

Passenger traffic in the 1930s on British imperial air routes: refinement and revision

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In the 1930s many of Britain's colonial territories were linked to London for the first time by civil air transport. A British airline, appropriately named Imperial Airways, carried passengers, mail and other small freight. Founded in 1924, the airline flew on routes between London and destinations in continental Europe until 1927. Then it took over the RAF service across British-mandated territory between Cairo and Basra. Within a matter of years, after the appropriate route surveys had been carried out, the first sections of an 'imperial' air service to India and Africa were opened for mail and passenger traffic. In 1929 the Basra service was extended east, first to Karachi and then to Jodhpur and Delhi. Empire air services linked Egypt and the Sudan with Central Africa from 1931. Early in 1932, after advancing southwards from Cairo in stages, an Imperial Airways service reached Cape Town. Calcutta was joined to the empire air network in July 1933, and later that year the service was extended to Rangoon and Singapore. From 1934 Imperial Airways operated a scheduled commercial passenger service between England and Australia in partnership with the Australian airline Qantas Empire Airways. Other outposts of empire that were included in the air network were Hong Kong (1935), Khartoum and the Nigerian settlement of Kano (1936). One of the last links of the imperial air network to be completed was the stage in Europe. Only in 1936 did it become possible to fly the entire distance between London and Imperial's empire destinations. Until then, political obstacles – largely Italian intransigence in air rights negotiations – meant that the 950-mile sector between Paris and Brindisi had to be done by rail.

For most of its life Imperial Airways was Britain's only designated overseas airline. Operating within and beyond Europe as a privately owned monopoly, the company was subsidised by the government. Despite these privileges, it struggled to compete with more generously assisted European airlines and it abandoned many of the continental routes that it flew initially. By the mid-1920s Imperial had given up the important London–Berlin and London–Amsterdam routes and by the mid-1930s it operated just two European services: London–Paris–Zurich and London–Brussels–Cologne. On the eve of the Second World War empire routes accounted for 90 per cent of its route mileage. After its African and Asian services were operational Imperial

relaxed its monopoly of air links with Europe and a second British flag carrier, British Airways Ltd, was created in 1936 to serve northern European centres. British Airways was also charged with establishing Atlantic air services to West Africa and South America, but the war broke out before these became operational.¹

True to its name, Imperial Airways was the flag airline of the inter-war British Empire. Over a route network stretching to almost 25,000 miles (1938), it carried passengers and air freight across and between Britain's far-flung colonies. The aircraft and routes involved in this operation have been well documented, and the people and politics behind it have been reasonably well studied.² The history of Imperial Airways forms part of standard survey texts about British aviation history.³ Scholarly enquiry into empire aviation also includes regional work on Africa,⁴ the Gulf States⁵ and Australia.⁶ Despite this research, however, little is known about the passengers who used the empire services. Neither the number nor the nature of the people who flew is well researched. Qualitative information on Imperial's passengers is scrappy and mostly anecdotal.⁷ Even so, the impression it leaves of variation and questions still to be answered makes it different from information about the volume of empire air passengers. However inadequate, neat numerical tabulations have an aura of authority, objectivity and finality. Yet, as if conceding the limitations of available data, the most recently published book on Imperial Airways provides no information at all about air passenger traffic volumes.⁸

The primary purpose of the research reported below is to extend and deepen the quantitative record of passenger traffic on the empire air routes flown by Imperial Airways. Fresh empirical evidence clarifies the number of passengers who used the empire airline in its fifteen-year life. The data gauge the contribution that aviation made to transport in the scattered British Empire at its zenith, and to its connectivity. A more precise account of passenger traffic than has been available previously allows reconsideration of the role that the designated empire airline played in imperial interaction. Numerical evidence about the reality of empire air passenger travel also puts into perspective rhetoric about the wonders of the British Empire between the wars. Moreover, data disaggregated into new levels of refinement give a glimpse of paying and non-paying empire passenger traffic, and uncover some of its seasonal and geographical variability. A distinction begins to emerge between passenger traffic comprising the emissaries and functionaries of empire, going to and from imperial capitals, and other trunk traffic between minor airports.

A subsidiary purpose of the research is to raise questions about the classification and interpretation of air passenger traffic numbers in the British Empire. What does it mean to talk about 'empire air travel' and 'empire air passengers'? Which passengers qualify? Only subjects of the King? Only those whose air journeys begin and end in the empire? Just Imperial Airways passengers? Precisely what constituted British imperial air routes? Were they over, within or between British colonies and territories? Were they serviced

exclusively by Imperial Airways – an airline based in Britain – or were they served to some extent by other European carriers like the Dutch airline KLM, which offered considerable capacity between points on international services overlapping the British air network in the Middle East, India and South East Asia?⁹

Not all passengers on British imperial air routes flew with the British airline. Similarly, within British colonies and dominions, domestic airlines often carried passengers on local and regional services. In Australia and Canada especially, but also in India and South Africa, colonial traffic using national carriers was a substantial element of the total air traffic within the British Empire. In Canada, which was never served by Imperial Airways, the air routes and passenger traffic were ‘imperial’ only in the sense that they were in air space above ‘imperial’ territory. In other British colonies, passenger traffic on domestic services provided by small national airlines was ‘non-imperial’ if it did not feed the trunk services of Imperial Airways.

