



Image: Roel Kroes

# AIRPORT AS A GATEWAY FOR INTERNATIONAL BUSINESSES

Airport infrastructure availability and international route networks as location determinants for FDI in the Amsterdam Metropolitan Area

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## ***Foreword***

My fascination for aviation from an early age and later interest in spatial planning & economic geography have resulted in a conjoined research subject for this master thesis research. Traveling through Amsterdam Airport Schiphol as a passenger and hearing about the increasingly large number of traffic the airport handles sparked my interest in learning more about the economic value that Schiphol brings to the regional economy of the Amsterdam area. When demarcating the research subject boundaries, the globalized nature of international firms was most interesting to me. This had led to the research you are set to read.

This master thesis will mark the end of my academic education, after which I am eager to put all of the gained knowledge into practice and set off my career path. After completing this research, the intersection of aviation and geography continues to stimulate my enthusiasm. A position in this field would perhaps be the next step.

I want to thank the interviewees for their time and insights and lending me their network to reach further key informants. Also, I thank my supervisors Andrea Ascani and Ton van Rietbergen for their continual and useful feedback for me to complete this piece.

## Abbreviations

AAA	Amsterdam Airport Area
AMA	Amsterdam Metropolitan Area
Amsterdam I-X	Amsterdam Internet Exchange
CDG	Paris Charles-de-Gaulle airport
EIB	European Investment Bank
FDI	Foreign Direct Investment
ICAI	Institute of Chartered Accountants of India
LHR	London Heathrow Airport
MNE	Multinational Enterprise
NFIA	Netherlands Foreign Investment Agency
SADC	Schiphol Area Development Company
SAM	Schiphol Aviation Marketing
TCS	Tata Consultancy Services
WMT	Wright Medical Technologies

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# I. Introduction and approach

The economy of the Netherlands has been named as one of the leading world economies, ranking 4th out of 138 on the list of best global economies (Global Competitiveness Report, 2016). Being economically competitive, the country has become an attractive place for international companies to set up a new business branch. The settlement of such international companies in another host country is a form of Foreign Direct Investment (FDI). FDI can be defined as a *usually long-term investment by a resident or company of one economy in another economy, with lasting interests* (UNCTAD, 2009). For a host country to attract international companies, there are a multitude of obvious factors at play, such as labour cost, economic openness or political factors. While much scientific research on FDI focuses on the previous factors, fewer authors such as Khadaroo & Seetanah (2010), Quazi (2005), Morisset (2000) and Wheeler & Mody (1992) have highlighted the importance of transport infrastructure on attracting FDI. Over the years, globalization has caused international business to become more time-sensitive, leading to a growing importance of air travel. The influence of airport infrastructure and connectivity through air transport on FDI therefore deserves more attention.

## I.1. Framework and context

Amsterdam Airport Schiphol serves as the global gateway to the Dutch capital of Amsterdam and its surrounding area, as well as the Dutch hinterland. The airport has therefore been named as one of the *motors* of the Dutch economy (Rijksoverheid, 2016). Bleijenberg (2015) also endorses this view, stating that Amsterdam Airport Schiphol has been one of the most important factors of urban and economic growth in the Amsterdam area. He argues that the shift in modalities is increasingly moving towards air travel, surpassing road, rail and harbour connections. With an increase in international business markets, the airport would logically become one of the more important location factors for foreign companies to select the Amsterdam area for business expansion, as an airport would offer worldwide connectivity for international business opportunities. The Netherlands Foreign Investment Agency (NFIA) states that the well-developed transport and technological infrastructure of the Netherlands is one of its strong assets in attracting inward FDI. Inward FDI from around 300 foreign companies in the Netherlands reached €1.87 billion in 2015, with the addition of 9.300 jobs at these firms. Schiphol's airport infrastructure, along with the seaports of Rotterdam and Amsterdam, is ranked 4<sup>th</sup> globally based on logistic performance (Netherlands Enterprise Agency, 2017). Using the airport's infrastructure capacity and connectivity as a tool for doing efficient international business, foreign companies could generate greater profits between international markets and the Dutch host economy.

More recently, Schiphol airport has gained media attention about the approaching limit of 500.000 yearly flight movements. Growth restrictions might constrain transport efficiency and therefore can negatively affect the flows of inward FDI in the Amsterdam area and may hinder already present international firms in the Amsterdam area. There has also been rising criticism on allowing Schiphol to grow beyond its current limits, in term of environmental impact in mainly aircraft noise and emissions. These constraints and criticisms may negatively affect Schiphol as a positive location determinant for international companies in the Amsterdam area. However, there are ongoing debates between national and regional governments on loosening this tight hold on annual flight movements to ensure the Dutch competitiveness in global physical trade networks (Rijksoverheid, 2017a).

This study will focus on the single case of Amsterdam Airport Schiphol as a location determinant for international companies in the Amsterdam area. The importance of airport infrastructure and international route networks will be central in this research. Research will be done on how airport connectivity is essential to particular business sectors in the Amsterdam Metropolitan Area, and how airport connectivity works an attracting actor for inward FDI. Finally, a future prospect on Schiphol's connectivity including criticisms on this topic will be highlighted.

This thesis research will start with a conceptual background section, providing a discourse analysis on existing theories on FDI, airport infrastructure, and airport route networks from recent empirical sources and reports. This section will present the hypotheses for this research on the Amsterdam case.

Chapter II will illustrate the research methods used in this study, and the subsequent chapters will bring forth the research findings. Finally, a conclusion and recommendations on the topic will be presented.

## **I.2. Research objective**

The purpose of this research is to highlight the role of Amsterdam Airport Schiphol as a location determinant for international firms in the Amsterdam area. This research will show in what ways the airport is an active player in attracting such companies to the Amsterdam area. The research findings should hereby provide better insight in airport infrastructure and airport connectivity theories, within the overall transport infrastructure paradigm on attracting FDI towards local economies. The infrastructure of Amsterdam Airport Schiphol and the Amsterdam area will serve as the case study framework.



The objective of this research is to provide findings that may serve as a means to better understand and manage the effect of airport connectivity on international firms in the regional economy of Amsterdam. In turn, this may contribute to seizing opportunities that benefit the Amsterdam economy.

### **I.3. Main research question & sub-questions**

The objective of this thesis brings up the main research question:

*How does Amsterdam Airport Schiphol act as a location determinant for international companies in the Amsterdam area, and how will the current capacity constraints affect its mainport function in the foreseeable future?*

To make the main research question more tangible and in order to fully answer the question, it can be divided into the following sub-questions:

1. What value does Schiphol's airport infrastructure bring to international firms in the Amsterdam area and is this airport dependency business sector-related?
2. How does the route network connectivity of Amsterdam Airport Schiphol contribute to the location determinants of Schiphol for international companies in Amsterdam?
3. Can capacity constraints at Amsterdam Airport Schiphol negatively affect the worldwide connectivity of international firms in Amsterdam?
4. How might the importance of Schiphol's hub-connectivity change in the near future?

### **I.4. Scientific relevance**

Many of the existing research on the effects of transport infrastructure on FDI takes a general approach, often including the effect of all transport on economic incentives (Aschauer (1989); Kumar (2001); Brooks & Hummels (2005); Khadaroo & Seetanah (2010)). Considerably fewer scholars have focused on the specific role of airports within this transport infrastructure paradigm. Especially with continuing globalization and international business, it would be most valuable to highlight the effect of airports on the local economy. This would also create a better understanding of the value of internationally well-connected airports such as Schiphol as actors for attracting inward FDI, which could surely benefit host economies.

The findings of this research can serve as an addition to existing evidence of airport connectivity and internationalization of local economies. Furthermore, it may add to general

theories on the localization process of FDI in host economies. As Schiphol airport and the Amsterdam area both have significant ranks in in global economic networks, this research case could provide relevant findings on this matter.

### **I.5. Social relevance**

The findings of this research could provide a better public understanding of the importance of airport infrastructure and international connectivity for the local economy. This research will show how Schiphol airport acts as a connectivity gateway to international companies to and from the Amsterdam area, and the economic benefits this may provide locally. It may also give new insights to policy makers regarding airport infrastructure and route networks, which may influence the decision-making process for regional economic issues. This may result in an increase in international business opportunities for the region and a greater regional economic competitiveness, improving economic conditions for the local community.

## **II. Conceptual background**

This chapter will start by giving a brief introduction into the concept of FDI, after which it will continue to highlight theories on the strategies of relocating multinational enterprises (MNEs). Within this paradigm, current theories on the value of airport infrastructure and airport route network connectivity such as location determinants for these firms will be presented.

### **II.1. An introduction to FDI**

The continual globalization of trade flows is a result of a rapidly changing world economy. From Industrial Revolution and continuing throughout the 19<sup>th</sup> and 20<sup>th</sup> centuries, firms became successful by constructing large-scale production systems with global distribution networks. The Industrial Revolution raised common living standards, creating more market demand and also influenced management structures within businesses. This enabled corporations to multiply value-adding activities that could be contained under a single hierarchical business venture (Dunning & Lundan, 2008). In the 21<sup>st</sup> century, especially after World War II, the advantages of *economies of scale* were fading and smaller 'micro-multinational' firms were gaining profits through innovative business designs. In the following decades, revolutionary transport and communication technologies provided a significant cost reduction in transport of goods and information. This contributed to a large range of international business opportunities for firms who did not previously wield an extensive international network (Bel & Fageda, 2008).

FDI is commonly described as investments from one country into another, usually by private companies rather than governments, which involves establishing operations or acquiring assets in local businesses (Financial Times, 2017). Dunning & Lundan (2008) distinguish MNEs into either independent multi-domestic foreign subsidiaries who largely focus on local markets, or companies that adopt assets from different countries into their own globally coordinated network. While these foreign subsidiaries often are locally controlled, they usually remain under international ownership and thus have a global network of stakeholders. Dunning & Lundan (2008) underline that FDI entails international expansion and investment without change in ownership of the venture. Thus, the control and decision-making still remains in the hands of the MNE. Gupta (2008) acknowledges this, envisioning the next generation of global enterprises operating as a network of global hubs, where executive decision-making takes place close to the business activities rather than from the home base of these companies.

FDI in host economies can lead to higher productivity, economic competitiveness and knowledge spillovers, as well as higher exports and enlarged access to international markets (Denisia, 2010). Caves (1996) argues that host countries try to attract foreign investments because of the positive effects on local economies. Berenschot (2007) concludes that relocating international firms in the Netherlands show higher rates of job creation compared to Dutch companies. This is largely because of the multiplying effects generated by the generally higher productivity of the MNE. Borensztein (1998) and Findlay (1978) underline that FDI creates knowledge and technology spillovers between the settling firms and local companies, which could benefit host economies. Borensztein notes that dividend from technology spillovers is generally larger than dividend of national investments in technology sectors (Denisia, 2010). Reasonably, opposition to FDI effects are present: Hanson (2001) and Greenwood (2002) argue that FDI negatively effects local firms, crowding out the development of local businesses. Lipsey (2002) notes that the relationship between FDI and economic growth is too inconsistent to conclude the aforementioned theories.

Regarding the international business operations of MNEs, Dunning & Lundan (2008) describe three types with their specific advantages. This so-called OLI-paradigm represents Ownership advantages, Location advantages and Internalisation advantages, and simply represent the 'why', 'where' and 'how' of FDI. The authors confirm that Porter's diamond model is an effective framework for analysing the Location advantages framework. Porter (1990) states innovative companies can act as market leaders by expanding their business internationally. Companies can become leaders by adopting new technologies or simply by adopting different strategies. In Porter's model *infrastructure* is indicated as a vital part in the competitiveness for most industries. The *related and supporting industries* are also considered indispensable, as these industries deliver internationally cost-efficient solutions to dependent sectors, providing high quality communications, constant flows of information and knowledge exchange.

Such location advantages are in fact key factors for determining which host countries can be selected for the transnational activities of MNEs (Denisia, 2010). Dunning & Lundan (2008) highlight the increasingly important role that institutions play on location determinants of host countries. These institutions are often encouraging inward and outward FDI, and are considered critical in order to manage economic growth. The combination of formal and informal institutions is also said to influence the attractiveness of a host country.

## **II.2. Current trends in FDI**

The current trends of globalization show that FDI continues to play a growing role in the world economy. In 2015, global FDI flows reached 1.76 trillion US dollars. The attraction of FDI has also risen on public and private agendas of firms and countries, in both the developed and developing world (UNCTAD, 2016).

According to Dunning & Lundan (2008), MNEs hailing from developed countries tend to mainly invest in Europe and the United States for tapping into local markets and to strengthen their competitiveness by acquiring local assets. MNEs are considered to be at the forefront of coordinating systems of domestic and foreign economic activities. In addition to market and asset seekers, other types of MNEs can be classified as natural resource seekers or efficiency seekers, according to the taxonomy of Jack Berhman. All four of these MNE types naturally depend on the sector in which the firm operates.

## **II.3. Localisation strategies of MNEs**

When firms are expanding their business internationally, the continuity of their core business needs to be ensured when setting up a new branch in other countries. Therefore, there is a need for strong integration between the sub-units of the MNE (Gupta, 2008). Firms will logically search for locations with the most efficient combination of local conditions. Many variables can be named as location choice determinants for FDI, such as labour cost, exchange rates or economic openness, information availability and transport infrastructure. Plenty of studies have been done on these determinants, while fewer scholars have recognized the role of transport connectivity and transport infrastructure on attracting FDI. However, Khadaroo & Seetanah (2010), Quazi (2005), Morisset (2000), Wheeler & Mody (1992) have engaged in more research on this transport infrastructure paradigm.

It can be said that for firms operating on varying scale levels, different aspects matter when firms relocate to a different locale. For instance, international companies prioritize other location factors compared to companies that relocate domestically or inter-regionally (Luttik et.al., 2009). Research concludes that on an increasingly local level, road infrastructure is more essential, while conversely on higher scale levels infrastructure for international connectivity is more relevant, for instance via rail, ship or air. Increasing globalization warrants a strong market presence of air transport, as this significantly reduces travel times and increases accessibility for these firms on a global scale. International companies that depend on rapid delivery of goods or rapid travel times for business travellers rely most on air connections and therefore often are found to locate closer to airports. Airports

consequently serve a vital role in attracting FDI, as well as facilitate tapping into new markets for existing international companies through air connections (McQuaid et.al, 2004).

It is argued that transport infrastructure can assist *horizontal* FDI in host economies, where the settling business and its products are introduced into the host country's market, as well as *vertical* FDI, where certain parts of the production process are relocated to the host country in order to lower production-costs or reap other production benefits. Through public expenditures on the quality and capacity of transportation links, a host location's attractiveness increases, as this lowers the necessary private expenditures needed for a business to operate in that specific location. In addition, it improves the settling firm's reliability, punctuality and security of accessibility to their business operation and their international customers. These factors contribute to an attractive location climate for FDI (Khadaroo & Seetanah, 2010). Gupta (2008) adds that the most successful companies are the ones that manage to distribute their intelligence around their global network and engage with local values and infrastructure. According to different surveys on international Europeans companies, over 50% of the subjects express the importance of logistic infrastructures and international transport links with other cities, putting transport infrastructure in the top five of essential location factors (Cushman & Wakefield, 2010; Ernst & Young, 2008).

In the case of such international investments, large cities or metropolitan regions are considered as key nodes in the chain. The growth of these metropolises has not only provided a larger labour market, but also shaped and expanded commuter and transport infrastructure, improving the city's ability in conducting global transactions (OECD, 2006).

These large city-regions thus have accessibility as an advantage, as connections inside the city-region as well as the connections with other cities are often well developed. Moreover, these city-regions are often also well connected with metropolises in other countries via transport links, providing international and often intercontinental network possibilities. These connections facilitate the access that firms use for their own business operations, along with market access on a local and international scale.

In addition, large metropolitan areas provide agglomeration effects through infrastructure services, which are readily and more economically available to companies as well as to their customers. These agglomeration effects can be explained by urbanization economies, where firms from different industries are able to share resources such as physical infrastructure (Henderson, 2003). These positive externalities are greater in city-regions, which aids interactions between firms and provides knowledge spillovers more easily. It is said that a well-performing infrastructure is fundamental to metropolitan areas not only for achieving economic success in the first place, but also to ensure the continuation of this economic

success (OECD, 2006). In conclusion, metropolitan areas thus provide the network for international connectivity, along with the infrastructure capacity for maintaining economic growth.

#### **II.4. Airport infrastructure on FDI**

Regarding transport infrastructure, McQuaid et.al (2004) argue that the availability and performance of an international airport are factors of high importance for location choices of international companies when relocating part of their business operations. International airports ensure the swift and often direct transportation links that these companies require during and after their international expansion, eventually resulting in a more competitive business operation (McQuaid et.al, 2004). As an integral part of the transport infrastructure paradigm, the availability of an airport hub can have a stimulating effect on the international companies in the area that rely international connections. This can prove beneficial to the city economy by creating high-grade employment among other effects. Airport hub availability therefore can turn the metropolis into a hub city where the hub function boosts the local connectivity and thus augments the attractiveness of the area for international companies (Button et.al.,1999; Decisio, 2015). For the Amsterdam case within this research, this would form the following hypothesis:

##### ***1. Amsterdam Airport Schiphol provides international firms with attractive airport infrastructure for doing business in the Amsterdam area.***

Apart from the airport infrastructure capacity, the importance of having a sufficient international route network of flight connections is also emphasized (Decisio, 2015, Bannò & Redondi, 2014). Even so, Bannò & Redondi (2014) and Bel & Fageda (2008) argue that this network of flight routes is most efficient when consisting of direct international air connections. Not having direct flight connections would increase travel times and therefore reduce efficient en economic travel. Therefore, direct air connectivity is named as one of the prerequisites for attracting foreign companies to settle in a host area. Escribà & Murgui (2009) add that higher flight frequencies on these air routes would further enlarge the attractiveness of a region for location choices of foreign companies.

The role of airport connectivity on FDI is not often highlighted by academics, though it is argued that air travel by itself is especially important for service-oriented, high-tech and entrepreneurial businesses (Escribà & Murgui, 2009). The quality of these passenger transportation networks enables companies to maintain face-to-face contacts with their international contacts and counterparts in an efficient manner. While the information age has

facilitated global communications in the business world, Bel & Fageda (2008) argue that although electronic and face-to-face contacts can complement each other, they are not equivalents. Face-to-face contacts have unique advantages over electronic means of contact regarding coordinating and motivating business. Face-to-face communication and meetings are said to deliver greater efficiency, as more details can be delivered instantly and there is more room for multi-problem solving at the same time. Also, it enhances the personal experience with contacts or clients, which helps to build trust and improves the working relationship (Ashton College, 2013).

These face-to-face meetings give firms a strategic edge by enabling the transaction of tacit knowledge, which is why international firms tend to decide to locate their offices in proximity to airports with a well-connected international network of air routes (Bannò & Redondi (2014); Bel & Fageda (2008)). This view is partly supported by Strauss-Kahn & Vives (2006), who conclude from their research in the United States that when headquarters of companies relocate, they select metropolitan areas with strong airport facilities, as well as other agglomeration externalities, such as proximity to other headquarters with same-sector activities. These headquarters incline towards metropolitan areas because of airport infrastructure availability, in order to rely on the efficient connections with their other offices and with customers. Regarding the Amsterdam case study, these empirical theories can form the following hypothesis:

*2. Amsterdam Airport Schiphol's airport infrastructure and international network of direct flights are an important pull factor for inward FDI towards the Amsterdam region.*

Furthermore, Strauss-Kahn & Vives (2006) argue that there is a difference in airport dependability between business sectors, as some sectors are more reliant on air travel than others. Sectors such as high-tech, research & development, food, finance and insurances depend on air transport or air services to operate efficiently (Strauss-Kahn & Vives, 2006). Others argue however, that the deciding factor of whether a company intends to set up a regional branch near an airport correlates with the degree of internationality of the business operations or the number of international business contacts (Smyth, 2003). The extensive network of direct international flights results in time-savings and therefore also cost-savings for these companies, which in turn attributes to overall competitiveness (Smyth, 2003). This direct network of international flights is an example of the *direct connectivity* of the airport, meaning the direct air services that are available from the airport, which is measured in the number of destinations and the frequency operated on these routes (Airport Council



International, 2017a). Logically, it is concluded that cities that have a hub function are a more attractive location for internationally operating companies as they can offer more direct connectivity. This is especially true for MNEs, having a worldwide network where it would be essential to have fast and direct accessibility. However, there are also theories that imply that economic growth warrants the growth of the airport and its network, thus reversing the previously mentioned causality (Decisio, 2015). Such contrasting evidence could possibly be supported by the findings of this research. Another dependable factor is argued to be the dependence on the availability of high-skilled international labour, which requires the connectivity of an airport to efficiently travel between offices (BCG, 2008). Lastly, Holt et.al. (2006) emphasize that location factors can differ significantly depending on business and sector specific determinants, and even culture. These empirical insights form the following hypothesis for this research:

*3. The airport infrastructure and international network of direct flights of Amsterdam Airport Schiphol is essential to internationally operating firms who rely on face-to-face contacts and tacit knowledge for their business operations.*

The overall cost and benefits of relocating will reasonably also play a constant role in the decision-making process for all international firms, where one benefit or cost may sometimes outweigh the other (Van den Berghe, 2005). Aside from that, Brueckner (2002) argues that the possibilities of face-to-face contact that airport connectivity provides strengthen intercity agglomeration economies, which in turn could lead to better urban economic development. Interestingly, Brueckner's findings show that this is mostly true for the service-related businesses, rather than manufacturing and other goods-related businesses.

## **II.5. Airport capacity boundaries**

McQuaid et.al (2004) further argue that the transport sector is one in which the local governments can have significant direct influence, making or breaking regulations regarding the size and growth of transport networks. The view of the local governments is logically influenced by the advantages and disadvantages that an airport brings to the local economy and environment.

The increase in air travel around the world has put pressure on airport infrastructure and their surroundings. Brueckner (2002) argues that airport capacity is in a delicate balance with demand from surrounding markets. Also, the development of the air travel market has contributed to the growth in aircraft movements. Air travel expansion has largely focused on adding more routes frequencies and exploring new markets via new direct destinations

instead of upgrading in airport and airplane capacity. This has caused the global number of flight movements to double since the 1980s while the average size of airplanes has slightly decreased. This development however could be inhibited because congestion is constraining airports. When dealing with congestion problems, increasing the airport's capacity has usually been the favourable choice, instead of adapting the route network to cope with the traffic issues (Swan, 2002).

Expanding the airport's capacity is a challenging undertaking. Expansion could be done in a way that provides enough growth to meet up with the levels of the previous constraints, while this does not leave much growth tolerance and might result in new constraints in the near future. Contrastingly, executing a large expansion of airport infrastructure may create a further stimulus of traffic, resulting in an ever-growing need for expansion. Therefore, it is argued that maintenance and improvements of existing infrastructure are considered as important, instead of providing completely new infrastructure for expansion (McQuaid et.al., 2004). This concern can be further endorsed by the law of diminishing returns: When airports have grown to a state of well-connectedness and well-developed infrastructure, the addition of more routes or flight frequencies does not result in greater economic returns than the previous expansion has already realised. When a certain level of adequacy in connectivity has been reached, further expansion of the network will likely not entice more international firms to settle in the area. This may only lead to congestion and capacity constraints of the airport (RLI, 2016). This is in direct contrast with Escriba & Murgui (2009), who acknowledge no such growth ceiling regarding connectivity, and that more flight connections would only benefit the attractiveness of the host region. These insights can form an additional hypothesis of this research:

*4. To remain a positive location determinant for international companies, Amsterdam Airport Schiphol has to focus on maintaining and improving existing airport infrastructure and route networks.*

On the context of growth restrictions, there seems to be a contrast of opinions. Gelhausen et.al. (2013) state that enhancing the capacity of airports in Europe will probably not suffice for the continually growing demand for air travel. In contrast to expansion, they present a *do-nothing* approach that would let the air travel market react to the capacity constraints of airports, which may include businesses diverting to other airports.

## **II.6. Conceptual relations model**

From the knowledge and formed hypotheses that have come forward out of the empirical theories on the subject, the following conceptual model is presented below.

The conceptual relationships in the model commence with businesses that operate internationally. These businesses often rely on face-to-face contacts for doing business, which in turn leads to a demand of an extensive route network of direct international flights, as well as a well-developed airport infrastructure. As a side note, metropolitan areas are said to profit from the presence of international firms in the form of agglomeration externalities. This economic welfare of the metropolitan area in return also leads to a greater development of its airport infrastructure, or at least the opportunity for further airport development.

Thus, the need for face-to-face contacts leads to the two pillars, which are centred in this research: The airport having an extensive route network of direct international flights which is focused on the connectivity of the airport, and a well-developed airport infrastructure which focuses on the capacity of the airport. These two focus points are the main research subjects. In theory, a positive flow in these actors should lead to the airport becoming a more relevant location determinant when companies relocate to a host region. Eventually, the ability of the airport as a location determinant would increase the overall attractiveness of the host region.

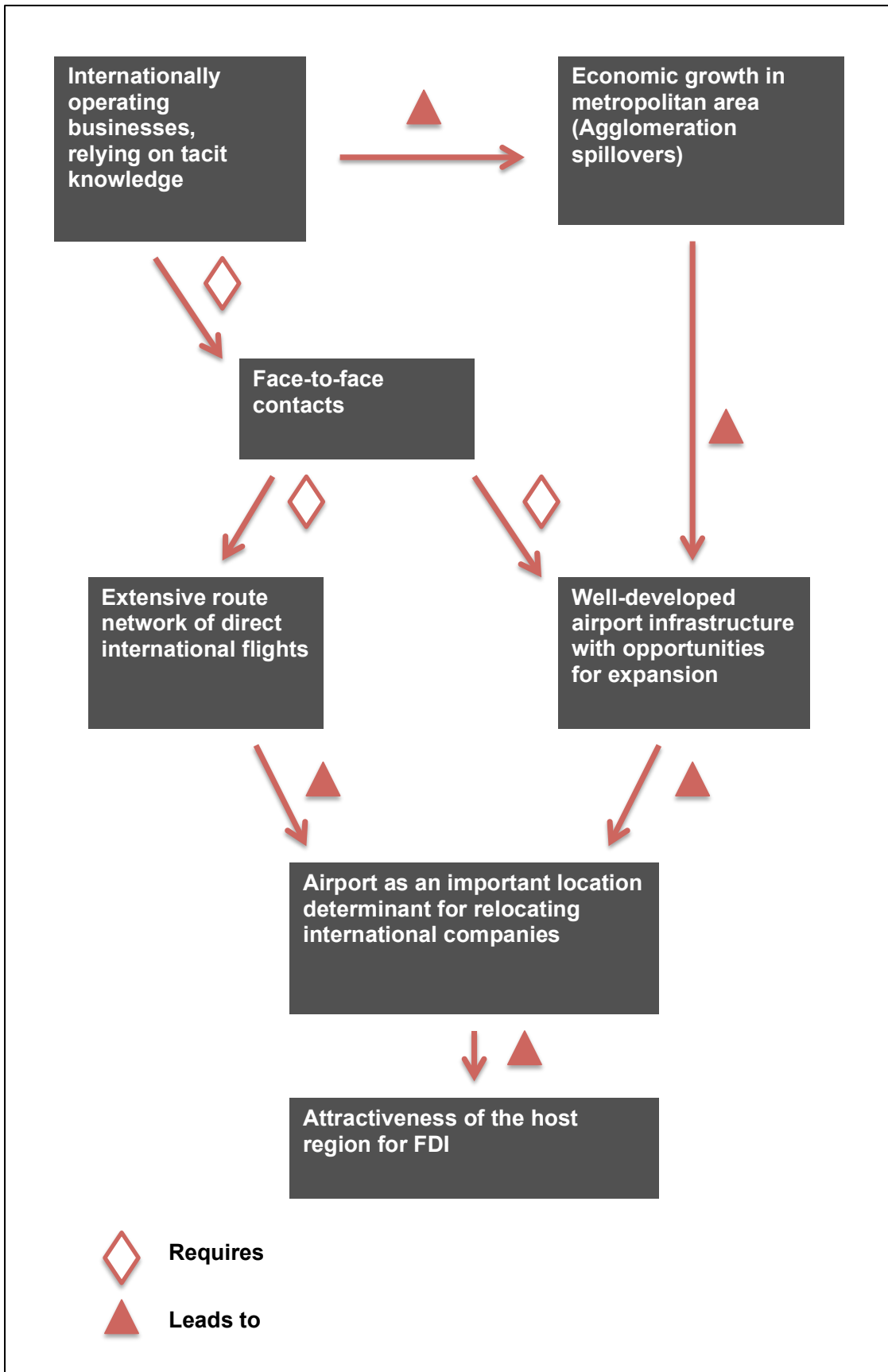


Figure 1. Conceptual relations model (authors own)

## **III. Methodology**

This chapter will start by describing the research designs of this study, followed by the operationalization of the sub-questions to execute this research. Lastly, the research methods for answering the research questions will be identified.

