

From clouds to hailstorms

Safeguarding public values in networked infrastructures

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By
Mark de Bruijne
Willemijn Dicke
Wijnand Veeneman

Technology Policy and Management,
Delft University of Technology,
P.O. Box 5015, 2600 GA Delft, The Netherlands
E-mail: W.W.Veeneman@tudelft.nl
E-mail: W.M.Dicke@tudelft.nl
E-mail: M.L.C.deBruijne@tudelft.nl

Abstract

This article analyses how public values are achieved in infrastructures and distinguishes four crucial stages in decision making processes: the advocacy process, the political process, the bureaucratic process and the provision process. We illustrate these processes primarily with Dutch examples in infrastructure industries. An important conclusion of this article is that the character of public values undergoes significant changes in each of these stages of the decision-making process, generally from more abstract notions to more concrete. With the level of abstraction, the content of the public value also tends to shift from stage to stage. Furthermore, it could be argued that throughout decision processes, more or less subtle forces 'bend and shape' public values, challenging the (oftentimes implicit) prioritization of public values as well as the way in which safeguarding takes place. These shifts result from the actions of different actors that play a role in the different stages. In each of the actors, we identify leading actors and how they make use of the discretionary room that is available to them, resulting in the accommodation of diverging strategic orientations in different processes. Acknowledging (1) the discretionary room of the different key actors in the four processes of decision-making and acknowledging (2) the trade-offs in all stages of the decision making process provides an additional perspective on how public values are formulated and achieved in infrastructures. Although the public eye is mainly focussed on the political process, we argue that getting the public values sorted out in this process will not suffice. Decision making on public values not merely takes place in the political process, but also takes place in the other three stages as well. This article characterises each of the four decision making processes and outlines the important changes that affect decision making on public values in each of these stages. We conclude that a balanced repertoire of safeguarding mechanisms should address the various stages.

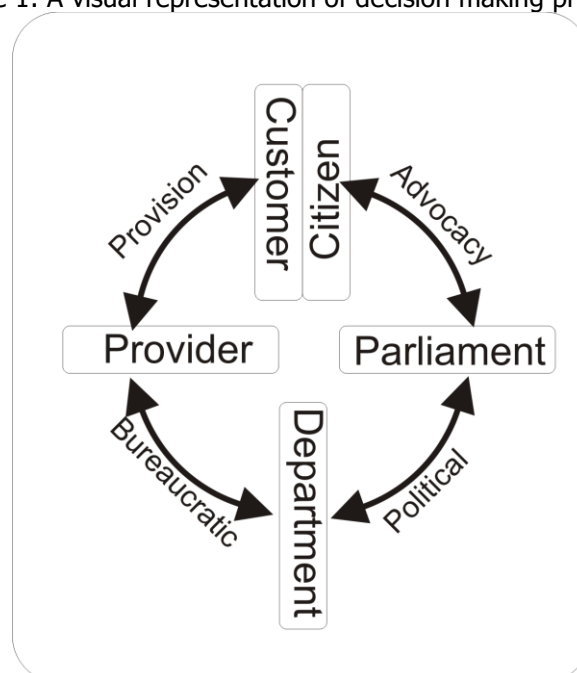
1. Introduction

Public values are the reason why many infrastructures exist today: cholera taught us that drinking water provision and sewerage are preconditions for a nation's public health; floods taught us that levees and dams are existential for survival of a society on the fertile lands along rivers, lakes and sea. But the meaning of infrastructures for contemporary society goes even beyond basic protection against nature's whims. As modern societies became more sophisticated, they have become more dependent on infrastructure services: drinking water supply, mobility, telecommunications and energy are critical for the functioning of contemporary society. Without them, modern societies crumble. With efficient, sound and wide-spread provision of these services the effect is felt throughout the economy and society in a manner that multiplies their direct impact many times (Arts, Dicke, & Hancher, 2008). Because of their crucial function, societies have successfully called upon their public institutions to intervene in infrastructure markets in the 19th and 20th centuriesⁱ (Melody, 2008). Many states and regions, public institutions took a leading role in infrastructure and service provision. More recently, in many western countries that trend was broken with a surge of liberalization, privatization, contracting out and a commercial outlook of infrastructure organizations. The Netherlands was no exception to this rule (van Twist & Veeneman, 1999). Many infrastructure sectors have thus undergone significant change, albeit at various paces and in various degrees. The role of commercially orientated private firms grew, as public government sought a more strategic role in defining and securing public values.ⁱⁱ This article reflects on public values in Dutch infrastructures and its context in particular (e.g. drinking water, airports, transport, energy, electronic communications, sewage, dikes).

Because of the (re)entry of commercial parties, dealing with public values has become a more explicit and more complex public task. In the past, states and regions defined public values and provided the infrastructure and the services. Now that these roles have been disentangled, new questions have risen: which public values should be secured through infrastructures? How to make the trade-off between different public values: is innovation more important than affordability? And how can all these values be realized under conditions of liberalization and privatization? Can all values be put into contracts? Or should we search for other ways? What is the role of the state and of political decision making for the day to day business of infrastructure organizations? The questions pivoting on the private-public interface touch on the field of policy sciences.

In this contribution, we define the crucial stages in decision making on public values against the background of one of the classic models of the 'political process' as defined by Bachrach and Baratz (Bachrach & Baratz, 1974). For the purposes of our discussion, we have visualized the crucial stages and key actors in the decision making process (See figure 1).ⁱⁱⁱ

Figure 1: A visual representation of decision making processes



Of course, these stages described in the model are conceptual distinctions and they do not necessarily follow one another in this neat order. In practice, decisions on public values are made by going back and forward between the stages, sometimes skipping a stage and returning to another. The reason that we have chosen this model is that it enables a conceptual analysis that highlights how shifts shape the meaning of public values; how key actors are involved in processes to achieve public values and to illustrate the variety of mechanisms they use to achieve the public values.

