

2010

Beyond airport enclaves: insights for overcoming turf wars

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Publication details

Donnet, T & Keast, RL 2010, 'Beyond airport enclaves : insights for overcoming turf wars', *14th Annual Conference of the International Research Society for Public Management*, University of Berne, Bern, Switzerland, 7-9 April, IRSPM.

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Beyond Airport Enclaves

Insights for Overcoming Turf Wars

Abstract

Airports, over time, have emerged as separate independent entities often described as 'enclaves'. As such airports regularly planned and implemented developments within their boundaries with limited inclusion of local actors in decision making processes. Urban encroachment on airport boundaries has increasingly focused the planning interests of airports to consider what their neighbouring cities are doing. Likewise city planners are progressively more interested in the development activities of airports. Despite shared interests in what happens on the either side of the fence line, relationships between airports and their neighbouring cities have often been strained, if not, at times, hostile. A number of strategies and conceptualisations for the co-existence of urban and airport environs have been put forward. However, these models are likely to have a limited effect unless they can be implemented to maximise opportunities for both cities and airports, and at the same time not confound their long-term interests. The isolation of airport planning from local and regional planning agencies, and the resulting power struggles are not new. Under current conditions the need to 'bridge the gap' between airports and their urban surrounds has become an increasing, yet under explored imperative.

This paper examines the decision making arena for airport-region development to define the barriers, enablers, tensions and puzzles for the governance of airport-region development, from a cross-country perspective. Findings suggest that while there are many embedded rule structures that foster airport-region tensions, there are nonetheless a number of pathways for moving airports beyond decision making enclaves, to more integrated mechanisms for city and regional planning.

In providing preliminary answers for overcoming the barriers, tensions and intractable issues of mutually agreeable airport and city development, the research makes a primary contribution to the ground level governance of collaborative planning. This research also serves as a launching point for future, more detailed research into the areas of airport-region decision making and collaborative planning for airport-regions. This work was carried out through the Airport Metropolis Research Project under the Australian Research Council's Linkage Projects funding scheme (LP0775225).

1 Introduction

As regions prosper and cities grow, airports are increasingly less spatially removed from the populations they service. Where each others' impacts were previously distinct from one another, airports and cities were not required to consider each others' interests or operational requirements. Given their relative isolation (at least initially) from cities, airports created a form of 'closed space' or 'enclave' with special rights or powers because of their importance to strategic and economic agendas at both regional and national levels. Additionally, airports are dominantly focused towards servicing aviation needs as nodes within global flight path networks, so "today's airport is only partially connected to the environment around it" (Friedman 1999, 14). This sentiment is reflected by Ibelings (1998), who argues that nowhere is the process of enclave formation stronger than the world of airport architecture. While the relative isolation of airport decision making, particularly for planning and development, may have been appropriate in the past, as the distance between airports and urban environments continues to shrink, the notion of 'enclaves' and isolated decision making have been challenged.

Urban encroachment on airport boundaries has brought city and airport interests and impacts an intersection; creating new boundaries and tensions to decisions of what to build, where, when and how. Planning decisions for airports and cities are rarely collaborative, and tensions between airports and their neighbouring cities appear to be universal (Charles, Barnes, Ryan and Clayton 2007; Stevens, Baker and Freestone 2009). Encroachment increases the stakes in planning related decisions, resulting in planning and development 'turf wars' to ensure both cities and airports protect their own long-term interests. Outsourcing and the decentralisation of control means that many governments rarely retain the authority to directly steer the development of infrastructures, including airports. Governments act, instead, in a relationship with their markets to achieve long-term regional planning goals, steering and guiding development at arm's length (Stoker 1998). That is, governments have, to varying extents, divested operational and planning control of their airports to private corporatized companies. The privatisation of airports and the associated 'inward looking' development ethos, coupled with their interface means that airports and cities now face an increasingly complex task to plan for future growth in population and

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aviation capacity. As separate planning authorities the need to coordinate their planning is paramount to ensure future development does not confound the ability of airports and cities to meet their long-term growth objectives.