### **III.1. Research designs**

This thesis research will be of a qualitative nature, as most of its data will be obtained from written sources such as empirical literature and published reports. Additionally, semi-structured interviews with stakeholders in the airport infrastructure sector, foreign direct investment firms, and consultancy firms will add expert opinions on the research subject matter.

To put the theories from the previous chapter into perspective, this research is a single-case study on Amsterdam Airport Schiphol and its contribution on inward FDI in the Amsterdam region. A case study can be described as an *empirical inquiry in which there is a focus on a contemporary phenomenon within its real-life context and where the boundaries between the phenomenon and the context are not clearly evident* (Yin, 1994).

The case study will include an analysis of relevant reports and findings on the subject, along with gathered data from semi-structured interviews with stakeholders and key informants in airport infrastructure organizations and in government's public bodies that attract international firms towards the Amsterdam area or the Netherlands in general. This can also be companies or initiatives that assist international firm in their relocation process.

The qualitative data will see a small-scale supplementary addition of quantitative findings in reports on the Amsterdam research case to substantiate or debunk qualitative findings.

This research will generally be of an inductive nature, as previously found theories will be tested in the case study on Amsterdam Airport Schiphol and the Amsterdam area. The findings of this research will then be able to consolidate the current theories or be able to create new theories on the subject. Also, this research may initiate further research or discussion on the subject.

### III.2. Operationalization of sub-questions

In the introduction of this thesis, the following sub-questions were introduced:

1. What value does Schiphol's airport infrastructure bring to international firms in the Amsterdam area and is this airport dependency business sector-related?
2. How does the route network connectivity of Amsterdam Airport Schiphol contribute to the location determinants of Schiphol for international companies in Amsterdam?
3. Can capacity constraints at Amsterdam Airport Schiphol negatively affect the worldwide connectivity of international firms in Amsterdam?
4. How might the importance of Schiphol's hub-connectivity change in the near future?

These sub-questions will be used to jointly answer the main research question. In the previous section II, hypotheses drawn from the existing evidence on the subject. These research questions will also serve to confirm or debunk these hypotheses.

The first sub-question will investigate the value of Schiphol's airport infrastructure for international firms relocating to the Amsterdam area. This sub-question will be used for findings on hypothesis 1 and 3.

The first sub-question will be answered using reports and empirical findings on the subject of airport infrastructure as a location determinant for relocating international firms. Data for answering this question will be gained from semi-structured interview with key informants from government public bodies and from the airport itself. The public bodies will most likely be from the sectors of city marketing, working to attract international business to the Amsterdam metropolitan area. The airport informants will likely be employees working with attracting international business or development of the research area, such as geographers or spatial planners working to locate international businesses in the airport area.

The second sub-question will zoom in on the route network connectivity of Amsterdam Airport Schiphol, focusing on how this connectivity acts as a location determinant for international companies. This question will contribute to answering hypothesis 2 and 3.

The second sub-question will be focused on international firms using the airport's route network, and will be answered by key informants of Schiphol's route network and marketing teams.

The third and fourth sub-questions will review the capacity constraints of Amsterdam Airport Schiphol and how the current strong connectivity of Schiphol will develop in the near future. This will be a critical analysis of airport connectivity as a location determinant for international

companies in the Amsterdam area. These sub-questions will be answered by findings from semi-structured interviews with airport key informants in strategic planning regarding the route network and the capacity constraints of the airport. This information will be used to test the theories and to supply a recommendation for expansion and upgrading of airport infrastructure.

The findings of this research question will confirm or debunk hypothesis 4.

### **III.3. Research methods**

The first part of the research has consisted of framing the concept and research area. This consists of reviewing existing literature and reports on the subject and finding empirical theories focused on transport infrastructure, particularly on the value of airport infrastructure for FDI. Reviewing these theories and reports, a discourse analysis has formed the framework and introduction into the subject. Included, an introduction into Foreign Direct Investment was made to show the economic benefits for both the firms and host economies.

Further research data will be obtained through the interviewing of relevant key informants in the FDI and airport connectivity sectors. These informants are selected for their involvement in the attraction of international firms to the Amsterdam area. This includes semi-structured interviews with informants from public bodies that are active in city marketing and city relations, as well as airport officials who highlight the airport's role in providing the right infrastructure and route network to make for a successful location determinant for FDI. These key informants are useful for this research, because of their assumed extensive knowledge on the research subject, as they work with economic investments of international companies on a day-to-day basis. Therefore, a small number of interviews with key informants could provide significant insight in the research case.

The questions in the semi-structured interviews will be guided regarding the subject matter, however the main goal in the interviews will remain to gather information on the subject for answering the sub-questions. The interviews will focus on answering these questions, but also can be extended to investigate new insights into the subject matter.

Semi-structured interviews are useful for revealing genuine information and knowledge of the interview-subjects, as the interview stays close to the reality of the situation. It also gives the opportunity for certain aspects of the interviewee's view to come forward, which are possibly things that previously were not in the researcher's focus area. Questions therefore should not be overly specific, but allow room for flexibility in answers according to the interviewee's

perspective (Bryman, 2008). Because of the nature of this research, semi-structured interviews would be suitable to receive the necessary information for answering the research questions. The interviews will be guided in the direction of the research subject in order to answer the research questions, but the interviewees are also at liberty to share their insights on the case, which might help to come to new findings.

The interview subjects are to be selected according to the expected knowledge base that these key informants may possess. This indicated the use of a *purposive sample* (Bryman, 2015). Initially, business contacts at the Schiphol Airport Group and several public bodies in city marketing for the City of Amsterdam were contacted. Through these contacts, *snowball sampling* was used for gaining other contacts for further information through the professional networks of the previous informants. This method of gaining interview subjects is useful to gather more contacts within the research field without the researcher having an extensive network. This allows for a guided and widespread angle of approach to the research subjects, but also might present new key informants that were previously unavailable or unattainable to the researcher.

The findings from the semi-structured interviews will be deduced from the transcripts of the interviews. Transcripts are useful to guarantee a thorough examination on the interviewee's responses. It permits the examination of the way interviewees express themselves, as well as reduce the researcher's first impressions of the contents of spoken information. Lastly, it also grants the opportunity for a secondary analysis of the conversation's contents (Bryman, 2008). This research will benefit from the transcripts because of the need for information gathering through these semi-structured interviews. It opens up the possibility for using precise findings and quotes from the key informants. As interviews for this research were conducted in Dutch, transcripts can be found in Dutch accordingly in Appendix 5.



## **IV. Airport serving the city's economy**

This chapter will introduce the present collaborations and initiatives for the attraction of international companies to the Amsterdam area. This chapter will focus on the general cooperation between the airport and local authorities, along with other initiatives that attract inward FDI.

### **IV.1. Introduction to the Amsterdam case**

Over the last decades, Amsterdam Airport Schiphol has developed into one of the major world hub airports in number of passengers and airfreight. In 2016, the annual number of passengers reached 63.5 million, with 1.7 million tons of air cargo being transported (Royal Schiphol Group, 2016). The evolution of the hub-function of Schiphol has connected the Amsterdam Metropolitan Area (AMA) to the world. This extensive expansion was the result of the *mainport* policies that the Dutch government developed in the transition phase of the Dutch economy towards Neoliberal Capitalism. These policies considered the Amsterdam Airport Schiphol and the seaport of Rotterdam to become ideal international gateways, leading to the economic growth in the Netherlands. The word *mainport* is a newly formed Dutch portmanteau word from the two English words 'main' and 'port', formed through the conclusion that the transportation of certain goods was concentrated through centrally situated harbours. This led to the identification of Schiphol as an *economic engine* of the Amsterdam region, leading to a spurring of regional and national economic growth (Jong, de, 2012). Following policy adaptations have also underlined the importance of these mainports and their function in creating a competitive location climate for international businesses. Due to the relative compact size of the Netherlands, the Dutch hinterland has also significantly gained from Schiphol's worldwide connectivity. The AMA has profited through the opening up of opportunities in global trade and investment through the use of the airport's extensive route network and infrastructure capacity. These investments offer foreign companies a chance to invest in the Netherlands, often involving relocating part of their business into the AMA. Schiphol airport's hub connectivity offers an attractive feature to international headquarters, business services companies and logistics alike (RLI, 2016). By serving inward FDI, the airport also has indirect forward economic effects on the local economy, with international headquarters providing around 9000 jobs and Schiphol-dependent distribution companies with 7500 jobs in the North-Holland province (Decisio, 2015).

The AMA currently houses 465 headquarters of foreign companies, with an annual growth of around a hundred new international companies (Amsterdam inbusiness, 2017). The

relocation of international companies in the AMA is rapidly increasing, with 2015 seeing 157 new firms compared to 140 new firms in 2014. IBM's report Global Location Trends (2016) stated that urban areas are becoming the preferred destinations for international investments in company facilities because of the high concentration of people, and thus the high availability of skills. The Amsterdam-Rotterdam city pair has secured the third place in the global ranking for foreign investment in urban areas, strongly representing the business services and IT sectors. Even though the Netherlands' largest urban areas ranked third after London and Paris, these two Dutch cities are often the preferred entry points into the European market (IBM, 2016). In the AMA, the praised benefits are the open business climate, the high English proficiency of Dutch natives, and the attractive tax rates, along with the high degree of interregional and international. Marcel Lekkerkerk of Schiphol Aviation Marketing, the association that works on the competitiveness of Schiphol as a hub for air travel, performs market research and investigates market demand for air travel and logistics, and thereby is able to reveal insights on the airport dependency of international firms. He states that international newcomers often state that connectivity is a primary reason for choosing a new office location in the AMA or at Amsterdam Airport Schiphol (Lekkerkerk, 2017). Also, the general Dutch infrastructure and geographical location with connections to other European countries by road and rail are considered ideal (NFIA, 2016).

## **IV.2. Allocation**

The greatest challenge of relocating parts of the international firm will be to ensure the initial survival and consecutive thriving of the new branch in the host region. MNEs originating out of developed countries mainly tend to invest in order to expand their products to the host region's markets or markets in the surrounding regions (Dunning & Lundan, 2008; UNCTAD, 2006). Joep Schroeders, Foreign Investments Manager at Schiphol Airport Development Company (SADC), actively assists such companies with the set-up of a new business branch in the AMA. Schroeders is in close contact with international firms from the acquisition process until the development of business areas for these companies to settle in. Schroeders states that foreign companies are generally investing in the AMA by expanding their reach in the Dutch market and markets of surrounding countries, using Amsterdam as a gateway to European markets (Schroeders, 2017). Alex van Westerlaak, Project Manager Investor Relations & Market Intelligence at Amsterdam Inbusiness, also confirms this trend. Westerlaak follows acquisition trends from foreign investment data and thereby actively monitors the settlement of international firms in the AMA. SADC and Amsterdam Inbusiness are both government initiatives actively attracting international companies to the AMA and assisting their relocation process.

SADC was established up in 1987 by four parties with equal shares consisting of Schiphol Group, the North-Holland provincial government and the municipalities of Amsterdam and Haarlemmermeer (the municipality in which Schiphol airport is located). As Marie-Jeannine Citroen states, the initiative entailed multi-level government collaboration along with public-private collaboration, which was quite unique at the time. Citroen, as a Foreign Investment Manager at SADC, focuses on public-private partnerships acquiring and managing stakeholder assets. She states the purpose of the SADC initiative was to benefit the regional economy as a whole through increasing the regional attractiveness of the city and airport for international companies. This was expected to deliver long-term economic benefits to the AMA and secure a competitive global economic position of the Netherlands (Citroen, 2017). SADC operates in the Schiphol Area and thus focuses on development of businesses on the airport's grounds and the surrounding area in the western flank of Amsterdam as can be seen on figure 2. The company has an assisting role in the inward FDI decision-making process by providing business property locations. Property development entails the creation and sale of plots in several *business parks*, with a focus on accessibility, business quality and future growth possibilities. SADC's business model strives to deliver job creation in the area by attracting international firms and to contribute to the transition into a circular economy (SADC, n.d.).

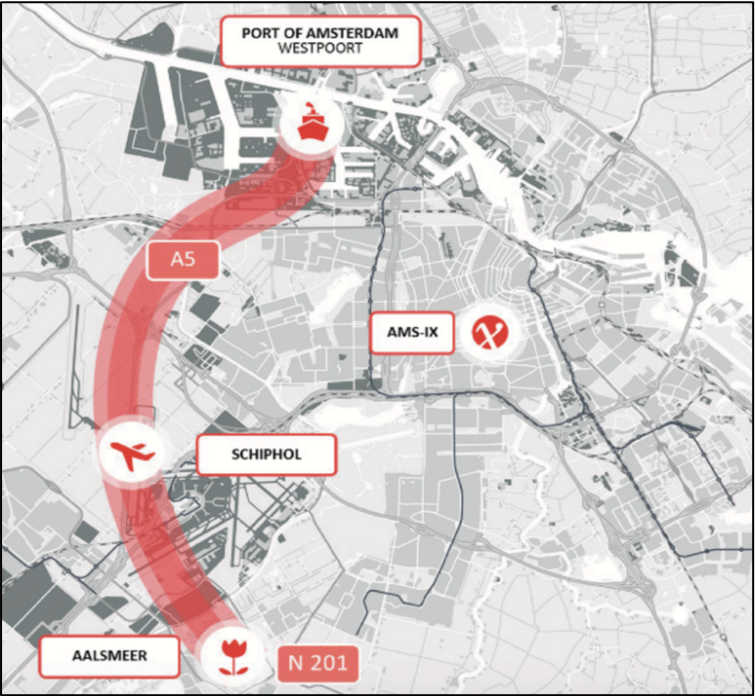


Figure 2: Western Amsterdam logistics corridor

The logistics infrastructure of Schiphol airport would enable companies with physical input for business operations of their new branch, along with ways to output produced physical goods to their customers throughout Europe or throughout the world. SADC's focus has historically grown towards the logistics sector, now also incorporating the aerospace sector. SADC also takes on a mediator role between the international companies and local governments or research institutes. This includes several partner projects such as the Amsterdam Airport Area (AAA) association, which aims to attract and facilitate international companies to relocate to the AMA through joint international marketing and promotion activities. The AAA initiative thus acts as an international tool for the entire region, collectively marketing areas of all municipalities in the AMA (Citroen, 2017).

Another collaboration is the Amsterdam Logistics Board, an initiative created to boost the competitiveness of the region by knowledge sharing between logistics parties. President & CEO of Schiphol Group Jos Nijhuis states that this can result in innovation that can strengthen the competitiveness of the AMA (Amsterdam Logistics Board, 2017). Collaborative concepts such as SADC and its partner projects are remarkable, as it is said that many other countries generally see less to barely any collaboration between different local and national governments (Schroeders, 2017).

In a small country like the Netherlands, available space for new infrastructure is limited. Therefore, Buck Consultants International propose the use of *Smart Logistics* to better utilize the existing infrastructure with the help of modern-day technology and the wide availability of data, resulting in time and cost savings. International firms in the AMA can also profit from this efficient use of technology for their business operations, especially when such companies have significant international import or export operations. The local branch could hereby realize efficient logistic flows with their international markets, as much as efficient local distribution of goods (BCI, 2017). The use of Smart Logistics could provide a decrease in logistics expenses and could prove that the AMA is at the technological forefront of logistics and trade, increasing attractiveness for inward FDI.

### **IV.3. Acquisition**

Amsterdam inbusiness is the official foreign investment agency of Amsterdam assisting business sectors from the remaining sectors besides aerospace and logistics. This initiative assists international companies with establishing and expanding their business operations in the AMA. According to Alex van Westerlaak, project manager of investor relations, Amsterdam inbusiness focuses on providing investor relations, business and partner

networks, and potential office locations and co-working spaces. Amsterdam inbusiness uses the Schiphol's network connectivity as a key marketing point, since nowadays the availability of air connectivity is a top priority for such companies. Amsterdam is fiercely competing with London, Paris and Frankfurt in term of network connectivity (Westerlaak, 2017). Additionally, Schiphol Aviation Marketing is active in providing and maintaining direct connectivity through a network of direct flight destinations. SAM also performs market research on international businesses in the AMA to support business case advice to entice airlines to expand their network (Lekkerkerk, 2017).

While international companies from the aerospace or logistic sectors will typically locate to a location in a business park closer to the airport, companies from finance and business services sectors are often less bound to an airport-bound business location. The initial demand from these sectors is often for small office spaces to moderate the European network. The initial offices of these companies often use existing logistic infrastructures to import or export physical goods throughout their business network. Schiphol airport and the available logistics companies can provide an efficient gateway to sustaining a global network, especially when transport is time-critical (Westerlaak, 2017). In recent decades, business services have overtaken logistics as the dominant business sector in the AMA. This shift resulted in an enlarged interaction between the city and the airport as an entity, leading to a growing importance of the airport as a primary location factor for the entire economic complex of activities in Amsterdam (Schaafsma, 2017). In Amsterdam, this resulted in a swiftly developing business district located strategically between the city and airport, well connected via car, train and other public transportation. The district was named Zuidas, literally translated as *south axis*.

As of 2016, the district counts 48 office buildings with a combined floor space of 728.700m<sup>2</sup>. The Zuidas houses around 700 companies from mostly financial, legal, and other business services sectors. 45% of the companies settled on the Zuidas is of Dutch origin, leaving more than half to be internationals. 18% of Zuidas companies hail from the United States, while 9% is originally from the United Kingdom (Gemeente Amsterdam, 2017). Zuidas offers innovative and high quality amenities, buildings and infrastructure, as well as the presence of a large talent pool. Moreover, it offers airport accessibility in 6 to 8 minutes by train or car, resulting in efficient travel times for internationally operating businesses.



Figure 3: Zuidas location

The next chapter V will present more details and specifics on the way that Schiphol airport acts as a pull factor for FDI and how business sectors have a difference in airport dependency.

#### IV.4. Summary

Following the mainport policies by the Dutch government, Amsterdam Airport Schiphol has expanded into an infrastructure hub for the AMA as well as for the Dutch hinterland. The findings in this chapter show that Amsterdam ranks high on list of European cities for FDI, and that there is an increasing trend from international companies to settle in the AMA. One of the reasons for attracting international companies is found to be Schiphol airport's high degree of international connectivity to the Amsterdam Metropolitan Area.

Within the Schiphol area and in the western flank of Amsterdam, SADC develops business locations for international clients mainly from the logistics and aerospace sectors. SADC also acts as a mediator in several partner projects that focus on economic growth and economic innovation. BCI also presented the concept of smart logistics, which offers international companies a means to conduct more efficient logistics operations through the use of available data on transport of goods.

A short distance from Schiphol airport, the Zuidas business district offers office infrastructure to international companies from the creative, IT, finance, life sciences, business services and fashion sectors. As business services have surpassed logistics as the dominant business sector, the Zuidas business district has grown significantly, offering the city high-class office space with high airport accessibility. Because companies from these sectors rely on existing logistics infrastructure and often have a smaller initial branch size, they are able to move into available office infrastructure which is usually located closer to the city and not necessarily in

close proximity to the airport. These companies are assisted by Amsterdam inbusiness in their relocation process, which also highlights the connectivity of Schiphol in the acquisition of new international firms. Schiphol Aviation Marketing is active in marketing the route network of Schiphol to provide worldwide connectivity to the AMA according to market demand.





## **V. The airport as a pull factor for FDI**

The previous chapter introduced the case study on Amsterdam Airport Schiphol, along with the companies and initiatives attracting international companies to the area. This chapter will serve as the main chapter for the findings of this research.

Firstly, the theories that were found in the conceptual background section will be put into perspective in the Amsterdam case, using data from the interviews with key informants. Secondly, Schiphol airport's route network connectivity and its importance to international companies will be highlighted. Finally, the sector dependency of the airport will be highlighted with examples of companies in each of the business sectors in the Amsterdam area.

### **V.1. Airport infrastructure**

As found in the theories mentioned in the previous chapter, the importance of having a strong airport infrastructure and route network of direct flights could be an attracting factor for international companies in most business sectors. The current generation of global enterprises operates using a network of global hubs, which brings an increasing need for integration between the globally dispersed sub-units. Therefore, infrastructure with international reach such as airports is regarded as one of the primary location factors for relocating MNEs (Gupta, 2008). Joep Schroeders of SADC states that this is also seen in the Amsterdam area. It is mentioned that the majority of the acquired international companies through SADC's business ventures often relocate around Amsterdam Airport Schiphol or in the AMA because of the well-developed network connectivity and infrastructure. This connectivity makes the new branches easily reachable. The Amsterdam-based branch then becomes a new link in the global network of these MNEs (Schroeders, 2017). A map of the concentration of foreign owned companies in the Netherlands can be found in appendix 3. For these international companies, the availability and performance of Schiphol airport play a vital role. The connectivity through international flights provides time-savings, ensures reliable transport times and offers possibilities for physical business contacts with customers and suppliers (McQuaid, 2004; Khadaroo & Seetanah, 2010). An example is Microsoft's offices located on the World Trade Centre at Schiphol airport, in the developed office quarter adjacent to the passenger terminals. This originally American IT-company, which has sales, marketing, and services offices in more than 100 countries, strongly relies on the airport's infrastructure to provide worldwide connectivity to their globally-dispersed offices. Microsoft oftentimes uses their Schiphol offices to host international executive meetings because of its highly accessible location at Schiphol airport. Testimonials from Microsoft executives reveal that company employees from foreign offices fly in to Schiphol airport on a morning flight, have meetings at the airport offices and board a flight back home or to a following business

destination by day's end (Broekema, 2017; Lekkerkerk, 2017). Amsterdam Airport Schiphol has a clear advantage on this point compared to other large Western-European cities such as London or Paris, where the international airports have significantly less developed airport-centred office locations, according to Gerben Broekema, Head of Group Strategy and International Development at Schiphol Group. Broekema is responsible for international business development on and around Schiphol airport and for incorporating aviation into the surrounding society. He therefore can share valuable information on this subject. Broekema states Schiphol's business advantages may also coincide with the close proximity of the airport to the city of Amsterdam. This proximity could explain the development of more office infrastructure at the airport, since companies located here will not be far removed from other businesses in Amsterdam's city centre. The development of offices at Schiphol follows the *airport city* concept, where airports are developed into spaces that are more than just places of mass transit. Schiphol airport was actually one of the first to develop along this concept at the end of the 1990s. Schiphol Group defines the airport city as a dynamic hub that integrates people and businesses, logistics and commerce, information and entertainment, and poses as an efficient multimodal hub for air, road and rail transport (Jong, 2012). As noted by Broekema, other European cities such as London or Paris have international airports located further away from the city. These airports also have less efficient multimodal connections compared to Schiphol, which could contribute to these airport being less attractive to international companies for airport-bound business development (Broekema, 2017).

Origin	Car	Train	Transit time in minutes
Sloterdijk business district (Amsterdam West)	15	10	
Zuidas business district	17	6	
City centre (Prinsengracht)	26	29	

**Table 1: Transit time in minutes by car and train from Amsterdam business locations to Schiphol airport.**  
Source: Google Maps

The location of the airport relative to the city is thus found to be an influencing factor for location determinants. Compared to other large European cities, Amsterdam has its serving airport located quite near to the city. On top of that, the transit connections between the two are also well-developed resulting in short commute times as can be seen in table 1. Having a major gateway this close to urban business locations is a virtue for a capital city such as Amsterdam, and is often noted by businessmen who benefit from it.

Figure 4 shows the location of Amsterdam Airport Schiphol in relation to Amsterdam. The relative close distance of only 9 kilometres along with the available transport connections improve airport accessibility to and from the city. One can also notice the relative size of the airport infrastructure compared to the city's infrastructure size.



**Figure 4: Amsterdam Schiphol Airport location**

Experts note that Amsterdam boasts a large airport compared to its city, in relative size and in numbers: While Amsterdam holds the 23<sup>rd</sup> place of largest European cities by population, its airport is the third largest European airport by cargo tonnage as well as total passenger numbers. In 2016, Schiphol reached Europe's third largest cargo airport by handling 1.7 million tons of cargo between 7 handling companies, with 9 dedicated freighter airlines serving the airport (Schiphol Cargo, 2017; Airport Council International, 2017b). Schiphol airport's capacity is now larger than London's Heathrow (LHR) and Paris' Charles-de-Gaulle (CDG) international airport, even though these cities far exceed Amsterdam in population and physical size. Schiphol shows a 26% share of air cargo on its direct connectivity scale, with CDG and LHR presenting only 5% and 1% respectively in 2014 (Boonekamp & Burghouwt, 2017). This indicated a more evenly divided airport capacity between passengers and cargo, which is beneficial to international firms warranting business travel, air cargo logistics or both. This airport capacity is measured in direct connectivity, meaning direct flight connections in destinations as well as frequency (Airports Council International, 2017a).

