



An economic–geographic assessment of the potential for a new air transport hub in post-Gaddafi Libya



Sven Maertens*, Wolfgang Grimme, Martin Jung

German Aerospace Center (DLR), Air Transport and Airport Research, Linder Höhe, 51147 Cologne, Germany

ARTICLE INFO

Keywords:

Airports
Air transport
Hub competition
Hub location
Libya

ABSTRACT

Post-war Libya is faced with the challenge of adopting an air transport strategy for the future. One issue is how to address projects inaugurated under the Gaddafi government, such as the terminal extension at Tripoli International Airport. Additionally, the state-owned Afriqiyah Airlines had been establishing a niche hub in Tripoli before the 2011 war, but this development has subsequently been stalled.

Against this background, we analyse the prospects of an air transport hub operation in Libya, focusing on traffic between Africa and Europe, from a bird's-eye economic–geographic view. First, a literature review is undertaken to identify general success factors for air transport hubs. Second, a weighted average distance penalty (WADP) indicator is developed and applied to Tripoli as a potential hub location. This indicator considers all 4755 O&Ds between Europe and Africa with more than 100 passengers in 2012. For sensitivity reasons, alternative WADPs are estimated for the 3209 traffic flows not including North Africa and for (forecasted) future air traffic demand in 2020. The results for Tripoli International Airport are benchmarked against competing hub locations, such as Algiers, Cairo, and the major European airports. We conclude by discussing the implications of the current and anticipated future security and economic situation in the country.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction and objective

The geography of air transport has changed fundamentally in recent years, with new, competing hub carriers from emerging countries appearing on long-haul routes, taking market shares from the incumbents. The most prominent examples are the “big three Gulf carriers”, Emirates Airline, Etihad Airways and Qatar Airways, as well as Turkish Airlines, all of which are particularly strong on the North America/Europe–Asia/Oceania axes. These fast-growing carriers benefit from being embedded in their respective home countries' air transport strategies, which also include a timely provision of airport infrastructures and liberal international air transport relations (O'Connell, 2011).

A close integration into the global air transport network is a major factor for the international competitiveness and hence the economic development of a country. Studies have shown that foreign direct investment is most common in countries where multinational companies have access to major international airports (Carod et al., 2010). An efficient and well-connected air transport system can also increase a country's attractiveness for incoming tourism, yielding additional economic growth and employment

(Button and Lall, 1999). To strengthen a country's accessibility, in turn, an adequate provision of (air) transport infrastructure is required. Given the long-term nature of many infrastructure projects, a careful assessment and definition of long-term transport-related political strategies is essential.

As a result of the 2011 revolution, new opportunities have emerged for a re-organisation of the Libya's air transport system. Libya is an oil- and gas-rich North African country with approximately 6 million inhabitants. The country is currently ranked 17th worldwide in terms of area, with 1.7 million km². It borders the Mediterranean Sea and, from west to east, Tunisia, Algeria, Niger, Chad, Sudan and Egypt. Libya's energy sector currently generates 95% of the country's export earnings, 20% of its GDP and 99% of government income (CIA, 2013).

In 2011, unrest turned into a civil war that eventually saw the collapse of the government under long-time ruler Col. Muammar al-Gaddafi. Since then, a transitional government has been followed by a freely elected parliament and government. The country's real GDP growth rate was the highest in the world in 2012 (+121.9%), following a 59.7% decrease in 2011 and hence bringing the country almost back to pre-war levels (CIA, 2013). However, the security situation in the country is still problematic, with terrorist attacks, such as that on the US consulate in Benghazi in September 2012, and militia activities continuing to occur.

* Corresponding author. Tel.: +49 22 03 601 2596.

E-mail address: sven.maertens@dlr.de (S. Maertens).

According to recent corporate intelligence information, terrorist activities represented 5% of all criminal activity in the country in June 2013 (The Inkerman Group, 2013). The rising number of kidnappings as well as robberies, shootings and carjackings are other issues that might stop or delay the country's recovery. Hence, as of December 2013, foreign governments still advise against travelling into Libya, and many airlines, such as Etihad Airways and KLM, have ceased operations for security reasons.¹

Even before the recent political changes, the former government had been altering Libya's air transport strategy. In 2001, a second state-owned carrier, Afriqiyah Airways, was formed and commenced hub operations from Tripoli to countries in Africa, Europe and Asia (Afriqiyah Airways, 2013). The country's original national carrier, Libyan Airlines (formerly branded as Libyan Arab Airlines), in contrast, remained more short-haul-focused and concentrated on alternative destinations in Europe and the Middle East and on domestic services (Libyan Airlines, 2013). These moves came after years of isolation and suppressed growth. In fact, the Gaddafi government was responsible for supporting several terror attacks in the late 1980s/early 1990s, resulting in sanctions by the United Nations Security Council (Resolution 748) from 1992 that included, among other measures, a ban on all international air traffic to and from Libya. Hence, air passenger growth in Libya remained below GDP growth for a long time. In the post-sanction and pre-war years, 2003–2010, both GDP and air transport volumes grew strongly (Hansman and Ishutkina, 2006).