The isolation of airport planning from local and regional planning agencies, and the resulting power struggles are not new. Integration of decision making appears the next 'big hurdle' for airports and cities to overcome, particularly as airports and cities have grown accustomed to planning unto themselves. Under current conditions the need to 'bridge the gap' between airports and their urban surrounds has become an increasing, yet under explored imperative. Drawing on existing issues, success stories and the puzzles arising from problems left hidden, unspoken or unaddressed from existing airport-city relationships this paper will provide insights into how cities and airports manage (or don't) the integration of their planning and development decisions.

The following sections provide background and literature to the problem of intersecting airport and city growth, grounding the problem between governance and planning literature. A brief description of the method used to identify the tensions, barriers, enablers and puzzles in airport and city planning integration is then provided (Section 3), before detailing what was found in Section 4. The paper concludes with discussions highlighting that the apparent decision making isolation created by airport 'enclaves' does not always result in 'uncoordinated' planning outcomes. This finding indicates that the integration of decisions for airport and city planning is not a prerequisite for successful city-airport cohabitation, as long as cities can readily identify and mitigate potential problems.

2 Literature

The investigation of tensions, barriers, enablers and puzzles for airport and city planning integration is located in theories of governance and collaborative planning. The following subsections provide brief but explicit definitions and background to both fields of literature, and their fit to the space of airport and city development decisions.

2.1 Airports as enclaves

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Airports have become decision making 'enclaves' within cities' planned environments. The development of airports has traditionally been closely geared towards regional and national economic development (Munnell 1992); governments often providing airports (or their regulators) with special planning and development powers to protect the long-term growth of aviation transport nodes. The majority of airports, over time, have become independent decision making entities that sit distinct from their local environments. Graham (2001) discerns airports as a form of logistics enclaves, noting that contemporary airports are essentially concentrations of facilities and services within a defined spatial setting. This perspective matches well with Ezechieli's (1998, 18) ideas making airports "similar to that of an island connected with other distant regions only through very selective specialized systems of transportation."

Cardosa and Falettor's (1979, cited in Graham and Marvin 2001) creation of 'enclaves' via direct external control or through relationships with local elites fits closely to the authority typically ceded to airports: Airport decision making (or oversight) is often located within non-local governments (at national or regional levels), and the proliferation of privatisation is increasingly placing decision making in the hands of private operators/investor consortiums (again with government oversight).

For planners the notion of enclaves or segregation are strongly linked to negative aspects of planning (see Caldeira 1999; Luymes 1997) and associates with a separation from the mainstream and potential for limited communication across 'enclave' boundaries. As a consequence, for planners, enclaves are more of a threat than an opportunity for society. The relative isolation of enclaves is maintained by the perceived value of 'residents' to remain apart and to somehow protect them from the animosities of outsiders (Caldeira 1999). This is more from the urban planning/residential development perspective, but some of the sentiments are apparent for (particularly privatised) airport operators/decision makers; where the ability to maintain aviation operations may be perceived as under threat from development beyond the airport fence.

Enclave airports, with their dominantly internal planning focus (Alexander 1998), challenge networked forms of governance and collaborative planning. However, as a "space of flows" within the networked society (Castells 1996, 145-147), airports are increasingly seen as

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channels between places, and are reliant on the ability of external infrastructures to service their operational needs. Airports therefore cannot cocoon themselves from their external environment, and must now actively engage with their surrounding jurisdictions to survive.

Airports now recognise that they need to be involved with other decision making actors in their regions to protect their own operational requirements and long-term objectives. However, airports must now decide which issues they focus on as 'cross-cutting' and which to retain as internally focused and driven. As to how airports and cities might pursue mutual consideration of their strategic needs, or in other words, integrate their decisions for planning and development, the governance arrangements underpinning airport and city strategic decision making requires careful consideration. The following section provides a brief summary of contemporary perspectives of governance, and suggests the influence of ownership arrangements on airport decision making.

2.2 Contemporary Governance

Governance, in brief, is the way in which society is organised to define who makes decisions, who is included in the process, and how decision-making actors relate to one another (Kooiman 2003). Governance legitimises and organises actors and institutions in decision-making arenas, actioning authority under different sets of rules, moral orders and rationales (Keast, Mandell and Brown 2006). There are three broadly accepted modes of governance, hierarchical, market and network, each with its own advantages and disadvantages (Powell 1990; Rhodes 2007). While hierarchies provide stability, they are slow to react to change and are typically inefficient (Rhodes 2007). While markets drive efficiency and are fast to react to change (Williamson 2002), they are often opportunistic at the expense of community minorities, and tend to lack transparency in their operations (Davies 2000). While networks are highly inclusive and aim to build consensus amongst actors (Koopman and Klijn 2004; Milward and Provan 2000), they are often slow in their deliberation process which can result in significant time delays and decisions that are not always representative of what they originally set out to achieve (Parker 2007; Davies 2000; Keast and Brown 2002; Keast, Brown, Mandell and Woolcock 2004).