Airport	Direct Connectivity	Rank
<b>Amsterdam Airport Schiphol (AMS)</b>	<b>4.861</b>	<b>1</b>
London Heathrow (LHR)	4.680	2
Frankfurt (FRA)	4.586	3
Paris Charles-de-Gaulle (CDG)	4.497	4

**Table 2 Direct connectivity of Western European Airports in 2016. Source: Airports Council International, 2017a)**

Schiphol's well-developed infrastructure and international connectivity result in higher relative importance of the airport to the city of Amsterdam. The Dutch government and Schiphol Group envisioned that wielding a strong infrastructure would attract economic growth. Therefore, the government has used Schiphol as a means to fiercely compete with other world cities and regional economies. Thanks to its airport infrastructure, Amsterdam can be dubbed a *mini metropolis* with a global reach. Schiphol's developed airport infrastructure is able to facilitate the demand for air travel with sufficient runway capacity and sizeable terminals to accommodate the growing air transport industry. This has resulted in Amsterdam being able to surpass London in the total number of destinations and in the variety of destinations too. For instance, Schiphol airport has direct connectivity to seven destinations in China, while Heathrow has five. Since China has one of the fastest growing economies at the moment, ergo Chinese flight destinations are assumed to be beneficial to the trade relations. This could also facilitate Chinese inward FDI in the Netherlands, according to Maurits Schaafsma, senior urban planner at Schiphol Group. Schaafsma is an experienced airport planner, not only regarding the physical infrastructure but also on the interaction of the airport with the metropolitan area. He states the availability of strong airport infrastructure with connections to economically viable markets is one of the key factors attributing to Amsterdam's global economic competitiveness and economic success (Schaafsma, 2017). In the conceptual findings, it was mentioned that international companies, which depend on the rapid delivery of goods or rapid business travel times are most dependent on the airport's capacity and connectivity, and tend to locate closer to the airport. Schaafsma acknowledges parts of this theory in mentioning the success story of the aforementioned Zuidas business district. The international companies with offices at Zuidas are not only located close to other businesses in the district and to the city centre, but also have the additional opportunity of the accessibility and capacity of the airport for business operations. Since these companies often operate internationally, dependency on airport connectivity is relatively high. The Zuidas in this way experiences agglomeration effects of the airport, as Schiphol serves as its

international gateway. The airport can thus provide the benefit of international connectivity to the international companies (Schaafsma, 2017).

In Amsterdam, the airport infrastructure and city's economic strength are said to have a complimentary relationship, because of the international orientation of the city economy. This focus on international business in Amsterdam's growing economy generates more international business opportunities from the existing companies, consequently increasing the demand for airport infrastructure availability (Schaafsma, 2017).

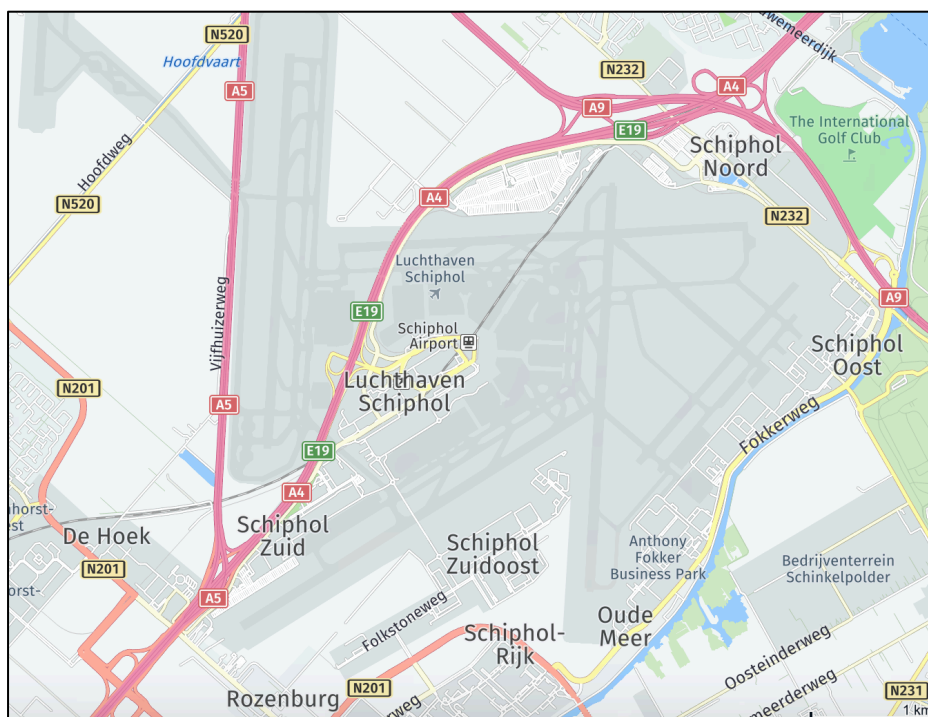
In prospect to the growing air transport industry, Schiphol is said to still have room for expansion according to Schaafsma. This may be realised along the current highway and train infrastructure between the airport and the city, resulting in a so-called *airport corridor* development. This expansion may also include a new passenger terminal at the north side of the airport, along with expansion of existing airport and cargo terminals. However, investing in such infrastructure is considered time-sensitive and essential for Amsterdam's economic perseverance in the competitive global economy (Schaafsma, 2017). Others argue that a completely new airport infrastructure further away from the city would be a better solution for infrastructure expansion. This is thought to be more efficient for both the international companies in Amsterdam as well as transfer traffic that has allowed Schiphol to grow into a hub airport. This will be highlighted in the next chapter.

Other governing parties such as Bestuursforum Schiphol argues that the airport should be allowed continuous growth in order to play the role of an important economical engine in the region, provided that the liveability of the surrounding area is guaranteed. This spatial vision not only aligns with the *southern corridor* that Schaafsma presented, but also the West axis corridor from Schiphol towards the Amsterdam harbour (Jong, 2012), which was mentioned by SADC.

Sufficient capacity of the airport is of crucial importance for the companies that are dependent on air transport or business travel. Broekma states that the current infrastructure has ensured the connectivity that was necessary for Amsterdam's growth into an international business centre, but also to maintain this position and strengthen it even further (Broekema, 2017).

Figure 5 below shows a close-up of the airport, with its six runways around one centre building infrastructure, housing the four main passenger terminals, one of two large cargo centres, underground train station and road infrastructure, as well as many office buildings. The relatively high number of runways stems from the reconstruction of the airport after

World War II. The 1947 expansion plan proposed a central terminal building with a tangential runway system, with a highway across the central axis for connectivity to Amsterdam and the southern part of Holland (Jong, 2012). This infrastructure still remains, with the highway A4/E19 coming from Rotterdam, The Hague and Leiden, leading to Amsterdam's ring road within a 5-minute drive. The East and South side of the airport grounds houses mostly aerospace and additional logistics companies. The second large logistics area is Schiphol Zuidoost, where another large air cargo terminal and tarmac is situated. Schiphol Oost houses a number of hangars for mostly maintenance and aerospace offices. An overview of the airport's infrastructure and current as well as future business locations can be found in Appendix 1.



**Figure 5: Close-up of the airport infrastructure**

In the Amsterdam case, the aforementioned *mainport* policies of the Dutch government have generally led to Schiphol's infrastructure growth, in order to provide a stimulus to the economic attractiveness of Amsterdam and the location climate for international companies through logistics and connectivity. It is said that this policy has worked well for the Dutch economy in the sense that Schiphol as well as both seaports have grown in size and popularity for international transport. Nowadays, the policy now serves to increase the competitiveness of the Dutch economy on a global scale, due to growing competition between large city regions within Europe and worldwide. This new policy direction envisions a competitive airport infrastructure with the availability of a worldwide network with high

frequencies of flights, ensuring regional economic strength (Ministerie van Verkeer en Waterstaat et.al., 2009; Schaafsma, 2017).

## **V.2. Route network connectivity**

Amsterdam Airport Schiphol's connectivity through its route network of international direct flights has also developed in sync with its airport infrastructure. According to theories and findings, there is a certain synergy between the airport infrastructure and route network connectivity in relation to the business climate in the city, which deserves to be highlighted. In the interviews, this has been confirmed by several of the key informants.

Dutch flag carrier KLM has played a large part in the expansion of Schiphol's route network connectivity through incorporating a hub-and-spoke model. The route network gained considerable recognition as a transfer hub through KLM's previous partnerships with Northwest Airlines and currently Air France, resulting in an increase in worldwide destinations. The Dutch home market profited significantly from this increased connectivity, contributing to economic growth and economic competitiveness (RLI, 2016). Dunning & Lundan (2008) and Gupta (2008) have stated that connectivity is generally considered essential for international business, in which Amsterdam is no exception. For relocating international companies, especially from the aerospace and logistic sectors, connectivity is named as one of the top 3 location factors, according to Marie-Jeannine Citroen of SADC. Other primary reasons include the favourable Dutch tax climate and high degree of English proficiency. Citroen states connectivity is a prevailing pull-factor for international companies in other business sectors as well, as these business sectors generally see a considerable amount of business travellers across their global network. As the need for physical access to global contacts is a prerequisite for these companies, Citroen states that international companies choose to relocate to Amsterdam because of its high degree of international connectivity (Citroen, 2017). This includes companies that have centralized part of their business in the Amsterdam area, for instance marketing and sales offices or financial departments that direct the firm's European markets. Due to this directional role the reliance on air connectivity increases, as swift accessibility to other offices or an international customer is often needed. The extensive connectivity via Schiphol's route network hereby is a major advantage for these companies (Westerlaak, 2017).

A competitive airport's route network should consist of various direct international flights, as this would deliver the most efficient travel times and provide a diverse range of destinations for business travel and air cargo transport (Bel & Fageda, 2008; Bannò & Redondi, 2014).

This would be especially relevant for business sectors where international meetings are frequent, according to Alex van Westerlaak. Having a network of fast connections to international relations would increase the attractiveness of a location as a home base for international business. Westerlaak states that it is important to have a connectivity network as diverse as possible for business-heavy destinations such as Amsterdam, to ensure a strong international connectivity of the city's economy (Westerlaak, 2017). Also, it would be useful to have direct route connectivity from the AMA to countries from where many of the international companies originate. Reports show that the United States and China are the top two in the ranking of intercontinental destinations from Schiphol, with 28% and 9% shares respectively (Schiphol Group, 2016). For Northeast Asia, the growth trend in air cargo growth is expected to continue at a rate of +5.2% annually until 2020 (Seabury, 2015). As Joep Schroeders stated, a large part of FDI in the AMA and the rest of the Netherlands originates from the US and Chinese companies, especially in the aerospace and logistics sectors (Schroeders, 2017). This indicates that Schiphol's destination route network is aligned with the origin of FDI in the area. A direct connectivity model is ideal for offering many direct flight connections, with business travellers starting or ending journeys at Amsterdam Airport Schiphol. Direct connectivity models are attractive to headquarters of international companies, as these businesses generally have a high degree of business traffic across the company's international network, or business travel to and from clients. Direct flight connections increase efficiency in business travel and transport in time, handling costs and also emissions. The present direct connectivity of Schiphol airport is considered essential, as companies are not expected to relocate to an area lacking the desirable direct flights. According to Citroen and Westerlaak, companies would rather not wait until their relocation results in a direct flight because of increased business traffic on a frequented route (Citroen, 2017; Westerlaak, 2017). As an example, the added flights of Jet Airways to Mumbai and Delhi in 2016 provide Indian companies and Indian business relations with increased flight frequencies to the Indian network. Westerlaak predicts that this indeed might be an additional incentive for Indian companies to consider international expansion to Amsterdam, but notes that these are premature conclusions. However, Westerlaak mentions that the base of Indian expats in the city of Amsterdam has been growing steadily. Around 8000 Indian expats currently live in the Amsterdam area, working at 90 companies of Indian origin (iamsterdam.com, n.d.1.). Theoretically, this new direct route to Bangalore could attract more Indian companies or boost business relations between Southern India and the Amsterdam area (Luchtvaartnieuws, 2017; Westerlaak, 2017). The same can be expected for the direct KLM flight to Fortaleza in Brazil starting in 2018. Trade relations between Brazil and the Netherlands have always been strong (iamsterdam, n.d.2.), but such a new direct flight connection to a yet unserved part of Brazil may draw more international companies from



North-eastern Brazil to the AMA. With the Brazilian economy recuperating after a two-year period of recession (OECD, 2017), this route could indicate an impulse of international trade between Amsterdam and Northeast Brazil.

*The starting of new flight routes will sooner come forth out of existing markets, rather than vice versa. When a direct flight is available, companies will be more attracted to the area, due to prospects of higher accessibility.*

– Alex van Westerlaak, Amsterdam inbusiness

Contrastingly, it is states that present businesses in the AMA increase demands for new direct international flights between Amsterdam and a yet unserved destination. This stems from the demand for transport or business travel to home markets of these businesses. Airlines would be given the incentive to start a new direct route by the demand of present international companies in the AMA that would benefit from direct connectivity (Citroen, 2017).

In this field, Schiphol Aviation Marketing (SAM) is active in making business cases for airlines. SAM takes into account present international businesses with demand for direct connectivity to substantiate the opening of a new flight route. An example is the opening of a new direct American Airlines route between Dallas and Schiphol, which has expanded the range of direct flights to the United States for business travel for both cargo and passengers. This route came forth out of the market demand of existing international companies in the Amsterdam area that would benefit from a direct route to Dallas (Schroeders, 2017). Lekkerkerk adds to this that SAM contributed to marketing this previously unserved direct flight. After a first seasonal term of flights, market demand on this route already warranted an increase in capacity, which will result in the airline scheduling a larger aircraft once flights continue in summer 2018 (Lekkerkerk, 2017; routesonline, 2017). In this case, Amsterdam is an example of a city region with a centrally located airport where the city's economic conditions influence the airport's capacity through increase in demand. This is also concluded in a Decisio report (2015) on the economic effects of Schiphol. These findings also state that airport connectivity and the local economy have a mutual relationship. The airport is found to boost economic development, after which this economic growth results in a larger demand for airport connectivity.

Not only the size or scope of the route network, but also the flight frequencies influence connectivity. Escribà & Murgui (2009) state that the attractiveness of an airport and surrounding region positively correlates with the frequencies on certain important business

routes. Schroeders states that the general consensus in the AMA is that a higher number of both destinations as well as frequencies benefit the international companies in the area, as it provides the business travellers with the most direct and time-efficient travel options. For business trips where time is of the essence or where perishable goods are shipped, Amsterdam ranks high on the network and frequencies connectivity scale thanks to its connectivity network (Schroeders, 2017). Findings show that Schiphol Airport provides Amsterdam with more than daily non-stop flight connections to major business destinations, which enables international business travellers to experience efficient travel times to essential business hubs in their networks. An overview of Schiphol’s daily flight frequencies to several business destinations can be seen in table 3.

<b>Destination</b>	<b>Daily Flight frequency</b>	<b>Destination</b>	<b>Daily Flight frequency</b>
<b>London</b>	58	<b>New York</b>	5
<b>Paris</b>	14	<b>Brussels</b>	5
<b>Frankfurt</b>	12	<b>Singapore</b>	2
<b>Rome</b>	11	<b>Hong Kong</b>	2
<b>Berlin</b>	10	<b>Beijing</b>	2
<b>Madrid</b>	9		

**Table 3: Daily flight frequencies to major business destinations from Schiphol. Source: iamsterdam.com (2016)**

The theory of diminishing returns mentioned in the RLI report (2016) contradicts the benefits of high flight frequencies to certain destinations. It is argued that additional flights on already frequently flown business routes tend to deliver continually less financial returns compares to earlier flight expansion on that route. When additional flight frequencies pass a certain point, there will be higher costs associated with airport congestion and environmental nuisance of the growth in flight movements (RLI, 2016).

Additionally, Marcel Lekkerkerk mentions it is quite company-specific whether high flight frequencies or a broad scope of business destinations is to be desired. Certain companies may only need a single flight route to their home base, which would lean more towards relying on higher flight frequencies to travel efficiently. Other companies with global business operations would rather have access to an extensive network of direct flights. In the Amsterdam case, Schiphol Aviation Marketing is continually working on the expansion of the route network in either *unserved* or *underserved* routes. This could result in the opening a new direct routes or upscaling the flight frequency or capacity on existing routes (Lekkerkerk, 2017).

In Maurits Schaafsma's opinion, Schiphol airport's infrastructure capacity and network is currently well-balanced, as it provides a more refined route network compared to other European cities and also offers sufficient capacity to harbour frequencies more than daily flights on important business routes. The availability of multiple daily frequencies of direct flights stimulates the city's accessibility, which in turn also facilitates more time-efficient opportunities for international business. However, Alex van Westerlaak argues that the available route network is only one of many factors in the connectivity paradigm of a city like Amsterdam. Generally, the locale with the most efficient overall connectivity for doing business is selected by relocating international companies, with flight connectivity not being the sole decision-making factor (Schaafsma, 2017; Westerlaak, 2017). This apparent *efficiency drive* of international companies in terms of connectivity will be discussed later on in this chapter.

Although most findings indicate that the larger international route networks of direct flights would benefit the international companies in the area, Broekema argues that airport capacity should be considered as more important. Especially in the case of Schiphol, the airport infrastructure capacity must be sufficient to sustain the current amount of direct international flights and the future demand. Broekema states that the desire to have a route network with many destinations in order to serve as an airport hub can only be efficient if the airport's infrastructure capacity can sustain this transport demand. When capacity is insufficient, Broekema states that improving the airport infrastructure should be prioritized before focusing on expanding the network of flights. Capacity constraints of the airport could result in a decrease of international companies relocating to the area, since the constraints in flight frequencies may affect business travel opportunities (Broekema, 2017). When Schiphol's hub function and network connectivity is affected, this could result in a decreased attractiveness of the airport for local and transfer passengers. When a certain route frequency is altered, this may also affect other routes due to the hub operations. This may also be ominous for the airport's status as a location determinant for international companies, as a predicted decrease in connectivity may affect the location. These indirect forward economic effects of route connectivity deterioration can be critical to economic welfare in the AMA (SEO, 2015).

Therefore, it is argued that the resilience and adaptability of the Schiphol's network deserve primary attention, instead of focusing on the continual development of airport infrastructure to become the largest gateway to Europe (RLI, 2016; Broekema, 2017). Marcel Lekkerkerk adds to that SAM is also actively pursuing the translocation of leisure flights to the new infrastructure of Lelystad airport, which is currently under development and is set to re-open in 2019. This would provide Schiphol with increased capacity to focus on mainport-related

traffic. Such a focus would benefit business-related traffic to the AMA and could promise economic gain for the internationally operating businesses in the region (Lekkerkerk, 2017). The next chapter will continue with findings on the capacity constraints of Schiphol and its effects on the location determinants of international companies in the AMA.

### **V.3. Sector dependency on Schiphol airport**

Broekema and Schaafsma state that dependency on airport connectivity can differ between international companies, due to the business activities or sovereignty of the Amsterdam branch in a company's global network (Schaafsma, 2017; Broekema, 2017). The following qualitative findings from company testimonials and experts can be substantiated by quantitative findings from the Dongen et.al (2014) report. This report shows the company-surveyed correlation between location factors and concentration of the different business sectors in the Netherlands. In this report, connectivity through Schiphol airport was quantified along a concentration pattern of these companies. Such quantitative data could provide supporting evidence for the qualitative findings of this research. A list of the used testimonials from international companies and comparative sectors in the Dongen et.al report can be found in appendix 2.

As mentioned earlier, aerospace and logistics companies often have time-critical business operations or transportation of valuable goods, thus relying on fast shipment times. Valuable goods enjoy greater safety when transported through air cargo. Aerospace companies in the AMA are found to profit from Schiphol airport's connectivity by shipping spare parts across the extended network of direct flights or by reaching their customers in Europe within 2 hours. Canadian airplane manufacturer Bombardier credits Schiphol's airport connectivity for the ability to reach up to 75% of their customers within one hour flying time. Bombardier states that such an advantage makes a key difference in the world of aviation. Brazilian airplane manufacturer Embraer also chose a business location at Schiphol airport, stating that the company is ensured of future strategic growth because of the mobility and efficient connectivity to many other countries (Bombardier, 2014; Embraer, 2015). Japanese Mitsubishi Aircraft Corporation chose a Schiphol office and warehouse location due to the fact that many of their potential customers pass through Schiphol on a weekly basis. Also, Schiphol's network connectivity ensured easy contact with international business relations (Mitsubishi Aircraft Corporation, 2016). Furthermore, aviation-training company CAE opened a branch in offices in Hoofddorp, around 10 minutes from Schiphol airport. CAE offers a range of training possibilities to airlines from around the world, which can easily reach the training facilities via Schiphol airport (Schroeders, 2017).

Logistics companies rely on Schiphol's connectivity in a similar way. South Korean Hanjin Logistics uses its airport location for shipping customer goods through Schiphol's European and intercontinental network. South Korean SK Lubricants as well as Swedish mining company Sandvik both relocated to the Zuidas district, stating that their customers can easily reach their offices thanks to the proximity and accessibility of Schiphol airport (Hanjin Logistics, 2013; SK Lubricants, n.d.; Sandvik Mining, n.d.).

Physical infrastructure remains important for several international IT companies. This applies to IT companies producing and shipping physical products or for business travel. Mean Well Enterprises, a Taiwanese company involved in supplying electrical components, set up a branch in Amsterdam because of the connectivity to reach three quarters of their customer base within 24 hours. The airport's route network of 17 non-stop weekly flights to the company's hometown of Taipei contributed to this relocation decision. Chinese telecommunications company Huawei explicitly chose Amsterdam for its connectivity and airport accessibility from its city office (Mean Well Enterprises, n.d.; Huawei, n.d.). However, several other international IT companies do not equally indicate a dependency on airport connectivity. It can thus be stated that airport infrastructure dependency of international IT companies is relative to the company's background and business operations.

Airport dependency for finance and financial tech companies also differs in the internationality of business operations. The European Investment Bank (EIB) settled in the Zuidas district because of short travelling times to its head office in Luxembourg, from which employees often fly in for meetings. EIB states that Amsterdam is overtaking their London offices, since the travel times from Amsterdam are considerably shorter and most of their relevant European destinations can be reached within 2.5 hours from Schiphol (European Investment Bank, n.d.). Another example is the Institute of Chartered Accountants of India (ICAI), India's national accounting and finance professional body, who chose an Amsterdam office for their first business expansion in Europe. ICAI stated that Amsterdam functions as a business gateway to Europe, especially thanks to Schiphol airport on a connectivity standpoint. Schiphol's hub-operation is credited for supplying sufficient capacity for the large traffic potential between India and Europe (iamsterdam, 2017).

Within the Life Sciences sector, American Wright Medical Technologies (n.d.) runs its sales, marketing and distribution centres for their European, Middle East, and African network from its Amsterdam offices. WMT states that Schiphol's network of direct flights to these parts of the world has been a major advantage for their business, especially logistics-wise. Indian

generic medicine company Sun Pharma (n.d.) equally benefits from this direct connectivity, stating the companies had high requirements of physical accessibility when assessing European business locations. The company praises Schiphol's logistic capabilities and states that it has been an ideal gateway to Europe, providing opportunities for further expansion of European business activities. Lastly, Japanese chemicals company Teijin Holdings (n.d.) states that Schiphol's direct daily flights between Tokyo and Osaka was a persuasive factor, along with high flight frequencies on the European route network. This European network enables Teijin to do day return face-to-face business trips, saving time and increasing business efficiency.

For the food and perishable goods sector, Amsterdam Airport Schiphol and the Port of Amsterdam serve as a combined logistics platform which international companies can use to transport fresh foods through air transport and preserved foods through ship transport. Japanese firm Yakult (n.d.), famous for its probiotic dairy products which are currently marketed in 11 countries worldwide, states the central location of the airport has facilitated their business processes between Amsterdam and its international relations. Another large perishable goods sector in the AMA is the flower market in Aalsmeer, which ships flowers through air cargo across Schiphol's network.

Over the years, Amsterdam has strengthened its position as an international centre for business services. The Zuidas district has attracted several international business services companies. This has attributed to the area's attractiveness for other business sectors, as these sectors can rely on now-available business services and networks (Schaafsma, 2017). The consensus is that this shift to business services has a positive influence on global competitiveness of the AMA through innovative solutions (Broekema, 2017; RLI, 2016).

As part of the business services sector, international law firm Baker & McKenzie state that Schiphol's connectivity is essential to their success, because their law practices operate on an international level. The airport accessibility from its Zuidas office was a paramount location determinant, as its frequently travelling lawyers can reach the airport in less than ten minutes. Another example is Tata Consultancy Services (TCS) from India. Headquartered in Mumbai, TCS benefits from the unique locational features offered by the Netherlands and its central location within key markets in Europe through Schiphol Airport's connectivity. As TCS employs over 300.000 consultants operating in 45 countries, air travel is essential for its business operations.

One of the sectors relying less on the airport connectivity is the creative and fashion industry. Even though business travellers from this sector still travel internationally, it is said that this

generally occurs along well-established air routes. The fashion industry is generally concentrated in large metropolises like Milan, Paris and New York. Historically, Amsterdam has been well connected to these cities with multiple daily flight frequencies. Amsterdam itself has risen to the sixth place of European fashion cities and is already home to more than a hundred fashion brands. Also, most shipping from the fashion industry occurs via seaports rather than airports, resulting in less airport dependency for this sector (Westerlaak, 2017; Schroeders, 2017). American fashion brands Tommy Hilfiger and Calvin state that other factors such as digital infrastructure, the local talent pool and overall strong performance of the local economy were their most important reasons for setting up a business in Amsterdam (Calvin Klein, 2014).

Still, there are international creative companies in the AMA that do effectively rely on airports. Creative industry solutions company Anomaly, originally from New York, has expanded to Amsterdam after Tokyo, Toronto, Shanghai and London. The company thus operates a global network, stating Schiphol's connectivity as a location determinant for their relocation to the AMA. (Anomaly; NFIA, 2013). The airport dependency in creative sectors therefore also is influenced by the company's level of international business operations.

Qualitative findings from these testimonials are shown in table 4 below, along with the corresponding sector's statistical correlation from the Dongen et.al. report (2014). Qualitative correlations ranges between 0 and 1, with a value of 1 presenting a perfect correlation.

Business sector	Airport dependency on Schiphol	
	Qualitative findings	Quantitative findings ( $\beta$ )
Aerospace	++	.
Logistics	++	0.222
IT	+	0.173
Finance & FinTech	+	0.084
Life Sciences	++	0.098
Food & Perishable goods	++	0.181
Business services	+	0.084
Creative & Fashion	0	0.094

(++) moderately positive, (+) lightly positive, (0) no dependency, (-) lightly negative, (--) moderately negative

**Tabel 4: Airport dependency on Schiphol. (author's own design, data from Dongen et.al., 2014)**

In the qualitative findings, it was found that international companies from the aerospace, logistics, life sciences and food & perishable goods sectors are most dependent on airport

connectivity. While there is no direct comparable sector to aerospace in the Dongen et.al report, the correlation of logistics companies citing necessary proximity to Schiphol confirms the qualitative findings. Also, the food & perishables sector shows a corresponding correlation to the qualitative findings.