1.1 Aim of this article

Similar to the other disciplines discussed in this special issue, policy sciences does *not* have a singular vision on public values. Some theories stress public values at a generic and abstract level, what Bozeman has equated with 'the Public Interest' (Bozeman, 2007, p.:83). Peace, happiness or economic growth could be mentioned as illustrations here. Others have focused on the operationalisation of this ideal into values or into norms (Larouche, 2008). Some theories are normative: how should organizations that are engaged in achieving public values behave? Values such as openness, accountability and integrity are often mentioned here (Vrangbæk & Beck Jørgensen, 2008). Others (cf. Veeneman & van de Velde, 2006) are more empirical in their analysis of examples how public values are achieved, e.g. smart contracts, concessions or benchmarks. As a result of all these considerations, different traditions within policy science have stressed very different, sometimes conflicting values and mechanisms to secure them.

As a consequence the landscape of public values can be characterized as diverse, conflicting and heterogeneous (cf. de Bruijn & Dicke, 2006). And the relation between the political statements on public values on the one hand, and the reality at the operation of infrastructure seems weak (Steenhuisen & van Eeten, 2008).

We would like to go one step further than to state that public values are ambiguous and require a trade-off. We seek to show *how* the connotation of a public value changes, although under the same moniker (safety, mobility, economic development, effectiveness), in different parts of the policy process. Safety in parliament has a different connotation than safety for a train driver. Effectiveness does mean something else for the manager building a waste water treatment plant, than for a Minister of Health. This changing concept of a public value is in our perspective neither a coincidence nor an exception. The differences are an intrinsic characteristic of public values in policy processes; in fact they are an intrinsic characteristic of policy processes in itself. Thus, public administration has much to contribute to the knowledge of public values. By providing insight in the change of meaning of public values, this article aims to contribute to more effective strategies for achieving public values and to provide the necessary feedback between implementation and strategy and vice versa.

2. A structure of a governmental processes

Policy sciences cover a wide range of governmental activities, with various foci. Government activities can be distinguished by the interaction between different types of actors within the governmental process. Bachrach and Baratz (1974) were among the first to systematically display this interaction in their classic rational-synoptic representation of policy processes (cf. Dunn, 1994). They used their structure to explore the various barriers in the overall governmental process to investigate the issue of power in government. Their framework provides a good basis for us to illustrate the various perspectives on public values in various loci in the overall governmental process and in the subprocesses that these barriers separate.

The processes we distinguish, in line with Bachrach and Baratz, provide no normative theory^{iv}. We like to stress that we apply Bachrach and Baratz' framework for the purpose of our analysis, not as an empirical description. In addition, we use the word (sub) process or stage, rather than the word phase. The last could imply a linear and successive translation of public values, from first inception to implementation. However, many of these processes coexist on a single public value at the same time. While parliament is discussing the environmental performance of nuclear power, in the context of CO2 emissions, an inspector is interpreting earlier regulation when visiting existing plants. In this article we distinguish four different processes:

- Advocacy process: articulating public values
- Political process: negotiating public values
- Bureaucratic process: instrumentalizing public values
- Provision process: delivering public values

The simplest way to start the distinction between the various stages is by describing and illustrating how policy takes shape as it moves through the various processes. We will do just that in the following sections. Each of these processes is characterized by different actors that are engaged in the realization of policies, with a different view on “public values”. In each stage public values take on a different meaning and different issues surround the public values, which results in different activities to achieve public values. We will describe the process, the actors involved in that process, the key activities during that process, and the mechanisms the literature raises in these processes.

3. Advocacy process

In a democratic society government is bound to have an open ear to the wishes of the public. In democracies that open ear is organized in various ways. First of all, elections allow citizens to express their preferences. Moreover, traditionally the right to protest was another way in which the people could voice their criticism. In addition, the media is an important tool in putting specific topics on the agenda. And of course, lobbying has a long history of bringing the interests of specific groups to the attention of government. The advocacy process occurs on the interface between the public and representative bodies like the national parliament.

Now, from a perspective of public values in network industries this process can be seen as the articulation and a first selection of public values. In the articulation process the needs of groups are formulated to fit the role of government in infrastructure industries. “What counts as a problem and how a problem is defined depends upon the way in which policy makers seek to address an issue or an event” (Parsons, 1995, p.: 87). A lobbyist for broadband will stress the problem of disconnection of the Internet and the value of the industry for the city or country, often in terms of employment and economic growth. Letters to the editor of newspapers on proposed changes in the water sector will stress the importance of clean water for the country. Demonstrators at an airport will appeal to the government to counter the noise of aviation that harasses those living in the nearby environment. The claims of these parties are formulated in line with the ‘traditional’ roles of government that are associated with good governance. Market regulation, production of collective goods, regulating external effects, control of merit goods and compensating distributional effects, are generally considered among the central government roles. Public value discussions reflect these roles, like broadband being positioned as a merit good, airport noise is presented as a negative externality, and the customer has to be protected against the high prices of drinking water monopolists.

These articulated claims are generally aimed at the representative bodies as these are considered the natural entrance into the democratic process. In that role the representative bodies provide a primary selection to what they lend their ears to and what not. In this process, which Bachrach and Baratz characterize as a first barrier, there are roles for all kinds of third parties. Researchers provide backing for or arguments against the claims. The media can support or neglect certain claims. There is competition amongst claimers for attention. All in all the ‘simple’ advocacy process has become increasingly professionalized, politicized and expanded into a highly complex yet vitally important phase.