The following study of passenger traffic on imperial air routes refers to people flying on the trunk services operated by Imperial Airways and its associated companies in Africa and India. Some segments of the colonial route network were within a single colony. Some, like the one across Europe between Britain and Egypt, were entirely outside British colonial space, but people travelling on an Imperial Airways ticket over that route by train or aircraft are counted as passenger traffic on British imperial air routes.

British Empire air passenger traffic

Detailed empirical studies of Imperial Airways’ passenger traffic are rare and dated. Over the last forty years there has been little progress and, perhaps because it has been difficult to find any new raw data, transport historians have relied on official British government publications such as the Air Ministry’s annual Civil Aviation Reports for 1925/26 and 1926/27, and its 1938 statistical review.¹⁰ Consolidating these and other original data, Robin Higham’s 1950s study of Imperial Airways has become definitive and seems almost to have removed the incentive to subsequent enquiry.¹¹

The primary and secondary information about Imperial Airways’ passengers is rough and incomplete. The conventional picture of routes, services and traffic is crude and has remained unchanged for decades. This entrenched and limited view of Britain’s overseas airline passenger traffic may even have constrained further research by making the record appear settled and unproblematic. Yet, as with other modes of transport, the elementary data of air transport are actually difficult to count and categorise, and there exist, for instance, different tallies for Imperial Airways’ annual passenger loads. Compared with the figures reported by the Air Ministry and Higham for the financial years 1924/25–1938/39, Peter Lyth’s rounded figures show 8,000 fewer passengers (less than 1 per cent difference overall).¹² The greatest single annual difference between Higham’s and Lyth’s figures is 9 per cent (2,183 passengers) in 1931/32.

There are much wider discrepancies between Higham's figures and those published in 1962 by John Stroud, who worked with Imperial's publicity department in the 1930s. Although he did not include passengers flying in 1938/39, Stroud's passenger total still marginally exceeds that given by Higham and Lyth. The greatest annual discrepancy is as high as 43 per cent (for 1931/32), and is, on average, 12 per cent.¹³ Another Imperial Airways employee, the accountant A. J. Quin-Harkin, mentioned a figure for European passengers in 1931/32 that exceeds the total that Higham reported for that period on the combined European and empire services. Set against the Air Ministry's and Higham's count for the next year, another of Quin-Harkin's figures implies that nearly 3,000 people flew on the empire routes in 1932/33.¹⁴

The Air Ministry's figures are the most cited information about Imperial Airways' passengers. Ranging across sixteen accounting years between 1924/25 and 1938/39, the series is confined to annual loads. In this period 558,706 people used Imperial Airways services.¹⁵ The data series shows annual but not monthly variations and, most important, it gives no indication of the respective passenger loads on the European and the empire routes. People unfamiliar with the markets served by the airline, which was named as if it served only the British Empire, might easily conclude that Britain's flag carrier carried over half a million people around the empire between the wars. The conclusion would be a gross exaggeration. Lyth's recent estimate, based on 1935 figures, is that 85 per cent of Imperial Airways' passengers flew on its European routes.¹⁶ By subtraction, 15 per cent (83,806) would have flown on empire air services. Clearly, the number of Imperial Airways passengers is not equivalent to the number of empire air passengers.

Failure to distinguish between European and empire operations in the passenger records of Imperial Airways is typical of a management that was fond of financial secrecy.¹⁷ The compilers of the data seem to have aggregated and manipulated raw figures for public consumption. Large figures would have impressed shareholders and helped vindicate Imperial's acceptance of British government subsidy. Reporting air passengers for each stage flown inflated the numbers in proportion to the number of stops and the number of through passengers. The Air Ministry report that adopted this practice in 1930 effectively concealed the number of passengers on the London–Egypt and Egypt–India route. Multiplication of an already distorted number by aircraft miles, and aircraft weight, generated impressively large (but incomprehensible) numbers.¹⁸

Embellishing raw passenger data by compounding them with route length would also have made Imperial Airways look better against rival European airlines that were operating shorter passenger networks but carried more passengers. On the basis of passenger loads alone, the international ranking of Imperial Airways was low; taking its uniquely long route network into consideration improved the figures and thus its image and status. What better tribute to the outgoing chairman, Sir Eric Geddes, than the boast that during 1936 Imperial Airways flew 27,921,000 passenger miles, of which 55 per

cent were outside Europe?¹⁹ Whatever people thought it measured, the sheer magnitude of the ‘scientific’ number 28 million was breathtaking. Few people would have known that it was half the passenger mileage flown by the German flag carrier Deutsche Luft Hansa on its internal European services. In any event, the passenger-mile indicator was more flattering to Imperial Airways in relation to Deutsche Luft Hansa than a straight comparison of raw passenger numbers.

