# DEFINING THE PUBLIC VALUES IN AIRPORT DEVELOPMENT DECISION-MAKING

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## ABSTRACT

Residents, businesses, local, state and national government stakeholders all want to have their say when airports expand or develop. While stakeholder engagement is increasingly a strategy employed for managing the tensions attracted to airport development, different stakeholders have different expectations and demands of airports. This requires different approaches to stakeholder engagement. Identifying the public interests that are at stake in developing airports provides an initial step towards building a platform for selecting and applying stakeholder engagement strategies in airport and more general infrastructure contexts.

This paper uses the existing literature of public interests and values to build a general typology of public values for the stakeholders of airport development. A range of semi-privatised and state owned airport case studies from Europe have been used to demonstrate the universal nature of the identified values. The result is a framework that identifies both the substantive and procedural values, separated into local, state/regional and national levels of interest. The typology provides a generalised view of public interests in airport development; however, the public interests identified may be limited to more western oriented societies due to the skew of airport cases reviewed.

Contributions are made to the literature with a typology of public values derived from existing knowledge and explored using empirical case examples. The provided typology enables research of airport development decision-making to delineate public interests both within and between stakeholder groups, and helps to explain the different perspectives that stakeholders have towards airport development. Future research may focus on refining the typology for different types of airport governance structures, such as differences between public values in state and market-led airport development; include more airport cases from eastern societies to draw parallels or differences between western and eastern societies; or utilise the typology as a framework for analysing changes in public interests of airports over time.

# 1. INTRODUCTION

Airport growth and development is often advocated as being in the *public's interest*, providing more airport related jobs, greater accessibility, and improving opportunities for new and improved business to their regions. Urban encroachment on airport boundaries increases the number of stakeholders that are effected, be it positively or negatively, by airport development Should opposition to a development be great enough, airports may face consequences that limit their ability to grow with market demand. Consequences limiting future aviation growth include operating curfews, capacity limitations, noise levies to compensate impacted residents, or in extreme cases lobbying to close airports altogether. Understanding the interests, or values and roles, that different stakeholders share for airports is important for developing long-term plans for airport, local and regional growth. By developing plans that appreciate the values shared amongst the different stakeholders it is envisaged that opposition and discontent to airport growth can be reduced.

Taking the underpinning values of all stakeholders in account for airport development is likely be an impossible task. However, the authors consider that identifying and understanding the underlying values that stakeholders attribute to airport development is an important step towards reducing stakeholder backlash. This paper provides a typology of identified public values for airport development with the aim of enlightening airport development decision makers of the underlying values of their stakeholders. To meet the abovementioned aim Section 2 will define public values, stakeholders in airport development and airport decision makers in the context of this paper. The method for refining a set of airport development related public values is then detailed in Section 3. Section 4 provides initially a refined list of airport development related public values. Section 5 uses the case of Amsterdam Airport Schiphol as a marquee case to show how issues identified by the Dutch Government represent a range of different public values. A range of smaller airport cases from around the world are then presented in Section 6, highlighting the relevance and consistency to which the identified values can be applied internationally. Findings, limitations and discussions for future research conclude the paper in Section 7.

Contributions are made to public values literature by providing a typology that adds to previous works focusing on applying public values to 'real world ' contexts (see Blumstein 1999; De Bruijn and Dicke 2006; Furneaux, Brown and Allan 2008; Van de Riet and Turk 2006). Further, airport decision making literature and practice benefits from the airport development focus of the forwarded typology, and enables decision makers to better understand the various perspectives taken by different types of stakeholders. The research forwarded in this paper also invites debate to the suitability of the identified public values for airport development decision making, which is appropriate at present as airport development appears at the fore of many government agendas globally.

# 2. RESEARCH METHOD

The literature surrounding public values appears well developed towards identifying societal values that are important for general day-to-day issues (see Jorgensen and Bozeman 2002, 2007), but remains underdeveloped in identifying the core values that are at stake in specific societal issues. This section describes the qualitative methodology used to refine a set of airport development specific public values from the identified general list of public values provided by extant literature (see Section 2). The result is a typology of public values that shows the devolution from normative, ideal values for airport development to the more specific public values associated with strategic (supplier) and operational (airport user) stakeholders.

## 2.1 Research design

A recent report provided by the Airport Metropolis Project to the Commissie Ruimtelijke Ontwikkeling Luchthavens (Commission ROL) highlights current issues faced by Dutch decision makers when considering the future of airports. These current interests included the "safeguarding of public interests" (Appold et al. 2008, 5). Fittingly we have chosen the CROL report to serve as a 'test bed' for identifying and sorting public values in airport development. Developing the typology of airport development public values required many brain storming sessions, comparisons to data, and iterations from one airport case to the next. While the actual process was largely disjointed and iterative, reflecting on the experience provides a simplified process that is representative of the research process. Figure 1 demonstrates the general steps taken to devise the typology, with a more detailed explanation provided in the seven steps listed after.