Life sciences however show a considerable weaker correlation of international companies needing proximity to Schiphol. These companies relying more on business travel than on air cargo logistics could explain this deviation in findings. Testimonials showed that IT companies' airport dependency seems to be company-specific, while statistics on airport proximity shows a relatively high correlation.

Furthermore, the qualitative and quantitative findings seem to correspond for the finance & fintech and business services sectors. These sectors show a weaker airport dependency from the testimonials focussing mostly on business travel. The statistical correlation aligns with these findings, possibly because of these companies relying more on a city or business district location instead of being located closer to Schiphol airport.

The creative & fashion sectors however shows diverging results. Testimonials show a lesser airport dependency, while the Dongen et.al. report (2014) shows a mildly positive correlation. This may be due to fashion companies using the airport for business travel, and creative companies having company-specific needs for using the airport's connectivity.

In contrast to most evidence found on sector dependency on Schiphol airport, Marcel Lekkerkerk argues instead for a distinction on the extent of a company's internationality of business operations. Airport dependency on capacity and network is usually quite company-specific, and therefore it is more difficult to distinguish airport dependency by business sector. An autonomous new international business branch in a host region such as a production plant is expected to generate less business traffic between its location and the region of origin. Conversely, international branches that are links in a global network, such as marketing or consultancy departments, would generate more business traffic on an international level and therefore show more airport dependency (Lekkerkerk, 2017). Zef Hemel, strategic planner at the Amsterdam Economic Board, similarly argues that the airport dependency itself is dependent on the globalisation of the company's business operations. When such companies have operations that require international transport or business traffic, Hemel states that airport dependency is paramount. This can be seen in international businesses of any scale that require efficient international transport of goods or people, from large multinationals to smaller companies or even start-ups (Hemel, 2017). This again brings up the concept of efficiency, which will be discussed in the remainder of this chapter.



#### V.4. Efficiency drive

What has become apparent from the findings of this research so far is that many international companies that have settled in the AMA rely on Schiphol airport for efficient connectivity to their global network. Gerben Broekema states that the requirement of fast transport networks is a result of time-sensitive business operations of specific companies (Broekema, 2017).

Findings show that the direct connectivity of Schiphol is significantly appreciated for being able to deliver efficiency and the time-savings to day-to-day business for these international companies. As efficient business operations benefit company revenue, airport connectivity is confirmed as a positive location determinant for international companies in the AMA. This would present that a higher connectivity of Schiphol airport would lead to more international companies settling in the Amsterdam area, with an additional conditional relation of the accessibility between the airport and the city. Here accessibility attributes to the causality of airport connectivity on the location climate for international companies in the AMA.

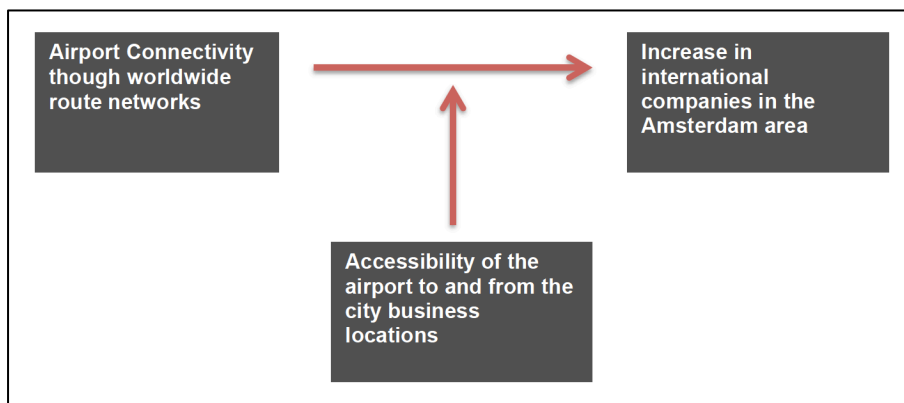


Figure 6: Airport connectivity on International companies in the area. Author's own model

The mentioned *synergy* between the city of Amsterdam and Schiphol airport also plays a role, since the airport's accessibility to and from the city is found to be an attributing conditional factor. This contributes to shorter overall travel times, combining a short commute to the airport with a direct flight to the final business destination for either business passengers or air cargo. International companies reasonably desire the shortest route or shortest travel times in order to attain the most efficient transport, which in turn leads to higher business profits. The famous saying that 'time is money' in this case is a mentionable one.

As stated by Broekema, international firms with time-sensitive business operations are the ones drawn to efficient transport hubs such as Schiphol airport. Schiphol's extensive network

connectivity enables these companies to make single-day return business trips within Europe due to more direct routes and higher frequencies of flights. Also, many intercontinental business trips can be arranged within 24 hours. The expansion of efficiency in connectivity has accelerated the act of international business compared to previous decades, where a lesser network of flight frequencies was available (Broekema, 2017). The RLI report (2016) additionally calls for a rejuvenation of the understanding of connectivity, as this concept previously expressed in time and cost could better be expressed in business opportunities that combine activities in time and space (RLI, 2016). This idea promotes an increased synergy between airport infrastructure and the city and combining functions such as in airport city concepts. Findings show Schiphol is evolving along this airport city concept.

Again, this synergy and spatial embeddedness has led cities with airports closer to the city to outrank cities that have airports farther away from the city with longer commute times. Amsterdam hereby trumps London or Paris (Schaafsma, 2017; Broekema, 2017). Alex van Westerlaak concludes that businesses can use Amsterdam's airport infrastructure more efficiently compared to London and Paris, and therefore select an AMA business location when setting up a new Western European branch. (Westerlaak, 2017).

*The efficiency drive of international companies is relative to the competition with other European cities. Companies will choose Amsterdam over other cities if they can handle their business operations faster or more comfortably than in other cities.*

– Alex van Westerlaak, Amsterdam inbusiness

It should be mentioned that airport connectivity is one of other surrounding factors, as connectivity alone will not solely improve the business climate of the city. According to Maurits Schaafsma, the aforementioned *efficiency drive* is not only characterized by extended international networks and fast travel or transport times, but is said to be a part of the 'complete package' that Amsterdam offers. City marketers often use this conjoined approach to promote the attractiveness of the Amsterdam area when acquiring international companies. Recently, it was announced that the European Medicine Agency (EMA) will relocate to Amsterdam after it was forced to leave its London offices due to the United Kingdom leaving the European Union. Since EMA receives 36.000 annual visitors from around the world, connectivity is a top priority. Wouter Bos, Dutch ex-minister of finance and now lobbyist for this EMA relocation, stated that connectivity along with other location determinants presented favourable arguments for the EMA bid to be awarded to Amsterdam. On the topic of infrastructure, the importance of Schiphol within this whole package of attractive factors is stressed. Schiphol's connectivity infrastructure is even said to be superior

to the current infrastructure that EMA has in London (Rijksoverheid, 2017b). In this regard, the infrastructure connecting the airport to the city equally benefits accessibility. Here, the genesis of the so-called *airport corridor* concept is taking shape, where the infrastructure of the airport and business infrastructure of the Zuidas slowly merge along their connecting infrastructure. This spatial embeddedness is said to result in increasing efficiency. Amsterdam already shows a spatially embedded airport and city infrastructure, while urban planners recognize the potential for developing this corridor concept even further (Schaafsma, 2017).

The efficiency drive for international connectivity that international companies show aligns well with the virtuous circle of connectivity model from the Airport Industry Connectivity report. The figure shows that the airport and regional & national economy are intertwined, with both influencing one another. This model corresponds with the findings in the Decisio report (2015). This research also presents similar results, which resemble the following virtuous connectivity model:

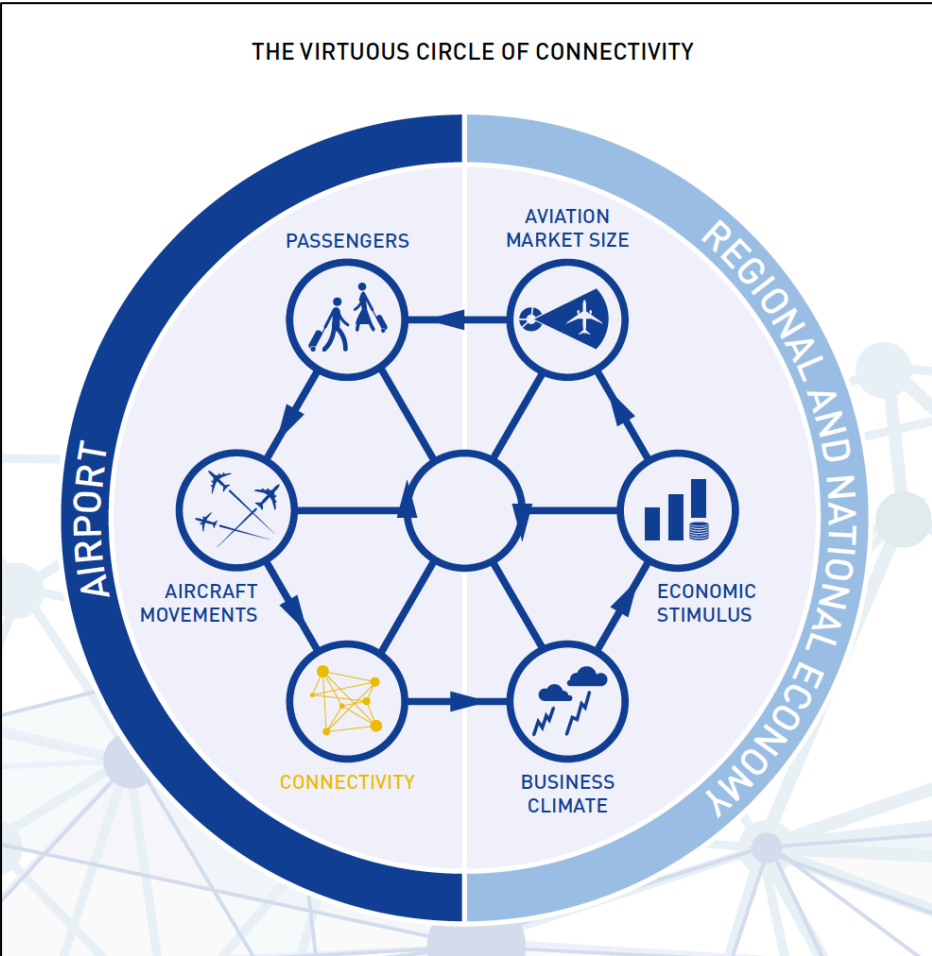


Figure 7: Virtuous Circle of Connectivity. Source: Airports Council International (2017a)

The model indicates that connectivity influences the business climate of the regional economy, usually resulting in an economic stimulus for the region. This economic stimulus leads to a larger market share of aviation as was also found in this research. A larger market share of aviation in the region results in more passengers and reasonably more aircraft movements to meet the demand. This in turn attributes to more connectivity (Airports Council International, 2017a). This pattern can also be seen in the synergy between Schiphol airport and the businesses in the AMA, looking at the previously presented findings.

In a reversed pattern a regional economic stimulus can result in a improved business climate, which increases attractiveness of the region. This could attract a higher number of international companies that would increase the demand for connectivity. This demand reasonably leads to more aircraft movements and more passengers, in turn benefitting the market share of air travel in the local economy and further benefitting the local economic growth. The virtuous circle model of connectivity thus argues that the relationship between airport connectivity and the local economy is not only intertwined, but also has a causality that goes both ways (Airports Council International, 2017a).

Furthermore, Broekema states that business travellers are generally drawn to fly into the airport that is closest to the central business district of a city, regardless of the state of the airport infrastructure. This apparent demands leads to airports closer to cities remaining the preferred gateways for the business traveller. When such airports encounter capacity limits, this may present challenges for the overflow of traffic towards secondary airports (Broekema, 2017). The next chapter will focus on what the effects of capacity constraints at Schiphol airport may be on the airport connectivity infrastructure that it provides to international businesses.

## **V.5. Summary**

The findings in this chapter show that Schiphol offers a strong airport infrastructure to connect international companies to their international networks. Many of the international companies have set up a branch in Amsterdam to expand their European footprint. These companies rely on Schiphol as an efficient gateway to their European customers, along with other international business contacts or their home base. The airport's accessibility to and from Amsterdam is also considered as a considerable pull-factor for these firms. Furthermore, the *airport city* concept along which Schiphol has developed is beneficial to provide such firms with office space at or around the airport, with efficient worldwide accessibility as a core value.

Also, it appears that Schiphol's airport connectivity and the Amsterdam city economy have a complementary two-way relationship, meaning that large airport capacity leads to a competitive regional economy, while the city economy also influences demand for airport connectivity.

Schiphol's extensive route network is a result of the hub function that the airport has adopted as a result of the rise in air travel. International companies in the AMA regard connectivity as one of the important factors for setting up a local business branch, especially if these firms rely on business travel or transport in their business operations. Direct connectivity is an important factor in this aspect, minimizing travel times through direct flight connections, favourably with a large network of destinations. The presence of a direct flight route is said to attract companies because of a promised high connectivity network. Otherwise it is also found that existing companies in the AMA raise demand for new direct flights along their business network. On business flight routes, flight frequencies are considered equally important in order to provide efficient transport options, leading to time and cost savings for companies. The reliance on network capacity or flight frequencies is said to depend on company-specific requirements, also depending on the internationality of the local branch.

It is also found that business sectors show different airport dependency compared on the internationality of their business operations, rather than a distinguishable sector dependency. International companies from the finance & fin-tech sectors, along with life science, business services and fashion & creative sectors appear to be dependent on Schiphol's connectivity if there is a need for face-to-face business meetings in the business operations. This can thus be quite company specific. IT companies also appear to only rely on Schiphol for the shipment of physical products and for physical business meetings. The food and perishable goods sector shows airport dependency for fresh food and other perishables such as flowers. Fashion companies were found to rely less on Schiphol's airport connectivity, with the exception of business travel along well-established routes to other fashion capitals.

The aerospace and logistics sectors are shown to rely most on airport connectivity and proximity for connectivity for their business operations, with logistic companies also relying on the airport's accessibility from the city.

It was found that companies with higher airport dependency are located in closer proximity to Schiphol airport, or at a business location with high accessibility from the airport.

International firms with multiple international markets would rely more on an extensive route network of direct flights, while firms within a global network would incline towards a higher frequencies to their specific business destinations.

International companies in the AMA present an efficiency drive when traveling or transporting goods for business purposes. Schiphol airport acts as a gateway for these businesses with efficient travel times across a diverse network of direct flights, a high amount of flight frequencies, and a high level of spatial embeddedness with the city. This synergy between the airport and the city's business infrastructure is named as an attractive location determinant, contributing to a virtuous circle of connectivity. In this way, Schiphol acts as a positive location determinant for international firms and thus supports the regional economy and vice versa.

## VI. Airport growth limitations affecting FDI

Schiphol airport has grown significantly since the implementation of the mainport policies and is reaching its currently agreed growth limits. International companies with a larger airport dependency may be affected by these constraints on Schiphol's airport connectivity. This chapter will therefore highlight the capacity constraints at Schiphol, and focus on the challenges this brings to the future airport connectivity of Amsterdam Airport Schiphol.

### VI.1. Effects of growth constraints on location climate

In December 2006, the Alderstafel advisory body was created to aid the Dutch cabinet on the development of Schiphol airport in unity with the airports of Lelystad and Eindhoven. Named after former Dutch politician and the lead advisor Hans Alders, the body reached an agreement on Schiphol's medium term development in 2008 (Jong, 2012). This also marked the start of advisory bodies for the airports of Lelystad and Eindhoven, where regional stakeholders discussed the possibilities for expanding the two regional airports to relieve the growing air traffic demands at Schiphol. The Alderstafel body was eventually taken up in the Schiphol environmental advisory body in 2015 (Alderstafel, n.d.). Due to increasing noise nuisance complaints following the rise in air travel in the 1970s and 1980s, the Dutch cabinet insisted on restricting future growth of Schiphol's flight movements in order to maintain or reduce noise levels in the surrounding communities. This has led to capacity constraints of 500.000 annual flight movements until 2020, when the current regulations will be revised. Reducing noise levels has also put pressure on the airspace layout above the Amsterdam area by using strict flight paths, which in turn also limit the airport's hourly flight capacity (Jong, 2012).

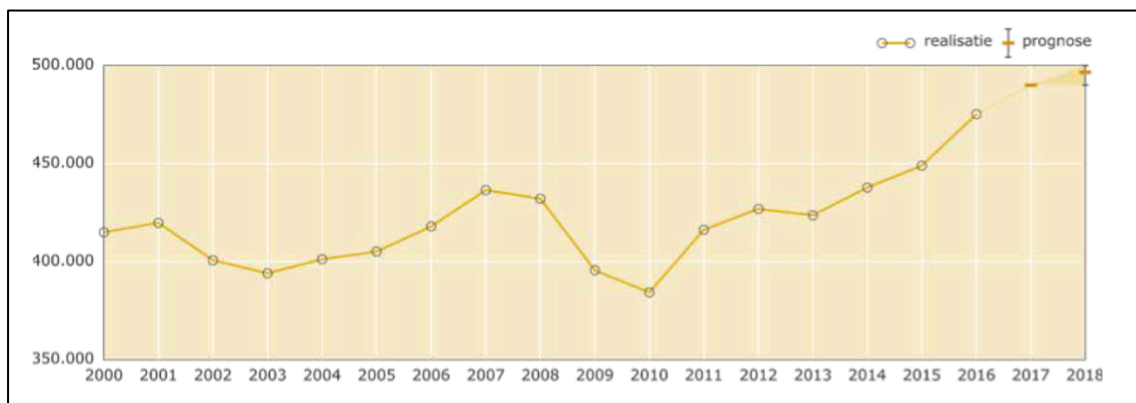


Figure 8: Development of flight movements at Schiphol, including prognosis. Source: Royal Schiphol Group, 2017

In 2016, Schiphol saw a total number of 479.000 flight movements, with expectations that this number might approach the half-a-million limit in 2017. This rise in annual flights can also be attributed to an increase in direct connectivity, as smaller long-range airplanes come to serve point-to-point demand on thinner routes. The increase in direct connectivity can put pressure on the classical hub model that Schiphol has developed, but can also connect to new markets benefitting travellers to and from Amsterdam (RLI, 2016). Zef Hemel states that this hub model is essential for the Schiphol's success, given that the hub model presents reliable connectivity for international businesses in the Netherlands along with transit passengers (Hemel, 2017).

Within the Alders agreement, it was decided that selectivity was key in the expansion of air traffic movements. Schiphol was strictly limited to its half-a-million flights, preferably consisting of mainport-related traffic. In case of additional capacity demand, Lelystad airport and Eindhoven airport, respectively 55 kilometres and 105 kilometres from Schiphol airport, would be the designated airports to harbour 70.000 additional flight movements. Transferred flights would consist of routes that do not require the specific catchment area of Schiphol (Jong, 2012). Candidates could be flight routes with less than 10.000 annual business passengers (Rijksoverheid, 2016a). This provides additional room for *mainport*-bound traffic to Schiphol airport and would provide more room for relevant growth. As global competition between metropolises and their airports increases, the constraints at Schiphol may put pressure on route connectivity that benefits international companies operating in the Amsterdam local economy along with the Dutch national economy (Rijksoverheid 2016b).

The protection of Schiphol's competitiveness as a global hub is considered essential for ensuring global connectivity to international companies in the AMA. The availability of airport connectivity capacity in this regard is a crucial factor to maintaining this international competitiveness. Therefore, the current capacity constraints have become a hot topic of debate within the Dutch cabinet and between local stakeholders.

Gerben Broekema states that airport capacity trumps the importance of the route network in this aspect, especially when the airport is capacity constrained. International companies desire to continue flying to airports located in the proximity of central business districts, even if these airports are congested or have capacity constraints. Broekema argues that deterrent effects on relocating international companies could become an issue in the near future, as airport growth constraints negatively affect business opportunities for international companies with airport dependent business operations. For instance, logistics companies that envision a prosperous future through airfreight might reconsider locating to a capacity constrained airport or relocate operations elsewhere. This is already occurring at Schiphol,



as air cargo carriers AirBridgeCargo and Singapore Airlines Cargo have moved certain or all cargo flights to Belgian airports Liege and Brussels. These cargo flights are losing timeslots at Schiphol due to customarily being less punctual in freight operations. This sector feels pressured to leave Schiphol as a base of operations due to these constraints. This has already caused the loss of 37 of 150 weekly cargo flights, which is expected to result in a loss of 1500 to 2000 jobs in the logistics companies at Schiphol (RTLZ, 2017). However, capacity constraints are not expected to be considerably problematic to business travellers in early stages of congestion, which is the current state at Schiphol (Broekema, 2017). It is expected that the business travel market at Schiphol will draw the upper hand compared to leisure travel, as business travellers usually generate more profit to airlines and airports, and are willing to pay more for tickets.

*Business travel will probably have a greater resilience to capacity constraints due to having more economic leverage compared to the leisure market. However, increasing average ticket prices may cause air travel to become less efficient in the long run.*

– Gerben Broekema, Schiphol Group

As airport location prices and operating prices will likely rise due to the capacity constraints, the process of leisure flights opting to relocate to airports such as Lelystad or Eindhoven is triggered. However, eventually ticket prices for business travel are also expected to rise due to an increase in demand for mainport-related traffic. This results in less cost efficient business travel and could possibly scathe the attractiveness of Schiphol as a hub for use by airport dependent international companies (Broekema, 2017). As increasing ticket prices for business travellers add costs for the international companies in the AMA, the added value of having a Dutch business branch slightly decreases due to regressing efficiency. This may negatively affect the attractiveness of the Dutch location climate. Also, rising ticketprices may result in decreasing demand for air travel in both business and leisure market, leading to aviation market degeneration (SEO, 2015).

Additionally, relocating international companies might react hesitantly by limited airport capacity growth, as this results in decreased business travel efficiency. However, Westerlaak also states that capacity constraints are often universally present, as airports in other urban regions tend to show the same capacity challenges. Westerlaak states that international companies will only divert business operations to other regions when a comparable hub airport and similar local factors are present. There also must be a significant efficiency advantage for companies to leave Schiphol for other similarly equipped regions. If the airport remains easily accessible to and from the city, these airport capacity issues will not be as significant for international companies (Westerlaak, 2017).

Schaafsma adds that the current capacity limits should not be seen as much as a growth *constraint*, simply as a temporary growth *threshold*. With new negotiations about Schiphol's competitive future starting in the upcoming years, the current limitations of half a million annual flights will be evaluated. One of the conditions stated for allowing an increase in flight movements, is that the noise footprint of airplanes is reduced. Since airplane manufacturers have developed new airplanes with considerably lower noise footprints and airlines increasingly adopting these new types into their mainline fleets, it is fairly certain that the current capacity limits will be expanded in the future. Therefore, the annual number of flights at Schiphol may still have growth potential, which can be beneficial to business travellers and for international business opportunities (Schaafsma, 2017).

## **VI.2. Airport strategies for operating sustaining capacity**

The increasing number of flights would demand more of Schiphol's current airport infrastructure capacity. While the airport grounds still provide sufficient room for constructing new terminal buildings or cargo facilities, this may present challenges in accessibility. Schiphol currently has a one-roof terminal concept, which is praised for its easy accessibility. The construction of a new terminal building would break away from this concept and may negatively affect the airport's accessibility. Schaafsma also notes that there is sufficient space reserved for new business locations of international companies on and around the airport. The availability of business expansion possibilities is remarkable, as comparable airports like London's Heathrow airport currently cannot offer such airport city development. Expansion of the airport city concept would increase spatial embeddedness and improve global accessibility for international companies. The expansion of the airport's infrastructure will also focus on synergy with the Zuidas district, further benefitting the accessibility of airport and business districts. There are currently ongoing debates to extend a newly constructed metro line to Schiphol airport, in order to further improve airport accessibility through public transport. If executed, this new connection would merge the Zuidas district and its international companies to the airport gateway even further (Schaafsma, 2017). Such an improvement in accessibility would increase efficiency for the business, which in turn would result in upgrading of Amsterdam's current attractiveness to international companies.

Another idea proposed by Zef Hemel opposes the upgrading of existing airport infrastructure, instead arguing for the replacement of Schiphol by a new airport in the Flevoland province. This new airport infrastructure would provide a more rational and efficient design, resulting in less environmental impacts such as noise nuisance and better air traffic management. This

proposed design would be realised at or around the current Lelystad airport infrastructure, fully replacing Schiphol's current airport infrastructure and the land area it claims.



**Figure 9: Location Lelystad Airport versus Amsterdam and Schiphol Airport. Source: NRC**

Hemel's idea emerges from the noise nuisance and capacity constraints that are the airport's main prohibitors for growth. He notes that since Schiphol's current traffic consists of more than 60% transfer traffic, and only half of the remaining percentage is Amsterdam destined traffic. Therefore, it should not be a major issue to move the airport further away from the city, as only a minor percentage of travellers will be directly affected. Transport infrastructure by road and rail to the Flevoland area is readily available, which will continue to provide a relatively short commute for travellers that travel into Amsterdam. The replacement of Schiphol will free up the land area for more profitable uses such as property development, and will also decrease the negative impacts of noise from air traffic in AMA. Furthermore, the Zuidas district would be allowed more and higher property development, as current building height restrictions are in place due to radar cross-sections from Schiphol's air traffic control. The Zuidas business district could be developed with a more central city function in mind, transforming the current Schiphol area into housing and other business-related functions (Hemel, 2017).

Hemel acknowledges that creating new airport infrastructure in the Flevoland area would shift aircraft noise to a different area where inhabitants are not accommodated to such amounts of traffic, but notes that the Flevoland area is less densely populated than the current surrounding areas of Schiphol. Even more so, the cities of Lelystad, Almere and Zeewolde could benefit significantly from the job creation at new the airport infrastructure, as these cities are currently struggling with local lower-grade job availability. Finally, airport-located companies that currently reside on the expensive grounds of Schiphol would benefit from more affordable office locations at the newly built infrastructure (Hemel, 2017).

The question remains in what way international companies are disadvantaged by the capacity constraints of Schiphol airport. Both Schroeders and Westerlaak state that the limit of 500.000 annual flights does not pose a major threat, albeit not in the near future. It is said that with the acquisition of new international companies in the AMA, there is not yet a noticeable movement of companies actively avoiding Amsterdam because of Schiphol airport's constraints. The airport connectivity at Schiphol is currently not severely constrained, therefore making it unlikely that international companies will condemn the AMA's location climate for the near future. Also, the general consensus is that the business traveller market will probably not deviate to other airports, as shifting leisure flights to the regional airports is already an active process. Such a shift in markets could even be beneficial for the business travel market at Schiphol, presenting more expansion opportunities routes and frequencies to business destinations. Lekkerkerk argues that Schiphol Aviation Marketing also plays a role in marketing of the future route network of Schiphol. Lekkerkerk acknowledges that with the gradual shift of leisure traffic to Lelystad, Schiphol can focus more on mainport traffic and can realize growth in business routes. SAM continually evaluates the route network, and consequently engages in talks with airlines to adjust flight routes according to market demand. Within existing routes, SAM also advises airlines on upscaling flight frequencies or seat capacity with larger airplanes (Lekkerkerk 2017). With a slot-restricted airport such as Schiphol, the latter would be the sensible choice, given that the flight's capacity can grow while not resulting in additional flight movements. Obviously, this is dependent on the availability of larger airplanes operated by the airline in question.