In this process the public value is formulated in a very general way and the relation to other values is generally neglected. In addition, the formulation is in such a way that not aspiring to these values may be considered politically unacceptable or even ‘unethical’. In this way, specific claims are reformulated as resulting in ‘motherhood values’ such as public safety, reliability, security, affordability, etc. Already in the 1930s Pendleton Herring (1936, p.:7) observed that: “Congress passes a statute setting forth a general principle. The details must be filled in by supplemental regulation”. That leads to an obvious appeal of the general principle. The value that needs to be secured is obvious and undisputable: water has to be affordable. At this point *who* has to pay what price for the water is neglected, leaving these complexities of implementation out adds to the appeal. In addition, little attention is given to how spilling should be harnessed when the price is reduced. Similarly, the values of efficient government spending and sustainability are left out of the equation.

The simplicity suggests straightforward government intervention, leading to the attractiveness of the public value.

This primary stage of public value formulation seems pretty much straightforward. We vote, demonstrate, lobby, and write letters to the editor to get our point across: everyone has the right to obtain affordable water. Then our representatives pick up on these issues and take up their role as gatekeepers of the policy process and allow some of these issues to go onto a next level.

The practice of articulation of public values however reveals a different perspective: not everyone has equal access to the democratic process. Bachrach and Baratz (1974) show how some issues put forward by specific groups do not enter into the government processes simply because they are ignored or not picked up by democratic or government representatives. The interests face the hurdle of *non-decisions*: there is no deciding body for those issues. A contrasting perspective is that specific groups rather have too much access to the political process. European scholars like have done a lot of empirical work to research the lobbying processes in Brussels and its possible effects (cf. Bouwen, 2002, 2004; Coen, 1998; Grande, 1996). Mazey and Richardson (1993, p. 25) show that lobbying is a constant fight for attention and that: "lobbying creates more lobbying".

In articulation of public values in infrastructures, both findings (of under- and over representation) remain most relevant as the recent debates about the 'gas roundabout' in the Netherlands reveal. Gasunie, the manager of the physical gas network, intends to invest in the physical infrastructure in order to enable international transport (import and export; hence the roundabout idea) and it sought approval from the regulator to let the Dutch households pay for this investment. But for the regulator, the issue was whether national -captive- users have to pay for improvements of the gas network that do not only benefit the Dutch consumer, but improves the stability and capacity of the international gas network (WRR, 2008: chapter 6). So far, no final verdict has been reached on this topic.

The debate on the gas roundabout illustrates that international trade over physical networks poses the issue whose values should be achieved for national governments: should the values of national consumers be prioritized over the interests of the international physical network? National regulators tend to be focused on the national household consumer. However the Dutch Scientific Council for Government Policy (Arts et al., 2008) claimed that it could be debated whether other values than the consumer values should be articulated more powerfully in order to achieve broader societal values.

The roundabout debate illustrates another issue about the advocacy process as well. In infrastructures, until 20 years ago, the articulation of public values took place implicitly: public monopolies decided behind closed doors on the trade-offs between public values. With liberalization and privatization of the last two decades new actors with strategic orientations have entered the scene, leading to more emphasis on efficiency, prices and service delivery. The related contractualisation of public values made the trade-offs more explicit and public, often leading to intense debate. Recently, increased internationalization and depletion of fossil sources has reopened the debate about the prioritization of public values in infrastructures (Helm, 2007).

In the advocacy stage, the role of the media is very important. One very obvious way in which the media influences the policy process, is in the way in which issues are selected for broadcasting in the media. What does not get chosen does not get nearly as much attention in the subsequent stages (i.e. in political debates and within the executive government). Both citizens and corporations who want their interests and public values secured have therefore shifted their focus on this stage, as the realisation grew that the media played an important role in selecting and prioritising issues for government policy processes. Edelman (1977) gives a twist to that process and shows how language is powerful in reframing public values in a way that they have a better chance of becoming accepted and how important rhetoric has become in that process.

McCombs and Shaw (1972) underlined the role the media were getting in the democratic process. They showed that the media subtly provides a first prioritisation of issues: the first item in the news is the most important. Entman (1989) took the argument one step further and argued that media was taking over the role of the citizen in constructing the political agenda. Herman and Chomsky (1998) counter that argument by stating that the media is not a rogue entity in that process. It is bound to specific groups and just is what it is: media.

Thus, the advocacy stage is very important for the achievement of public values. Whose values are being articulated, which stakeholders have access to the decision making process? In this stage, the values are articulated at a high level of abstraction. Policy debates remain shrouded in 'clouds of goodness'. There is no trade-off between the public values. Stakeholders will maintain that they want a sustainable *and* efficient *and* innovative service. All stakeholders have access to the advocacy process, but in infrastructures, some stakeholders are better equipped than others to promote their values. This refers to the current legal system, in which the interests of national household consumers may be over represented (compared to values that concern society at large, e.g. sustainability, innovation, long term accessibility of networks). The key mechanism to achieve and promote public values in the advocacy stage is the attention of the media and lobbying by stakeholders.

4. Political process

In the advocacy process different groups 'fight' to bring public values to the formal public policy making process. The first barrier in Bachrach and Baratz's model shows how some public values will never make it to the political process; they are too contested, they do not have a recognizable coalition of advocates, they lie outside the domain of mainstream politics. But if the values survive the advocacy process, they may make it to the next stage of decision making on public values: the political process which occurs on the interface between the representative bodies and the executive bodies, parliament and the ministries.

According to 'traditional' policy science theories (cf. Dunn, 1994) two activities take place at the political process. First, politicians decide which values may be designated as public values. Secondly, public values are prioritized.

With regard to the first activity, designation of public values, an international comparison on 'fiber to the home' can illustrate that this is not a theoretical exercise. Some governments decided 'fiber to the home' does indeed contain public values, as Weening (2006) described: Smart City in Canada was subsidized to increase the innovation potential of Canada; Ennis in Ireland was promoted to achieve 'social inclusion' of both the country side and the elderly; Kenniswijk in the Netherlands for both reasons. 'Fiber to the home' was thus designated to improve or to promote public values.