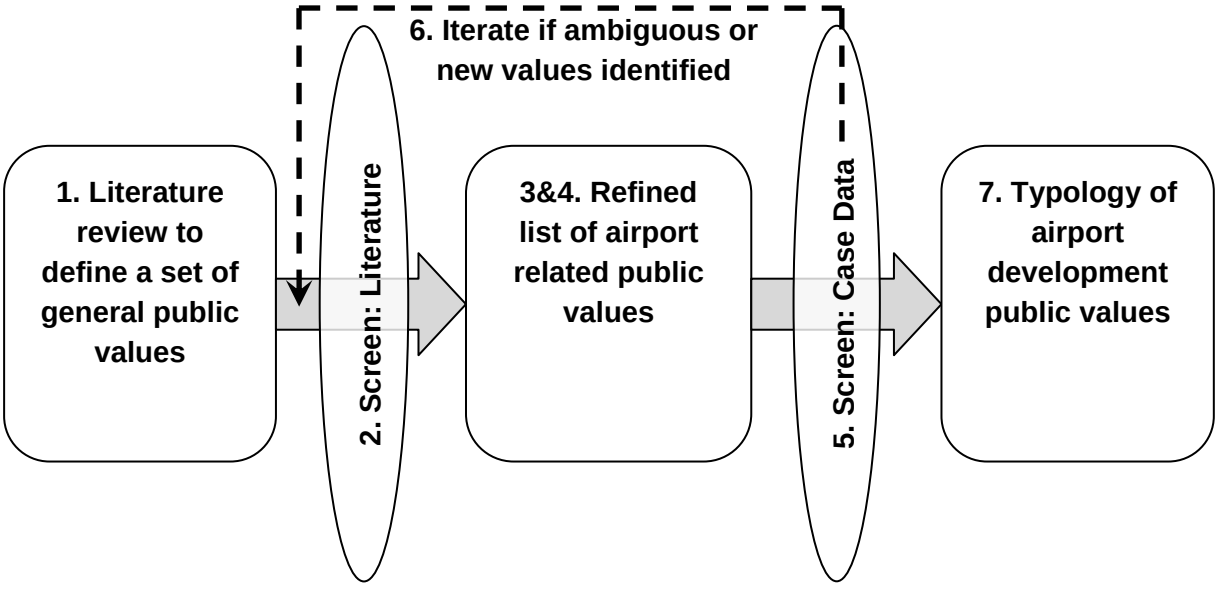


Figure 1: Process for developing airport development public values typology

1. A literature review was undertaken to identify a general set of public values from which a refined set for airport development could be distilled (see outcomes of literature review in Section 3).

2. Step 1 identified values that and frameworks that appeared well suited for our exploration of public values in airport development. Three works in particular formed the core focus of the study; 1) Van de Riet and Turk's (2006) infrastructure development framework, 2) De Bruijn and Dicke's (2006) values for public utilities, and 3) the comprehensive list of public values provided by Jorgensen and Bozeman's (2007). Section 3 provides justification for their selection. Using elements of Van de Riet and Turk (2006) and de Bruijn and Dicke (2006), a framework for identifying and arranging airport development public values was created. The framework consists of society values, strategic values and operational values on one axis, with substantive values and procedural values on the other (see Table 1).
3. Brain storming over Jorgensen and Bozeman's (2007) set of public values, the individual cells within the framework were then filled. This started with identifying normative (ideal) values and drilling down to more specific strategic and operational values. Where values were not classified under an existing normative value, further brainstorming was required to identify underlying normative ideals, which were then inputted into the framework, and the process repeated.
4. The framework containing the airport development public values was then broken down in to procedural and substantive values, using the insights gained from De Bruijn and Dicke (2006). This created a "rough draft" for the typology of airport related public values.
5. Applying the "rough draft" first to the airport case studies from the Commission ROL report (Appold et al 2008), and then to the key informant interview data, the identified public values were screened for their application within each data set. Or more simply, by asking of the data *"can we see evidence of the identified public values within the data (be it for measures in place to protect, calls from stakeholders for their protection, or actions by stakeholders to pursue the identified values)?"* each value was screened for its "fit" to what was seen across all of the included airports.
6. If an identified public value clearly did not fit with the reality of what was happening at airports the value was discarded, but for a few of the values it was ambiguous as to whether it did or did not fit, and some values were unexpectedly identified within the data. The ambiguous and "new" public values were reviewed against the literature to see if a similar value better suited the situation (compared to the ambiguous cases) or if the newly identified value could identify with any of the normative values found for airport development. Any of the public values that passed this iterative "testing" were then inputted into the framework to revise the typology "rough draft".
7. The iterative process was completed when no new or ambiguous public values were identified from the draft typology, providing a tested typology of airport development public values.

## 2.2 Data collection

Data was collated from three sources; existing literature for public values, key informant interviews, and case studies from the Commission ROL report (Appold et al. 2008). Key informant included respondents from within the decision making networks of five major airports across five European countries. Key informants were selected via a snowball

sampling strategy beginning with the Europe's Airport Regions Conference (ARC), and spreading into affiliated academic, government and airport professional networks. Respondents included airport managers and representatives, government representatives (typically from local and regional government offices and planning agencies), and university Professors. The primary network (ARC) was chosen for its mingling of government, business and academic perspectives and for the intention of gaining access to airport decision makers. Respondents were selectively chosen for their extensive knowledge of their represented airports, particularly of concerns between airports and their local and regional communities, and airport histories.

Key informants were interviewed via phone and face-to-face in the English language. Interviews were originally intended to be semi-structured and open ended to promote richness of detail and context (Yin 1994), however the majority of the informants spoke English as a second language which imposed some unanticipated hurdles. Without resources for translation the interview remained in English however the structure was refined to include greater detail in context and background to each question, often including examples of issues seen in other types of infrastructure development to guide each respondent. Additionally, questions and research briefs were emailed to respondents two days in advance of each phone call interview to ensure respondents were prepared and could read from a script if needed. In some cases respondents chose not to participate in the research as they felt they did not have the appropriate experience to answer the questions. The majority of these respondents referred us on to an appropriate contact who could answer the provided questions. Most airport cases had multiple respondents which improved the triangulation of data sources (Yin 1994) for identifying key issues and values at stake within each case. Data from airport cases without multiple respondents were screened against relevant legislation, land use plans and media documentation to validate responses.

# 3. LITERATURE AND DEFINITIONS

## Public values

Public value is a fundamental building block for defining societal actors' perceptions of what is important. Public values are a normative understanding of the rights, obligations and principles that should (ideally) form the foundation of publicly acceptable decision making (Bozeman 2006). Refining and defining public value from its abstract conceptualisation has been approached from many scholarly fields, using many different approaches (Bozeman 2002), and there appears to be little consensus between applications of existing concepts of public value (Charles, Dicke, Koppenjan and Ryan 2007). As Bozeman clearly states, "a lack of consensus on public values tempers our ability to develop simple analytical tools" (2002, 150). From what we can best distil from the literature, public values can be dissected to different levels of aggregation, or higher versus lower levels of abstraction, and proximity to one another, or how related one value is to another (Jorgensen and Bozeman 2002; Jorgensen and Bozeman 2007; De Bruijn and Dicke 2006).