Additionally, temporary capacity constraints are considered not to be harmful to international companies, as companies will recognize that it is likely that future growth will be granted. Schiphol's hub capacity could be expanded further which would indirectly also offer international companies more global connectivity (Schroeders, 2017; Westerlaak, 2017). Schiphol Group is trying to take a balanced approach regarding growth opportunities, where the airport's expansion planned in consideration with the surrounding residents and businesses in the vicinity of the airport. Broekema argues that the demand for airport capacity should have the primary focus, as the hub airport serves the city economy and the businesses in the Amsterdam area. Thereafter, a focus on the competitiveness between Schiphol and other European airports can be pursued (Broekema, 2017).

### VI.3. Prospects on airport connectivity in the AMA

While much is presented in favour of Schiphol being a key location determinant in the AMA, the RLI report argues that Schiphol's mainport function is slowly decreasing as the mainport policies tasks have been completed. While Schiphol still strongly contributes to the local economy in terms of logistics, other regions in the Netherlands have surpassed the mainport with their contribution to the national economy (RLI, 2016). The same trend is seen in the AMA, with the continual growth of the Amsterdam Internet Exchange (Amsterdam I-X). Amsterdam I-X has grown to being the world's second-largest Internet node, and therefore is considered to be the third mainport of the Netherlands. The data traffic peak reached 4,708 terabit per second in 2015, following the German Commercial Internet Exchange's leading position of 5,178 terabit per second. Amsterdam I-X's contribution to the Dutch GDP hit 5,3% in 2014 (RLI, Deloitte, 2015).

RLI (2016) also states that only 21% of Schiphol's economic incentives can be attributed to airline tariffs, while 47% are consumer goods and consumer services. This indicates that the airline market does not deliver the highest economic incentives, which aligns with the earlier found shift from logistics to business services as the dominant business sector in the AMA. Furthermore, it is argued that technological innovations can innovate and optimize flows of physical goods, resulting in companies having to rely less on specific well-connected places. Instead, places will be substituted for self-organized and complex networks with less logistics hub reliance. This is due to a shift in the value chain of many types of production, with more value added in the initial design phase and final marketing and branding phases. These phases rely more on networks, while the intermediate assembly phase does not bring as much relative profits (RLI, 2016).

Such a decrease of Schiphol's dominance in connectivity could positively affect the liveability of the surrounding area. A decrease in annual flight movements at Schiphol due to decreased demand will reasonably result in lower emissions and less noise nuisance. The Dutch cabinet states that Schiphol's development should be accompanied by confining negative effects for local residents (Rijksoverheid, 2016a). However, if Schiphol's direct route connectivity is to decrease, this is likely to cause more indirect routings for business travellers. This results in a greater number of connecting flights via other hubs, which may even even increase the number of flight movements. Therefore, emissions and aircraft noise will remain a present problem for the airport's surroundings. Furthermore, if the decrease of Schiphol's airport connectivity leads to international firms abandoning operations in the AMA, this may result in job losses and eventual regional economic downgrading (SEO, 2015).

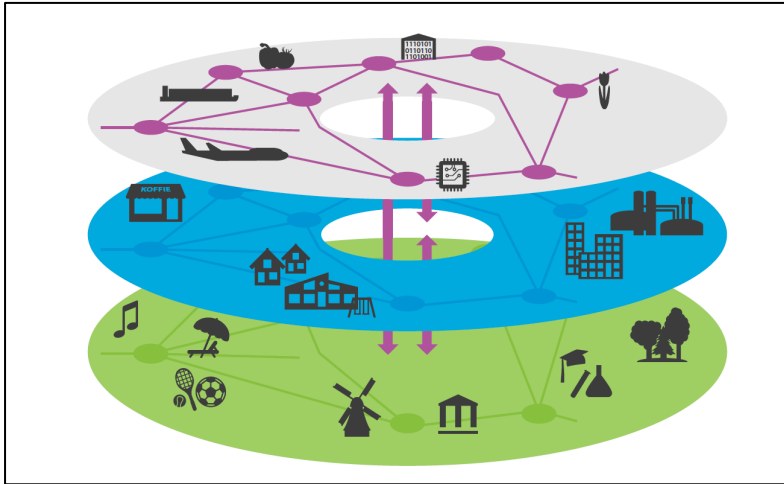
Regarding liveability, Schiphol presently actively switches runway use to minimize and spread noise nuisance across the surrounding areas. This variable runway use however is

said to challenge flight safety, as last minute changes to airport operations can increase the risk of accidents on the ground or in the air. Therefore the focus on liveability in the surrounding areas can affect air traffic safety at Schiphol. Continually increasing air traffic hereby results in an increasing complexity of air traffic management (Onderzoeksraad voor Veiligheid, 2017).

Looking at the future role of Schiphol's airport connectivity, timely and considerate planning is essential. Burghouwt argues for an approach with *flexible strategic planning*, where the airport infrastructure master plan entails *multiple-future* design options, which can be executed according to future market demand. This calls for a flexible and phased planning process, with rational contingencies so that the airport connectivity suits market demand. Diversification of airport functions is also considered important, in order to spread the risk of shifting markets. Airport city development is useful to decrease the airport's dependency on income from air travel, and thereby decreases the insecurity from airline's future network connectivity trends (Burghouwt, 2007).

The RLI report (2016) further argues for a medium term strategy for the location climate until 2040. This strategy includes incorporating qualities from other core areas besides the mainport Schiphol, such as datahubs and technology-specialized region Brainport Eindhoven. This combination allows for crossovers between economic clusters, which may present business opportunities and new growth sectors. The dominance of the mainports of Schiphol and the Rotterdam (and Amsterdam) harbour(s) are thus set to diminish and to eventually equalize with the other clusters. The report further argues for digital infrastructure as one of the essential conditions for a location climate. Physical, social and data networks are becoming increasingly intertwined, with companies relying more on data reliability and data security. The interdepartmental collaboration between the mainports Schiphol airport, Amsterdam I-X, Rotterdam harbour, and the Brainport Eindhoven should provide a future competitive location climate for international companies. It is argued that the focus on the joint contribution of this collaboration on the Dutch GDP is more important than focusing on the individual economic contribution of the mainports (RLI, 2016).

Additionally, quality of life is considered as a more coherent factor to the location climate, as so-called *soft* location determinants. This is said to be increasingly important to international companies, as employees that will settle in the AMA and other parts of the Netherlands reasonably prefer a high quality of life. This following figure 9 presents a multi-level cohesion between digital, physical and social location determinants that would be beneficial for a strong location climate:



**Figure 10: Multi-level interdependence between location determinants in the Netherlands**

RLI (2016) advises that Schiphol's medium term focus until 2040 should lie on connecting and collaborating with the other economic clusters of high value-adding activities. The mainport of Schiphol can use these clusters' unique qualities to collectively attract new international firms.

#### **VI.4 Summary**

Schiphol airport's growth is currently limited to 500.000 annual flight movements until the year 2020, as per the Alders-agreement. These limitations are met earlier than expected, as Schiphol is expected to nearly reach this number in 2017. Because Schiphol's competitiveness as a European hub is of significant importance to the Dutch and local governments, these constraints can only be allowed selective growth under the condition that Schiphol's surroundings are not seriously disadvantaged. This includes the regional airports of Lelystad and Eindhoven taking over more leisure-related destinations, while growth at Schiphol will focus on mainport-related traffic. This would benefit international companies in the AMA with more options for travel or transport to business destinations.

The capacity constraints that Schiphol experiences may affect the international companies in the AMA in terms of transport, as is already apparent in the crumbling of airfreight routes. However, the general consensus is that international companies will likely not be affected as much by these constraints, as the business travel market will be able to afford the rising costs for a longer period of time.

Furthermore, capacity constraints are also not expected to be a significant problem if the efficiency and accessibility of the airport remain adequate. In this department, Schiphol still has expansion possibilities for both aviation-related infrastructure as well as business infrastructure. This will likely develop along the airport-city concept and by expanding the

infrastructure of the Zuidas district or other business districts with increased airport accessibility. Also, the replacing of current airport infrastructure by a new infrastructure with an efficient clean-sheet design could be an option. This new airport could solve the current capacity constraints at Schiphol and boost the Flevoland regional economy by providing more jobs, along with maintaining the current hub function that Schiphol provides.

With the upswing of digital infrastructure and datahubs being named a third mainport, it was found that Schiphol's mainport dominance is decreasing. This decrease in airport hub function may affect international companies with greater airport dependence. However, the strong digital infrastructure also acts as a location determinant for these firms. Until the year 2040, it is argued that there should be more interdepartmental collaboration between economic cluster regions in the Netherlands, including the datahubs Amsterdam I-X and Brainport Eindhoven. This collaboration can serve as a competitive location climate for the near future. Future airport infrastructure and network planning should be carefully considered, using multiple-future design and flexible strategic planning. Focus on the liveability of surrounding regions of Schiphol is considered important. However, this liveability is found to constrain air traffic management and may add to the complexity of traffic operations. Therefore, realizing an efficient, safe, and evolving airport connectivity remains a challenge.



## **VII. Conclusions, Discussion & Recommendations**

### **VII.1. Conclusions**

This study has researched the airport connectivity of Amsterdam Airport Schiphol and how this is a location determinant for international companies at Schiphol area and in Amsterdam Metropolitan Area. The conceptual findings section has shown that international companies rely strongly on connectivity for their business operations. These firms have a degree of airport dependency for their logistics or face-to-face contacts. The airport's infrastructure and route network of flights is considered important for providing sufficient connectivity, giving these firms an efficient means to travel across their business networks or to transport goods to their markets. International firms therefore are attracted to areas with strong airport connectivity. Academics stated that airport dependency differs between business sectors, along with the autonomy of the local branch and its business operations. Additionally, literature findings show that capacity constraints at an airport may negatively affect the location climate of the area for international firms.

The findings of this study show that many international firms in the AMA benefit from Schiphol's airport connectivity. Many firms have chosen Amsterdam as a business gateway, using the airport's connectivity to easily reach their markets in the Netherlands, throughout Europe or the rest of the world. Also, their Dutch branches are able to function as a node in the MNE's global network through Schiphol. The airport city concept that Schiphol developed also is beneficial for connectivity purposes and provides efficiency for such firms.

Schiphol's extensive route network is one of the reasons for its success. Because of a high degree of direct connectivity, international firms enjoy efficient options for transport and business travel. This direct connectivity is a convincing factor for relocation, as international firms name it as one of the top 3 of reasons to relocate to the AMA. Schiphol's route network offers companies the AMA a competitive base of operations. The high flight frequencies along the route network result in shorter travel times and cost-savings. However, it is company-specific whether extensive route networks or higher flight frequencies are preferred, depending on the companies' business operations. Additionally, Schiphol's airport accessibility adds to the efficient international connectivity process.

Furthermore, it was found that airport dependency differs per business sector, as not all sectors rely on the airport infrastructure and route networks equally. It was found that firms with time-sensitive business operations generally rely more on the airport. Also, firms that require plenty of face-to-face contacts within their business operations appear to benefit from the direct connectivity, such as firms from life sciences, finance and business services sectors. Firms from these sectors also state the airport's accessibility to and from the city as

a valuable aspect, as they often have offices in the city centre or in the business districts. Airport dependency in the creative and fashion sectors appears to be less, though these companies do travel along well-established routes with other metropolises. Still, there was no distinct difference found on airport dependency between business sectors, as all sectors seem to rely on Schiphol to a certain extent. Instead of sector dependency, this research found that airport dependency is best distinguished using the internationality of the business operations. Route network dependency can similarly vary. An international firm serving multiple international markets would rely more on the extensive network of direct flights, while a branch within a firm's global network would rely more on flight frequencies on specific routes. Also, findings show that international companies in the AMA have an efficiency drive in their business operations, demanding efficient air transport or business travel from Schiphol. This results in a mutual relationship between the airport's connectivity and the city economy, including the business infrastructure at Schiphol and in the Zuidas district. This shows a virtuous circle of connectivity, where the airport connectivity supports the regional economy, and vice-versa the growth of the regional economy resulting in greater demand for airport connectivity.

Regarding Schiphol's capacity constraints, this research has found that such constraints will presumably not affect airport connectivity for the international firms in the AMA. The business travel market is expected to be prevalent due to the ability to afford increasing tariffs caused by the constraints. At Schiphol, this will be accompanied by the transferring of leisure flights to regional airport to make room for mainport-related growth at Schiphol. This focus on mainport-traffic could be beneficial to international firms, providing more air transport opportunities in the business segment. Also, the current constraints of 500.000 annual flight movements are up for debate in 2020, and therefore should be seen as a growth threshold. Allowing future growth of Schiphol's airport connectivity needs to occur in deliberation with its surrounding areas with regards to noise and emissions, making it a challenging effort. It was found that the current airport infrastructure and traffic management is struggling with handling flight patterns in order to minimize environmental concerns. This issue deserves proper attention if the airport is allowed selective growth in the near future, in order to remain a safe and attractive gateway to its international customers.

The growing digital infrastructure has developed the Amsterdam Internet Exchange into a mainport of its own. This has decreased the dominance of Schiphol as a connectivity mainport and created a more level playing field for the different economic clusters contributing to the local economy of the AMA and the rest of the Netherlands. For the near future, it is argued that the previous mainports should interdepartmentally collaborate with

the new economic clusters of the datahubs and techhubs, in order to provide for a future competitive location climate for international companies.

## VII.2. Discussion

The findings in this research are generally in tune with the hypotheses that were drawn up from the existing theories in the conceptual framework. Hypothesis 1 can be supported, as it was found that Amsterdam Airport Schiphol and institutions in the region provide international companies with a strong airport infrastructure in combination with the necessary support during the relocation process. This includes developing business locations and providing essential local connections for setting up a local business branch. The airport's accessibility and spatial embeddedness with the business districts also attributes to an attractive airport infrastructure for international companies in the AMA.

Hypothesis 2 can be fully supported by the findings in this research. For international companies from generally all business sectors, Schiphol's strong airport infrastructure and extensive route network grants worldwide connectivity and efficiency through logistics or business travel. This is delivered through direct connectivity and also high frequencies of flights along this network. This high degree of airport connectivity is found to be a primary reason for international companies to relocate to the AMA. It must be noted that airport connectivity by far is not the only location determinant for such companies, as Amsterdam is often chosen for its *total package*, scoring high political climate, English proficiency and living climate as well.

For hypothesis 3, this research found that most business sectors in the AMA show an airport dependency, though this depends on the internationality of the business operations. Firms that rely on face-to-face contacts are found to use the the airport connectivity for business travel across their international networks, though strong evidence of airport connectivity aiding tacit knowledge was not found. This hypothesis can thus be partially supported.

Finally, the findings show that hypothesis 4 cannot be supported. Solutions for the current capacity constraints at Schiphol include translocating leisure flights to regional airports in order to allow Schiphol to focus more on *mainport*-related traffic. This requires the development of new infrastructure at Lelystad and Eindhoven airport to allow for this shift within the traffic network. The upgrading of current infrastructure is dependent on the future regulations on several fronts, including traffic management, liveability in the surrounding areas, and noise restrictions. Therefore, the focus now mainly lies on providing new airport infrastructure to relieve the constraints at Schiphol.

This research confirms the theories on airport infrastructure attracting inward FDI by McQuaid et.al. (2004) and Button (1999) as is the case in Amsterdam. Also, the route

network theories by Bannò & Redondi (2014), Bel & Fageda (2008), and Strauss-Kahn & Vives (2006) can be confirmed. However, the theory from Escribà & Murgui (2009) on higher flight frequencies on route networks attracting more international companies was only partly confirmed by this research, as findings indicated that there should be an equilibrium between the airport's capacity and the frequencies it can handle. Also, it was found that dependency on flight frequencies could be company-specific.

Regarding the theories on airport dependency in different business sectors, this research has found that the degree of internationality in a firm's business operations affects its dependence on the airport infrastructure and route network. This confirms theories by Smyth (2003) and Strauss-Kahn & Vives (2006), but this research found that most sectors are more dependent on logistics than mentioned by these academics.

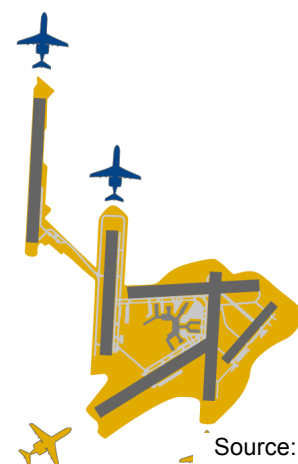
In Amsterdam, it is found that congestion due to capacity constraints is being solved by translocating flights to regional airports, relieving traffic at Schiphol and allowing for more growth in the markets relevant to the city's economy. This is in contrast with the theories of Swan (2002) and McQuaid et.al (2004), who state that capacity increases and expansion of current airport infrastructure is more effective than creating new infrastructure.

Findings also indicate that the relationship between the regional economy and the development of airport infrastructure is symbiotic. The virtuous circle of connectivity, which seems evident in Amsterdam, shows intertwined connections between airport connectivity and the regional economy, supporting each other's growth. This is in line with the conceptual model that was presented in the conceptual background section, except for the findings showing a more symbiotic circle instead of a linear process. Thus, since it has been confirmed that Schiphol airport is an attractive factor for international companies and these companies are boosting economic welfare in the AMA, it can be concluded that the international companies in the AMA also results in the airport connectivity of Schiphol.

### **VII.3. Recommendations**

Since many theories only focused on transport infrastructure as a whole benefitting inward FDI, this study singled out the specific relevance of the airport for the location climate. This research has found that general theories on the subject are confirmed in the case of Amsterdam, though it remains a challenge to truly measure the concept of airport dependency and to turn the subject into a tangible object to measure. Therefore this qualitative research can be used as an insight into the specific importance of airport connectivity for the local attraction of FDI. This is useful for local as well as national policy makers, regarding the airport's function for the business climate of Amsterdam.

However, due to the limited time and means for this research, it must be recognized that further research is needed to provide a more in-depth look into the relationship between Schiphol and the international companies in Amsterdam. The findings in this research were based on the knowledge of 7 key informants in the field of airport connectivity and inward FDI and relocation of international companies. In further research, interviewing additional key informants or interviewing spokespersons for a significant sample of international companies would increase transferability of the research findings. Also, it would be useful to investigate the benefits of airport connectivity for each specific business sector, to allow for more governance over economic growth of these sectors in the Amsterdam region. Conducting sector-specific research on a sample of international companies, ideally with quantifiable measures, could do give greater insight. This would especially be useful for the aerospace sector, as this sector was least substantiated by qualitative data due to the absence of this specific sector in the Dongen et.al (2014) report. Lastly, more research on the effects of the capacity constraints at large airports is advised, as these limitations are presently taking place and could influence economic development in the near future. Also, research on interdepartmental collaboration between economic core regions could serve to better utilize economic opportunities in countries with diversified industries such as the Netherlands. This could offer local governments more insights in possible solutions for new policymaking on airport connectivity, as well as a means to ensure regional economic growth through internationalization.



Source: Onderzoeksraad voor Veiligheid (2017)



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## IX. Appendices

### Appendix 1: Interviewees

**Joep Schroeders**, *Foreign Investments Manager at SADC*

As a foreign investments manager, Schroeders is responsible for attracting and facilitating the relocation process of logistics and aerospace companies in the AMA through marketing, acquisition, business development and investor development. Schroeders has significant experience in the field of inward FDI in these business sectors and can provide significant insight in these business sectors and the importance of airport connectivity for FDI.

**Marie-Jeannine Citroen**, *Foreign Investments Manager at SADC*

As a marketing and foreign investments manager, Citroen is active in international acquisition and stakeholder management for public-private partnerships. She focuses on the circular economy and aerospace cluster and networking. Her experience offers insight in location determinants and use of the airport connectivity.

**Maurits Schaafsma**, *Senior Urban Planner at Royal Schiphol Group*

As an urban planner specialising in airport years of experience, Schaafsma focuses not only on the airport infrastructure planning but also on the interaction of the airport with the AMA. Schaafsma offers insights in the airport city and airport corridor concepts, along with the synergy with the Zuidas business district.

**Gerben Broekema**, *Head of Group Strategy and Intl. Development at Royal Schiphol Group*  
Broekema at the time was responsible for international business development on and around Schiphol airport, focusing on strategic planning and incorporating the relevance of aviation on the regional society and economy. Broekema offers insight on business trends of international companies on and around the airport, and on airport dependency.

**Marcel Lekkerkerk**, *Director Aviation Marketing at Schiphol Aviation Marketing*

Lekkerkerk is active in marketing Schiphol's route network with business cases to airlines. He participates in market research on market demands for air travel and transport, and can provide useful insights in route network connectivity for international firms in the AMA.

**Alex van Westerlaak**, *Project Manager Investor Relations & Market Intelligence at Amsterdam inbusiness*

Westerlaak is active in the field of inward FDI in the AMA, analysing economic data and statistics, business climate and current investors, to create policy advice. Westerlaak is experienced with the market conditions for FDI in the AMA.

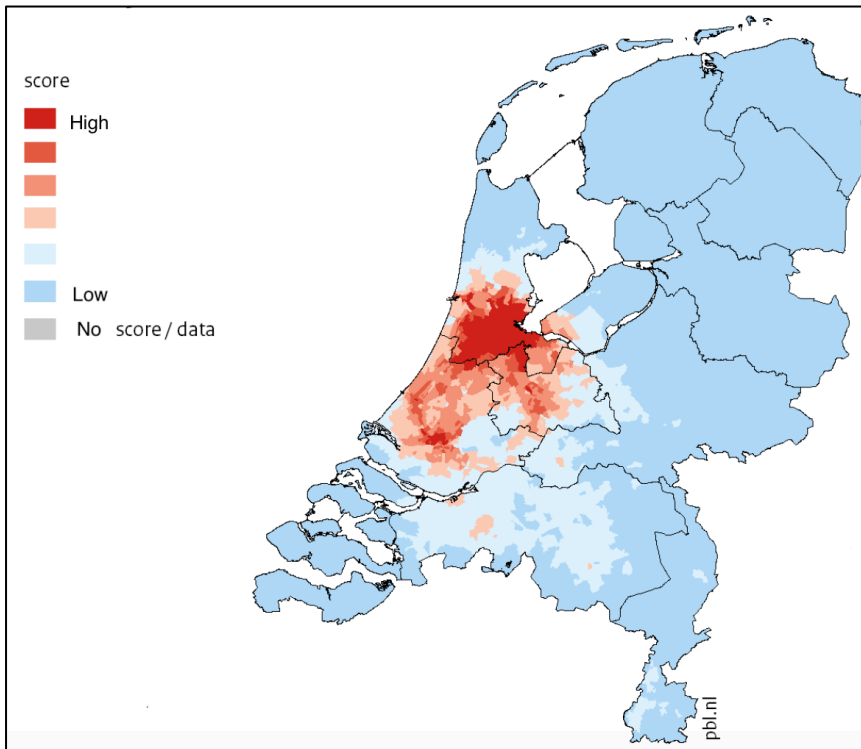
**Zef Hemel**, *Strategic Planner at Amsterdam Economic Board*

Among other functions such as a regional planner and university professor, Hemel is active as a strategic planner on the future regional economy of the AMA. He offers insight in the synergy between airport, business districts and city economy, and can provide useful insights into the future airport connectivity of Schiphol and the AMA.