However, the European Commissioner for Competition however decided in 2006 that 'Fiber to the home' projects were *not* about public values. Subsidizing 'Fiber to the Home' was denounced as illegal state support (see contribution by Stout in this issue).

Our example shows that certain values can be *designated* or categorized as public or private and that these decisions tend to be made in the political process. However, in the famous words of Allison in which he outlined his governmental politics model of decision making "where you stand, depends on where you sit" (Allison & Zelikow, 1999)

A second activity in the political process is the *prioritization* of public values. After all, in the advocacy stage, groups frame their values as 'claims' to scarce government resources (attention, money, legislation, enforcement, etc.). In the political realm however, politicians are confronted with several, often competing claims. In the political process, different claims are brought together. Politicians have to defend one claim against another. In that way, public values are 'traded off' against each other and have to be *prioritized*.

Prioritization and trading off interests and claims means debating and 'fighting'. Some politicians will argue for one public value (e.g. modernization of the airport) while others will argue that other public values are far more urgent (e.g. protection against flooding). Both parties will seek to underpin their position with the most convincing arguments they can find. Often, public values are expressed in money and lost opportunities, as Klamer has argued (2005): 'If we do not invest one billion dollar in new dikes now, the damage in case of a flood will be ten billion dollars.' This 'fight' is conducted based on the representation of interests and according to certain rules. The political processes are characterized by bargaining games between political actors.

Designating public values; prioritizing public values and creating support for public values

For the traditional theories of policy science the exclusive locus for the prioritization of public values is the realm of politics. 'Administration lies outside the proper sphere of politics. Administrative questions are not political questions (...) Politics is thus the special province of the statesman, administration of the technical official' (Wilson quoted in: Shafritz & Hyde, 1997a, p.: 20).

On the basis of this information, government makes a choice, controlled by parliament. Prioritization takes place in the realm of politics; the bureaucratic process is put in place to execute what the politicians have decided. That is how the founding fathers of policy science envisaged the public decision making process. The main actors for the prioritization of public values are parliament and government.

Simon (1976) turned the world of policy science upside down with his notion of 'bounded rationality'. The prioritization of goals and values is not pre-given. We do not have full access to information. We do not know the consequences of all alternatives. Therefore, decision makers do not opt for *best* solutions, simply because this is –in principle- impossible. The only option they have is to look for 'satisficing' solutions.

The notion of bounded rationality has far-reaching consequences for the prioritization of public values in the political domain. It puts all lists and priorities of public values into perspective. After all, decision makers act on the basis of the knowledge they have at a certain point in time. Information and preferences are likely to change over time. Therefore, prioritization of public values is principally constructed according to the opinions and preferences of a certain point in time. Allison has taken these considerations and constructed his governmental politics model. For this reason, the outcome is relative. As a result, the prioritization of public values is always open for negotiation ... and renegotiation.

Others too, have put the rational decision making in the political domain into perspective. Cohen, March and Olsen (1972) claimed that government often behaves as organised anarchy. The coupling of problems and solutions follows the garbage can model: the instruments sought to secure public values are determined by fashion and chance. Kingdon (1984) used a different emphasis to put rational decision making into perspective: decisions do not solely rely on 'the best decision'. Instead, there has to be a fit between the decision and the wider environment. Are stakeholders and public opinion ready for the decision? If not, decision making can wait or even create 'windows of opportunity' to increase the chances of success of particular decisions. In later contributions in policy science, e.g. in the theories of public participation (Thomas, 1995); deliberative democracy (Hajer & Wagenaar, 2003) and network management (Kickert, Klijn, & Koppenjan, 1997) rational decision making is further tested and adjusted to the critical notion that instead of dealing with hierarchical relationships, governmental actions take place in policy networks involving multitudes of actors with differing goals and interests. Decisions can only be 'good' decisions if they have sufficient support from key actors; if they are shared decisions. Therefore, unlike the traditional theories of policy science, efforts must be put in creating support, in 'speaking the language of the field', in wheeling and dealing with the actors involved, instead of in 'getting the best information in order to select the best alternative.'

If we follow this line, priorities on public values may be set at this stage, but they are not set in stone. They may change in the remainder of the decision making process. The more recent contributions to policy science evoke a third additional activity in the political process: *creating support for the designation and prioritization* of public values.

In sum, in the political stage, public values are becoming more substantiated and trade-offs between different values are negotiated. Key public values are designated, public values are prioritized and support is actively sought and created for the trade-offs. Parliament and government are the key decision makers in this process. The key mechanisms used to safeguard and to realize public values consist of legislation and regulatory policy frameworks.

5. Bureaucratic process

The next stage of decision making on public values. Ministries and quasi non governmental organizations (QUANGOs) play an important role in the next stage of decision making on public values. The main activity of these actors depends on one's perspective on the bureaucratic process. According to 'traditional' policy science, this phase is concerned with putting abstract values into concrete norms. Starting from Woodrow Wilson the focus of the administrative process shifted from politics, where politicians agreed upon principles, towards the civil servants, who had to apply and implement the laws. It is thus concerned with operationalization. The emphasis of the public values decision making process thus shifts towards the interface between governments (i.e. ministries) and,

eventually, the provider of the services. Often this process involves multiple layers, with different public bodies, private infrastructure providers and regulators coming into the play.