No published information quantifies the actual number of passengers who flew on empire air routes in the 1930s. Various estimates could be constructed under different assumptions about seat occupancy on Imperial Airways empire flights in aircraft with differing passenger capacity.²⁰ In theory passenger figures could also be recovered by working backwards from published figures that were originally compiled using passenger totals. Various Imperial Airways performance figures were derived from these totals. Unfortunately, the published figures present raw passenger numbers in ways that are difficult to grasp conceptually and disentangle statistically.

Examples of composite passenger figures appear in annual editions of the compendious *Air Annual of the British Empire*, a source that is otherwise an invaluable register of empire aviation.²¹ The 1931/32 edition shows Imperial’s London–Egypt and Egypt–India passenger totals by flight stage but does not enumerate the stages. The 1935/36 edition tabulates passenger traffic data for Imperial’s Egypt–India–Singapore and Egypt–South Africa services in terms of passenger miles and passenger ton miles. As comparative measures of airline ‘work’ these derivative statistics are useful because they standardise for different route network lengths and aircraft size, but it is difficult to convert the data back into raw passenger numbers. For instance, ‘deconstructing’ passenger-mile data is hazardous without knowing precisely the route-mileage data used in their initial calculation. And, unfortunately, route lengths themselves fluctuated.

The mileage flown by Imperial Airways aircraft in the British Empire in the 1930s varied. Route lengths increased as the airline network expanded and passenger miles increased as the number of flights increased. Mileage charts showing intended flying courses bore a less than perfect relation to the actual distances flown, for several reasons. In the early days of civil aviation aerial navigation was imprecise, particularly over wild and isolated tracts of colonial territory. Some wandering off course was deliberate: in a more leisured age of travel, pilots liked to make brief detours on the empire routes to spot wild animals. Other diversions were accidental and occurred when pilots flying unreliable aircraft had to find emergency landing places. Unscheduled stops were provided along the empire air routes, but in bad weather they were not always easy to locate. Flying routes altered seasonally when tropical summer rains made first-generation airfields unusable. As flying experience accumulated, and knowledge of ground conditions and weather patterns improved, airfield selection also altered. Flying routes were also changed for geopolitical reasons. Furthermore, the introduction of new aircraft or engine types on to a route might necessitate

the reconfiguration of flying patterns to match different aircraft performance, notably fuel consumption.

Rather than attempt to reconstruct raw passenger traffic statistics from composite airline performance measures, or try to calculate flight-specific aircraft seating capacities and fashion these into passenger number estimates on the basis of different scenarios of seat occupancy, the following analysis uses raw passenger data retrieved from official sources. Four sets of data are presented. First, annual passenger totals for nine years have been retrieved from the published annual reports of the Imperial Airways board of directors.²² Second, monthly and seasonal patterns of passenger bookings on the three main empire routes of Imperial Airways have been compiled from archival records for 1938 and 1939. Third, and relating also to the peak of empire passenger service, archival data are presented pertaining to local traffic on the East African flying-boat service in 1938/39.²³ Fourth, material is reworked from archival records of passenger activity in 1939 at the Durban terminus of Imperial's South Africa–England trunk route.²⁴ The reconstituted data help fill a gap in evidence of stage-by-stage passenger traffic along the principal African air corridor. The commercial sensitivity of the information may explain why it was never published, but it may just have been too time-consuming and operationally unnecessary for the traffic superintendent's staff at head office in London to capture and analyse all the necessary statistics from empire 'outstations'.

Annual passenger totals

Information collated from all the Imperial Airways directors' annual reports before the outbreak of war shows that 46,330 people used imperial civil air services between 1930/31 and 1938/39 (Table 1). Taking into account the last eighteen months of Imperial Airways operations, for which no count

Table 1 Passengers on Imperial Airways empire services, and their percentage share of Imperial Airways passenger traffic (including Europe) during the year ending March, 1930/31–1937/38

<i>Year</i>	<i>No. of passengers</i>	<i>%</i>
1930/31	718	3
1931/32	1,927	7
1932/33	4,811	10
1933/34	5,593	11
1934/35	7,103	12
1935/36	8,505	14
1936/37	8,012	13
1937/38	9,661	16
Total	46,330	

Source Annual reports of Imperial Airways directors, 1931–38.

