens, 1976, 1977).

The processual approach is being applied to policy-making in two novel ways, through an institutional processualist research programme on public management reform (Barzelay and Gallego, 2006) and empirical investigations using complex systems to explain policy change (John, 2003). A principal reference for Barzelay and Gallego (2006) is Kingdon's (1984) influential *Agendas, Alternatives, and Public Policies*, but for brevity, the focus here is on Barzelay and Gallego's (2006) definition of institutional processualism. For them, it 'takes a strong interest in how situated interaction (and, in this way, human agency) can feed back upon context' (Barzelay and Gallego, 2006: 538). Institutional processualism is a blend of theoretical perspectives. From the processualist approach it is attentive to flows of interaction, to the subtle interplay between belief and action as experience unfolds, and to temporal context. From the institutionalist approach it relates situated interaction to the influences of stable context.

The data presented in the article echoes the paradox of change and stability. On the one hand, the senior civil servant is operating as a policy entrepreneur, clarifying the policy problem by being part of the commissioning process for the task analysis, proposing a policy response by suggesting that incident management should transfer to the HA and by tracking the progress of the policy decision (Barzelay and Gallego, 2006). On the other hand, the impact of the policy innovation on practice indicates mixed success, especially in terms of the hoped-for culture change within the HA, but also the role of high officials who move onto new projects, leaving implementation to be worked out by managers and staff in the HA.

Clearly, change takes place, but it has its boundaries and future research needs to work out more precisely where the boundaries are, how they can be permeated in order for policy innovation to be more widespread and the role of institutions, in this case the civil service, in boundary formation. It may be that theorization about the policy entrepreneur needs to be updated (e.g. Mintrom, 1997). The policy

entrepreneur could be linked back to early excellence literature (Peters, 1992; Peters and Waterman, 1982). This potential was highlighted by Ferlie, Ashburner, Fitzgerald and Pettigrew (1996). The portrait of an entrepreneurial civil servant also complements the recent move towards establishing a service culture in public management (Chew, 2003, 2006).

In another theoretical development, the processual approach is being explored in terms of continuous change. But as John (2003) points out, empirical investigations which focus on detailed studies of causal processes at work in policy change, especially from an evolutionary perspective, are rare. This is because it is difficult to find case studies illustrating non-intentional process (Dowding, 2000).

Although the decision-making process surrounding the Traffic Management Act 2004 appears to be rational, in reality the process is highly complex. The decision-making process appears rational because a problem is identified, options are generated and a solution is selected and implemented. Underlying that process is a series of interactions between key stakeholders which could have had different results. The Act is a result of insight, coalition building and a favourable political environment. In short, the Act is an example of non-intentional or complex systems process (Butler and Allen, 2008).

The task analysis provides a simple form of complex systems, multi-agent modelling, since it examines what happens through the eyes and cognitive processes of the different people involved, rather than assuming some mechanistic picture of a system operating to accomplish a given overall task – with some underpinning assumption of perfect knowledge and analysis (Allen et al., 2007; Beinhocker, 2006). In reality, incidents vary considerably in their precise details, and the different services arrive in an unpredictable order and there are on-going particularities of the situation that need to be assessed and analysed, as well as a coordination problem that is fluid, in details unique and which requires real-time responses (Allen et al., 2006). The task analysis provides us with a simple categorization of the structure of incident management and separates out the action management tasks involving the weighing up of different factors and the matching with possible actions, from the simple information processing and actual actions (see Figure 1).

Given the variability in incident management, there is a difficulty in learning how to respond, since the degree of novelty will not be evident straightaway and the lesson of previous incidents is only partial. In effect, long and varied experience may help, but on the whole there is a serious need to prepare those involved in making these choices with the nature of this kind of situation (Allen, 2001).

Similarly, the actions of the senior civil servant could also be analysed from a complexity interpretation. She is a member of a public service organization who must deal with a policy situation that is likely to be different from the preceding one, which means that she must respond adaptably and effectively to a new experience in order to guide an action through from idea to enactment (Butler and Allen, 2008). An important feature of this case study is that it demonstrates the multiple

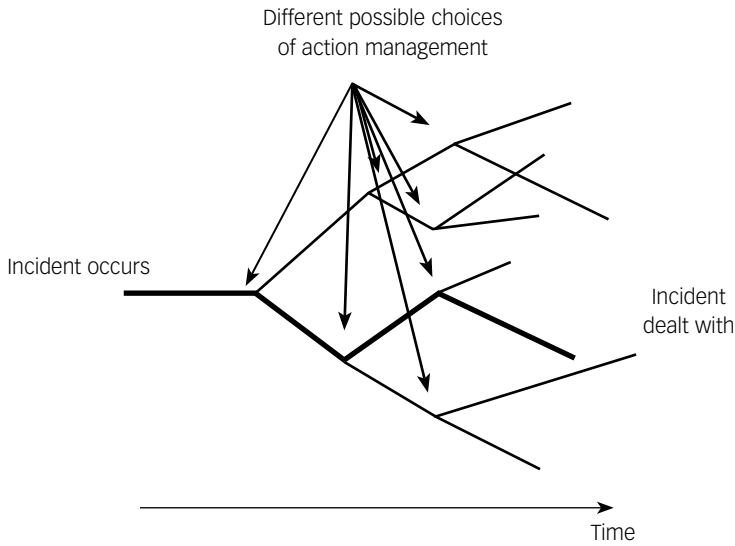

Figure 1 **The choices and decisions made in real time in dealing with any particular incident have a tree of possible outcomes. Only one path will be followed in any single incident**

layers on which complexity emerges and affects society. The first layer is the better management of incidents on UK roads. The recommendations following the task analysis were aimed at improving the institutional framework and training in order to allow improved learning to occur. The second layer is the legislation itself. It too went through an unpredictable path of successive incidents and events in which either it would have been modified considerably in its eventual form, or it might have failed to pass at all.

Concluding Remarks

The article has sought to make two contributions. The first and main contribution is its access to the decision-making processes which drive innovation in policy-making, which has been used to present a detailed case history of how the UK's Traffic Management Act 2004 was formulated and implemented. This policy was evaluated because it has been interpreted as a world first in traffic management. To overcome the limitation of only providing a descriptive account of the policy process, the second contribution of the article is to highlight two novel ways in which this type of data is being analysed and applied to policy-making: institutional processualism and complex systems. Both theories are related to issues reported in the case study. More work is needed in these areas in order to understand the process and diffusion of innovation in public service organizations, not just central

government, so that services can be improved and the focus, in this case, has been on incident management.

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