For the perspective of public values, this implies two things. First, the prioritization of public values takes place at the strategic or political stage and is not altered or questioned in the implementation process. Secondly, it implies that all public values have to be weighed against the value of efficiency. With efficiency entering the scene, a trade-off is put in place, implicitly or explicitly. There are similarities in Wilson's concerns and those of Max Weber. Both argued for a strict divide between politics and administration. The civil servant should operate 'sine ira et studio': without anger or passion. If the civil servant's superior decided something on which topic the civil servant disagrees, he nevertheless has to carry out the order consciously, precisely as if it was his own conviction (Weber in: Shafritz & Hyde, 1997b, pp.:37-43).

Authors who published some twenty odd years after these founding fathers questioned the strict divide between politics and the absolute primacy of politics, in which civil servants are considered to operate neutral, objective, 'sine ira et studio.' Chester Barnard's (1938) influential work in which he 'identified' the 'informal organization' meant a defeat of the rational model as advocated by traditional policy science. His stance was that employees do not just carry out what is ordered by their formal superior 'without emotion' as Weber claimed; there is an informal organization that is far more influential in guiding employees' behavior. This informal organization thrives on emotion, instead of negating it.

Barnard's publications were followed by publications that highlighted the maladies of bureaucracy. Merton (1957) discussed 'goal displacement': the tendency of organizations to generate 'own' goals that overshadow the original goals of the organization. Maintaining the organization in good shape is more important than achieving the goals that were initially set. Yet another way that goals are displaced, is by means of cooptation (Selznick, 1966:13, quoted in van Doorn, 1987:73): 'the process of absorbing new elements into the leadership or policy determining structure of an organization as a means of averting threats to its stability or existence.' Blau (1955, pp.: 193-200) takes the theory of goal displacement a step further in his study on 'goal succession': goals are not renewed because the strategic level has formulated new goals, but because of the fact that the civil servants at the operational level formulate new goals. These bureaucrats discuss possibilities for improvement in an informal way with their colleagues. The changes that they introduce are often only approved by their superiors afterwards.

Thus, these and other authors have shown that the bureaucratic process does not run smoothly, according to the paper instructions (e.g. Pressman & Wildavsky, 1973; Wilson, 2000). They showed that in practice, goals are not simply implemented as ordered by superiors. Instead, decisions and goals are re-interpreted and shifted according to the bias and the interests of the groups and persons who have to work with the abstract goals.

The gap between the strategic decision making level and the implementation has remained an important focus of attention in policy science. Goal displacement is one label for explaining the gap. Another label is 'politics of bureaucracy'. Wildavsky (1964) for example, depicted administration as a budgeting game. The dynamics of the need to secure and guard public values are clipped by the budgeting process. This is an internal game with little manoeuvring space to follow the more dynamic and volatile prioritisation and operationalisation of public values that takes place outside bureaucracy (see the previous stages). Allison provides a perspective of group think, on how different operationalization's of abstract values are subject to bureaucratic politics (Allison & Zelikow, 1999). Different agencies 'reframe' public values and the ways in which to safeguard them to match their existing capabilities, without much reflection on the origins and goals of the public values. Then there is the issue that bureaucratic and organizational processes are always fraught with dilemmas and that one way of organizing to achieve certain results the way inevitably means paying a serious price in another (Perrow, 1986).

Peters (1989) describes all kinds of processes that puts the image of bureaucracy as the locus for 'objective implementation' into perspective. He describes for example how relationships with clients influence decision making in bureaucracy (cf. cooptation by Selznick, described above); how budgetary games are played and how they influence the political prioritization of values. A good question, in our view, would be: how can public values (still) be safeguarded, taking into account the politics of bureaucracy, goal displacement and other games played within the bureaucratic organization.

There is a third way in which the gap -between the prioritization of public values in the political process and the way the prioritization is worked out in bureaucracy- is explained, which is of

special interest in the case of the protection of public values under conditions of liberalization and privatization. We mean the literature on the relation between principal and agent (e.g. ministry and quango) or even multiple principals and agents, all demanding different things from the operator. Beck Jørgensen and Bozeman question (1999; 2002) whether the content of the public values may change as a result of this process.

Another important study that focuses on this part of the policy process is provided by Lipsky (1980). It shows how street-level bureaucrats deal with policy implementation and discretion when confronted with the heterogeneity of the customer side of public policy. For public values Lipsky's insights are of great importance. His analysis was that regulation that is aimed towards large groups is often hampering or even constraining the problem solving abilities of the professional, and thereby restricting rather than aiding or directing efforts to address the actual needs of the groups. Lipsky supports a problem solving approach towards large, heterogeneous groups that replicates the freedom for the professional to choose and approach smaller groups. In fact, street level bureaucrats develop coping strategies that aim to do just that.

Another important contribution comes from Jensen (2000), who shows that the role of the intervention body is very complex because an information-asymmetry exists between the regulator (the principal) and the steered actor (the agent). He underlines two important mechanisms: adverse selection and moral hazard. Several intervention efforts incorporate a moral hazard: the agent will be able to shift costs to others due to the regulatory system. An example is ensuring access with a simple pricing scheme: you pay for access, not per litre. This allows people to use water less prudent and shifts the costs of excess use to other users. Adverse selection occurs when a regulation is open for citizens to enter. Let's consider a regulation that sets a price cap. Those with the highest water usage will gain most. However, they are probably not those with the greatest need for financial support. Jensen showed that it is almost impossible for the principle to distinguish between specific groups and target regulations at the right group because of information asymmetry.

Hawkins (1983) is a third important author who shows that inspectors have to deal with conflicting intervention efforts and interests. Hard hitting and zero tolerance may damage other interests. For example, when airport noise exceeds a preset maximum, the regulator may close down the airport or reduce the number of flights. In a holiday season that might lead to extreme congestion on the airport, cancelled flights and disgruntled passengers. When the reduction of flights becomes permanent the economic development of the airport region is at risk. The strict securing of one public value then leads to the detriment of other values. In this case government is biting its own tail.