Using Jorgensen and Bozeman's (2007, 370-372) idea of proximity of values, it is not difficult to envisage contextual and stakeholder factors that may influence the dominance of different public values, particularly at a lower, more focused levels of value abstraction. So while public values may be shared universally at a high level of abstraction, particular contexts and conditions may lead stakeholders to legitimise or identify with particular public values more than others. The idea that public values are less prominent in some cases than others has already been suggested by Jorgensen and Bozeman's (2002), and is supported by De Bruijn and Dicke's (2006) identification of a number of prior studies specifying particular public values for particular contexts.

As further noted by De Bruijn and Dicke (2006, 719), values can be split into substantive values and procedural values, where procedural values are standards that define 'correct actions' by controlling organisations, and are presented by the authors as universally appropriate across contexts "when producing goods and services that are collective goods or common goods" (De Bruijn and Dicke 2006, 719). Substantive values are defined as the responsibilities for safeguarding continuity of service, affordability, user and consumer protection and quality of service for public goods and services.

The public values used in the presented study have been taken from Jorgensen and Bozeman's (2007) inventory of public values. While the use of their list of values may miss a number of nuances provided by other authors in the field, it is perhaps the most comprehensive review of public values to date. The selection of Jorgensen and Bozeman's (2007) list of public values was purposeful for providing a baseline of values from which to pick and choose appropriate values for the context and themes that may emerge from the data.

## Stakeholders in airport development

Recent studies on public values have focused on the nuances between the public values held by different types of stakeholders (De Bruijn and Dicke 2006; Van Gestel, Koppenjan, Schrijvers, Van de Ven and Veeneman 2007). The differences of stakeholder perspective is important, particularly for airport development decision making, as stakeholders are likely to hold different beliefs and responsibilities to one another that influence their roles they adopt in the decision making arena.

Airports have many stakeholders, both inside and outside of the airport fence. In line with appreciating the different perspectives that stakeholders take, and also for practicality's sake, we classify airport development stakeholders using Van de Riet and Turk's (2006) clustering via 'point of view'. As described by Van de Riet and Turk:

> "The *society* view captures the perspective of the community or all stakeholders that are affected by the infrastructure. The *user* view represents the perspective of each separate actor (an individual or organisation) that uses or receives the services provided, irrespective of

> the quantity demanded. The *supplier* view captures the perspective of the diverse organisations that provide the desired services" (2006, 160).

Van de Riet and Turk's (2006) clustering of stakeholders requires some modification for the context of airport infrastructure; in particular, the nuances associated with *user* and *supplier* perspectives are somewhat confusing as airports are increasingly "provided" by (wholly and semi) privatised entities, and the services provided by airports are consumed by community, government and private actors. With a focus towards development related decision making, rewording the clustering of stakeholders to society, strategic, and operational views better envelopes the more complex arena of provision and consumption of airport services:

> *Society* values capture the perspectives of the community of stakeholders that are impacted by airport infrastructure. Due to the aggregation of a broad range of actors (residents, businesses, government agencies) within the *society* clustering, their combined interests become the overarching ideals that guide a sense of what is right or wrong across contextual environs (not just for airports).
>
> *Strategic* values for airport infrastructure and decisions for their development are tied closely to economic rationality, ensuring that the provision of airport infrastructure balances consideration for environmental, community, and business (airport operator) sustainability.
>
> *Operational* values embody the salient interests of stakeholders that consume the services provided by airport infrastructure; services that include passenger and commercial access to providers of aviation transportation, and the provision of infrastructure for aviation-related businesses (including airlines, freight, maintenance, training).

The broad perspectives of society and the more focused values of operational stakeholders are relatively straightforward to rationalise. However, defining the strategic interests for airports requires more consideration. The following sub-section provides a brief perspective of the dynamic, strategic values at stake for airport operators and decision makers. Suitably, the discussion of airport decision maker motivations acts as background for screening Jorgensen and Bozeman's (2007) suite of public values for strategic orientation.

## Airport decision makers

While airports are increasingly divested from state ownership and control, it is arguable that they still provide the same basic service as providers of access to aviation transport. While (privatised) airports are increasingly responsible for their own revenue streams (often hedged through non-aviation development) the heavy regulation of airports leads us to consider privatised and state airports as similar in the public values they must consider.

For the purpose of the presented study we define airport decision makers as the government representatives and agencies, private organisations and authorities that have legitimate

influence over decisions to approve expanding, developing and maintaining airport infrastructures and capacities. These include airport controlling organisations such as airport authorities and private consortiums, and development approval bodies such as government ministers and oversight commissions. Therefore the *suppliers* of airport development are tasked with identifying and considering a range of strategic issues, such as the impact of development on national, regional and local stakeholder agendas, and the ability of airports to continue providing access to aviation services into the future.

The developed typology (Section 4) builds upon Jorgensen and Bozeman's idea of prominent values (2002) and proximity of values (2007), and De Bruijn and Dicke's (2006) split of substantive and procedural values by providing a framework in which a context's public values can be arranged by stakeholder/abstraction and substantive/procedural nature. Following the steps outlined in Section 2, the following section provides a summary of the steps taken to build and apply the methodology to the case of Amsterdam Airport Schiphol.

# 4. REFINING PUBLIC VALUES FOR AIRPORTS

Table 1 provides the typology of airport-related public values we developed. The table makes a distinction between substantive and procedural values on one hand; and normative, strategic and operational levels on the other hand. Applying Jorgensen and Bozeman's (2002 and 2007) views of aggregation and abstraction within the airport development values context, we considered each of the above views as taking on new meanings. *Society* views are at a high level of abstraction by nature as they are required to encompass the entire stakeholder population for airport development. Based on the normative requirements of the 'view' we describe *society* views as the 'ideals' set by the community of stakeholders. Similarly the provision (or *supply*) of airport infrastructure requires a number of 'strategic' standards be maintained. *Users* of airport developments share a number of highly particular service related, or 'operational' interests in development outcomes, such as affordability, access to service, see Section 4 for more).