## Appendix 2: Testimonials

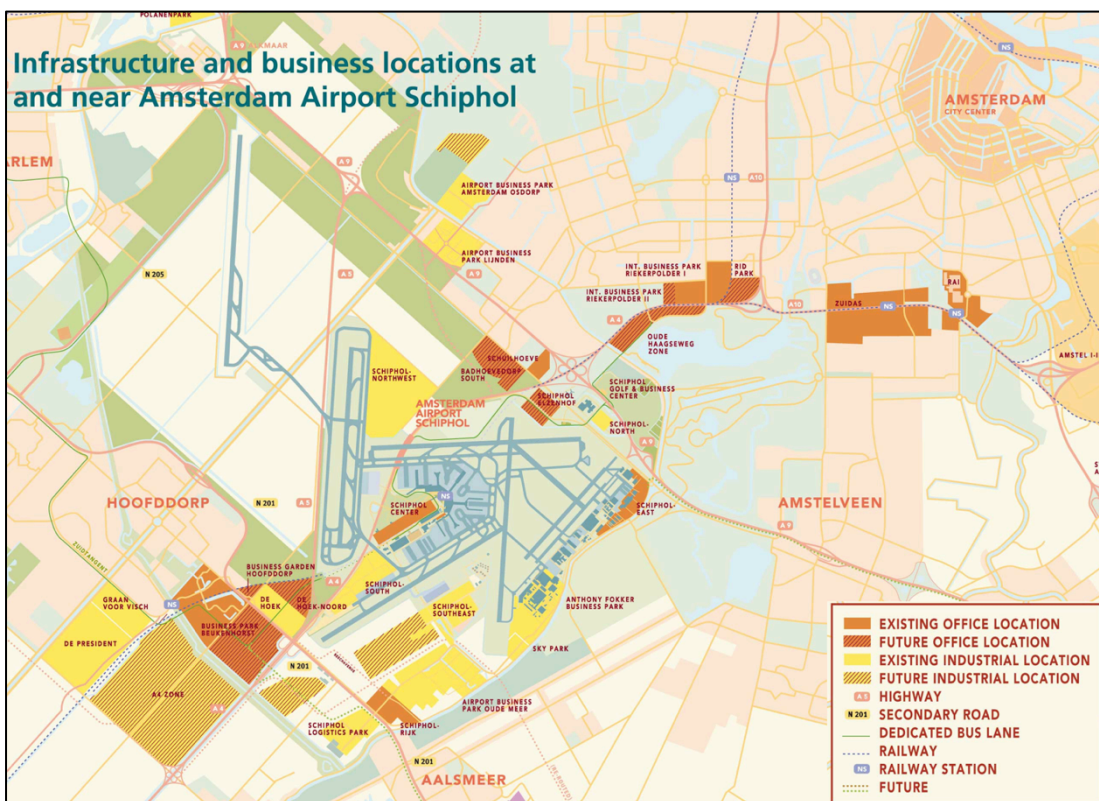
Business sector (Amsterdam Inbusiness)	International company	Comparative sector (van Dongen et.al. report)
<b>Aerospace</b>	Bombardier (2014)	<i>No comparative sector in report, no data noted</i>
	Embraer (2015)	
	Mitsubishi (2016)	
<b>Logistics</b>	Hanjin Logistics (2013)	Logistiek
	SK Lubricants (n.d.)	
	Sandvik Mining (n.d.)	
<b>IT</b>	Meanwell Enterprises (n.d.)	Hightech systemen & materialen - Maakindustrie
	Huawei (n.d.)	
<b>Finance &amp; FinTech</b>	European Investment Bank (n.d.)	Hightech systemen & materialen - Diensten
	Institute of Chartered Accountants of India (ICAI, 2017)	
<b>Life Sciences</b>	Wright Medical Technologies (n.d.)	Life Sciences & Health
	Sun Pharma (n.d.)	
	Teijin Holdings (n.d.)	
<b>Food &amp; Perishable goods</b>	Yakult (n.d.)	Agri & food (brede definitie)
<b>Business services</b>	Baker & McKenzie (n.d.)	Hightech systemen & materialen - Diensten
	Tata Consultancy Services (n.d.)	
<b>Creative &amp; Fashion</b>	Anomaly (2013)	Creatieve industrie - Dienstverlening
	Calvin Klein (2014)	
	Tommy Hilfiger (2014)	

### Appendix 3: Spread of foreign owned companies in the Netherlands



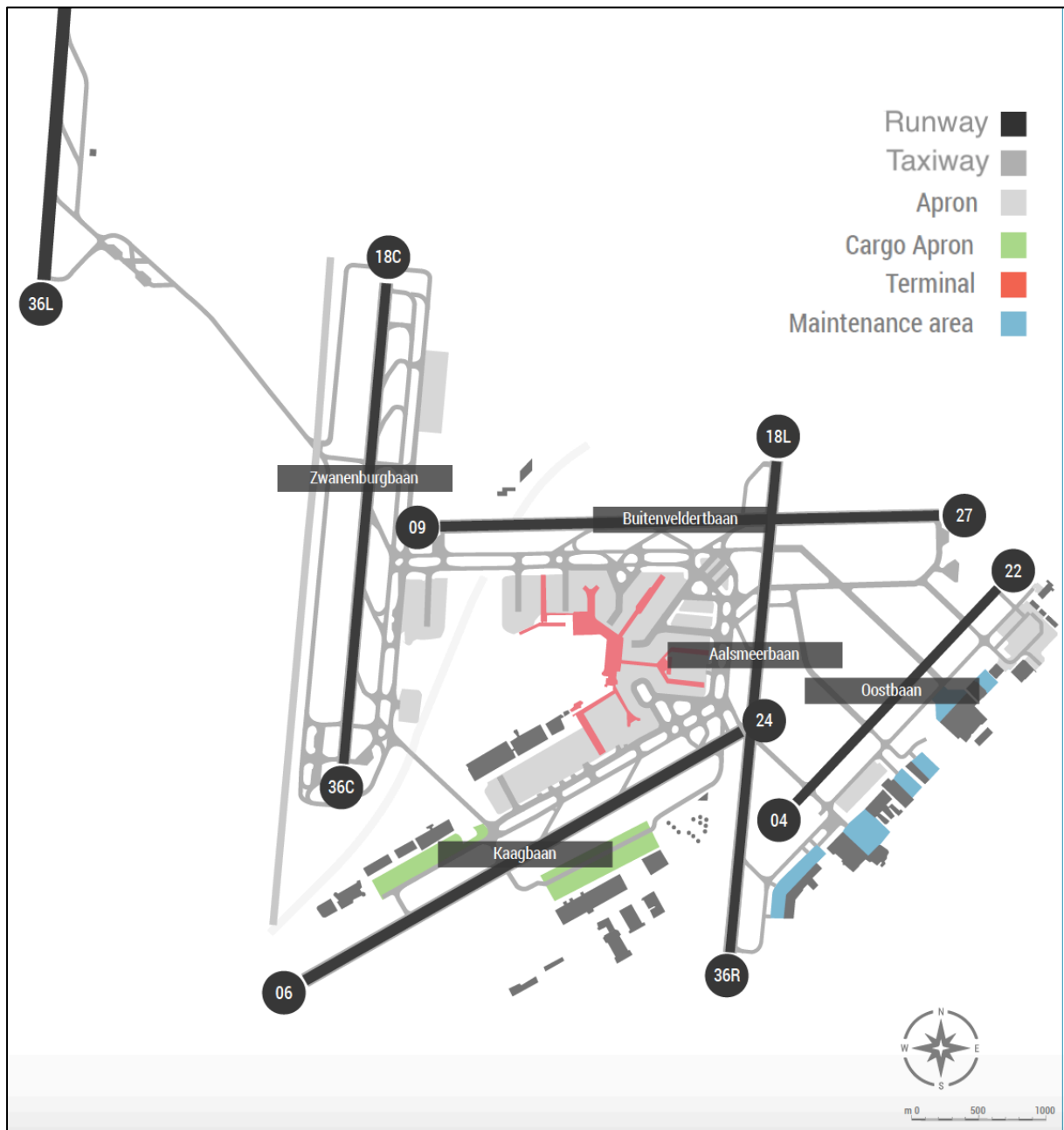
Source: Dongen et.al. (2014)

### Appendix 4: Overview of infrastructure and business locations on and around Amsterdam Airport Schiphol



Source: Rotterdam Transport (2015).

## Appendix 5: Overview of airport infrastructure at Schiphol



Source: Onderzoeksraad voor Veiligheid: Veiligheid vliegverkeer Schiphol, report 2017.



## Appendix 6: Figures

Figure	Title	Source
1	Conceptual relations model	<i>Authors own creation</i>
2	Western Amsterdam logistics corridor	Amsterdam Logistics Board
3	Zuidas location	Verkeersnet (2012) website
4	Amsterdam Schiphol Airport location	Amsterdam Economic Board (2015) website
5	Close-up of airport infrastructure	Here maps
6	Airport connectivity on International companies in the area	<i>Authors own creation</i>
7	Virtuous Circle of Connectivity	ACI (2017) Airport Industry Connectivity Report 2017. Airports Council International
8	Development of flight movements at Schiphol, including prognosis	Royal Schiphol Group, 2017
9	Location Lelystad Airport versus Amsterdam and Schiphol Airport	NRC (2014) Mansveld verzwijgt zorg over vliegveld Lelystad
10	Multi-level interdependence between location determinants in the Netherlands	RLI (2016) De Mainports Voorbij

## Appendix 7: Interview transcripts (in Dutch)

### Amsterdam Economic Board: Zef Hemel

**Interviewsubjects:** Zef Hemel [ ZH ]

**Interviewer:** Hugo Wind [ HW ]

**HW:** Ik heb dus wat kleine vraagjes over mijn scriptie waarbij uw inzichten zeker waardevol zouden kunnen zijn, alsmede over uw artikel over de verplaatsing van Schiphol naar de Flevopolder. ...*uitleg scriptieonderzoek*.... Hoe denkt u hierover, denkt u dat Schiphol een belangrijke localisatiefactor kan zijn in het vestigingsgedrag van buitenlandse bedrijven in de regio Amsterdam?

ZH: Ja, ik denk dat Schiphol van niet te onderschatten betekenis is in dit opzicht. Maar het is uiteraard altijd een combinatie van factoren, je kent het rijtje vast wel: fiscale voordelen, stabiel politiek klimaat, een goed leefklimaat... maar in dit rijtje wordt de luchthaven ook zeker genoemd. Maar dat is niet gezegd dat Schiphol als hub hiervoor echt essentieel is. De luchthaveninfrastructuur is hier natuurlijk wel van belang. Maar de vraag daarbij is natuurlijk of de luchthaveninfrastructuur werkelijk zo groot moet zijn als dat hij nu is, alsmede het netwerk dat momenteel zo uitgebreid is...

**HW:** Precies, dat is zo. En wanneer we kijken naar de verschillende business sectoren, denkt u dat er verschil zit in de verschillende business sectoren in de afhankelijkheid van de luchthaveninfrastructuur of routenetwerk?

ZH: Ja, maar ik denk dat je eerder kan zeggen dat het afhangt van hoe geglobaliseerd zo'n bedrijf is. Als een bedrijf een werkelijk internationale businessoperatie heeft, dan luistert die luchthavenafhankelijkheid wel nauw.

**HW: Dus inderdaad niet onderscheidend per business sector, maar echt weer in die mate van internationaliteit van het zakendoen.**

ZH: Ja zeker, en dat kan zelf zo zijn dat het gaat om hele kleine bedrijven he, ze noemen dat wel de mini-multinationals, maar dat kunnen ook zelfs start-ups zijn, die extreem gebonden zijn aan de luchthaven. Maar het kan ook een MKBer zijn die ... verhandelt. Die bijvoorbeeld 12 keer in een bepaalde periode naar Azië moet reizen voor zijn werk.

**HW: Juist ja. U sprak inderdaad al over de grootte van Schiphol, en daar gaat uw artikel natuurlijk ook over [ de verplaatsing van Schiphol naar de Flevopolder ], echt die capaciteit van Schiphol op het moment. Hoe zit dit dan met het routenetwerk, denkt u? Of hangt dat dan weer samen met de capaciteit van een luchthaven als Schiphol?**

ZH: Het routenetwerk van Schiphol nu is vooral gebaseerd op een zo groot mogelijk aandeel transferpassagiers. Dat is nu ruim 60% geloof ik, als het niet meer is. Dat heeft niet zoveel te maken met het vestigingsklimaat van de Amsterdamse regio, gewoon omdat deze reizigers alleen die overstap maken en dus niet hier zijn voor zaken o.i.d. Dat was ook voor mij een van de redenen om de schadelijkheid van de verplaatsing van Schiphol naar Lelystad niet zo groot te vinden [in mijn artikel].

**HW: Ja precies, dat snapte ik ook heel goed. Want eigenlijk het mainportgebonden verkeer, dat bestemmingsverkeer dat echt met de stad/regio Amsterdam te maken heeft, is dus maar 40% of zelfs kleiner.**

ZH: Ja zeker, van dat deel bestemmingsverkeer is iets meer dan de helft voor de Amsterdamse regio, 20% voor het zuidelijke deel van de Randstad, en dan nog 30% voor de rest van Nederland.

**HW: Ja ja, daarom is uw mening ook eigenlijk heel logisch, om een luchthaven te bouwen op een plek waar het beter ligt, ongeacht dat dit dan verder van de stad Amsterdam af is, want het aandeel dat daadwerkelijk in Amsterdam moet zijn, is kleiner. In andere grote steden zie je het immers ook, dan er een nieuwere luchthaveninfrastructuur kwam die verder van de stad gelegen is.**

ZH: Ja, maar daar zit ook wel weer een grens aan. Maar dit concept, waarbij de luchthaven slechts zo'n 40km van de stad komt te liggen, dat kan zeker, dat zie je ook in de andere steden inderdaad.

**HW: Dat is dan goed te overbruggen dus. Maar stel, er komt een nieuwe luchthaveninfrastructuur in de Flevopolder, hebben Lelystad en Almere daar dan geen last van zijnde groeikernen?**

ZH: Nee die hebben daar juist enorme baat bij. Zeker, gezien een luchthaven een banenmotor is van jewelste. Geloof me, dan draaien Almere, Lelystad en Zeewolde zich om richting de luchthaven. Die steden hebben het economisch behoorlijk zwaar, omdat de laagwaardelijke zakelijke dienstverlening waar ze momenteel inzitten die kalft af, mede door de automatisering en robotisering en daar komt niks voor in de plaats. Flevoland kan dus echt wel iets gebruiken.

**HW: Dat is een interessant punt. En dat geldt dan natuurlijk ook voor het gebied nog iets verder, bijvoorbeeld Zwolle en omgeving. Dat is het dus zo dat de extra overlast die er eventueel zou zijn in de vorm van geluidsoverlast wordt overstemd door de positieve gevolgen zoals dit aanbod van banen.**

ZH: Juist, want ook in dat gebied wonen veel minder mensen dan er wonen in het gebied van de Randstad die nu last hebben van Schiphol. Per saldo tref je dan veel minder mensen.

**HW: Uiteindelijk wel dan inderdaad. Want ook als er een nieuwe luchthaven in de Flevopolder wordt geplaatst, dan heb je een nieuw design, een clean-sheet design, dan kan daar volledig op worden ingespeeld neem ik aan.**

ZH: Juist! Dan kan er een veel rationeler en efficiënter luchthaven worden ontworpen. Ik had ook in mijn artikel wel gezegd dat het huidige ontwerp van de landingsbanen op Schiphol gebaseerd zijn op de verschillende windrichtingen wat propellorvliegtuigen vroeger nodig hadden. Tegenwoordig is die zijwind-component veel minder een issue omdat de straalvliegtuigen hier geen problemen mee hebben. Daarom kan er een veel compacter en rationeler ontworpen worden gebouwd.

**HW: Er kan dan ook worden ingespeeld worden op het airport-city concept.**

ZH: Ja juist helemaal. Die kan je dan volledig tot uitvoering laten komen.

**HW: Dus eigenlijk zou zo'n verplaatsing dan op termijn juist voordelen bieden, als er rationeel naar wordt gekeken.**

ZH: Ja, dat denk ik wel. Het nieuw gemaakte land van de Flevopolder is hier juist uitermate geschikt voor. In de bestaande Haarlemmermeerpolder waar Schiphol ligt is vaak mist, vanwege de diepgelegen ligging. In Flevoland is aanzienlijk meer wind, wat in ieder geval zou betekenen dat de luchthaven veel minder vaak gesloten zou worden.

**HW: Interessant ja. Want in uw concept wordt Schiphol inderdaad geheel vervangen, niet dat er een tweede luchthaven bijkomt. Kan er bij zo'n geheel nieuwe luchthaven op grotere afstand nog wel worden ingespeeld op mainport-verkeer, dat verkeer naar de stad toe?**

ZH: Schiphol en Nederland is natuurlijk sterk in de transfer, dus voor de transfer passagiers maakt dat weinig verschil. Zij willen graag een zo prettig mogelijke overstap ervaren, en dat kan natuurlijk het meest comfortabel en efficiënt op een moderne luchthaveninfrastructuur. Qua bestemmingsverkeer is Amsterdam inderdaad iets langer. Het lijkt mij dat dit geen heel groot bezwaar hoeft te zijn. De Hanzelijn wordt momenteel nog steeds bewerkt zodat er een aanzienlijke capaciteit wordt gecreëerd. Je kan daarmee comfortabel Amsterdam bereiken en Utrecht bereiken.

Hierbij neem ik ook altijd het voorbeeld van Moskou. De luchthavens daar liggen ook verder van het stadscentrum af. Wanneer je dit projecteert op de Randstad dat ligt dat 'nieuwe Schiphol' helemaal niet gek ver. Dus die passagiers zullen daar misschien even aan wennen, maar nu hebben we natuurlijk een soort van 'verwennerij'. Schiphol ligt zo dichtbij dat je binnen 10 minuten vanaf de luchthaven een belangrijk punt in de stad hebt bereikt, of dat nou een zakendistrict is of je huis.

**HW: Mooi hoe u dat zo zegt, die verwennerij. Dat hoor je inderdaad vaker bijvoorbeeld van de Zuidas bedrijven die dan in essentie verworden zijn met de reistijd van 6 minuten vanaf Schiphol. Die gaan er dan wel op achteruit.**

ZH: De Zuidas zoals hij nu is dubbelt natuurlijk wel heel erg met Schiphol zelf onder het mom van airport-city. De prijzen van deze twee wijken ook weinig van elkaar af, en de nabijheid is zo groot dat dit eigenlijk eenzelfde locatie is. Maar ik denk dat de Zuidas er helemaal niet onder zal lijden als Schiphol iets verder weg komt te liggen. Immers heeft de Zuidas nu ook last van de nabijheid van Schiphol vanwege de hoogterestricties van gebouwen, omdat de radar van Schiphol hier last van zou hebben. Dit hoogtelimiet is dan niet meer aan de orde.

**HW: En als er dan zo'n nieuwe luchthaveninfrastructuur komt, waarschijnlijk volgens het airport-city concept, zouden bedrijven van de Zuidas zich dan mogelijk ook verplaatsen naar deze luchthaven om zo toch hun internationale bereikbaarheid te waarborgen?**

ZH: Ik vermoed dit niet. Het zou kunnen, maar het zou inderdaad wel verstandig zijn om van die nieuwe luchthaven dan ook een airport-city te maken. Dit moet natuurlijk dan ook weer een aerotropolis worden. Ik zie de Zuidas echter als het toekomstige centrum van Amsterdam. Dit gebied zal nog veel verder transformeren dan we nu al zien. We zijn begonnen hier een kantorengedebied van te maken, maar er wordt nu al zoveel woongebied bijgebouwd. Er komen straks steeds meer voorzieningen. Ik denk dat de Zuidas dan opgelucht ademhaalt, wanneer de nabijheid van de luchthaven wordt weggenomen.

**HW: Ja ja, want dan ervaren ze daar geen overlast meer van.**

ZH: Precies, en mijn voorstel is daarom dat op het huidige gebied van Schiphol een nieuwe flank van Amsterdam, of een nieuwe groeikern te bouwen, zoals Hoofddorp etc. Je kan daar wel tweemaal de Bijlmer in kwijt, het is een erg groot gebied. En dat komt dan de Zuidas zeker weer ten goede. Daar ontbreekt het immers nu aan het woningaanbod, dus dat biedt voor de Zuidas een nabij uitgestrekt gebied voor woningen. Daarnaast komt de Zuidas daarmee meer in een centrumpositie te liggen.

**HW: En het World Trade Center dat je nu op Schiphol ziet, dat zal dan in principe mee verplaatsen naar de nieuwe luchthaveninfrastructuur? Bijvoorbeeld Microsoft?**

ZH: Microsoft zit inderdaad op de luchthaven nu. Maar dat was opportunisme, het was een mooi aanbod van de luchthaven dat zij niet konden weigeren. In principe had Microsoft zich gewoon op de Zuidas moeten vestigen. Uiteraard biedt deze locatie hun wel een kantoor op loopafstand, maar hier had de luchthaven zelf ook weer baat bij. Die paar minuten in de trein naar de Zuidas of een andere plek in de stad had daarbij niet veel verschil gemaakt. Er is dus ook heel veel niet-strikt-luchthaven-gekoppelde arbeid op de luchthaven.

**HW: Daar zit dus ook een zekere nuance in...**

ZH: Ja dat kan je wel stellen. Er is natuurlijk concurrentie tussen bepaald bedrijfslocaties, daarbij worden biedingen gedaan en zo, maar dat is normaal, dat is business. Maar je moet niet gaan zeggen dat het nou echt vitale functies zijn voor Schiphol. Het draagt bij aan image, maar vitaal is het natuurlijk niet. De luchthaven heeft ook een verdienmodel, en dit is het model van real estate.

**HW: Ja exact, zeker in dat real estate wil Schiphol Group ook nog doorontwikkelen, bijvoorbeeld in Schiphol Noord...**

ZH: Weet je wat het probleem daarbij is, is dat de grondprijzen daar nu zo hoog zijn. Mede doordat Amsterdam nu zo in opmars is, slaat dat ook door op Schiphol. Wat je nu ziet, is dat het bij heel veel écht Schiphol-gebonden functies te heet onder de voeten wordt. Ze kunnen het soms niet meer betalen of willen dit niet. De goedkopere grond van Flevoland is daarbij natuurlijk ook weer aantrekkelijker.

**HW: Interessant punt ja. Maar zo een mega verplaatsing kost natuurlijk erg veel geld.**

ZH: Dat verdien je op den duur allemaal terug. De grond van Schiphol is van de overheid. Driekwart is van het Rijk en een kwart van Amsterdam. Alle revenuen die vallen toe aan de overheden. In dat gebied zal dan gewoon een grondwaardestijging gaan plaatsvinden. Dat levert gewoon veel meer op dan een luchthaven. Een vliegveld neemt zeer veel plek in, maar een landingsbaan is natuurlijk niks waard. In plaats daarvan kan je zoveel realiseren waar je veel meer aan verdient. Ook de grond in

Flevoland is Rijksgrond die wordt verpacht, dus ook de revenuen die ontstaan van het bouwen van een luchthaven daar, komen ten goede aan de staat. Volgens mij komt de overheid bij deze verplaatsing daar dus niets tekort. Deze stap kan gerust gezet worden. Er kan daar een aantal miljarden in geïnvesteerd worden, dit komt altijd weer terug.

### **Amsterdam Inbusiness: Alex van Westerlaak**

**Interviewsubjects:** Alex van Westerlaak [ AW ]

**Interviewer:** Hugo Wind [ HW ]

**HW: ...Uitleg onderzoek... SADC was meer actief in de aerospace en logistics sector heb ik gehoord. Ik probeer ook te kijken naar bedrijven die veel hebben aan zakelijk en face-to-face contacten. Daarvoor moest ik toch bij inbusiness zijn hoorde ik. Jullie doen meer de andere sectoren?**

AW: Ja, dat klopt wel inderdaad. Zij doen logistiek en aerospace gerelateerde bedrijven en wij doen de rest eigenlijk.

**HW: Merken jullie ook dat bedrijven uit deze sectoren als vestigingsplaatsfactor bereikbaarheid als essentieel punt noemen?**

AW: Het wordt inderdaad vaak genoemd, vooral door bedrijven die in veel verschillende landen opereren. Daarbinnen dan weer vooral de bedrijven die een aantal functies in Nederland hebben gecentraliseerd. Die vooral vanuit Nederland hun marketing voor hun globale business of voor heel Europa aansturen. Dit kan ook een financiële afdeling zijn.

Dit zijn toch vaak de mensen die inderdaad verschillende plekken moeten aansturen vanuit het hoofdkantoor hier. Bij dat soort bedrijven wordt de factor bereikbaarheid zeker vaak genoemd, vooral dat Amsterdam dat als voordeel heeft. Dat Schiphol zo dichtbij de stad is en de bereikbaarheid zo goed is.

**HW: Het wordt dus zeker genoemd als voordeel, maar is het ook een voorwaarde die zij stellen? Of zoeken ze dat zelf uit/ is dat wel bekend? Wordt daar door jullie ook mee gepromoot?**

AW: Ja dat zeker. We noemen het als belangrijk pluspunt. Ik denk dat het sowieso wel een basisvoorwaarde is voor deze bedrijven. Steden die toch vaak op de shortlist komen te staan zijn de steden als Londen, Parijs, Frankfurt, Amsterdam. Dat zijn toch de steden waarvan bekend is dat de infrastructuur (met name de airport) sterk zijn. Ik denk dat de kleinere steden daardoor toch vaak al afvallen.

**HW: Wat Schiphol Group ook benadrukte, was de relatieve grootte van de luchthaven van Amsterdam versus de stad. Het belang zou daardoor zwaarder kunnen wegen. Zou dat de reden kunnen zijn dat Amsterdam hoog op de ranglijst staat?**

AW: Ja, dat zou kunnen. Maar dat durf ik niet met zekerheid te zeggen. Er zijn natuurlijk ook andere dingen die meespelen, zoals de digitale connectiviteit en het leefklimaat van de stad. Maar ik denk wel zeker dat het een van de dingen is als voorwaarde voor bedrijven om zich hier te gaan vestigen. Het is altijd een mix van factoren natuurlijk.

**HW: En dat airport city concept dat Amsterdam ook heeft, dat bedrijven zich ook op de luchthaven zelf kunnen vestigen, dat zou ook als een voordeel van Schiphol/Amsterdam kunnen zijn. Zoals de efficiency drive.**

AW: Dat klinkt inderdaad efficiënt. Tijd is inderdaad geld. Als bedrijven hun zaken hier in Amsterdam sneller kunnen regelen dan ergens anders, dan zouden ze sneller voor Amsterdam kunnen kiezen.

**HW: Alsmede de nabijheid van de stad, denk ik.**

AW: Zeker, die nabijheid is ook belangrijk, dat hoor je van iedereen die hier voor het eerst komt ook. Die benadrukken de ervaren nabijheid ook zeker.

**HW: Het routenetwerk/connectiviteit via Schiphol ook van belang, bijvoorbeeld voor de research/kennisintensieve bedrijven. Volgens bepaalde testimonials hangt de bereikbaarheid ook af van het aanbod van dagelijkse/meerdagelijkse vluchten.**

AW: Dat klinkt logisch inderdaad. Ik heb me daar nooit specifiek in verdiept. Ik denk wel dat dit geldt voor alle sectoren die veel internationaal moeten samenwerken. Die verlangen gewoon een goed netwerk van verbindingen. Wanneer je gemakkelijk en snel bereikbaar bent dat maakt het zakendoen veel efficiënter. Dat is veel aantrekkelijker dan dat je eerst uren over land moet reizen en dan nog moet vliegen.

**HW: Juist, dat hangt dus ook weer samen met die efficiency drive, of niet? Alles hangt dus samen, maar het is dus wel echt de whole package dat het aantrekkelijk maakt.**

AW: Het is inderdaad die whole package. Dat is waar het om gaat. Dat is ook hoe wij Amsterdam promoten. We focussen niet op maar 1 ding dat we in de schijnwerpers zetten, we zetten ons breed in, omdat we dat ook kunnen aanbieden. In Amsterdam is gewoon een verscheiden aanbod en juist de combinatie daarvan maakt het aantrekkelijk denk ik.

**HW: Precies, want omdat er zoveel verschillende sectoren zijn, hoor je vaak dat er kennis-overflow is. Nabijheid van andere sectoren is dus ook belangrijk.**

AW: Dat klinkt logisch inderdaad. Dat zal hier ook zo zijn.

**HW: SADC en AAA die plaatsen dus ook echt bedrijven in de regio, zelfs zo ver als het aanbieden van kavels, het in contact brengen van bedrijven met de gemeentes. Hoe doen jullie dat?**

AW: Wij hebben zelf geen gronden die we verkopen, maar we zijn wel onderdeel van de gemeente [ Amsterdam ] en andere gemeentes, dus we kunnen wel bedrijven linken aan de bepaalde afdelingen die daarover gaan op lokaal niveau. SADC heeft daarbij wel een iets andere niche van bedrijven dan wij, omdat wij in de stad Amsterdam meer kleine bedrijfjes krijgen die snel up and running willen zijn en daarom zich in een business center willen vestigen waar ze gelijk aan de slag kunnen. Dit willen niet eerst een hele faciliteit bouwen.

**HW: Dat zijn dus meer de kleine kantoorarbeid die eerst geoutsourced wordt, en dat het bedrijf dan eventueel daarna organisch doorgroeit.**

AW: Klopt, het gaat dan voornamelijk om bijvoorbeeld bedrijven uit Amerika die besluiten dat ze hun producten ook in Europa willen verkopen. Dan moeten ze ergens in Europa een kantoor openen om de zaken op te zetten. Als ze dan voor Amsterdam kiezen, wat vaak gebeurt, dan komen ze vaak maar met een paar mensen, 10 personeel is dan vaak al veel. Ze willen dan een bestaand kantoorpand een afdeling waar ze hun zaken kunnen opzetten. Dit in tegenstelling tot bedrijven in de logistiek of aerospace die inderdaad een hele loods willen. Die sectoren met de kleinere kantoorpanden

gebruiken dan vaak de bestaande logistiek om hun producten mee te verscheppen, als ze fysieke producten verkopen. Dan schakelen ze bestaande logistieke bedrijven in.