Conflicting regulatory efforts are an important issue in this process. In all the other processes, various regulatory streams, aimed at securing different public values, can exist side-by-side. The most important conflict between them is that they are competing for the same limited resources. The whole political and bureaucratic process is aimed at solving these conflicts. The conflicts in the intervention process are far more complex. Various regulatory streams conflict once they are implemented. Airport development is supported by government to support the overall economic growth; airport noise is 'attacked' by government to reduce the negative external effects. Broadband rollout is supported by government to stimulate innovation; intervention is limited to keep the market open and free. Water prices are strictly regulated to secure access to water to all; water spillage is restricted by increasing prices.

To summarize, the bureaucratic process is highly important for the achievement of public values. In this stage, the public values are being transformed into norms. Unlike the perspective that has dominated public administration until the 1980's –and still prevails in the public debate- this transformation is not a ready-made or straight-forward process. The discretionary room of the bureaucrats alters the meaning of the public values. In this stage, Ministries, infrastructure companies and quangos negotiate on norms to a more detailed level.

6. Provision process

After the norms have been set, the drinking water, the electricity, the electronic communication is actually provided to the end users. The goods that were demanded are provided; and through the

various protective schemes that were thought of (i.e. subsidies, incentive schemes, regulation, minimum norms, etc.) public values are safeguarded. Once provisioning takes place, a new process emerges. The provision process provides the possibility of feedback of effects of decisions made about public values during the decision process.

For this reason, stakeholders that were identified in previous processes such as consumer representative bodies, politicians, the media and public accountability organizations take an active interest in the provision process. Especially since the introduction of privatization, liberalization and New Public Management (cf. Pollitt & Boeckaert, 2004), accountability and performance measurement instruments have exploded (cf. de Bruijn, de Bruijne, & Steenhuisen, 2008), and through them the nature and character of regulation and public governance regimes have fundamentally altered (Dassler, Parker, & Saal, 2006; Levi-Faur, 2005; Power, 1999; van Waarden, 2006).

Implicitly or explicitly, services that are provided to the public in infrastructure industries are assessed and monitored continuously. All actors and stakeholders that were engaged in the previous processes (e.g. ministries, infrastructure companies and regulators) monitor the provision process to compare the outcomes with decisions made with regard to public values in earlier stages. For example, regulators monitor indices to determine whether markets have become more competitive, consumer interest groups and politicians monitor price level to see whether prices have decreased, ministries consider whether specific public values are protected and private infrastructure owners assess whether the 'market' has become competitive and whether regulation is still necessary, etc. These outcomes are used to (re)consider positions towards public values in previous processes, draw conclusions on the relative success of policies or specific measures or provide input to demand action for new issues that seem to violate public values (see advocacy process).

More often than not, the provision process indicates shortcomings with regard to some important public value for some stakeholder group. Despite the efforts in previous processes, public values in liberalized networked industries are predominantly being reported as under stress. The conflicting nature of policies as identified in the last stage is more or less bound to push out one public value for the other. Thus, different stakeholders interpret findings differently, focussing on different aspects and indicators and linking these effects to different public values. In the provision process, providers of infrastructure services, regulators, ministries, consumers, the media and politicians interpret these results, discuss their desirability and perhaps even (re)negotiate and redefine the meaning of public values. In the wake of these processes, researchers have commented on the unintended and/or undesirable effects of performance measurement systems (Cole & Cooper, 2005; de Bruijn, 2007; Moynihan, 2006; Smith, 1995; van Thiel & Leeuw, 2002). For example, how and what gets measured plays an important part in how the effects of certain decision and policies may be valued and whether stakeholders are able to claim success of failure of previous policies. In this sense, how regulators measure performance plays an important role (cf. Shuttleworth, 2005).

Some public values – for example equality – are less easily measured through indicators than for example efficiency or price. Consequently, these types of values tend to be underrepresented by regulators. A notorious example is that of efficiency versus quality of services (Picazo-Tadeo, Sáez-Fernández, & González-Gómez, 2008). Others have concluded that 'outsourced' or liberalized services tend to bring even more problems with regard to measuring performance (Frederickson & Frederickson, 2006).

Even though regulators and ministries have accounted for the effect that most infrastructure related services as now provided through private organizations, notorious systemic effects in networked industries have been identified. All too often, private provision of services in liberalized infrastructure industries has shown deficits and problems. A crowding out effect has been identified as some types of public values are sometimes sacrificed to more private values. Private infrastructure operators succeed better in the provision of short-term, concrete and clearly measurable values which are often more private in nature, at the cost of the longer-term, more fuzzy and large values that are often considered public (cf. Cole & Cooper, 2005). For example, public transport consumer interest group Rover critically monitored and assessed adjustments in the railway timetables that the Dutch national railways provided in 2007. The adjustment – praised by the railways as allowing for more intensive use of the tracks, and thus for more trains – actually increased travel time to certain destinations. In doing so, it turned out that the provision of one public value (more trains) which allowed for a more efficient provision of services had actually negatively affected the provision of another public value (transportation speed).

Despite ceaseless efforts of regulators to remedy these shortcomings through 'intelligent' or 'smart regulation', researchers have identified a portfolio of behaviour such as cherry picking, social dumping and cream skimming of private companies (cf. Graham & Marvin, 1994; Guy, Graham, & Marvin, 1997), a reduced attention to safety (e.g. Cole & Cooper, 2005; Walker, 2008) and a general lack of attention towards the long-term investments in infrastructures (cf. Arts et al., 2008; Houlihan, 1994). These effects occur as private providers of public services seek to balance the demands of the market with those of public values. Some argue that sophisticated efforts to introduce "smart regulation" that seek to reduce this type of behaviour actually makes these regulations "vulnerable to misuse" (Levi-Faur, 2006, p.:22).