Table 1. Public Values Typology for Airport Development

| General categories | | A. Society | B. Strategic | C. Operational |
|---|---|---|---|---|
| **Substantive** | Price, costs and revenue | • Affordable prices for all segments of society<br>• Societal costs are shared amongst the beneficiaries | • Effect Equity (distribution of gains and losses)<br>• Efficiency<br>• Maximum revenue for service | • Affordability |
| | Service quality | • Universal or comparable access<br>• Welfare and wellbeing that the public receives from the airport<br>• Airport service meets demand | • Effectiveness of Goal Realization<br>• National Accessibility and Mobility | • Availability of Service<br>• Capacity to Service<br>• Accessibility and Speed<br>• Reliability (travel times known etc)<br>• Quality and Comfort (maintenance)<br>• Service Robustness and Flexibility<br>• Aesthetic Experience |
| | Environmental effects | • Minimizing resources affected<br>• Minimizing the depletion of resources | • Physical Footprint<br>• Environmental Footprint<br>• Landscape<br>• Noise Hindrance<br>• Emissions | |
| | Social effects | • Safety of everyone<br>• Security of everyone<br>• Health of everyone | • External (3rd party) Safety | • Safety of Individuals |
| **Procedural** | Good governance | • Where decisions are formulated in the best interests of the public | • Adaptive Systems that can handle new circumstances<br>• Creative and Innovative Capacity<br>• Coordination<br>• Regime Stability | • Equity in the Treatment of Actors<br>• Transparency and Openness<br>• Democracy<br>• Trust and Reliability of Actors<br>• Following Due Process |

# 5. APPLYING THE TYPOLOGY TO THE SCHIPHOL CASE

Amsterdam Airport Schiphol provides a compelling case for the need to explore public values for airport development; Schiphol has a long history of expansion in the interests of national prosperity. The airport's success has not been without hassle, and has attracted considerable attention from community lobbying groups, businesses and government bodies; some supporting the airport, other opposing its continued development (see Appold et al. 2008, pp. 1-14 for more detail). In an attempt to identify contentious issues relating to Amsterdam Airport Schiphol, the Commission ROL consulted with a wide range of stakeholders and experts by means of face-to-face interviews. They identified the following

15 significant issues related to the ongoing development of Amsterdam Airport Schiphol (Appold et al. 2008):

1. Airside spatial planning has a large impact on the spatial patterns on the ground (i.e. aviation creates space scarcity on the ground). However, policy making is unconnected (i.e. airport policy making takes only the goals for aviation and noise hindrance into account).
2. The gains and losses of aviation are unequally spread (an aspect that is not taken into account in the obligatory societal cost-benefit analyses).
3. There are tensions between the national goals (mainly accessibility and noise hindrance), the regional goals (mainly regional economic growth) and the local goals (growth of the airport as such).
4. Ambiguous public policy:
   - The national and regional government are in conflict about the need to reserve land for a possible new runway
   - The Schiphol competitive position is one of the central goals of the national government. However, recently, the central government has introduced special air taxes, which has decreased the competitive position of Schiphol considerably
   - The spatial-economic relation between the airport and the surrounding region is non-existent in policy making.
5. Schiphol combines many different roles and interests as it:
   - Is responsible for the airport
   - Is (co-) owner of many regional airports in the Netherlands
   - Has own 'land acquisition company'
   - Has direct access to central government

   In this way one runs the risk that (1) the commercial interests dominate over the public interests resulting in suboptimal solutions from a societal point of view (2) the prices charged by Schiphol are too high ('market power').
6. The regional government has also 'double' goals (safeguard public interests and land development This is ok if there is transparency etc. The latter is questioned.
7. The national government and the municipalities of Amsterdam and Rotterdam own (part of) the airports. This can potentially lead to conflicts with the public interests.
8. Lack of integrated spatial planning for the areas around Schiphol (only partial decisions: decisions for part of the area or from only one point of view).
9. Each government actor is aiming at its own interests, they do not work together and no actor is mediating or steering.
10. Regional airports and local governments fight against Schiphol and KLM.
11. The position of Schiphol is threatened due to (1) a lack of integral, spatial-economic vision on the Schiphol region (2) dependency upon home carrier KLM, which does not necessarily stay at Schiphol
12. More court cases (although this is questioned)
13. Schiphol benefits from the spatial reservations for possible additional runways result, but does not pay for the (large) opportunity costs

14. The land reservations instrument is hardly used by the government. As a result, the government has to monitor constantly which ground activities are going to be undertaken.
15. There is general dissatisfaction with the existing establishment policy.

Using the above pre-defined issues as the context for applying the developed typology, Table 2 highlights the public values that appear embedded within each of the issues. The identified values form an inventory; representing the public interests that are at stake within each issue/debate - however no salience, or importance, has been assigned to the values. Values have been arranged by their higher order values (society, strategic and operational) to highlight links between values and issues. A brief synopsis of each issues' evaluation is provided in the Appendix to further elaborate the interpretation of the typology on the set of Schiphol issues, and is arranged by issue rather than by value.

Table 2 represents the values identified within the discourse of each of the Commission ROL's aforementioned issues, and does not discriminate between values that appear to be 'at stake' (under duress) or values that are reinforced (protected). Exemplary of this point is Issue 10; the values associated with regional airports and local governments fighting against KLM and Schiphol upholds a number of public values. For example, to stop regional airports and local governments from challenging decisions made by Schiphol and KLM would place the values of democracy and coordination at stake, however regime stability may be better protected. This example demonstrates that 'proximal' public values may compete with one another given the nature of the issue at hand, and supports Jorgensen and Bozeman's (2002) ideas that public values are given prominence through changes in context.