is available, a conservative working estimate is that 50,000 people used Imperial Airways to get about the empire. In the absence of a directors' report for 1938/39, it can be surmised that passenger numbers fell as Imperial Airways started giving preference to flying mail rather than people. In 1939 the volume of parcels and letters generated began to displace what the General Post Office's airmail adviser called 'fluctuating, comfort demanding, troublesome, capricious human freight'. In the first six months of 1939 airmail loads were 50 per cent higher than in the same period in 1938. Shortage of space was aggravated by a series of aircraft accidents, and by the difficulty of acquiring new aircraft and crew as defence requirements mounted on the eve of war. The airline's booking clerks were instructed to maximise revenue by avoiding, if possible, selling vital space to passengers. On the India route, for example, only five passengers were accepted each week. In July 1937 passenger through tickets to Durban were restricted to four on one weekly flight and three on another.²⁵

During the 1930s the number of passengers using the empire air services of Imperial Airways more than doubled. At the same time, the empire air routes counted for an increasing share of the carrier's total passenger loads, peaking at 16 per cent in 1937/38. During the decade the number and frequency of empire flights grew, spreading beyond the Middle East through Africa, and through India to Singapore. Qantas Empire Airways transported passengers between Singapore and Sydney. From 1934 the annual rate of empire passenger increase slowed, dipping slightly once. The rising annual totals are equivalent to a shift from an annual average of approximately fourteen to 186 passengers a week. From 1933 on, the average weekly passenger load was in double figures. What proportion flew as through passengers between London and the farthest imperial air termini is impossible to say, and the number that flew on intermediate sectors is not recorded. Moreover the raw figures do not differentiate between the African and Indian services.

Without a data series on the geographical composition of empire passenger traffic, fragmentary information shows, for example, that sixty-nine passengers arrived in Karachi from London in 1930, and that sixty-six flew from Karachi to London. In 1932 Imperial Airways carried 655 passengers (not necessarily end-to-end) on its London–Cape Town service. Between April and September 1933 the number of passengers disembarking in South Africa increased by 150 per cent over the number for the corresponding period in 1932. The number of passengers boarding in South Africa soared by 162 per cent. Between May 1935 and June 1936 the monthly total of Imperial Airways passengers departing from Cape Town ranged from twenty-seven to thirty-eight, and the number arriving from twenty-three to thirty-six. On the Indian service the number travelling east rose from 150 in 1932 to 216 in 1933. In the reverse direction the number increased from 142 to 211. In 1935 410 passengers embarked in London to fly to India or farther east. That year 983 passengers in total used 104 Imperial Airways flights to get to and from the Indian subcontinent, 377 more than 1934.²⁶

Empire service passenger bookings in 1938 and 1939

Some indication of the spatial and temporal variations of empire air passenger traffic is contained in a limited data sequence for just two years, 1938 and 1939. The systematically collected and reported information relates to Imperial Airways passenger bookings, not passenger tickets. The lists pertain to calendar years, not financial years. There is a large discrepancy with the passenger count in 1938, the only overlapping year.

The different reporting period may not account completely for the large numerical difference between 9,661 passengers and 29,101 bookings. There are no definitions attached to the passenger booking data sheets to explain what constitutes a 'booking'. Had there been one it might have explained the difference between 'booking' and passenger counts taken in the same time period; if the former were twice the latter it may be deduced that a return flight constituted two bookings. The discrepancy is not accounted for by the inclusion of only fare payers in the 1938 passenger count, for the bookings made by fare payers totalled 12,040 in that year. Presuming accurate counting, the excess of bookings over actual passengers may simply have been reservations not taken up. Alternatively, the excess arises out of the inclusion of wait-listed passengers in booking data. In either case, the booking figures are a statement of intention to fly, in other words latent demand.

There is a pronounced monthly variability in the total bookings from January 1938 to December 1939 (Figure 1). Bookings were most buoyant in the northern hemisphere summer. Shifts of the greatest magnitude occurred in