Furthermore, the oftentimes fragmented regulatory system at various levels makes some wonder whether public values may be in good hand vis-à-vis large powerful private infrastructure providers (cf. Scott, 2006).

However, provision processes may also show different effects. They can show that public values may change or even may become less important in a privatized and competitive infrastructure governance regime (Blackman, 1995). The enormous speed in which technical changes occur in the telecommunications industry for example, has stimulated the debate whether the universal service obligation – one of key public values in telephony – should remain in existence in the future. Similarly, questions have been raised whether a highly reliable electricity provision should be enforced through public regulation in a liberalized market. Market incentives such as diversified reliability-based contracts, demand-side management or new markets such like back-up generators could reduce the need for public value regulation.

To summarize, the provision process plays a vital role in the assessment process whether and how public values are eventually achieved. After translating public values into more concrete operational norms in the bureaucratic process, public values clash with each other or other private values as infrastructure services are provided through private providers. Stakeholders that were identified in all previous processes (re)interpret the provision outcomes to 'construct' a story that explains what has become of the safeguarding of public values that were once decided in previous processes of the policy cycle.

Table 1. Summary of the four processes

	Advocacy	Political	Bureaucratic	Provision
Interface	Consumer/citizen-politics	Politics-government	Government-quangos	Quango-Infrastructure provider
Public value	'motherhood values' Claim No trade-off Abstract	Public value More substantiated and traded off	Transforms into norm operationalized	Output indicators
Key Activities	Audience seeking	Designation of public values Prioritization Creating support	Operationalization Negotiation	Reporting of key output indicators
Actors	Interest groups, representatives Media	Parliament Government decision makers	Ministries Quangos	Private infrastructure providers, Consumers, regulators
Mechanisms to safeguard/achieve public values	Media, Lobby	Political debate, laws, regulatory policy framework	Regulatory hand books, determination of norms	Ombudsman, corporate governance statements,

				contracts
Trade-off mechanisms that influence public values	Agenda-setting (trading-off by addressing topics in the public debate)	Instrumentalisation (trading-off by choosing courses of action)	Operationalisation (trading-off by adhering to procedures norms and criteria)	Watering down (trading off of reporting on specific results)
Abstract				Concrete

7. Conclusion

When looking at public values in infrastructures through the spectacles of policy science, we understand a number of issues somewhat better. The three issues we would like to draw attention to are

1. How public values develop from clouds of goodness to concrete norms and as such change character dramatically;
2. How in the various processes trade-offs are ubiquitous but of a very different character;
3. How the various processes are a form of feedback through the chain of processes.

1. From clouds of goodness to hailstorms of regulation?

This article analyses public values in Dutch infrastructures in four crucial processes in decision making process: advocacy process, political process, bureaucratic process and provision process. The first finding of this article is that the meaning of public values changes in each of these stages of the decision-making process, generally from more abstract notions to more concrete and specific products or goals. In each of these stages, new and other actors with different strategic orientations are key for the achievement of public values. When public values are discussed in the media, when the lobbying or voting citizen addresses the democratic representatives, the public value generally stands alone and is formulated in a very generic way. We could call them *clouds of goodness*: generic and attractive concepts. The railways should be *safe*, telecommunication services should be *efficient*, and competition for levy construction should be *fair*. These values are irrefutable and often presented as absolute. However it is very unclear at this point what this eventually will mean for the sector when a certain implementation of safety, efficiency or fairness is chosen.

And a single project might enter this process several times. When a recent collapsing levy is on the agenda, the cloud of goodness is safety. When the project to improve the levy is under scrutiny because of possible fraud, the tendering should be fair. When years later the dam was renewed with substantial cost overruns, the efficiency should be improved. Three clouds of goodness are casting their shadows on the coastal defences, often reacting to perceived failure but rarely seen as interacting values.

In the other processes values change character. They become more tangible. In the political process, debates focus slightly more on the form of implementations, allowing for a better perspective on the effect on other values. For example, a strong focus on safety at a rail infrastructure manager might hamper innovative concepts that could help battle congestion. The debate in parliament might focus the attention to that trade-off. In the bureaucratic process the intervention matures. However, the attention for trade-offs diminishes, as specific administrative units prepare the intervention after parliamentary blessing. Public values often become hard norms or procedures. Efficiency is tendering under the European Directive Services for all projects larger than €206.000. Fairness is a public transport price at a set maximum. Safety is 21 percent less fatalities in 2010. The public value reaches its mature state.

All too often, the end-result is considered a faint remnant of the original cloud of goodness. Finally, all these interventions to secure the public values reach the provision process and there they stand in isolation no more. The interventions all land in the same work processes, significantly undermining their pinpointed accuracy. The main cause here is the trade-off. We will discuss that in more detail below.

2. Continuous trade-offs

The second finding is that public values are negotiated all the time and it is a myth to think that prioritization takes place solely in the political domain: other processes are as decisive. In the advocacy process voters, media and pressure groups influence agenda setting heavily. Public values are presented as clouds of goodness: they are fuzzy but clearly attractive. Here, the first trade-off occurs between various public values, some possible public values never make it, for example as they are not mediagenic.

One might expect the political process to be the best locus for dealing explicitly with trade-offs: politicians making balanced and integrated choices. Paradoxically, in the political process the trade-off between different public values is generally implicit. One could argue that the sheer variety of public values passing through the political process does hamper that kind of balanced and integrated choices. As a result, the public values are still treated largely as clouds of goodness by their proponents in this process. The opposition might try to link the effect of proposed measures to other public values to show the trade-off, but generally democratic representatives treat public values here in relative isolation. The measures discussed are generally not specific enough to recognise the trade-offs in this stage. So, public values are treated sequentially with limited interaction them.