Interpretation of Table 2 clearly shows the Commission ROL's issues for Schiphol Airport are dominated by price, cost and revenue values, and good governance values. It is unsurprising that the issues are dominated with values of good governance due to the mandate driving the Commission ROL's research activities (see Appold et al. 2008). The interpretation does not mean to indicate that there is a vacuum of public value representation for the unidentified public values within the typology. However, interpretation does show that the issues raised by the Commission ROL were not identifiable with all values.
The spread of issues across many types and levels of public value, for example Issues 5 and 13, may indicate intractable or highly complex issues, particularly as both example issues appear to be part of a long-standing argument within policy circles (see van Eeten 2001). As outliers the implications from Issues 5 and 13 do not necessarily indicate that other issues are not problematic to solve, however they are exemplar complex issues that arise when stakeholder values compete with one another. At the other end of the 'issue complexity' spectrum, Issues 14 and 15 present themselves as relatively simplistic for rationalising 'the problem' (see Synopsis in Appendix).

The typology presented in Table 1 appears to work effectively for identifying public values associated with the issues presented by the Commission ROL for Schiphol Airport. However, it is also important to consider the external validity of the typology. Differences in regional aviation volumes, competition, and regulatory arrangements may limit the typology's

Table 2: Public values at stake for the issues identified for Schiphol

| | **Identified Value** | **Related Issue** | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **Price, cost and revenue** | Affordable for all segments … | | | | **X** | | | | | | | | | | | |
| | Societal costs are shared … | | **X** | | **X** | | | | | | | | **X** | **X** | | |
| | Effect Equity | **X** | **X** | | | **X** | **X** | | | | | | | **X** | | |
| | Efficiency | | | | **X** | | | | | | | | | | | |
| | Maximum Revenue for Service | | | | **X** | **X** | | | | | | | | **X** | | |
| | *Affordability* | **X** | | | **X** | **X** | | | | | | | | | | |
| **Service quality** | Universal or Comparable Access | | | | | | | | | | | | | | | |
| | Welfare and Wellbeing … | | | | | | | | | | | | | | | |
| | Airport Service meets Demand | | | | | | | | | | | | | | | |
| | Effectiveness of Goal Realization | | | | | | | | | | | | | | | |
| | National Accessibility and Mobility | | | | | | | | | | | | | | | |
| | *Availability of Service* | | | | | | | | | | | | | | | |
| | *Capacity of Service* | | | | | | | | | | | **X** | | | | |
| | *Accessibility and Speed* | | | | | | | | | | | | | | | |
| | *Reliability* | | | | | | | | | | | | | | | |
| | *Quality and Comfort* | | | | | | | | | | | | | | | |
| | *Service Robustness and Flexibility* | | | | | | | | | | | | | | | |
| | *Aesthetic Experience* | | | | | | | | | | | | | | | |
| **Environmental effects** | Minimizing Resources Affected | | | | | | | | | | | | | | | |
| | Minimizing Depletion of Resources | | | | | | | | | | | **X** | | **X** | | |
| | Physical Footprint | | | | | | | | | | | **X** | | **X** | | |
| | Environmental Footprint | | | | | | | | | | | | | | | |
| | Landscape | | | | | | | | | | | | | | | |
| | Noise Hindrance | | | | | | | | | | | | | | | |
| | Emissions | | | | | | | | | | | | | | | |
| **Social effects** | Safety of everyone | | | | | | | | | | | | | | | |
| | Security of everyone | | | | | | | | | | | | | | | |
| | Health of everyone | | | | | | | | | | | | | | | |
| | External Safety | | | | | | | | | | | | | | | |
| | *Safety of Individuals* | | | | | | | | | | | | | | | |
| **Good governance** | Decisions are Formulated in the … | | | **X** | | **X** | | **X** | | | **X** | | | | | |
| | Adaptive Systems | **X** | | **X** | | | | | **X** | | | **X** | | | | |
| | Creative and Innovative Capacity | | | | | | | | | | **X** | | | | | |
| | Coordination | | | | | | | | **X** | **X** | **X** | **X** | | | | |
| | Regime Stability | | | **X** | | | | | | **X** | **X** | | | | | |
| | *Equity in the Treatment of Actors* | **X** | **X** | | | **X** | | | | | **X** | | | **X** | | **X** |
| | *Transparency and Openness* | | | | | | **X** | **X** | | | | | | | | |
| | *Democracy* | | | | | **X** | | | **X** | | **X** | | | | | |
| | *Trust and Reliability of Actors* | | | | | | | | | | | | | **X** | | **X** |
| | *Following Due Process* | | | **X** | | | | | | | | | | | **X** | |

application beyond European boundaries – especially as much of the developmental brainstorming was focused towards identifying public interests for one of Europe's largest airports. As an initial (not exhaustive) attempt to verify whether the typology can work beyond a single contextual/institutional setting, Section 6 pilots the typology in to issues experienced by other airports around Europe, with European airport data from Appold et al. (2008) cross-referenced with key informant interview data for identifying public interests within each case.

# 6. APPLYING THE TYPOLOGY TO OTHER CASES

Four major airports from four European countries were used as mini-case studies for applying the public values typology for airport development across a range of operational and governance contexts. The airports include...

- London Heathrow (UK)
- Barcelona (Spain)
- Munich (Germany)
- Vantaa (Finland)

... to represent a range of ownership structures (semi-privatised and government owned) and operational capacities. The four mini-cases are not exhaustive, however they have been purposively selected due to their recent development histories (within airport boundaries and also extending into the air front (see Blanton 2004), which appear rife with debate on both substantive and procedural values.

The following sub-sections provide a brief description of a key issue for each airport case, identified via Appold et al. (2008). The public values embedded within each case were identified through key informant interviews (described in Section 2). Table 3 (in Section 7) provides a summary of the public values identified as "at stake" within each of the mini-case studies; Schiphol (AMS) has also been included in the table for reference.

## London Heathrow (LHR)

London Heathrow has undergone massive expansion in recent years, and is expected to continue growing. Arguments for London Heathrow's continued expansion revolve closely to regional economic inputs. BBC News reported that to not expand at Heathrow would be "throttling the very international links Britain was built on" (14 January 2009). The airport is entrenched in its surrounding urban environment, meaning that any future expansion needs will likely require the resumption of urban land for airport use. Should plans for expansion, operational or physical, be approved by the National government*, the airport has the authority to resume land on the basis of fair compensation to land owners. Regardless of compensation for the market land value, local governments and residents see this as a form of 'taking'. One respondent noted that...