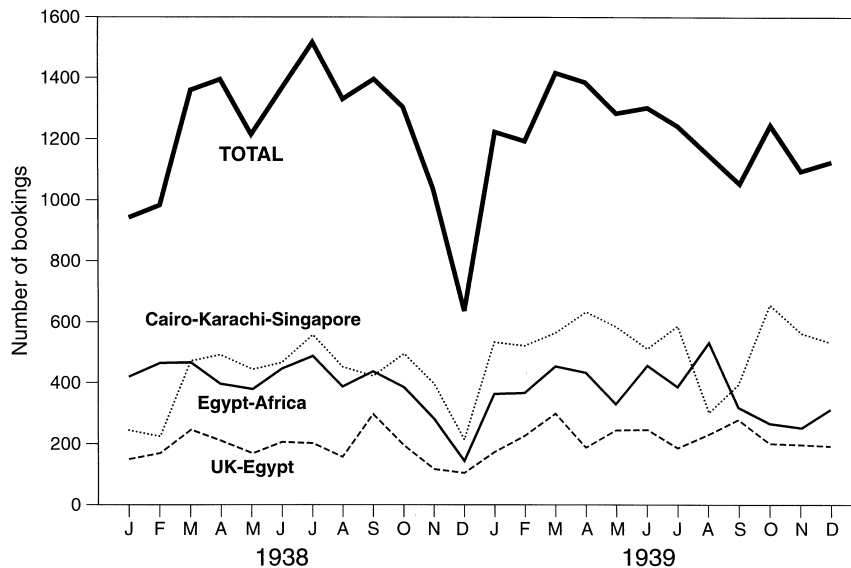


Figure 1 Geography of Imperial Airways' empire service monthly passenger bookings, 1938-39. 'Total' includes bookings on the three named routes plus bookings on the Penang-Hong Kong, West African and Bermuda-New York routes. Source Compiled from PRO, AVIA 2/1396

mid-winter. The sharpest variation occurred in November–January 1938/39, in months when Christmas air mail displaced fare-paying passengers. Bookings may have declined as passengers sought to avoid the discomfort of flying in adverse weather and its unpredictable effect on schedules.

Throughout the two-year period, bookings by airline staff and other passengers who travelled free – for example, senior Commonwealth and dominion officials, Air Ministry employees and airline personnel – were steady by comparison with the seasonally volatile paying traffic (Figure 2). Monthly bookings of non-paying passengers were always relatively small, ranging from 120 to 254, that is, between 10 per cent and 20 per cent of the monthly totals. Averaged across the four-times weekly return services between London and Cairo, Karachi and Mombasa, and the thrice-weekly return services between these points and Singapore and Durban, a minimum of five revenue and non-revenue bookings were made for travel in each direction on every flight.

The erratic monthly sequence of fare-paying and total passenger bookings was broadly similar in each of the three dominant route sectors (Figure 3). Route by route, however, the volume of bookings differed. During 1938–39 less than ten per cent of Imperial Airways bookings were for travel on its newest route sectors, between Bermuda and New York (2 per cent), Penang and Hong Kong (3 per cent), Khartoum and Lagos (4 per cent). On the older routes, the number of bookings was consistently lowest for flights between England and Egypt. Evidently, air travel east and south of Cairo had a strong regional component. England was the origin or destination of a minority of long-distance empire air passengers in the last two years of the 1930s. The same was not necessarily true of preceding years.

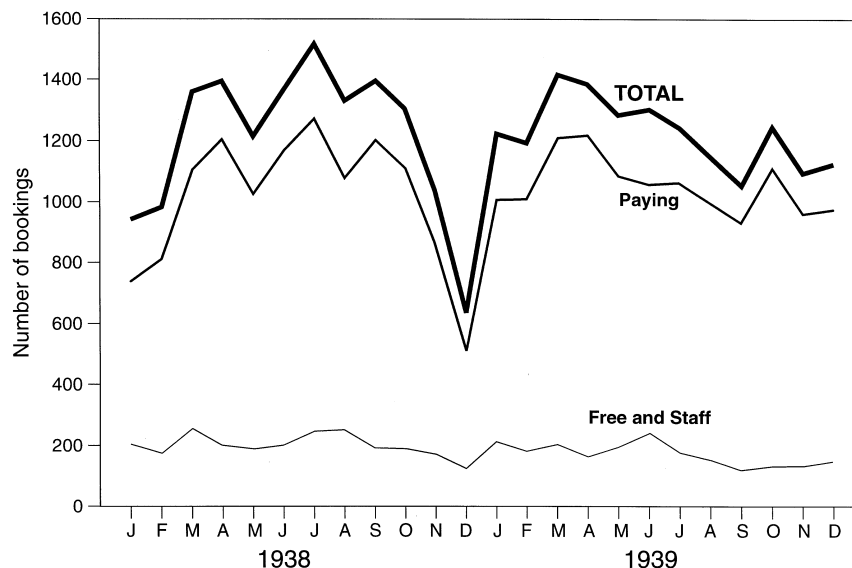


Figure 2 Imperial Airways' empire service monthly revenue and non-revenue passenger bookings, 1938–39. *Source* Compiled from PRO, AVIA 2/1396