In reality, arrangements to address societal issues mix and borrow elements from a combination of governance modes, drawing on the benefits of one to limit the negative

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attributes of another (Keast et al. 2006). The mixing of governance modes, bringing more and more horizontal actors into decision-making arenas (Peters and Pierre 1998), means that decisions are now increasingly negotiated than delivered (Rhodes 1997). In the pursuit of some measure of fairness, the rationale for mixing hierarchical, market and network governance is to balance mechanisms that steer society (Hill and Laurence 2004) in an increasingly stakeholder driven society (Bovaird 2005). To govern decision-making within a specific task environment, arrangements require careful consideration of how relationships should be oriented, influence and authority be distributed, and processes and outcomes be focused in the task. The contested decision making space for airport and city development is no exception to the above requirements.

2.2.1 Ownership vs. Governance

In an increasingly privatised industry, the divestment of airport operations and ownership plays a significant role in the strategic decision making for airports (Graham 2003). Increasingly and (somewhat) incorrectly used as a synonym for governance within current airport management literature (see Oum, Adler and Yu 2006; Graham 2003), *ownership* of airports provides the terms and conditions of an airport's privatisation (Graham 2003), and delimits issues such as the responsibilities of airport owners, the duration of ownership, the extent of authority, and terms of investment. However, airport ownership does not capture ways in which influential actors are organised to formulate decisions, nor do ownership structures define the regulating rule structures that airports are required to operate within. Therefore, while the arrangements defining the ownership of an airport contribute (much) to the governance of decisions in airport spaces, external influences (such as regulatory structures, exposure to free markets, and societal and industry norms) add to ownership to create a "net effect" arrangement of governance.

What can be inferred from the ownership of airports, however, is that the terms of an airport's ownership have particular influence on framing underlying interests and time horizons for strategic (such as planning) decisions (Carney and Mew 2003). Similarly, ownership arrangements can be compared to existing "modes" of governance to draw inference to decision making issues on accountability (Donnet, Keast and Walker 2010 forthcoming). Therefore, we posit that airport ownership arrangements temper the agendas

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of airport decision makers within a given airport's governance arrangement, influencing arguments forwarded by the airport for and against different types of development within and close to its boundaries.

As a detailed example, Australia's major airports have been privatised under the *Airports Act 1996*, with a focus for airports to gain market type operational efficiencies with development steered via vertical approval processes with the Federal Government. The long-term nature of leasing agreements for Australia's major airports effectively made leaseholders into airport owners (Graham 2003), particularly as the *Airports Act 1996* clearly cedes strategic planning and development decision making of airport land to the leaseholders (with Federal oversight/approval). Ownership arrangements of Australia's major airports appear to focus airport agendas towards long-term development (Carney and Mew 2003; Donnet et al. 2010 forthcoming), as opposed to short-term optimising profits from existing assets (Graham 2003). At face value the governance arrangement appears a hybrid arrangement dominated by market forces and hierarchical oversight. However, the need for airport owners to protect long-term economic sustainability and profitability of their airports also relies on local government agencies not confounding airport owners' efforts to meet future aviation demand (i.e. zoning residents under flight paths, not providing adequate transport corridors for accessing airports, etc.). The reliance on external stakeholders to meet their strategic demands has encouraged airport owners to create horizontal, network type relationships with their local influential decision making actors in attempts to protect their enduring requirements of air and ground accessibility. The influence of airport ownership and the agendas of owners contribute to the net governance arrangement for major airports.

As most governments have either corporatised or privatised their airports (to varying extents), there has been a progressive shift in airport governance from more internal, centralised forms towards more market and networked arrangements. While the increasingly 'arms length' governance arrangements for airports are typically reinforced by legal arrangements defining decision jurisdictions of authority and legitimacy, there remains a need for airports to work beyond their boundaries – especially as urban environs continue to encroach upon airports.