> "[...] residents feel as though they are left out of the process [...] unable to say no and unable to bargain for the best price of their property."

Reviewing the issue of land resumption for airport expansion, strategic interests of national accessibility, effect equity, physical footprint and coordination are all easily identifiable. Tied to the legislation for land resumption are interests regarding the equity in the treatment of

actors and democracy. Service quality (as a proxy for airport service that meets demand) was the only society level value identified within the case documentation and interview data.

**The authors acknowledge that the recently formed government have scrapped plans for a third runway at London Heathrow (BBC World News, 12 May 2010).*

## Barcelona (BCN)

Barcelona Airport sits between the urban environment of El Prat de Llobregat, wetlands of Estany de la Ricarda and Estany del Remolar, and the coastline of Can Camins. Plans to expand the airport's infrastructure with a third runway to meet growing demand were overseen by the industry independent regulator, Aena. Legislative requirements for airport planning approval include negotiations between the airport planners and local governments to ensure development outcomes represent the needs of both the airport and the surrounding municipalities.

Preliminary plans had the runway at the edge of the coastline at Can Camins, replicating the airport's original 07/25 (11,000ft) runway, however the local government was strongly opposed to the plan, with interviews highlighting fears of the proposed runway destroying local wetlands and removing public access to the local beach. Suspicions were also voiced within local government that the placing of a new runway:

> "we know a new runway has to happen, but building a runway so far from the existing [07/25] runway allows future [proposals] for a third 07/25 runway between the two, bringing more planes, more noise, more traffic."

Negotiations resulted in the runway being moved some 500m back from the coastline to ensure public access to the local beach. Additionally the runway was shortened to protect wetlands at the ends of the runway. The public value implications of the development issue (and outcome) are exhaustive, and include: welfare that the public receives from the airport (protecting beach access); airport service meeting demand; implications to national accessibility; minimising the depletion of environmental resources (wetlands and beachfront); physical and environmental footprints; landscape; noise hindrance; good governance; adaptive decision making systems; creativity and innovation; coordination; equity in the treatment of actors; democracy and following due process.

## Munich (MUC)

Strategic decisions to expand airports in Germany are made at the State level to ensure national and regional goals are protected, however the final planning and implementation of airport development is overseen at a more local level. The development of Munich Airport required the relocation of residents from the small town of Franzheim, highlighting the competing interests of national/regional aviation goals and requirements, and local considerations of how to fairly resettle citizens from their town.

In order to deal with local stakeholder issues, a system of public arbitration was created, inviting commentary, requests for changing plans, and requests of compensation due to development and relocation impacts. Decisions made by the arbitrator for Munich Airport's development were given binding authority, and reportedly...

> "[...] include [minor] changes to designs and implementation processes, and compensation for local and regional residents and businesses that were negatively affected by airport development."

The arbitration process was also noted by a respondent as being a relatively efficient process as it focused all of the relevant discussions into one forum, and set a time limit on when claims relating to the airport's development could be made. The mixture of regional goals and local issues provide a wide range of public values within the 'green field' development on Munich Airport. The values identified for the Munich case include: effect equity (via compensation); efficiency; airport service meeting demand; effectiveness for regional goals to be realised; national mobility; good governance; the capacity for innovation (arbitration process); regime stability (ensures higher order decisions are protected); equity in the treatment of actors; and transparency and openness.

## Vantaa (HEL)

Vantaa Airport is located next to the city of Vantaa, and also near to Helsinki and Espoo in Finland. Vantaa is operated by Finavia, a State-owned corporation, with decisions made for airport development historically made without the inputs of local government agencies. Without coordination with local authorities, airport development and capacity growth had direct impacts on the surrounding transport infrastructures for each of the cities, creating tension between the airport and the cities. The divide between airport and city was noted by one respondent as being so great that the airport was described as...

> ... "a State within a State. They made decisions for new buildings and infrastructure without talking to anyone on the other side of the fence, so they were like planning agents all to themselves."

Over time the tensions between the airport and the surrounding cities have eased, and the collected data point towards informal mechanisms that may have influenced Vantaa Airport and the cities to move towards some level of integration for development decision making. Of particular note is the road infrastructure forum shared by the three cities, set up to coordinate road infrastructure development to link the three cities. The spatial proximity of the airport to two arms of the 'transport triangle' between the cities meant that changes in the airport directly impacted on the road network with the capacity to cause traffic delays on primary transport corridors.

Informal, horizontal discussions between the road planning group and airport planners led to mutual understandings developed between the planning organisations. The improved coordination between airport and regional level planning resulted in improved forecasting of transport demands and reduced the impacts of airport development on road users. The

following public values appear prominent in the Finnish case of airport development impacting on local/regional transport networks: effect equity (substantive impacts of airport development not compensated beyond the airport fence); service quality; accessibility; adaptive systems that can handle new circumstances, creative and innovative capacity, coordination, and transparency and openness.

# 7. DISCUSSION

The above mini-case studies provide interesting stories with public values that are appear to match up with the typology developed presented in Section 4, providing an initial verification that the typology works beyond the original Schiphol context. Looking across the case studies (including Schipol), some of the public values remain unrepresented, (see Table 3 below). However, their absence does not point towards a flaw in the identified public values, nor in the typology. Jorgensen and Bozeman's (2002) and De Bruijn and Dicke's (2006) conclusions identified that the prominence of pubic values is dependent on - or at least closely tied to - the context of an issue. Therefore, the "under representation" of some of the values is unsurprising but nonetheless, is important to clarify. For example, if attention were focused towards the role of design within airport development, it is foreseeable that issues would tend to highlight concerns of comfort and aesthetics. Likewise if we turned our attention to the development of new airport infrastructure near existing residential or commercial developments, we would expect to see concerns towards the health and safety of citizens.

London Heathrow is a boiling pot of local and national interests that result in natural tensions between stakeholders. Many of the environmental effects and social effects appear under represented for the level of media attention and debate around LHT's (previously) proposed expansion. However, this may be explained from interview data limited to government agencies. Suitably, public values identified as being at stake are focused towards more operational and process oriented concerns for decision making. A greater number of respondents from a broader spread of stakeholders would provide greater insight and depth to the substantive values at stake.