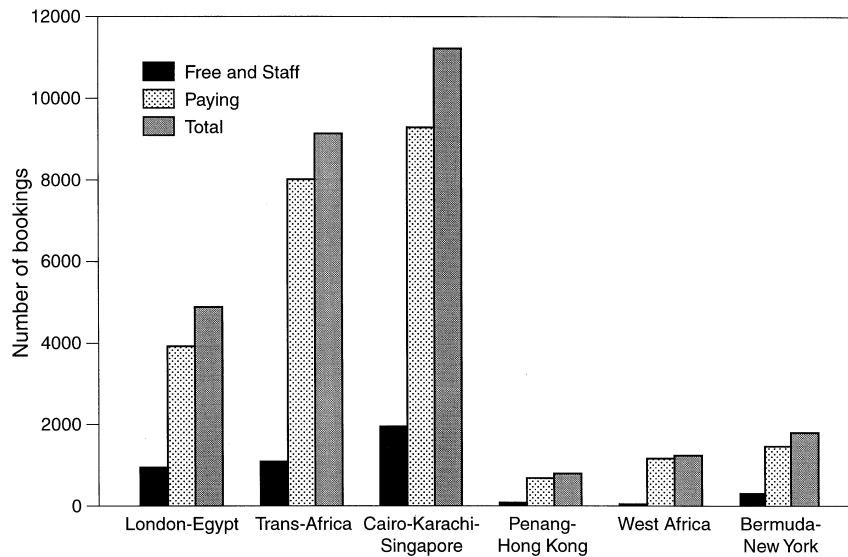


Figure 3 Geography of revenue and non-revenue passenger bookings, 1938–39.
Source Compiled from PRO, AVIA 2/1396

Bookings on the Cairo–Karachi–Singapore stage were highest for all but four months in the two years in question. Over the two-year period this principal route accounted for 42 per cent of bookings. The trans-Africa and England–Egypt sector accounted for 30 per cent and 19 per cent respectively. Bookings were least volatile for flights on the England–Egypt route during the two years 1938 and 1939. The divergent booking trends on the trans-Africa and Cairo–Singapore routes in July–September 1939 were undoubtedly related to the beginning of the Second World War. They may also have been seasonal: the entire Imperial Airways trunk route east of Cairo was in the northern hemisphere, whereas half the route network south of Cairo was in the southern hemisphere.

Local East Africa passenger traffic, July 1938–June 1939

The evidence of high volumes of regional passenger traffic on Imperial's African and Indian routes is unexpected because the slim textual evidence that exists about the airline's passenger origins and destinations on empire routes suggests that most passengers used the airline to fly between London and other imperial cities. Autobiographies and travelogues published in England refer mostly to people who started and ended their journeys in London. Furthermore, such information as there is about empire air passengers in Imperial Airways' in-house magazine and newsletter, and in London newspapers, refers mostly to people observed at, interviewed at or photographed at Croydon, Imperial's home base on the outskirts of London. Textual reference to air travel between other places on the empire routes has seldom been sought.

Imperial Airways itself perpetuated the view that passengers flew mostly between London and the far-flung major centres of empire. Indeed, the airline seems to have regarded these journeys as its *raison d'être* and its major market: its poster and press advertisements for the empire service targeted prospective passengers trying to reach the empire from England, or vice versa.

The presumption that long-distance travellers should have constituted all empire passengers has some logical foundation. Not only was the air service conceived as a way of linking the empire together – of bringing London closer to the colonies – but the time-saving argument in favour of flying is generally considered as most applicable to long-distance journeys. Equally, it may be surmised that most flights along intervening legs would have been between the principal centres of colonial commerce and administration. Both inferences are encouraged by styles of statistical summary tabulation that consolidate passenger traffic data into major route segments such as Cairo–Karachi–Singapore. The compression and the labelling suggest that no passenger traffic was handled at intermediate stops, and that overnight stops for rest and aircraft service and refuelling were the only activities. This is wrong, however.

The presumption that passenger traffic was confined to, or at least dominant on, city-pair routes was compounded by managerial habit at Imperial Airways. Senior officials stressed that the company confined itself to trunk services, and expected smaller regional or national carriers to provide feeder services on branch routes. In an era when transport aircraft had only a short range, airline management regarded branch routes as lateral connectors to the trunk, rather than short hops between minor centres along an axis aligned with and embedded in trunk services between major centres. And, as long as aircraft had to make frequent refuelling stops, stage traffic along the trunk routes was a significant component of passenger loads.

The notion that many empire airway passengers flew only between the imperial capital and one or two major colonial cities also squares with impressions about the kind of people who used Imperial Airways. It is reasonable to suppose that many senior colonial administrators, military officers and businessmen would have received tickets to fly on assignment or on home leave between London and colonial capitals. The pattern is confirmed in sources such as the Imperial Airways bulletins, aviation industry magazines, newspaper reports, archival papers and biographies.²⁷ In the case of Africa there is some evidence that people wishing to board a trunk service somewhere other than a terminus had difficulty obtaining a seat. Whether a quota of seats was set aside for people flying only short sectors is unknown, but protests from Tanganyika about the difficulty of buying tickets suggest not. Sir Patrick Balfour, then a travel-weary thirty-five-year-old solo backpacker, did not record whether his title and social pedigree (Third Baron of Kinross) helped him secure a seat on Imperial's Kisumu–Juba service in 1939.²⁸