With regard to the country's future air transport strategy, current discussions include the following partially interrelated issues (CAPA-Centre for Aviation, 2012; Rivers, 2012):

- Should the two national carriers merge? (A first step in this direction has already been undertaken in 2007, when both airlines became part of the Libyan African Aviation Holding Company (LAAHC), but further steps towards a possible merger have apparently been delayed until at least 2014.)
- How should the carrier(s) future domestic and international networks be organised?
- How should the country's future international air transport policies be organised: by the open skies approach or protection of the national carriers?
- Which investments should be undertaken to renew the country's airport infrastructure?
- Which business models should the national carriers adopt (e.g., low-cost or network carriers)?

In this context, there are crucial decisions to be made regarding the future set-up of Libyan carriers and airports. Possible scenarios include, at one extreme, a continuation of the status quo, i.e., maintaining one or two regionally focused carriers, or, at the other extreme, a massive expansion of Afriqiyah Airways' pre-revolution hub network. The latter, a development of an air transport hub in Libya, could help the country improve its economic position as an important country in North Africa and boost industries other than the dominating energy sector.

¹ As of 16 December, 2013, the UK Foreign and Commonwealth Office (FCO) advises against all non-essential travel to the Tripoli area and northeastern Libya (with the exception of Benghazi) and all travel to the remaining parts of the country (incl. Benghazi) (see: <https://www.gov.uk/foreign-travel-advice/libya>). Similar warnings have been issued by the U.S. Department of State (http://travel.state.gov/travel/cis_pa_tw/tw/tw_5992.html) and the Government of Canada (<http://travel.gc.ca/destinations/libya>). Etihad Airways suspended its operations into Tripoli in early November, 2013 until further notice (<http://gulfnews.com/business/aviation/etihad-suspends-flights-to-tripoli-1.1250218>, as of 13.11.2013). KLM Royal Dutch Airlines has postponed the resumption of its operations to Tripoli until further notice (http://www.klm.com/travel/ly_en/plan_and_book/situation/index.htm, as of 16 December, 2013).

The objective of this paper is to provide an initial assessment of the prospects of the development of an air transport hub in Libya. We look at this issue from a longer-run economic–geographic perspective and hence, to some extent, abstract from the currently adverse security situation in the country. In other words: we assume that Libya will survive as a country and that the security situation will improve in the years to come.

This paper is structured as follows. In Section 2, we refer to the transport-geographic literature to identify and discuss the main success factors for air transport hubs. In Section 3, we undertake initial steps in analysing the extent to which Libya could (or could not) achieve such conditions. This assessment contains a detour factor analysis for a hypothetical hub operation at Tripoli that is run for all current – and expected future – O&D traffic flows between Europe and Africa. The resulting indicator (weighted average distance penalty, WADP) for Tripoli is benchmarked against competing (existing or potential) hubs, such as Cairo, Algiers and several European airports. Other criteria investigated in more detail include Libya's GDP level and development as well as supply-related issues, such as resulting stage lengths and their implications for a Libyan hub carrier's fleet mix. This paper concludes with a summary of the main results and ideas for future research.

It is our aim to assess Tripoli as a hub location from a neutral perspective, employing transparent indicators. This work is not part of any externally funded research or consultancy project.

2. Hub success factors

The literature contains some studies on airport choice and corresponding drivers. General drivers for airport choice were, for example, discussed by Bootsma (1997), Burghouwt (2013), Graham (2003) and Jarach (2005). These drivers include airport user costs, infrastructure, operating restrictions and slot availability, catchment area size and local demand and competition by other airports and/or airlines (see Table 1).

The actual requirements, however, depend on the specific type of operation. For example, requirements for long-haul flights and hub operations are much more sophisticated than those for regional, continental and point-to-point traffic. Maertens (2010) has analysed drivers of long-haul flight supply empirically, albeit exclusively for secondary (i.e., non-hub) airports in Europe. He found that regional GDP and the number of headquarters of international companies in the catchment area were significant drivers for long-haul flights, along with runway length and total number of airport passengers.

Hubbing usually requires an even more complex airport infrastructure: most flights of the hub carrier arrive and depart within short timeframes to keep minimum connecting times low. Hence, hub airports usually require a system of more than one runway, which can ideally be used simultaneously and which are capable of handling wide-body, long-haul aircraft. The terminal layout of hubs must allow for high passenger volumes with a high percentage of connecting passengers. From a commercial perspective, Burghouwt (2013) stresses that large regional O&D markets are important for hubs to ensure “a strong and captive demand basis ... with higher yields than in the transfer segment”.

It is the objective of this paper to assess the hub potential of Tripoli from a bird-eye's perspective and hence to a large extent irrespective of factors that can be directly controlled by the country's policymakers and regulators, such as terminal and runway infrastructure, airport pricing and promotional activities, the country's bilateral air service agreements and the actual financial and strategic set-up of the national carriers. For this reason, we discuss Libya's situation with regard to two crucial “external” factors in more detail: hub location and economic environment.

Download English Version:

<https://daneshyari.com/en/article/7486083>

Download Persian Version:

<https://daneshyari.com/article/7486083>

[Daneshyari.com](https://daneshyari.com)