2.3 Planning

Planning is defined as the link between ideas and action (Friedmann 1987). There are many approaches to planning, each with complexities so rich that they defy the formulation of a single theory of planning (Rittel and Webber 1973; Mandelbaum 1979). This view of a 'planning hydra' has been challenged by Cooke (1983) and Poulton (1991a; 1991b) who provide compelling logic and theory to the ability of planning to approach planning issues from a positive, normative, rational, linear perspective. While Cooke's (1983) and Poulton's (1991a; 1991b) rationales for normative planning approaches may appear valid for many cases, the increasing complexity of planning decisions that require consideration of both airport and city interests means that positive, rational approaches may no longer be sufficient (see Kane and del Mistro 2003). Looking to the literature, the most compelling evaluation of available planning approaches has been forwarded by Alexander (1998), who proposes not to rewrite existing approaches, but to provide a contingent model for planning approaches. This perspective is elaborated further with the acknowledgement that many approaches to planning do not exist isolated of one another, and that many have overlapping fundamental processes (Alexander 1998).

The spatial planning of airports (mostly) sits isolated of the spatial planning of their local cities. That is, decisions for what, where, when and how to plan and develop land are subject to different approval laws/requirements, jurisdictions, and agendas from one side of the airport fence to the other. Stakeholder engagement has been pursued as the answer for identifying and appreciating neighbours' needs, and is now considered the norm for many airport and urban planning processes (Farthing 2001; Dempsey 1999). However, stakeholder engagement has taken on a role as an institutional arrangement in the coordination of planning (Alexander 1998a), rather than as a truly deliberative process of aligning perspectives and goals (Healey, de Magalhaes, Madanipour and Pendlebury 2003).

The disconnect of city and airport interests in planning and development decisions is mirrored in a number of contemporary airport planning models (see Blanton 2004; Finavia 2004; Kasarda 2001). While each model attempts to appreciate what happens on the other side of the fence, they all remain focused on meeting airports' logistics needs rather than incorporating existing (and future) local/regional societal interests (Stevens et al. 2007).

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Acknowledging the need to incorporate a range of interests, the conventional 'spatially' oriented approach to planning has given way to a more collaborative approach. A central feature of these alternative models is the expansion of actors involved in the development of decision making and planning (Gunton and Day 2003; Innes and Booher, 1999). Collaborative planning draws on genuine dialogue and an iterative process of negotiation between members to reach shared agreement on issues and their resolution. Consensus is established on the rules of engagement and joint fact finding is used as a way to overcome entrenched opinions and organisational positions.

Advocates of the collaborative planning approach cite many advantages over other models of planning including: increased likelihood of developing plans that better reflect the public interest and the increased likelihood of implementation (Gunton and Day 2003). Despite these benefits, a number of limitations to collaborative planning have been identified including: application often limited to only those cases where all relevant stakeholders are motivated to participate/and or management agencies are willing to delegate power; high cost in time and resources; inequality in power that may give some stakeholders an unfair advantage; and a tendency of the consensus approach to produce satisfying rather than optimal outcomes to meet all needs.

Identifying pathways for enabling airports and cities to move through these limitations to collaborative planning is clouded by complex puzzles, frustrating barriers and fundamental tensions between decision making actors, and are yet to be well defined (see Healey 2009). The following section details a methodology for identifying the puzzles, barriers and tensions that could be considered "normal" to efforts of integrating airport and city planning around the world. Additionally, the method provides a means for identifying attributes and arrangements that appear to "enable" the integration of airport and city decisions for what to build, where, when and how.

3 Method

This paper uses an exploratory approach using secondary qualitative data. The data source (Appold et al. 2008) was purposefully selected for its broad collection and description of arrangements to overcome problems between airports and cities from around the world.

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The document provides rich contextual background to six “airport cities” and 35 “lessons” from another 21 major airports spread across Australasia, Europe and North America. The data was thematically coded to identify: 1) *Tensions* between airports and cities relating to development and planning decisions. 2) *Barriers* that severely hampered the ability of airports and cities to integrate their decisions, and 3) critical success factors acting as *enablers* to city and airport decision making integration. Additionally, while exploring the issues identified within the data, a number of issues appeared common to a number of airport cases, however appear ‘hidden’, ‘unspoken’ or under addressed within current planning and governance literature. These apparently under-explored issues have been identified as 4) *puzzles* for the integration of their development and planning decisions. The result is a range of insights that highlight the steadfast and difficult to manage issues for integrating planning and development for cities and airports. Also, a range of promising pathways and future issues are identified for ensuring the planning and development of both airports and cities do not confound the long-term strategic interests of either.