Diaries, letters and news reports generally reveal more about empire flights originating or terminating at Croydon than they do about flights that did not start or end there. As an exception, one record of 'intermediate passenger traffic' is contained in the official reports of British embassy staff movements

in the Persian Gulf region in the 1930s. There, as in Central Africa, alternative forms of transport were few and far between, slow, seasonal or irregular. A married couple who were among the eleven passengers on a Juba–Khartoum Imperial flying boat in 1932 had discovered that air tickets cost £10 less than Nile steamer tickets for the same journey. *En route* from Durban to Cairo by motor caravan, they consigned their vehicle by barge and travelled for twelve hours instead of eleven days.²⁹

In the absence of systematic passenger lists, anecdotal evidence also shows use of Imperial Airways trans-Africa trunk service for local flights farther south. In 1933, for example, a grateful wife accompanied her invalid husband on an Imperial flight from Bulawayo to Johannesburg, where he could get specialist hospital treatment. Earlier the same year the Governor of Southern Rhodesia and his secretary flew from Salisbury to Bulawayo. All eight passengers who arrived at Cape Town in December 1932 on a flight that had originated in London embarked in Central or southern Africa.³⁰ The time saved by flying rather than sailing between England and South Africa was marginal in the early 1930s, and had to be balanced against the greater cost, risk and discomfort. By contrast, appreciable time was saved by flying between London and the inaccessible Central African interior, and between there and Cape Town. One motor party spent three months driving from Cape Town to Mbeya (Tanganyika) in 1933; in fine weather the ‘Air Mail’ took its scheduled three days.³¹

The lack of information about short-stage flights on Imperial Airways’ trunk routes is curious, for the airline, and most likely national authorities, required airport superintendents to record passenger arrivals and departures. A stray, solitary Imperial Airways passenger and cargo manifest illustrates the detailed records that were kept for every flight: four men and two women travelled on a flight from Salisbury to Johannesburg on 27 January 1937. One passenger had embarked at Alexandria, one at Cairo, one at Khartoum, one at Nairobi and two at Salisbury.³² Copies of original ‘ships’ papers’, or compilations from them, may yet be found in the archives of national customs and immigration/emigration authorities.

One set of systematically tabulated data about local passenger traffic that is available relates to flights handled at intermediate stops in eastern and southern Africa in the period July 1937–June 1938. The mid-year start and end of the data sequence limit its correspondence with the information used in the preceding analysis. Over the one-year reporting period 1,610 passengers flew on Imperial Airways flying boats plying stages between Kisumu (Kenya) and Durban. Of this total, 1,313 (82 per cent) were paying passengers (Table 2). The remainder comprised 247 airline staff (Table 3) and fifty passengers carried free. Overall, and in all three categories, northbound and southbound passenger numbers (penultimate and final rows and columns) matched closely. The small differences between the number of arrivals and departures at the two end points and the eight intermediate refuelling or rest stops may have been the result of the arbitrary reporting period. Passengers who landed before the count began but who left within the year would

Table 2 Paying passenger traffic on stages of Imperial Airways trunk service between Kisumu and Durban, arrivals and departures, July 1937–June 1938

	To	Kis	Mom	Dar	Lin	Moz	Que	Bei	Inh	LM	Dbn	Sbound	Depart
<i>From</i>													
Kisumu			8	3	2	0	0	3	0	0	19	35	35
Mombasa	16			42	6	1	3	13	0	7	28	100	116
Dar es Salaam	2	49			50	1	4	5	0	8	21	89	140
Lindi	1	5	54			3	0	0	0	0	5	8	68
<i>Mozambique</i>	0	2	2	0			12	9	0	43	3	67	71
<i>Quelimane</i>	1	1	5	0	9			14	3	52	0	69	85
<i>Beira</i>	4	12	9	0	18	12			2	48	54	104	159
<i>Inhambane</i>	0	0	0	0	1	0	4			38	1	39	44
<i>Lour. Marques</i>	0	7	12	0	35	31	41	36			153	153	315
Durban	15	34	24	6	1	1	56	0	143				280
Total northbound	39	110	106	6	64	44	101	36	143				
Total arrivals	39	118	151	64	69	63	145	41	339	284			1,313

Note Portuguese stops italic. Southbound traffic upper right.

Source Compiled from PRO, AVIA 2/1254.