Interestingly, Barcelona provides an extensive list of *environmental effect* and broader *society view* public values at stake for the development of its parallel runway. The required negotiation process between the airport decision maker (Aena) and the local Municipal Government allowed many of the neighbouring society's issues to be voiced. The strong environmental (or "green") political focus of the current Municipal Government may well explain the focus on environmental effects of the proposed airport development. Also, the interview data for the Barcelona mini-case was the most extensive of the four airports analysed, which may also contribute to the high number of public values identified as being "at stake" in the airport development.

Munich Airport appears as an exemplary case of decision making that attempts to link the impacts of regional agendas to procedures for local reciprocity. That is, the State decision to expand the airport includes a process by which local stakeholders can be sufficiently

Table 3. Public values at stake within mini-cases

| | Identified Value | Airport Case | | | | |
|---|---|---|---|---|---|---|
| | | **LHR** | **BCN** | **MUC** | **HEL** | AMS |
| **Price, cost and revenue** | Affordable for all segments of society | | | | | X |
| | Societal costs are shared amongst … | | **X** | | | X |
| | Effect Equity | **X** | | **X** | **X** | X |
| | Efficiency | | | **X** | | X |
| | Maximum Revenue for Service | | | | | X |
| | *Affordability* | | | | | X |
| **Service quality** | Universal or Comparable Access | | | | **X** | |
| | Welfare and Wellbeing that the Pub … | **X** | **X** | **X** | | |
| | Airport Service meets Demand | **X** | **X** | **X** | | |
| | Effectiveness of Goal Realization | | | **X** | | |
| | National Accessibility and Mobility | **X** | **X** | **X** | | |
| | *Availability of Service* | | | | | |
| | *Capacity of Service* | **X** | **X** | **X** | | X |
| | *Accessibility and Speed* | | | | **X** | |
| | *Reliability* | | | | | |
| | *Quality and Comfort* | | | | | |
| | *Service Robustness and Flexibility* | | | | | |
| | *Aesthetic Experience* | | | | | |
| **Environmental effects** | Minimizing Resources Affected | **X** | **X** | | | |
| | Minimizing Depletion of Resources | | **X** | | | X |
| | Physical Footprint | **X** | **X** | | | X |
| | Environmental Footprint | | **X** | | | |
| | Landscape | | **X** | | | |
| | Noise Hindrance | | **X** | | | |
| | Emissions | | | | | |
| **Social effects** | Safety of everyone | | | **X** | | |
| | Security of everyone | | | | | |
| | Health of everyone | | **X** | **X** | | |
| | External Safety | | | | | |
| | *Safety of Individuals* | | | | | |
| **Good governance** | Decisions are Formulated in the Best … | | **X** | **X** | **X** | X |
| | Adaptive Systems | | **X** | | **X** | X |
| | Creative and Innovative Capacity | | **X** | **X** | **X** | X |
| | Coordination | **X** | **X** | | **X** | X |
| | Regime Stability | | | **X** | | X |
| | *Equity in the Treatment of Actors* | **X** | **X** | **X** | **X** | X |
| | *Transparency and Openness* | **X** | | **X** | **X** | X |
| | *Democracy* | **X** | **X** | | **X** | X |
| | *Trust and Reliability of Actors* | | | | **X** | X |
| | *Following Due Process* | | **X** | **X** | | X |

compensated. The top down approach to decision making, in this case, protects the stability of the decision in a transparent process. Importantly, welfare and wellbeing of the public is considered and protected at both regional and local levels by appreciating broad regional goals for mobility, and local impacts on residents; although there is little in the way of democratic redress once the decision to expand has been made. Environmental effects are not represented in the mini-case, which is again likely to the data focusing on local community issues and State agendas rather than on the minutiae of development plans themselves.

The mini-case for Vantaa Airport is dominated by the public values for good governance, and is an exemplary case of network forms of governance overcoming shortcomings in somewhat disjointed, hierarchical arrangements for decision making. The case data reflects a progression of integrated decision making between airport and local planning agencies for the coordination of infrastructure both on and off airport land. Data for the Vantaa mini-case surrounded the changing landscape of dialogue and decision making between government (both airport and regional) planning agencies, thus it is no surprise that the public values identified are localised to the procedural abstraction.

There is little boubt that the focus on development histories, particularly in the key informant interview data influenced the range and scope of public values identified for each case. For example, we expect that respondents from an airport management background would provide more detail to *strategic* or *operational* related values, whereas respondents from city planning or local government positions would provide more insights for *society* or *operational* related values. As the above application of the typology uses aggregated data, the positions of individual respondents are lost, however this situation was unavoidable in the above study due to limited data sets and respondents. Future studies would likely benefit from applying the typology to stratified stakeholder responses for better understanding the underlying drivers to individual stakeholder groups' arguments and concerns in airport development related issues.

This paper has provided a public values typology: an overview of the divergent perspectives that exist on measuring and evaluating the performance of airport development issues. The typology clarifies the different public values that exist with respect to airports, and delineates them based on the differing perspectives of stakeholders. Additionally, the typology helps in understanding the conflicts of interest among the various stakeholders and is flexible enough for use in different contextual environments and countries. The successful application of the typology the Schiphol case (Section 5) and the other cases from around Europe (Section 6) supports this statement.

Furthermore, the typology provides the basic structure needed for identifying goals and performance indicators. In this way, the typology might aid policymakers in determining specific objectives for given infrastructures and identifying performance indicators for monitoring the performance of existing airports and evaluating policy (alternatives). That is, the general structure of the typology could be modified to suit other types of infrastructures,

particularly infrastructures that are increasingly privatised (i.e. rail, electricity). The typology can help to ask the right questions about when an airport is functioning well and to understand the trade-offs that different policies entail. Moreover, the typology may have applications in the facilitation of effective communication and be an instrument for bridging stakeholders' interests.