The bureaucratic process provides a backdrop for a different form of trade-off. Here the budget distribution amongst departments and units can have trade-off effects. Various ministries and departments focus on various values. As a consequence, their budget negotiations implicitly contain the trade-off between various values, between the funding higher levees or new railroads. This process is generally only loosely coupled with the outcome the political process, because of earlier commitments and inertia.

Finally, in the provision process the trade-off reaches a peak. The production process of infrastructure related services is conditioned by many different interventions from the different ministries, departments and regulators, often leading to conflicting values, including private. It could be described as a hailstorm of regulation, pulling and pushing the sector in different directions. And in the day-to-day choices the influence of all these different stimuli is watered-down in their multitude. It might turn to a drizzle of regulation, simply because of the fragmented multitude of regulation. In addition, those values secured through the strongest interventions displace those interventions that left more room for manoeuvring and interpretation.

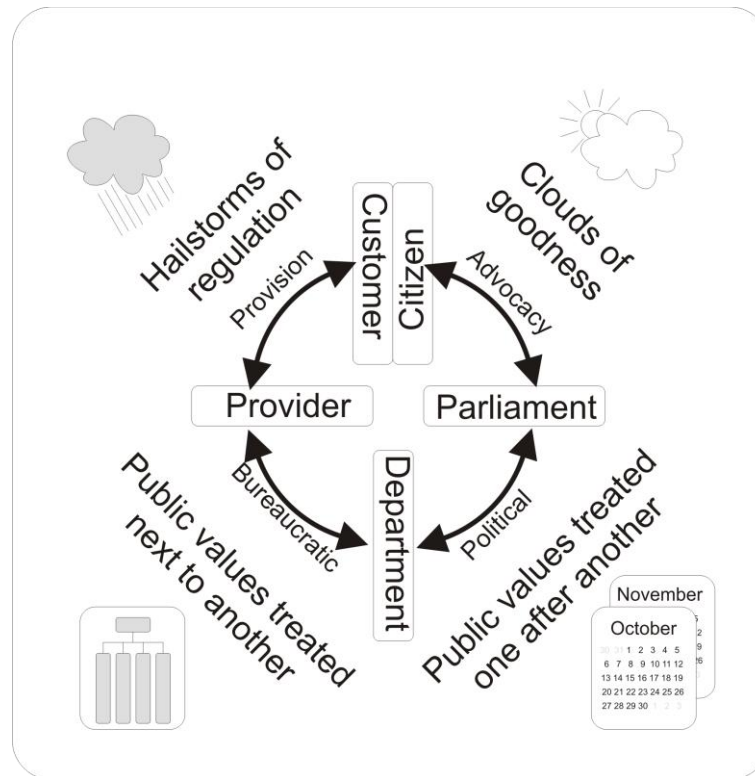
The ongoing operationalization of public values in the advocacy, political, bureaucratic and provision processes stages, constantly deals with trade-offs. In table 1, the influence of the dominant trade-offs on the public values are described. In the advocacy process, trade-offs in the form of agenda-setting processes determine the relevant topics that 'develop' in the public debate. In the political process, trade-offs are made as political decision makers choose strategies of action and decide that certain bureaucracies deal with certain problems. Via this process of 'Instrumentalisation', categories of solutions are pre-selected over other possible solutions. In the bureaucratic process, procedures and routines enter the decision making process and further mould and shape the available 'solutions' to match the existing problems. Finally, a last round of trade-offs is made in the provision process as original goals and targets that are watered down to the extent that can be measured, monitored and managed. By now, it would not surprise the reader that all these trade-offs can profoundly change the character of the public value and the power of the intervention considerably and sometimes even principally.

At present, most attention in theories of public values in public administration is geared towards the political process. On the basis of our analysis and the review of the body of knowledge in public administration, more attention should be devoted to the other three processes to understand the possible success of a proposed intervention on the target public value and others.

3. Feed back mechanisms

A final implication concerns feedback mechanisms. These feedback mechanisms result from the different trade-offs that occur in the different phases. We could picture these mechanisms as identified in the processes described above, in Olson's (1978) parliamentary governance circle.^v A two-faced creature is at the top of this governance circle on the one hand voicing and voting to pass his opinion into the "governmental system" and on the other using and buying services from the other end. The civil-customer is confronted on one end with the clouds of goodness, on the other hand with provision in which the clouds of goodness ended up in watered-down trade-offs. The promise at 2 o'clock is not always recognizable at the realization at 10.

Figure 2: A visual representation of decision making processes and their feedbacks



There are reasons for that. Some sad and some good, but all processes have their reasons why public values have to change character when they pass through, again for the worse and for the better. When we see the discrepancy between promise and realization as a problem, we could argue two ways. One, make sure that the processes allow for the promise to be realized. Two, make sure that the promise given in the advocacy and political process reflects the changing character of public values in the bureaucratic and provision processes. We would argue here that the second is the more realistic, although challenging.

These three important implications are the basis for a new strategy towards achieving public values, acknowledging the role of trade-offs, the discretionary room of bureaucrats and infrastructure companies and the importance of feedbacks may result in a search for more balanced safeguarding mechanisms. This requires that policy makers that take an active interest in public values should not only focus on the political process, but maintain an interest throughout the decision making process.

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ⁱ Often supported by the tendency of many infrastructures to 'evolve' towards a natural monopoly (cf. (de Bruijne, 2006)pp. 29-36).

ⁱⁱ Cf. Tweede Kamer 1999-2000, 27018, no. 1

ⁱⁱⁱ This visual representation was inspired by a figure by Olsen, J.P. (Ed.) (1978). *Politisk Organisering*, Bergen: Universitetsforlaget.

^{iv} See also Sabatier, P.A. (Ed.) (1999) *Theories of the Policy Process*, Westview Press, Boulder.

^v See note 3.