4 Findings

4.1 Tensions

Analysis of the cases provided by Appold et al. (2008) revealed a discourse dominant in spatial and economic planning issues. Foremost is the tension of limited land resources (available space) to handle increases in population and aviation capacity for a given region. The result of the tension is urban encroachment on airport boundaries, which can be problematic for the long-term sustainability of aviation operations at airports if left poorly managed. Residential developments have the potential to impact on the safety of airspace, and increasing the number of residents living close to flight operations (including flight paths) results in greater noise complaints. Also, any changes to the volume of aviation operations has an immediate effect on noise exposure to local residents, so while cities need more space for residents to live, airports want areas under flight paths protected from ‘excessive’ residential development.

Commercial (non-aviation) developments within airport boundaries appear to be a source of tension not always for the development opportunities they ‘take’ from city jurisdictions (as

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cited in Appold et al. 2008), but for the lack of coordinative planning between airport and city. While some tension arises for cities from the lack of revenue generated through application/approval fees and land taxes, airports are often able to develop land without direct input from local governments and stakeholders. The apparent disconnect of regional stakeholder input from airport development approval has the potential for negative impacts on local transport and economic infrastructures. These negative impacts stem from increased demand on transport infrastructure to move workers and consumers to and from the airport. Economic infrastructures, such as local business districts and commercially zoned land suffer (at least in the short-term) from reduced rents from inflated supplies of office/retail space within the local market.

Tensions do not necessarily have negative impacts on the decisions made by airports or their surrounding cities. In many of the cases examined, tensions were seen as a constant struggle that both airports and cities were well aware of; providing common ground from which plans and development could be negotiated from. Tensions appeared to become problematic in decision making processes that had significant barriers to integration of decisions for planning and development, as discussed in the following subsection.

4.2 Barriers

Barriers to integrate airport and city decisions for planning and development were best defined in cases that lacked finite jurisdictional boundaries and/or well developed horizontal mechanisms for the identification, articulation and consideration of each others' strategic interests. Barriers include issues of physical environment factors and historical planning factors.

The physical environment surrounding airports plays an important part on the operational considerations of aviation and on the long-term prospects for both urban and airport development. Natural terrain and the built environment both impose on operational considerations for aviation; aircraft are required to have a minimum safe distance from obstacles, and aviation regulators often take advantage of terrain (i.e. river systems) to 'dampen' noise footprints of aircraft. Elements within the spatial environment thus pose natural, and sometimes created, barriers to decision making integration between airports and cities. For example, both airport and city may face limitations in expansion and/or

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development from environmentally sensitive systems such as wetlands. Additionally, a city desiring high rise commercial or residential development may face physical limitations in permissible building heights to protect airspace, or conversely an airport wanting to build a new runway may be hindered by existing buildings or natural terrain that impose on the safety of flight operations.

Features within the built environment may also be historically significant to local societies, creating embedded features that mitigate the acceptance of aviation growth for an airport. For example, the citizens of the Municipality of Pratt del Llobregat, located adjacent to Barcelona Airport, traditionally had access to the local beach front, which was located on the far side of the airport from the township. Original proposals to expand the airport with a third runway included the resuming of beachfront and resident beach access, however the loss of access and 'way of life' for local residents was deemed unacceptable; plans were later changed to protect resident access to the beachfront. In this way, elements of societal significance form finite barriers to what is acceptable and what is not in the extent of airport development.

The political impetus driving airport or city development also has a significant influence on the ability of airports and cities to integrate their planning and development decisions. Centralised governments pursuing grand developments schedules to enact large scale (even system level) change have been drivers of mega-airport development. While developments at the mega-scale attract top-level support from government, local communities and governments may feel ostracised or circumnavigated in decision making processes to develop such grand infrastructures as Jebel Ali or Incheon. The development of 'airport cities' may be espoused as being in the 'greater good' of a country, however developments of such a grand scale ultimately result in the demise of other regional assets; or at a minimum reduce the attractiveness of existing economic hubs within a region. The development of mega-scale airport city developments is likely to result in the tacit creation of decision making citadels, where regional economic success so heavily relies on the success of a mega-development as to artificially sway decision making processes and outcomes in its favour.