**HW: Ah, dus een goeie logistiek is ook erg aantrekkelijk voor zulke bedrijven.**

AW: Zeker, ik denk dat zoiets zeker meespeelt. Voor bijvoorbeeld fashion bedrijven, en andere bedrijven die fysieke producten verhandelen.

**HW: Dus de logistiek zou ook andere bedrijven kunnen aantrekken eigenlijk?**

AW: Ja, ik denk dat logistiek een goeie voorwaarde is voor veel bedrijven om zich ergens te vestigen. Ze willen goede verbindingen met China/Azië waar vaak de productie vandaan komt, en goeie lijnen door Europa waar ze hun producten verder willen verhandelen.

**HW: Juist, dus Port of Amsterdam en Port of Rotterdam en Schiphol Cargo spelen daar een belangrijke rol in. En de zakencontacten profiteren dus weer van het netwerk van Schiphol.**

AW: Dat denk ik wel ja.

**HW: En SADC noemde Schiphol Aviation Marketing ook nog. Werken jullie met hen ook samen?**

AW: Nee niet direct. Wij noemen Schiphol natuurlijk als positief vestigingslocatie punt, maar we werken niet direct samen. Ik denk dat het openen van nieuwe routes ook meer voortkomt vanuit bestaande markten en vraag, dan andersom. Als de route er is, dan komen de bedrijven wel. Een bedrijf zal minder snel vestigen in de hoop dat er een directe route komt als die er nog niet is.

**HW: Juist ja, dus bijvoorbeeld de nieuwe routes die naar India zijn geopend, dat zou voor Indiase bedrijven gunstig kunnen zijn om zich in Amsterdam te vestigen, toch?**

AW: Ja zeker, dat merken we alleen nog niet. Is denk ik nog te recent. Hypothetisch zou dat wel kunnen natuurlijk. We merken wel dat de groep Indiase expats de afgelopen jaren sterk gegroeid is, en al bijna groter is dan de groep Japanse expats die van oudsher de grootste groep Aziatische expats hier was. Het zou kunnen dat zulke bereikbaarheid daarbij meespeelt.

**HW: Juist ja. En in het kader van routenetwerk versus capaciteit. Denk je dat het voor bedrijven beter is om zoveel mogelijk routes te hebben, of voldoende capaciteit?**

AW: Het gaat vooral om de zakelijke routes denk ik. Bestemmingen in vakantiegebieden die zijn minder interessant. Als je dat onderscheid hebt gemaakt, dan is het denk ik wel belangrijk dat er juist zoveel mogelijk verschillende bestemmingen zijn binnen die zakelijke bestemmingen.

**HW: Daarnaast kijk ik nog naar de groeimogelijkheden en mogelijke effecten daarvan. De luchthaven zit momenteel een beetje op slot. Heeft dit nog invloed op het vestigingsklimaat denk je?**

AW: Ik denk wel dat het bij het nemen van de beslissing voor het vestigen een ding kan zijn, bijvoorbeeld de capaciteit van de luchthaven. Het gaat hier denk ik vooral om de ervaring en de efficiency van de reis. Als een zakenreiziger eerder op de luchthaven moet zijn wegens de lange rijen voor security en mogelijke kans op het missen van de vlucht, dan heeft dat wel invloed ja. Ze zouden dan inderdaad sneller gaan uitwijken naar andere luchthavens. Hier geldt natuurlijk dat wanneer de omliggende luchthavens ook capaciteitsgrenzen hebben de zakenreizigers niet snel zullen uitwijken. Het gaat bij de efficiency drive toch om het zien van voordeel om te verplaatsen naar een andere plek.

**HW: Juist, dus dat hangt af van de capaciteit van het vliegveld. Als het een druk vliegveld is maar de capaciteit is goed en het reizen verloopt soepel, dan brengt dat geen problemen voort.**

AW: Correct. Dan is het geen probleem. Het hangt denk ik allemaal samen met elkaar.

**SADC: Joep Schroeders & Marie-Jeannine Citroen**

**Interviewsubjects:** Joep Schroeders [ JS ] ; Marie-Jeannine Citroen [ MC ]

**Interviewer:** Hugo Wind [ HW ]

**HW: laten we beginnen met een korte introductie over SADC.**

JS: We vieren dit jaar ons 30 jarig bestaan. Opgericht in 1987 door vier aandeelhouders: Gemeente Amsterdam, Gemeente Haarlemmermeer, Provincie Noord-Holland en Schiphol Group. Deze vier hadden grondposities rondom de luchthaven. Om internationaal concurrerend te zijn kunnen we dat het beste in gezamenlijkheid ontwikkelen in plaats van dat apart te doen. Toen is dat in feite in 1 bedrijf gegoten.

MC: Dat was en is nog steeds best uniek, dat model.

JS: Inderdaad nog steeds: we krijgen nog best veel delegaties van luchthavens of andere regio's vanuit China of Amerika die zoiets hebben van 'wauw, dat overheden met elkaar samenwerken'.... Voor ons als Nederlanders is dat meer normaal, zoals bij het poldermodel, maar voor buitenlanders is dat nog niet altijd vanzelfsprekend.

**HW: Vooral ook die samenwerking op verschillende niveaus?**

JS MC: Ja, en met Schiphol Group.

**HW: Publiek en privaat samen, wat Schiphol Group is privaat toch?**

JS: Schiphol Group opereert in principe publiekelijk, maar heeft wel private aandeelhouders. Schiphol Group opereert dus ook commercieel net als SADC. Omdat wij ook die publieke partijen als aandeelhouders hebben, hebben we niet alleen die commerciële opgave (zoals de verkoop van kavels/grond [voor buitenlandse bedrijven], maar hebben we ook een maatschappelijke functie: bijvoorbeeld het creëren van werkgelegenheid en de locaties die wij ontwikkelen. We participeren ook bij projecten in de regio die bijdragen aan het versterken van de economie en het versterken van infrastructuur. Bijvoorbeeld park-management, het verzorgen dat de kwaliteit van bedrijventerreinen hoog blijft.

Een van die zaken die daar ook bij hoort is dat SADC eigenlijk de main founder en funder is van de vereniging Amsterdam Airport Area. In de jaren 90 was het idee dat het interessant was om SADC kavels te verkopen, maar als je dat vanuit de gemeenten Lelystad/Almere/etc doet dan heeft het niet zoveel zin om naar Amerika en China te gaan, dan zou het beter zijn om dat gezamenlijk te doen. AAA is een publiek-private vereniging van alle overheden in de MRA. Wij verkopen deze hele regio op het gebied van logistiek en aerospace. Als een partij geïnteresseerd is om logistieke activiteiten in Europa op te zetten, dan zeggen wij: Kom naar de Metropoolregio Amsterdam! Dat is eigenlijk wat AAA doet. De sectoren logistiek en aerospace zijn vanuit historie zo gegroeid, vanuit de luchthaven. Later is ook amsterdam inbusiness ontstaan, maar die richten zich vooral op de andere sectoren: finance, fashion, life sciences etc. Zij hebben een Japan desk, India desk etc. AAA is nu sinds een jaar of 7 verantwoordelijk voor aerospace en logistics.



MC: Wij werken inderdaad ook 1 op 1 samen met Amsterdam in business.

JS: Als we naar het buitenland gaan dan voeren we allemaal het merk Amsterdam, wat veel mensen ook bekend is. Of Invest in Holland etc.

**HW; uitleg scriptieonderzoek.**

JS: Interessant. Er mag inderdaad vaak niet meer zo hard gezegd worden dat Nederland aantrekkelijk is voor belastingen etc (vaak het nummer 1 standpunt voor bedrijven om zich te vestigen), maar toch is de *connectivity* ook essentieel. Vooral die luchtverbindingen.

**HW: Transport infrastructuur wordt altijd nog gezien als iets kleins, en in het bijzonder airport infrastructure**

MC: Terwijl wij het als de (bijna) nummer 1 reden meekrijgen van bedrijven die we spreken.

**HW: .... Tacit knowledge voorbeeld...**

JS: Bijvoorbeeld mensen die hierheen komen voor trainingen of opleidingen.

**HW: Maar hoe is die samenwerking met de bedrijven. Bedrijven worden hier naartoe gehaald en geplaatst. Is er daarna nog een vervolgtraject?**

MC: Wij noemen dat inderdaad *investor relations*, en dat is bijna nog belangrijker dan de nieuwe acquisitie. We merken dat je er heel veel branche informatie uit kunt halen, en ten tweede zorgt het ook voor meer uitbreiding voor nieuwe klanten die ook geïnteresseerd zijn om zich hier te vestigen. Eigenlijk zorgt het voor de nieuwe acquisitie. Die bestaande bedrijven zijn essentieel voor nieuwe bedrijven.

JS: Zeker in de markten waarin wij opereren, aerospace en logistiek, daar heb je eigenlijk het hele business ecosysteem dat hier al gevestigd is. Er zijn weinig nieuwe partijen, maar de bestaande partijen moeten daarom gefaciliteerd worden in hun groei en ook kijken hoe je ze kunt behouden. Het is natuurlijk erg belangrijk dat de bedrijven niet weer vertrekken.

**HW: En het belang van de luchthaven, is dat voor deze bedrijven dan ook essentieel? Voor logistiek kan ik me dat goed voorstellen. En hoe zit dat bij aerospace?**

JS: Dat is echt de aviation sector, bijvoorbeeld hoofdkantoren en marketing/sales van Boeing, Embraer, Mitsubishi Regional Jet kiezen allemaal voor Amsterdam om daar hun Europees hoofdkantoor op te zetten wegens het netwerk dat hier aanwezig is tussen alle partijen, maar ook letterlijk het netwerk tussen Amsterdam en allerlei steden in Europa om bijvoorbeeld airlines te bezoeken om daar vliegtuigen te verkopen. Daarnaast heb je ook nog de MRO-sector (Maintenance, Repair en Overhaul). De onderhoudskant op Schiphol is ook erg belangrijk, met name de *spare parts*. Deze onderdelen kunnen m.b.v. het netwerk van Schiphol snel over de wereld worden verspreid. Gezien dit tijd-kritisch is en van hoge waarde om de operatie weer op gang te krijgen kiezen deze bedrijven ervoor om zich op Schiphol te vestigen, ondanks dat de grond op Schiphol natuurlijk wel duurder is.

Nog een ander onderdeel is de trainingen, bijvoorbeeld CAE in Hoofddorp waar vluchtsimulators staan. De kleinere airlines die geen eigen simulators hebben komen hun piloten daar opleiden. Hierbij is dus ook weer de connectivity van belang.

MC: Daarnaast hebben wij ook een relatie met Schiphol Aviation Marketing. Zij trekken de nieuwe bestemmingen aan binnen het routenetwerk. Zij maken business cases voor airlines om naar bepaalde bestemmingen te vliegen. Wij vullen elkaar [SAM] heel mooi aan: wij spreken de bedrijven hier vaak heen willen vliegen en belang hebben van zo'n directe vlucht, en SAM wil juist graag die informatie hebben om een case te maken voor een airline en zo mogelijk een nieuwe route op te zetten. Voor ons is het dan weer van belang dat zij die directe bestemming gaan aanleggen, dus dat is wederzijds.

**HW: Er is dus zo te horen echt sprake van een soort symbiose tussen het routenetwerk en de bedrijvigheid, en ook met de airlines.**

JS MC: Inderdaad. En ook nog met de cargo, Schiphol Cargo.

JS: Schiphol Cargo vult de vracht op de vluchten en SAM vult dan de passagiers. Gezamenlijk (eigenlijk met z'n drieën) versterkt dat dan de business case voor de airlines om zo'n point-to-point route te beginnen.

**HW: Interessant. Jullie zijn dus regionaal actief, de airlines zijn de private actoren hier en aviation marketing...**

MC: Precies, en wij hebben ook private partijen, zoals bijvoorbeeld Rabobank, Bridge, etc. Die hebben allemaal belang bij een buitenlandse *vestiger*. Zij willen allemaal een stukje meepikken. Dan heb je AAA (of amsterdam inbusiness) als mooie mediator, die dat filteren en neutraal bekijken om alles samen te brengen. We zijn ook non-profit en werken op *confidential basis*, wat bedrijven vaak prettig vinden.

**HW: Gebruiken jullie ook dezelfde area als inbusiness?**

MC: Nee dat niet, wij gebruiken meer (zie kaart). Inbusiness heeft alleen de 4 gemeenten (haarlemmermeer amsterdam amstelveen almere). Bij ons zit ook IJsselstein en Zaanstad erbij. Daarnaast is inbusiness onderdeel van EZ Amsterdam. Wij zijn echt een vereniging en hebben dus ook private partijen. Zij hebben dat niet en mogen dat ook geen eens. Het doel is hetzelfde, het zit alleen anders in elkaar, dat is ook zo historisch gegroeid.

**HW: Is er ook verschil van het type bedrijven dat afhankelijk is van een luchthaven? Jullie doen aerospace en logistiek. Zijn dat ook multinationals? Zijn dat dan echt regionale hoofdkantoren, of soms echt volledige herpositionering van bedrijven?**

JS: we richten ons inderdaad op internationale bedrijven. Het gaat vaak om bedrijven in de logistiek. 70% is vaak Amerikaans, dat zie je door de verschillende sectoren heen wel. Dit zijn vaak Amerikaanse bedrijven die hun footprint in Europa willen vergroten. Soms kiezen ze, bijvoorbeeld wanneer ze logistiek willen uitbesteden, voor een logistieke partij hier. Dit kan bijvoorbeeld ook door een fashion bedrijf gedaan worden. Daarnaast starten ze dan vaak een marketing/sales kantoor in Amsterdam. Gaat dat goed, dan zie je ze groeien en wordt het soms een Europees hoofdkantoor met soms hun eigen logistieke operatie. Dit groeit vaak zo organisch. Bijvoorbeeld bij een logistiek deelverlener, die zich wil uitbreiden, die zou een luchtvrachtgerelateerde vestiging neerzetten. De logistiek die je dus hier vindt is vooral luchtvrachtgerelateerd, terwijl je in het zuiden van het land ook zeevracht vindt.

MC: Je moet je inderdaad bedenken dat de grond rondom Schiphol de duurste in Nederland is. Daar ga je dus niet zomaar zitten. Dan is er vaak wel een link met het 'Schipholse', anders zou je hier niet zo snel zitten.

**HW: Doen jullie dan echt alleen de grond rondom Schiphol? Of ook elders in die regio?**

MC: Dat is inderdaad toch altijd een beetje lastig. We ontwikkelen als SADC de grond rondom Schiphol, en AAA doen we namens de regio. In de regio (lelystad almere) is de grond logischerwijs een stukje goedkoper, deze bieden we uiteraard net zo graag aan.

**HW: Weten jullie ook of er binnen die bedrijven dan ook veel vraag is voor zakenreizigers om juist veel van die luchthaven gebruik te maken voor face-to-face contacten? Of is het alleen die logistieke operatie?**

MC: Ik denk inderdaad dat Schiphol op 2 of 3 eindigt op de connectiviteit schaal. Ik hoor bijna overal dat de bedrijven hier inderdaad zitten vanwege de belastingen, de hoge graad van Engelstaligheid en het feit dat Schiphol zoveel verbindingen heeft. Dat zijn wel echt de top drie vestigingsredenen.

**HW: Inderdaad, maar het is vaak nog onduidelijk dat ze echt aangeven dat ze de luchthaven echt nodig hebben voor zakenreizen/zakencontacten omdat ze nog terug moeten naar hun thuisbasis.**

JS MC: Vanalles inderdaad. De Europese hoofdkantoren die zich hier vestigen hebben veel zakenreizigers die continu overvliegen.

**HW: Wordt dat inderdaad ook genoemd als criteria?**

MC: Ja laat ik sterker zeggen: Het is een van de redenen dat bedrijven hier überhaupt al terecht komen. [ergo omdat het routenetwerk en airport infrastructure zo goed is, vestigen bedrijven zich in de regio]

**HW: En bij dat routenetwerk, wordt er bij de uitbreiding daarvan ook gekeken naar het aantal bestemmingen, of juist om de frequentie te verhogen.**

JS: Beiden: een hoger aantal van beiden is daarvoor natuurlijk beter. Een airline kijkt naar de vraag naar flexibiliteit van de reizigers. Dat is ook essentieel voor Schiphol: omdat rond de 70% transfer passagiers is. De zakenreiziger wil natuurlijk zoveel mogelijk opties.

**HW: Merken jullie ook dat het capaciteitsplafond van Schiphol begint te spelen bij bedrijven?**

JS MC: Je hoort dat nog niet. Het speelt op veel luchthavens waar de capaciteit beperkt is. Het is wel een dingetje natuurlijk. Met de ontwikkeling van Lelystad airport zal een deel van de leisure vluchten daarheen verplaatsen.

MC: Bijvoorbeeld ook Inditex (moederbedrijf Zara) heeft zich gevestigd op Lelystad Airport op een groot stuk land. Een belangrijk onderdeel hiervan zijn ook de ontwikkelingen op de luchthaven Lelystad. We hebben hier wel aan bijgedragen, maar ze waren er ook zonder onze hulp geland.

**HW: Zou dat bedrijf dat gedaan hebben vanwege de capaciteitsplafond op Schiphol?**

JS: Ik denk van niet, gezien de logistiek van Inditex via luchtvracht of zeevracht gaat. AirBridgeCargo waarmee zij verscheppen vliegt veel op Schiphol. Er was een benchmark tussen Nederland en andere landen. Toen is binnen NL gekeken wat de beste locatie bleek. De locatie in Lelystad bleek toen voor hun een strategische keuze. Ik denk dat de connectiviteit van Schiphol en de verbindingen met het achterland hier ook wel aan bijdragen.

**HW: Lelystad gaat dus leisure vluchten overnemen, dat biedt ruimte voor de lijnvluchten en zaken/vracht. Is dat nog positief voor de Schiphol Area?**

MC: Dat durven we nog niet met zekerheid te zeggen, maar dat oogt natuurlijk wel positief voor Schiphol.

JS: Er wordt inderdaad vaker een nieuwe route op prijs gesteld dan nog een nieuwe airline of route die naar Barcelona vliegt. Dit zou dan uiteindelijk wel weer positief zijn voor de zakelijkheid hier.

MC: We moeten ook zien hoe dat loopt. Het zal geleidelijk aan gaan qua aantal vluchten naar Lelystad. Op het moment wordt daar nog niet op ingespeeld. Dit is ook politiek gevoelig wellicht. Vanwege onze aandeelhouders zijn we wel een politiek gevoelige organisatie. Dat is bij Amsterdam inbusiness ook zo, bijvoorbeeld als er een andere wethouder bij EZ zit. Dit kan het beleid beïnvloeden. De huidige burgemeester van Amsterdam zet bijvoorbeeld sterk in op het aantrekken van nieuwe vestigende bedrijven in Amsterdam. Eigenlijk zijn al onze aandeelhouders daar wel voor. Iedereen moet echter wel zijn share van vestigers behouden, wat vaak nog moeilijker is dan de politieke gevoeligheid.

**SAM: Marcel Lekkerkerk**

**Interviewsubjects:** Marcel Lekkerkerk [ ML ]

**Interviewer:** Hugo Wind [ HW ]

**HW: U had mijn mail met vragen reeds doorgelezen begreep ik. Ik wilde inderdaad toch nog iets meer weten over het routenetwerk. SADC meldde dat Schiphol Aviation Marketing mij wel meer kon vertellen over het routenetwerk specifiek.**

ML: Juist. Je doet onderzoek naar de capaciteit en het routenetwerk van Schiphol op het vestigingsklimaat van buitenlandse bedrijven. Daar zit denk ik een bepaalde wisselwerking in, tussen het routenetwerk dat Schiphol heeft en de vestiging van buitenlandse bedrijven in Nederland. Er zijn natuurlijk ook andere factoren voor deze bedrijven om naar Nederland te komen, maar bereikbaarheid is daar zeker van belang, daar letten deze bedrijven wel op.

**HW: Precies, dat hoorde ik ook van meerdere kanten. Dat die connectivity, en vooral ook de efficiency daarbij, het toppunt vormen van bereikbaarheid**

ML: Ja, dat zie je bijvoorbeeld ook wanneer je een Amerikaanse bedrijf probeert te overreden om zich te vestigen. Je ziet dat Amerikaanse, maar bijvoorbeeld ook Japanse bedrijven proberen om hun hoofdkantoor in Nederland te vestigen wanneer ze binnen Europa willen uitbreiden. Dat hoeft geen groot kantoor te zijn, maar een van de factoren waar ze zeker wel naar kijken is de bereikbaarheid vanuit heel Europa, dat wordt wel meegenomen ja. Naast andere factoren natuurlijk, denk aan vennootschapsbelasting, beschikbaarheid van voldoende personeel, meertaligheid van de beroepsbevolking etc.

Een mooi voorbeeld van een groot bedrijf is Microsoft. Zij zijn hier aan de overkant gevestigd [op Schiphol]. Zij laten, volgens mij zelfs op dagelijkse basis, mensen binnenvliegen vanuit heel Europa, hoeven dan slechts een kort stukje te lopen vanaf de aankomsthal voor hun bezigheden, en aan het eind van de dag vertrekken ze weer.

**HW: Dat voorbeeld noemde Gerben Broekema van Schiphol Group inderdaad ook. Ik vond dat een hele mooie, dat is eigenlijk het toppunt van airport city ontwikkeling en efficiëntie. Want ik begreep dat zij 's avonds weer doorvliegen naar de volgende bestemming.**

ML: Ja exact, of ze gaan weer terug naar waar ze vandaan kwamen natuurlijk, waar ze normaalgesproken hun werk doen. Er zijn wel meer van dit soort bedrijven. Ik geloof dat de internationale tak van Heineken ook een vestiging heeft op Schiphol, zodat ze ook mensen kunnen laten invliegen voor zulke snelle meetings en samenkomsten. Dat zit hier inderdaad wel in het World Trade Center. Deze bedrijven willen hier zitten omdat je op Schiphol zo makkelijk in en uit kunt vliegen.

**HW: En is er daar ook een verschil te merken in de business sectors? Je ziet dus bij IT (Microsoft) en food/logistics Heineken dat dat voorkomt. Weten jullie ook of hier bij andere sectoren een verschillende afhankelijkheid is van Schiphol?**

ML: Nou, ik denk niet direct per sector zelf, maar ik denk wel in de mate waarop de menselijke interactie binnen een individueel bedrijf toeneemt, dat er dan meer van zulke aantrekking tot de luchthaven plaatsvindt. Als een groot bedrijf binnen welke sector dan ook alleen een productieafdeling heeft in een ander land, dan zal dat waarschijnlijk weinig verkeer genereren. Er zijn dan vanuit het hoofdkantoor misschien maar een paar reizen per jaar voor controles en dergelijke. Daar tegenover staat een bedrijf dat bijvoorbeeld voor het zakendoen veel persoonlijke contacten moet hebben, bijvoorbeeld in marketing, consultancy en dergelijke.

**HW: Juist ja, dat is dus afhankelijk van de face-to-face contacten. En gezien jullie bij SAM ook actief zijn in het opstellen/openen van nieuwe routes, wordt daar dan ook onderzoek of analyse gedaan naar het zakenverkeer?**

ML: Bij grote cases doen we daar inderdaad vaak wel wat extra moeite voor. Het is voor een luchtvaartmaatschappij van belang om het toekomstige verkeer goed te kunnen inschatten, zodat ze er voldoende mee kunnen verdienen. Om dat verdienpotentieel zo goed mogelijk in kaart te brengen, is het wel van groot belang om deze maatschappijen inzicht te kunnen geven wat reizigers bereid zijn te betalen. Daar kan het helpen om in zo'n case bepaalde potentie voor zakelijk vervoer aan te tonen, omdat zakenreizigers over het algemeen meer betalen. Airlines zijn wel degelijk op zoek naar de reizigers die voor zakelijke doeleinden reizen.

**HW: Precies, want de winst per vlucht wordt doorgaans geboekt in de businessclass heb ik vernomen.**

ML: Correct, voor grote intercontinentale vluchten is dit zeker het geval. De businessclass is relatief klein in volume, maar groot in omzet. Je hebt echter wel beide nodig, zowel zakenverkeer als economy class. Maar de business maakt hier zeker uit ja. Dat doen wij in grote cases wel, daar hebben we wel marktonderzoek gedaan naar buitenlandse bedrijven die een vestiging hebben in Nederland, of een Nederlands bedrijf dat naar hun buitenlandse vestigingen reist. Dit zijn immers potentiële klanten.

**HW: Oke, dus bij het opstellen van een business case voor nieuwe routes wordt dus best wel alomvattend gekeken, ook naar de zakelijke behoeften.**

ML: Klopt. Het is meer kwalitatieve informatie die we aanleveren aan de luchtvaartmaatschappij. De moeilijke stap daarvan is dat je een aantal bedrijven hebt die meerdere vestigingen hebben of meerdere belangen o.i.d. die vaak een behoefte hebben om te reizen op de route die je probeert op te zetten. Voor de luchtvaartmaatschappij is dat dan ook best lastig om uit te zoeken hoeveel zo'n nieuwe route dan zal genereren. Soms tonen de luchtvaartmaatschappijen ook wel interesse in het voeren van onderhandelingen met bedrijven, bijvoorbeeld met intentieverklaringen van een bedrijf om dan bijvoorbeeld een x aantal stoelen per maand te vullen. Dit zijn echter wel dingen en gegevens die de maatschappijen en bedrijven dicht bij de borst houden.

**HW: Ja precies, dat is helemaal duidelijk. Het gaat dus echt om de face-to-face reizigers. Hoe meer zakelijk verkeer is, hoe meer intentie er is voor een (nieuwe) route. Weten jullie of dit bijvoorbeeld in de financiële sector ook aan de orde is? De Zuidas is immers vlakbij, is daar ook veel financieel zakelijk verkeer, of is dit lastig aan te tonen?**

ML: We kunnen inderdaad niet exact zien wie er reist, maar het ligt zeker voor de hand om te stellen dat bedrijven uit de financiële dienstverlening en advocatuur, internationale consultancy en alles wat daarmee samenhangt, dat zijn Zuidas bedrijven die wel het nodige zakelijk verkeer genereren ja.

**HW: Juist ja. En bij het routenetwerk heb je natuurlijk de tweedeling van meer frequenties op de sterke routes, of juist een zo divers mogelijk netwerk. Hoe denken jullie hierover, wat is voor het zakenverkeer het beste?**

ML: Dat hangt denk ik heel erg af van het bedrijf. Er zijn bedrijven die alleen belang hebben bij 1 bepaalde route, waarschijnlijk naar hun thuisbasis. Andere bedrijven werken wereldwijd en hebben dan meer aan een breed netwerk. Wij bij SAM kijken eigenlijk naar beiden: wij zoeken routes die nog niet bediend zijn en potentie te hebben om een directe verbinding te krijgen, en we kijken naar routes die in onze mening onderbediend zijn. Deze proberen we dan ook uit te breiden. Dit doen we omdat we van beide weten dat er een bepaalde vraag naar vervoer is. Hoe dat voor de zakelijke gemeenschap als geheel is, zal het uitkomen op een combinatie van beide.