### Limitations

The small number of cases the typology has been tested against is of concern to the 'completeness' and overall external validity of the typology. Further testing of the typology should be completed for cases outside of Europe, and for smaller, more regional airports. By increasing the type and context of airports tested the typology can be further supported and/or refined for a global typology of public values for airport development. Additionally, greater consideration of 'how important' values are within cases may help to improve the internal validity of using the typology. Additionally, the study relies heavily on the Jorgensen and Bozeman's (2007) list of general public values. Should future research build on or supersede their list, the typology should be revised to suit.

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# APPENDIX

| Identified values at stake | Schiphol Issue as Identified by the Commission ROL | Synopsis |
|---|---|---|
| Effect Equity (B)<br>Adaptive Systems (B)<br>Affordability (C)<br>Equity in the Treatment of Actors (C) | 1. Airside spatial planning has a large impact on the spatial patterns on the ground (i.e. aviation creates space scarcity on the ground). However, policy making is unconnected (i.e. airport policy making takes only the goals for aviation and noise hindrance into account). | Spatial planning in the air does not take into account the stakes of spatial planning on the ground. |
| Societal costs shared amongst the beneficiaries (A)<br>Effect Equity (B)<br>Equity in the Treatment of Actors (C) | 2. The gains and losses of aviation are unequally spread (an aspect that is not taken into account in the obligatory societal cost-benefit analyses). | Benefits of aviation are for the airports, national economy, passengers, and the costs include environmental effects, spatial use and scarcity. |
| Following Due process (C)<br>Regime Stability (B)<br>Adaptive Systems (B)<br>Decisions formulated in the best interests of the public (A) | 3. There are tensions between the national goals (mainly accessibility and noise hindrance), the regional goals (mainly regional economic growth) and the local goals (growth of the airport as such). | Potentially a problem but as yet has not been observed as a negative. |
| Affordability (C)<br>Efficiency (B)<br>Affordable prices for all segments of society (A) | 4. Ambiguous public policy:<br>• The national and regional government are in conflict about the need to reserve land for a possible new runway<br>• The Schiphol competitive position is one of the central goals of the national government. However, recently, the central government has introduced special air taxes, which has decreased the competitive position of Schiphol considerably<br>• The spatial-economic relation between the airport and the surrounding region is non-existent in policy making. | Recent air travel taxes have caused inefficiencies / increased prices that have reduced the competitiveness of Schiphol – ie. The problem is in the coordination and equity between departments. |
| Equity in the Treatment of Actors (C)<br>Affordability (C)<br>Democracy (C)<br>Effect Equity (B)<br>Decisions are formulated in the best interests of the public (A) | 5. Schiphol combines many different roles and interests as it:<br>• Is responsible for the airport<br>• Is (co-) owner of many regional airports in the Netherlands<br>• Has own 'land acquisition company'<br>• Has direct access to central government<br>In this way one runs the risk that (1) the commercial interests dominate | |

| | | |
|---|---|---|
| | over the public interests resulting in suboptimal solutions from a societal point of view (2) the prices charged by Schiphol are too high ('market power'). | |
| Transparency and Openness (C)<br>Effect Equity (B) | 6. The regional government has also 'double' goals (safeguard public interests and land development This is ok if there is transparency etc. The latter is questioned. | Transparency of regional governments in terms of land-use policies is inadequate. |
| Transparency and Openness (C)<br>Good governance (A)<br>Decisions are formulated in the best interests of the public (A) | 7. The national government and the municipalities of Amsterdam and Rotterdam own (part of) the airports. This can potentially lead to conflicts with the public interests. | An inability to demonstrate which public goals, interests are represented given they are both decision makers and owners. |
| Democracy (C)<br>Coordination (B)<br>Adaptive Systems (B) | 8. Lack of integrated spatial planning for the areas around Schiphol (only partial decisions: decisions for part of the area or from only one point of view). | No coherent 'mainport' strategy to take into account all public values surrounding area development. There is also a lack of trust and no long term vision identified in recent actions of decisions made. |
| Coordination (B)<br>Regime Stability (B) | 9. Each government actor is aiming at its own interests, they do not work together and no actor is mediating or steering. | No effectiveness in decision making processes. Implications show a need for a mediating or coordinating actor to ensure fair representation of both actors and values at stake. |
| Equity in the Treatment of Actors (C)<br>Democracy (C)<br>Coordination (B)<br>Creative and Innovative Capacity (B)<br>Regime Stability (B)<br>Decisions are formulated in the best interests of the public (A) | 10. Regional airports and local governments fight against Schiphol and KLM. | NOT a failure – This appears to be a smart way to improve the aggregation and articulation of values when individually there is inadequate power to do so otherwise. |
| Capacity of Service (C)<br>Coordination (B)<br>Adaptive Systems (B)<br>Physical Footprint (B)<br>Depletion of Resources (A) | 11. The position of Schiphol is threatened due to (1) a lack of integral, spatial-economic vision on the Schiphol region (2) dependency upon home carrier KLM, which does not necessarily stay at Schiphol | No linking policies to coordinate and articulate the wants of government – ie. Functions that integrate goals are missing, and hence there is no long term vision articulated within the system. |
| Societal costs are shared amongst the | 12. More court cases (although this is questioned) | The choice is made to pay-out rather than |

| | | |
|---|---|---|
| beneficiaries (A) | | legislate when the airport's public service role is deemed to be in the public interest. |
| Societal costs are shared amongst the beneficiaries (A)<br>Effect Equity (B)<br>Minimizing the depletion of resources (A)<br>Physical Footprint (B)<br>Trust and Reliability of Actors (C)<br>Equity in the Treatment of Actors (C) | 13. Schiphol benefits from the spatial reservations for possible additional runways result, but does not pay for the (large) opportunity costs | There is no compensation for the lost opportunity costs, and hence a hoarding of value that bare costs to others in the region. |
| Following Due Process (C) | 14. The land reservations instrument is hardly used by the government. As a result, the government has to monitor constantly which ground activities are going to be undertaken. | This does not uphold the mechanism. |
| Equity in the Treatment of Actors (C)<br>Trust and Reliability of Actors (C) | 15. There is general dissatisfaction with the existing establishment policy. | Inappropriate mechanisms for policies to fit the contextual needs. |