4.3 Enablers

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Airport and city decision makers have found interesting ways to utilise their shared tensions and overcome (some) boundaries that otherwise leave their planning and development decisions in isolation from one another. These enabling factors range from formal mechanisms that ensure horizontal communication and consideration of each others' interests, through to informal social networks that enhance information flow between airport and regional planning authorities. Interestingly, in some instances of where there were no apparent mechanisms to promote the integration of airport and city planning and development agendas, planning authorities were still able to identify and implement strategies that fostered mutual gains for both airport and city.

While formal mechanisms enabling the integration of airport and city planning and development interests appeared 'custom made' for individual political contexts, each arrangement or mechanism identified as beneficial to integration showed similar traits across cases. These traits include formal, well defined protocols for the transmission of city interests into airport planning and development decisions, and legitimate pathways for the protection of city interests in airport development, and clearly defined limitations to city development to protect the aviation safety. Additionally, the inclusion of flight path planning into the negotiation space for airport and city planning appeared in only one case, however this inclusion appeared to have significant benefits for the protection of city interests without degrading aviation safety or airport outcomes.

Informal mechanisms fostering the integration of airport and city interests stemmed from social and professional networks linking decision makers from airport and regional planning agencies. Informal mechanisms also included the use of other formal forums between airport and city decision makers that were 'unrelated' to planning and development decisions. These informal communication pathways provided additional feedback for decision makers, giving informal forewarnings of positive or negative responses to formal proposals.

Some cases had limited (sometimes no) evidence of integrated decision making between airport and city. Despite being isolated from airport decision making processes, some cities adapted their plans to best suit and protect the long-term growth of their airports. In very few of these cases, city planning utilised aviation effected land for industrial and hi-tech

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commercial parks, effectively protecting residential development from excessive aircraft noise while improving airport access for businesses that benefit from close proximity to air transport.

4.4 Puzzles

The pursuit of economic / industrial clustering may impact on the ability of airports and urban environs to coexist, or may conversely facilitate development via putting developments in their 'appropriate' places to make use of land otherwise ill effected by airports' operational footprints. For example, Incheon Airport is on an island just off the coast from the Incheon region and Seoul. The mass of land available for development around the airport is large enough to support considerable (city size) development, however the possible tension arising from developing this land is the creation of a whole new economic centre away from existing economic and social infrastructures.

The creation of 'mega-airports' or 'airport cities', such as Incheon (Korea) and Jebel Ali (Dubai), new puzzles and boundaries for integrated city and airport decision making. The development of airports at the mega-scale are often greenfield developments, located spatially discrete of existing urban environs with an apparent "if you build it, they will come" approach to planning. Jebel Ali and Incheon airports are both developed and overseen by highly centralised governments, which appear to foster the planning and development of necessary supporting transport and economic infrastructures. However, tensions arise from the coordination of planning with other surrounding cities/urban environs that are not necessarily the focal point of development – old cities left in the shadow of the new.

In many cases, the inclusion of city and regional authorities as investors/partial owners/overseers of airports is an outright attempt to temper airport decision making with local and regional interests. Airports with at least some government ownership is common to airports around the world, however, they still have troubles integrating planning and development decisions with their surrounding planning agencies. Getting the mix right between structures of airport ownership, planning regulation and horizontal dialogue appears to be the most ambiguous of puzzles drawn from the case data. As an example, Schiphol airport appears inundated by a 'myriad' of consultative bodies surrounding

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airport/region coordination; however they appear to do little to improve relations between the airport and city.

5 Discussion

The analysis of the case data reveals many tensions and boundaries for the integration of city and airport planning interests, many of which appear to be inescapable (such as spatial and geographical factors). The overarching regional and national economic benefits derived from airports makes them strategic infrastructures that compete with cities for space.