**HW: Juist. En op Schiphol zie je daarnaast dat er veel vakantievluchten zijn, veel leisure bestemmingen. Er zijn plannen om dat naar Lelystad te verplaatsen. Dat geeft meer groeimogelijkheden voor het mainport-verkeer op Schiphol. Spelen jullie bij SAM hier ook op in?**

ML: Als bedrijf als geheel wel, Amsterdam Airport Schiphol en Lelystad airport behoren allebei tot de Schiphol Group. Dus dat is 1 bedrijf, daar binnenin proberen we inderdaad wel Lelystad te ontwikkelen en aantrekkelijk te maken voor dat niet-mainport-gebonden vervoer, zodat er op termijn hier op Schiphol ruimte vrijkomt voor meer mainport-gebonden vervoer. Dat is zeker iets dat wij nastreven.

**HW: Dat is dus ook wel het doel, die verplaatsing van vluchten. Want we zitten inmiddels aan die 500.000 bewegingen. Om de economie ten gunste te komen is de mogelijkheid tot uitbreiding van meer mainport-verkeer natuurlijk gewenst. Wordt er in dat geval dan ingezet op meer frequenties, of uitbreiding van het routenetwerk, gezien Schiphol al een heel divers netwerk heeft.**

ML: Dat blijft ook weer een combinatie van beide. Wij van SAM zijn daar alleen maar enigszins beïnvloedend in. Wij sturen de luchtvaartmaatschappij, en die weer op aangeven van de markt waar gevlogen wordt. Als er een behoefte blijkt te ontstaan om meer frequenties te laten vliegen op bepaalde bestemmingen, dan zal iemand daarop inspringen mits dat kan. Tegelijkertijd zal er bij behoefte aan nieuwe bestemmingen ook een speler zijn die daar de markt aanbreekt.

**HW: Interessant ja. Zeker met die recent nieuwe routes, naar Dallas en India, zie je dat er bij Dallas ook al opgeschaald wordt. Speelt SAM ook een rol in de opschaling van routes? Of is dit geheel aan de luchtvaartmaatschappij.**

ML: Dat mogen ze natuurlijk altijd, daar zullen ze zelf ook naar kijken. Wij van SAM blijven zelf ook wel kijken, we houden ons netwerk continu wel tegen het licht. Mocht daar in dit geval dan een onderbediende route zijn met potentie, dan zullen wij ook met luchtvaartmaatschappijen in gesprek blijven om te kijken of er meer capaciteit op kant. Dat kan dan natuurlijk op meer manieren: of wel met een groter vliegtuig dan wel met een hogere frequentie van dezelfde vliegtuigen, naar gelang de mogelijkheden. Hier op Schiphol zijn die mogelijkheden dan nu begrensd door de 500.000

vliegbewegingen, waar uitbreidingskeuzes dus liever op een groter vliegtuig valt. Maar dit moet voor de airline qua materieel ook mogelijk zijn.

### **Schiphol Group: Gerben Broekema**

**Interviewsubject:** Gerben Broekema [ GB ]

**Interviewer:** Hugo Wind [ HW ]

#### **HW: ...uitleg scriptieonderzoek...**

GB: Er zijn denk ik twee manieren om daar naar te kijken.

Ik denk dat het heel makkelijk is om vast te stellen dat bereikbaarheid heel belangrijk is als vestigingsplaatsfactor. De vraag is dan wellicht hoe belangrijk dat is in de hiërarchie. Het blijft natuurlijk een mix, ook met loonfactoren etc. Voor het ene bedrijf zal het dan een andere afwegingen hebben dan andere bedrijven.

Je zou je dan kunnen afvragen: in welke mate is de airport infrastructure dan *voorwaardelijk*? Hoe belangrijk is het voor het functioneren van de economie dat je een goed netwerk hebt?

**HW: Ik hoor inderdaad nu ook dat er echt een magneetwerking is: Als de infrastructuur goed is, dan komen bedrijven wel hierheen. Het is zo te zien voorwaardelijk. De wisselwerking tussen stad/regio en het vliegveld is daarbij van belang voor de bedrijven.**

GB: Jij maakt dus inderdaad onderscheid tussen capaciteit en netwerk, die connectivity. Daar zit denk ik ook een nuance in. Het oude 'denken', het 'oude beleid' is altijd geweest: *je moet een zo groot mogelijk netwerk hebben, want dat trekt bedrijven aan*. Maar tegelijkertijd zie je dat bijvoorbeeld KLM zegt 'we moeten maar niet meer allemaal capaciteiten bijbouwen', dus de factor capaciteit en prijs speelt momenteel geen grote rol in het luchtvaartbeleid. Het is vooral noodzakelijk om veel bestemmingen te hebben op het moment.

De vraag is dan, als je netwerk belangrijk vindt: Hoe groot moet dat netwerk dan zijn? Is 325 bestemmingen dan beter, of moet je streven naar 400 bestemmingen? Of zou 250 bestemmingen ook prima zijn. Mijn stelling hier is dat het heel lastig is om per se 350 bestemmingen te hebben, en dat het veel meer gaat om dat je voldoende capaciteit hebt op een luchthaven.

Het feit dat we hier nu niet meer kunnen groeien (500.000 vliegbewegingen per jaar) is een veel belangrijker vestigingsplaatsfactor dan dat we 320 bestemmingen kunnen aanbieden.

**HW: Hebben inderdaad de groeimogelijkheden van Schiphol invloed op het aantrekken van bedrijven? Zouden bedrijven kunnen uitwijken?**

GB: Inderdaad, in het verleden was die schaarste er niet en destijds ging het altijd maar om de omvang van het netwerk. Op het moment dat je die schaarste gaat ervaren (zoals nu), is het netwerk van ondergeschikt belang op het feit dat je voldoende capaciteit hebt. Mijn stelling is dat er waarschijnlijk geen logistiek bedrijf hier zich zou vestigen als ze weten dat de luchtvaart[infrastructuur] hier op slot zit.

**HW: Zeker voor logistiek kan ik me dat voorstellen. Zou dat echter ook voor andere sectoren gelden?**

GB: Voor zakelijk verkeer is dat minder waarschijnlijk. Er zijn dan twee effecten: ten eerste krijg je een soort verdringingseffect: zakelijke reizigers die drukken dan op een gegeven moment andere reizigers eruit, gezien zij meer betalen. De zakelijk markt kan zich daar in principe nog wel in redden, maar zij

krijgen dan ook wel te maken met stijgende prijzen. Het gemiddelde tarief op Heathrow ligt bijvoorbeeld hoger dan op Schiphol.

In Heathrow was er een onderzoek gedaan naar dat de kosten rond de 50%-60% zouden toenemen wegens congestie taxes wanneer de derde landingsbaan niet gebouwd zou mogen worden. De gemiddelde ticketprijs zou daardoor dus aanzienlijk toenemen.

Wat denk ik heel belangrijk is in de afweging voor de vestigingsplaatsfactor, is de factor tijd en met name de waarde die aan deze tijd hangt. Dit is natuurlijk het verhaal van *efficiency*. Je ziet dat business sectoren waarbij er veel vervoerd moet worden of waarbij veel gereisd moet worden, dat die bedrijven toch meer deze kant [Amsterdam regio] opkomen. Bijvoorbeeld Microsoft: die zitten nu op Schiphol.

**HW: dat zijn dus echt die zakelijke reizigers die het moeten hebben van face-to-face contacten?**

GB: Juist. De waarde van tijd neemt voor hen zo veel toe. Tien jaar geleden duurde een zakenreis langer wegens langere reistijden. Tegenwoordig zijn dat halve dag meetings. Dat gebouw van Microsoft is een populaire plek om te meeten vanwege de locatie op de airport. Er zijn zakenmensen die hier het vliegtuig uitstappen, naar de meeting gaan en de volgende vlucht terugnemen. Met het airport city concept kan dat. Mijn stelling is ook: steden met een luchthaven dichtbij de stad gaan het steeds beter doen t.o.v. steden die een luchthaven op grotere afstand hebben.

**HW: Juist. Want ook de Zuidas is hier ontzettend dichtbij.**

GB: Exact. Bij bijvoorbeeld Tokyo is Narita airport de hub, maar deze ligt ruim 90 minuten treinen vanuit het centrum. Je ziet nu dat veel airlines hun vluchten proberen te verplaatsen naar Haneda airport welke veel dicht bij het centrum ligt, maar wel *congested* is. De zakenreiziger wil gewoon zo snel mogelijk bij het CBD landen. Wanneer je zulke inzichten combineert dat geluidsoverlast steeds minder wordt omdat vliegtuigen steeds stiller worden, dan mogen we hier in Nederland blij zijn dat we Schiphol niet hebben verplaatst naar de Noordzee.

Juist de synergie van de luchthaven en de stad is juist zo groot. Vooral als je kijkt naar vestigingsplaatsfactor speelt de waarde van tijd gewoon een zeer grote rol.

Daartegenover heb je natuurlijk nog de agglomeratievoordelen. Dat en het belang van tijd en die *efficiency drive* loopt vaak in elkaar over. De nabijheid van zakelijke centra etc.

Er blijkt dat de agglomeratievoordelen van allerlei bedrijven in combinatie met de EU heel sterk is. Het RLI (rapport, red.) zegt dat we juist op die nieuwe sectoren moeten inzetten. Bijvoorbeeld die nieuwe datacenters in Amsterdam. Dit hebben een ontzettend grote randvoorwaardelijkheid dat er voldoende vliegcapaciteit is. Je ziet juist in de statistieken dat de groei van intercontinentaal zakelijk verkeer zit in deze brainportregio.

**HW: Precies ja. En dat rapport benoemde ook dat het routenetwerk liever zo verspreid mogelijk zou moeten zijn, in plaats van nog een tiende vlucht naar bijvoorbeeld Barcelona.**

GB: En dat is dus ook een normatief iets. Het is zoveel belangrijker dat er voldoende capaciteit is in plaats van nog een zoveelste bestemming erbij. (Dus oneens met deze stelling).

Voor de airlines is het natuurlijk mooi als zij weer een nieuwe route kunnen aanbieden en nog mooier als zij daar de monopolie op hebben. Voor Nederlands belang is het echter veel beter om voldoende capaciteit te hebben om economisch sterkt te blijven, bijvoorbeeld om onze waterbouwkundige kennis te kunnen verkopen.

Daarnaast is het sociaal belang van Europese integratiestromen en het feit dat mensen willen reizen. Het is natuurlijk van belang om dat middels voldoende capaciteit te kunnen waarborgen. Het luchtvaartbeleid in Nederland is gericht op het hele specifieke element om het belang van het zakelijk netwerk hoog te houden.



**HW: Het gaat dus echt om de zakelijke kracht en om dat aan te trekken.**

GB: Ja. Dat zijn ook de kanttekeningen van ons denken binnen Schiphol Group. KLM wil natuurlijk meer uitbreiding.

**HW: Merken jullie ook nog de verschillende sectoren die afhankelijk zijn van het routenetwerk?**

GB: SADC is daar meer van denk ik. Mijn stelling echter nogmaals is dat 320 bestemmingen wel alle vraag beantwoordt. We zijn immers bijna de meest verbonden luchthaven ter wereld en we doen het goed.

Kuala Lumpur case: Naast main airport nog een low-cost terminal ontwikkeld voor langere kosten. Wat er toen gebeurd is, is dat Kuala Lumpur allemaal bestemming is kwijtgeraakt. Vanuit de vestigingsplaatstheorie: Welk internationaal bedrijf gaat er nu nog in Kuala Lumpur zitten als je nog maar 2 bestemmingen binnen Europa hebt?

Je ziet daar dus die tweedeling: Of inzetten op *massive connectivity* met (in dit geval) goedkope vluchten, of een degelijke capaciteit.

Om nou echt een zakencentrum te worden of blijven, moet je echt die connectiviteit wel hebben.

**HW: En hier op Schiphol groeit de low-cost nu ook, hoe zit dat dan met de huidige capaciteit. Kan je dat een bedreiging noemen voor het lijndienstenverkeer?**

GB: Joah, dat heeft wel een uithollend effect op dit moment, maar het wordt momenteel zwaar overdreven. Het is voornamelijk het stimuleren van het segment dat KLM of andere lijndiensten niet of nooit als klant hadden gehad. Ten tweede, wat er gebeurt is dat de lijndiensten dat momenteel nog proberen te bevechten, terwijl low-cost juist ook bestemmingen aandoet doet waar KLM niet op vliegt. Je kan dan juist inzien dat de low-cost als feeder routes kunnen dienen. Die passagiers die vanuit Easyjet naar Amsterdam komen kunnen doorvliegen met KLM op long haul.

Hoe wij hiermee omgaan met onze strategie: Het netwerk blijft belangrijk, maar we kunnen het niet alleen gooien op het behoud van KLM of juist alleen maar op meer uitbreiding van netwerk en de low-costs stimuleren. We nemen hier een balanced approach. We willen vooral zoveel mogelijk bestemmingen mogelijk maken middels een hub-model. Hiervoor bieden we onze faciliteiten aan. We kannibaliseren niet te veel op het lijndienstennetwerk door low-cost te stimuleren, maar we laten ze wel toe omdat ze immers ook bijdragen aan het routenetwerk en dus aan de bereikbaarheid van Schiphol. Zonder netwerk kom je immers nergens.

**HW: Juist. Want wanneer een luchthaven nog de ruimte heeft om uit te breiden, dan is dat voor bedrijven ook interessant.**

GB: Juist. Het perspectief is wel heel belangrijk denk ik. Als er eventjes sprake is van congestie is dit wellicht een issue, maar is er een toekomstige mogelijkheid tot groei dan valt dat alweer veel lichter.

**HW: Wat je in theorie ook vaak hoort is dat bedrijven dan uitwijken naar andere luchthavens. Dat is hier dus nog niet aan de orde**

GB: Nou ja, wij hebben tijdig aan zien komen dat we voor 2020 al doorhadden dat het vol zou komen te zitten. Mijn stelling is: Momenteel zou dat een afschrikkend effect gaan hebben ja. Hotels en bedrijven die zich hier nu net gevestigd hebben, zullen wel zoiets hebben van: Hee dat had ik wel willen weten.

**HW: Dat klinkt logisch inderdaad, dan had het management van deze bedrijven dat mee kunnen nemen in hun besluit.**

GB: Op het moment dat je inderdaad vol zit als vliegveld, heeft dit een veel meer afschrikkend effect dan dat je 320 bestemmingen hebt. Capaciteit staat dus hoger.

**HW: Is er tussen Schiphol Group en de regio nog samenwerking? Een mediator achtig iets?**

GB: Dat is vooral de samenwerking inderdaad. Op allerlei niveaus is er overleg. Er is overleg tussen KLM en Schiphol, er is een soort shared vision. Tussen de overheid en Schiphol zijn overleggen.

**HW: Wordt hierbij ook ingezet op zakelijk groei of gaat het hier dan over de capaciteit?**

GB: Meer over zakelijke groei inderdaad. NBTC met congressen bijvoorbeeld. Er wordt daarmee samen wel gepromoot. NFIA bijvoorbeeld ook, daar is ook wel samenwerking mee. NFIA gebruikt Schiphol ook wel als positieve vestigingsplaatsfactor.

Als je NFIA nog spreekt, is het interessant om te vragen hoe zij aankijken tegen de capaciteitsbelemmeringen op Schiphol! Wat voor effect dat heeft op hen positionering richting bedrijven?.

Wat verder een belangrijke invalshoek van jouw onderzoek zou kunnen zijn: Welke dimensie van infrastructuur en connectiviteit vinden we nou belangrijk? Kijken we alleen nog naar het aantal bestemmingen, of gaat het ook om andere dingen, zoals voldoende capaciteit en congestie?

**HW: Precies, daar ga ik proberen achter te komen. Hierover is nog niet veel specifiek onderzoek gedaan.**

GB: Juist. Dit komt natuurlijk omdat voorheen schaarste nooit echt een probleem was. Het is nu voor het eerst in 100 jaar dat er capaciteitsbelemmeringen zijn op Schiphol. We zitten nu in een andere maatschappelijke context. Mijn stelling is ook dat de concurrentiepositie van Schiphol wellicht eventjes opzij moet, zodat we ons eerst kunnen buigen over hoe we met z'n allen de vraag naar luchtvaartinfrastructuur kunnen accommoderen? Dat laatst is nu een veel grotere uitdaging aan het worden, wat belangrijker wordt dan Schiphol vs CGD of FRA.

### **Schiphol Group: Maurits Schaafsma**

**Interviewsubject:** Maurits Schaafsma [ MS ]

**Interviewer:** Hugo Wind [ HW ]

**HW: ...Uitleg onderzoek... Is er naast SADC nog andere samenwerking of initiatieven die er zijn om buitenlandse bedrijven aan te trekken?**

MS: Ja SADC is eigenlijk een hele oude, vanuit eind jaren 80. Destijds was het vooral gericht op gebiedsontwikkeling rondom de luchthaven voor logistiek. Het idee was toen dat logistiek ook kantoren aan zou trekken, in het bijzonder Europese hoofdkantoren van bedrijven als Nissan, Yamaha etc. Als je nu kijkt, zie je eigenlijk dat de luchthaven een vestigingsplaatsfactor is van het groot economisch complex van Amsterdam en daarmee ook de Zuidas. Daarmee is er dus een veel bredere wisselwerking tussen luchthaven en stad.

Oorspronkelijk was het dus vanuit logistiek aangetrokken, maar tegenwoordig kan je zeggen dat logistiek eigenlijk niet meer zo relevant is. Tegenwoordig gaat het vooral om de dienstensector: hoofdkantoren, financiële sector etc.

Als je in Europa kijkt wat nou de grote hub-luchthavens zijn, dan zijn dat Frankfurt voor StarAlliance, Londen voor OneWorld en voor SkyTeam is dat Amsterdam en Parijs. In Noord-West Europa kan je zeggen dat de luchthaven min of meer op het niveau van de stad is: een grote stad met een grote luchthaven. In Frankfurt en Amsterdam zijn het echter relatief kleinere stedelijke regio's met relatief redelijk grote luchthavens.

In Amsterdam en Frankfurt is het relatieve belang van de luchthaven voor de stad veel groter. Je ziet ook dat het denken over de luchthaven altijd een beetje is achtergebleven, men dacht altijd van 'oh ze komen hier toch wel, de stad is zo'n magneet'. Terwijl in Amsterdam het denken altijd geweest is: 'Als we nou zorgen dat we met luchthavenontwikkeling vooroplopen, dan hebben we een hele belangrijke vestigingsplaatsfactor in handen, zodat we qua verbindingen kunnen concurreren met de grootste steden in de wereld'. Een van de succesfactoren van Amsterdam is dus ook dat het als een soort mini-metropool zo goed verbonden is met de rest van de wereld.

Dat zie je ook in discussies. In Londen is een discussie geweest over het bouwen van een nieuwe luchthaven in de Thames-mond versus het uitbreiden van bestaande luchthavens. Dit heeft uiteindelijk geleid tot het besluit voor een nieuwe derde landingsbaan op Heathrow. De achterliggende gedachte was dat Londen eigenlijk een hele onvoldragen luchtvaarinfrastructuur heeft en dat ten koste gaat van het netwerk dat vanaf Londen gevlogen wordt. Amsterdam [ Schiphol ] bijvoorbeeld heeft binnen China tweemaal zoveel bestemmingen als Heathrow, en zelfs bijna tweemaal zoveel bestemming binnen het VK als Heathrow heeft. In Londen hebben ze zich ook gerealiseerd dat een verbinding met Londen niet meer een vanzelfsprekendheid is, maar ook onderhevig is aan concurrentie met andere stedelijke regio's, en daarom werd ingezien dat Londen ook betere luchtverbindingen nodig had. De luchthaven infrastructuur is daarvoor erg belangrijk, maar in Londen is het eigenlijk mislukt om daar een echte boost aan te geven. Heathrow is wel in aantallen de grootste luchthaven ter wereld, maar in het aantal bestemmingen is het helemaal niet de grootste omdat ze vooral veel zware lijnen hebben. Dan is er geen ruimte meer voor een verfijnder netwerk, wat Schiphol en Frankfurt juist wel hebben.

**HW: Juist, want zoals Schiphol heeft meer dan 300 bestemmingen.**

MS: Inderdaad, Londen blijft daar ver bij achter, en dat vinden ze nu ineens wel een probleem. In Amsterdam is het natuurlijk ook een combinatie van factoren: de luchthaven, maar ook de internationale oriëntatie van de arbeidsmarkt. Dit versterkt elkaar natuurlijk.

**HW: Het is dus inderdaad een wisselwerking. Maar ook omdat de luchthaveninfrastructuur hier zo goed is, trekt het ook bedrijven aan?**

MS: Het is inderdaad een factor binnen de beslissing van een bedrijf waar het zich zal vestigen. Het moet sowieso aantrekkelijk zijn om in Amsterdam te gaan vestigen, etc. Daarbij wegen de verbindingen voor het ene bedrijf natuurlijk zwaarder dan voor het andere bedrijf.

Het is ook een deel van de succesfactor van de Zuidas. Bij de Zuidas bijvoorbeeld spelen die agglomeratievoordelen een rol, waaronder de nabijheid van Schiphol om te reizen naar internationale contacten.

**HW: Juist, en omdat dat routenetwerk zo uitgebreid is, des te meer kanten kunnen ze op natuurlijk.**

MS: Exact, het routenetwerk is heel uitgebreid, maar de luchthaven is ook erg toegankelijk. Vergelijk het met Londen en Parijs, daar duurt het veel langer om in het zakendistrict te zijn vanuit de luchthaven. Hier is dat in 6 minuten met de trein, daar is het ruim een uur vaak. Dat is ook een factor, binnen het totale reispatroon van zo'n bedrijf is de factor efficiency dan toch wel heel groot.

**HW: Juist, connectivity en efficiency staan bovenaan in rankings.**

Zijn dit dan ook vooral bedrijven die veel face-to-face zakelijke contacten hebben?

Zijn dat inderdaad ook die sectoren die belang hebben bij tacit knowledge en zo?

MS: Ja, maar daarnaast ook zakelijke dienstverlening. Binnen Nederland heeft Amsterdam zijn positie erg versterkt t.o.v. Rotterdam of Den Haag als het internationale zakelijke centrum. Advocatenkantoren zijn hier ook gaan concentreren, hebben internationale specialisaties ontwikkeld. Waar de Zuidas oorspronkelijk gedacht was als het financiële centrum, is het in feite een centrum geworden van zakelijke dienstverlening en hoofdkantoren. De zakelijke dienstverlening heeft de rol een beetje overgenomen van de financiële wereld.

**HW: En als bedrijven zich hier gaan vestigen, bijvoorbeeld op de Zuidas of elders in Amsterdam, dat dan ook weer andere bedrijven aantrekt.**

MS: Juist, ook mede de ondersteunende dienstverlening die het dan weer aantrekkelijker maakt voor bedrijven om zich hier te gaan vestigen. Als je hier intensief gebruik van maakt. Dat heeft hier wel duidelijk plaatsgevonden ja.

**HW: Daarnaast kijk ik ook nog naar de groeimogelijkheden van Schiphol. Hoe zit dat met het groeiplafond?**

MS: Het is geen groeiplafond, meer een groeidrempel. In het Aldersakkoord is destijds afgesproken dat Schiphol tot 2020 mag groeien tot 500.000 vliegbewegingen, maar daarna mag dat meer worden indien vliegtuigen stiller worden. Daarbij is de helft van ruimte dan voor de regio en de helft voor groei. Nu is het zo dat we nu al tegen die 500.000 bewegingen aanzitten i.p.v. pas in 2020. Dat betekent dat je tijdelijk in vliegtuigbewegingen niet meer kunt groeien, daarna mag je in principe weer doorgroeien. Daarover worden de voorwaarden dan nog onderhandeld.

**HW: Dat is dan inderdaad de vliegbewegingen, maar kan Schiphol qua infrastructuur en capaciteit dat ook nog aan?**

MS: Dat is er. We kunnen hier dan zonder meer nog met 50% groeien, bijvoorbeeld door het bijbouwen van pieren. Dit is ook afhankelijk van het geluidsregime, maar zodra vliegtuigen stiller worden is er dus meer mogelijk.

Het is ook een kwestie van op tijd investeren. We gaan hier in eerste instantie op Schiphol centrum bijbouwen, maar kunnen alsnog een heel nieuw terminalgebied ontwikkelen boven startbaan 09.

**HW: In uitbreidingsruimte is dus nog geen plafond in te zien. Er wordt al gedacht naar lange termijn ontwikkelingen.**

MS: Klopt, we zijn nu aan het nadenken hoe de luchthaven tot 2040 door zou kunnen groeien. Met de omgeving zijn we hier ook mee bezig.

**HW: Ook voor het aantrekken van bedrijven is dit natuurlijk wel interessant. Als een luchthaven immers niet meer kan groeien zie je wel dat bedrijven gaan uitwijken.**

MS: Dat kan inderdaad. Als je naar de luchthavens kijkt heeft Schiphol daarnaast nog de mogelijkheden voor vestigingslocaties op de luchthaven zelf. Dit is op andere luchthavens als Heathrow vaak niet mogelijk. Dit soort airport-city ontwikkeling kan hier op Schiphol nog. Daarnaast is de Zuidas natuurlijk zo dichtbij, dat dat geheel elkaar wel erg stimuleert. Dit is voor Amsterdam natuurlijk gunstig.

**HW: Bij airport-city ontwikkeling bijvoorbeeld. Wordt er daar ook speciaal nog meer ruimte gemaakt voor bedrijven om zich op de luchthaven te vestigen?**

MS: We kunnen inderdaad nog even vooruit. Er is echt vastgoedontwikkeling op de luchthaven zelf (Schiphol Centrum). Wanneer er nog een nieuwe terminal bij komt (boven startbaan 09), dan kunnen we kijken of daar ook nog vastgoeduitbreiding plaats kan vinden. De ruimtelijke mogelijkheden zijn er daarvoor. Daarnaast is de Zuidas ook aan het kijken hoe zij kan uitbreiden. We zijn ook aan het onderzoeken of het mogelijk is om de Noord-Zuidlijn metro door te trekken naar Schiphol. Als dat gebeurt dan is het ook mogelijk om daarlangs ook vastgoeduitbreiding te doen. Je krijgt dan echt een corridor ontwikkeling als het ware.

**HW: Met wie wordt daarbij dan samengewerkt?**

MS: Dat is met de gemeente Amsterdam en Haarlemmermeer. We werken ook samen met het Rijk. Dat is op het moment gewoon nog overleggen en samenwerking, maar dat is nog geen ontwikkelingsmaatschappij. Dat zou een volgende stap kunnen zijn.

Daarnaast wordt het mainportbeleid tegenwoordig echt ingezet om ons als Nederland en Randstad regio goed te positioneren in de wereldwijde competitie. Dit vanwege de groeiende concentratie in grootstedelijke gebieden. Er wordt daarbij wel echt ingezet op concurrentie. Als dat systeem goed functioneert, dan heb je een krachtige regio.