Tensions between airports and cities are not necessarily counterproductive, as evidence from the cases reviewed shows that tensions stimulate debate and may even result in a sense of mutual understanding (albeit somewhat adversarial) between airport and city decision makers. Tensions appear to exist on two levels within the case data; first as a latent 'fear' that decisions made on the one side of the fence will stymie the long-term needs and objectives of the other; and second, a sense of frustration (or even bewilderment) from previous planning and development decisions on the opposite side of the fence. We theorise that both 'latent' and 'historical' tensions provide stimuli for the discussion and sharing of interests (or points of debate and negotiation) which are critical elements for facilitating horizontal dialogue (Innes and Booher 1999) to underpin communicative processes within collaborative decision making (Gunton and Day 2003). However, should tensions strain relations they will likely become tempering factors to actors' engagement and sharing of critical information, or even preclude actors from engaging with one another, thus becoming barriers to integration. In this way, tensions can be both positive and negative for the integration of planning and development decisions for airports and cities, and is reliant on the ability of decision makers to manage tensions and barriers from the historical, operational and spatial contexts for each airport and city.

Perhaps the most interesting and significant finding from the study comes from the ability of "isolated" planning decision makers to provide development strategies that appreciate the needs of both airport and city. The success of Tallinn's zoning of hi-tech business parks under flight paths suggests that airports and cities may grow simultaneously and (somewhat) harmoniously without relying on horizontal forms of governance for mutually

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beneficial outcomes. At face value the local government appears completely disconnected from airport decision making except for the consideration of transport needs. However, the mutually beneficial outcome of encouraging hi-tech business parks in noise affected areas suggests that the city understood both the negative and the positive the impacts of the airport. Championing the benefits for hi-tech firms located close to airports, local government provided top-down support for business park development, achieving a 'double win' by encouraging their location in areas affected by aircraft noise. While encouraging non-residential development in noise affected areas appears 'common sense', planning agencies around the world continue to zone and approve residential developments directly under flight paths. Tallinn's planning success suggests that while there is an impetus to collaborate airport and city planning decisions, positive (even innovative) outcomes may still be achieved in 'isolation' when decision makers have sufficient knowledge and legitimacy to leverage tensions for mutual benefit.

As a relatively new phenomenon in planning, mega-projects such as Incheon and Jebel Ali airport cities integrate the needs of cities and airports via highly centralised decision making. While this approach mitigates the apparent need to bridge institutional boundaries for planning for an airport and its local city, follow-on effects into the broader region are likely the next significant hurdle for societies neighbouring airport cities (Szyliowicz and Goetz 1995). Placing so much emphasis on a single infrastructure to generate regional economic value will likely lead national and regional governments to favour and protect their airport cities in spatial policy making; likely to the detriment of local governments' ability to sustain their communities.

Airports are and may always be, to some extent, planning enclaves. There have been significant steps forward in improving horizontal ties between airports and cities, however planning and development forums between airports and cities typically remain without legitimate and vertically supported influence over decisions made 'on the other side of the fence'. Goetz and Szyliowicz first called for policy makers to transition airport planning processes from rational comprehensive models to more deliberative and collaborative forms in 1997. Since then, however, little has been done to provide substantive legitimate avenues for airport and city interests to be identified, articulated and considered in each others' planning and development decisions. This lack of progress is polarised by the ways in

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which governments have approached the mega-scale development of airport cities. The political impetus driving the development of airport cities (such as Incheon and Jebel Ali) has the very real possibility of morphing what was an airport enclave, into what could best be described as an airport 'citadel'. We theorise that should governments bias legitimacy and authority in planning and development decisions to airport cities, planning and development decisions made by surrounding environs would likely be dominated (without legitimate avenues for redress) by the agendas and interests of the airport citadel.

This paper has identified a range of tensions, barriers, enablers, and (for lack of a better word) puzzles for integrating the planning and development decisions of airports and cities. While not exhaustive, the provided insights are highly appropriate as a starting point for future research on improving the ways in which airports and cities approach the integration of their decisions for planning and development, both inside and outside of airport boundaries. Future research should also focus on the role of conjoined airport and city mega-scale development, particularly for the issues identified in the discussion above.

Acknowledgements

The authors would like to acknowledge that this work was carried out through the Airport Metropolis Research Project under the Australian Research Council's Linkage Projects funding scheme (LP0775225). Information on current research activities at the Airport Metropolis Research Project can be found at www.airportmetropolis.qut.edu.au.

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