Table 3 Non-paying staff traffic on stages of Imperial Airways trunk service between Kisumu and Durban, arrivals and departures, July 1937–June 1938

	To	Kis	Mom	Dar	Lin	Moz	Que	Bei	Inh	LM	Dbn	Sbound	Depart
<i>From</i>													
Kisumu			4	2	2	0	0	0	0	0	9	17	17
Mombasa	4			43	0	0	0	0	0	0	1	44	48
Dar es Salaam	3	34			2	5	0	1	0	0	2	10	47
Lindi	2	0	2			0	0	0	0	0	0	0	4
<i>Mozambique</i>	2	0	2	0			0	2	1	3	10	16	20
<i>Quelimane</i>	0	0	0	0	2			0	0	2	1	3	5
<i>Beira</i>	0	0	1	0	2	0			0	4	9	13	16
<i>Inhambane</i>	0	0	0	0	1	1	0			3	3	6	8
<i>Lour. Marques</i>	0	0	0	0	4	3	1	2			20	20	30
Durban	3	1	2	0	12	1	11	3	19				52
Total northbound	14	35	7	0	21	5	12	5	19				
Total arrivals	14	39	52	4	26	5	15	6	31	55			247

Note Portuguese stops italic. Southbound traffic upper right.

Source Compiled from PRO, AVIA 2/1254.

be listed only as departures. Those who landed within the reporting period but who did not depart until after June 1938 would be counted only as arrivals. Unless the number of arrivals and the number of departures relate to different individuals, the insignificant differences show that most air travel was for visits of a year at the most. Indeed, excluding those people who undertook air travel for its snob or novelty value, flying was only for quick errands or visits.

Differences in the number of arriving and departing air passengers handled at each of the ten stops are a measure of gateway status. There are discrepancies in the rank order of the places as regards the handling of paying passengers (Figure 4) and airline staff (Figure 5), but clearly the larger places

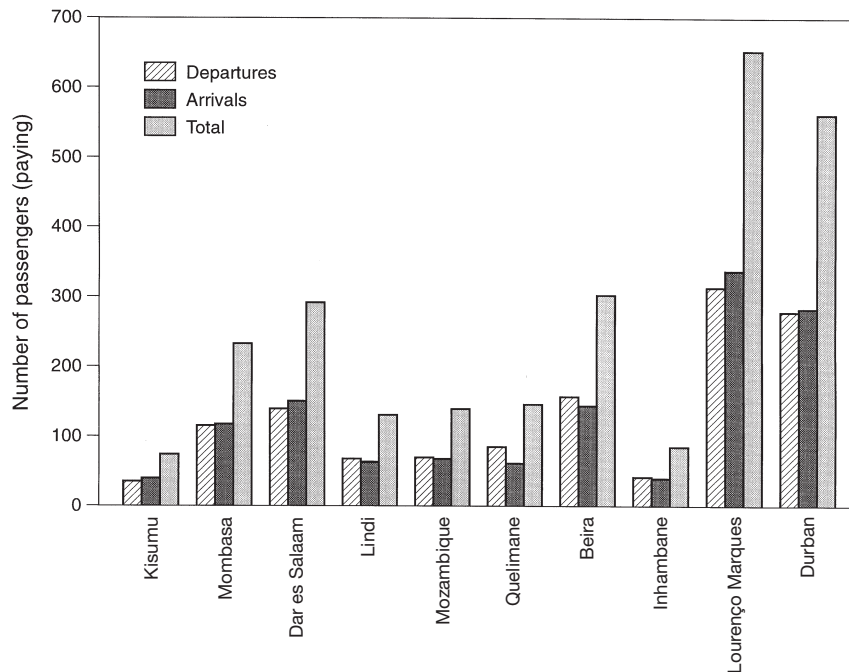


Figure 4 Inward and outward-bound paying passenger traffic on Imperial Airways' east and southern African trunk route, July 1937–June 1938. *Source* Compiled from PRO, AVIA 2/1254

dealt with most traffic. Two southern cities (Lourenço Marques and Durban) handled 46 per cent of passenger movements. Three cities in British colonial territory (Durban, Dar es Salaam, Mombasa) accounted for nearly two-thirds of staff movements. Kisumu was neither an important origin nor destination for passenger traffic, and the small Lake Victoria town handled the fewest paying passengers in the year surveyed. For most passengers it was a temporary anchorage rather than a terminus. At the end of the route, Durban had an altogether different role. The city was the principal Imperial Airways flying-boat base for the South African passenger market. For convenience, comfort or loyalty, many expatriates would have chosen the Imperial Airways service rather than the South African Airways land-plane feeder service between the Union and East Africa.

Lourenço Marques, capital of the Portuguese colony of Mozambique, was the busiest passenger traffic centre on the Kisumu–Durban route. The five Mozambican coastal towns together accounted for 50 per cent of trunk route passengers. This share suggests that Imperial Airways was frequently used for local traffic unconnected with British imperial business. Almost a third of paying passengers who boarded at Mozambican stops flew only internally to other Mozambican stops. Only ten more passengers left Lourenço Marques for Durban than for other Mozambican stops, and 15 per cent more passengers flew into the Portuguese colonial capital on

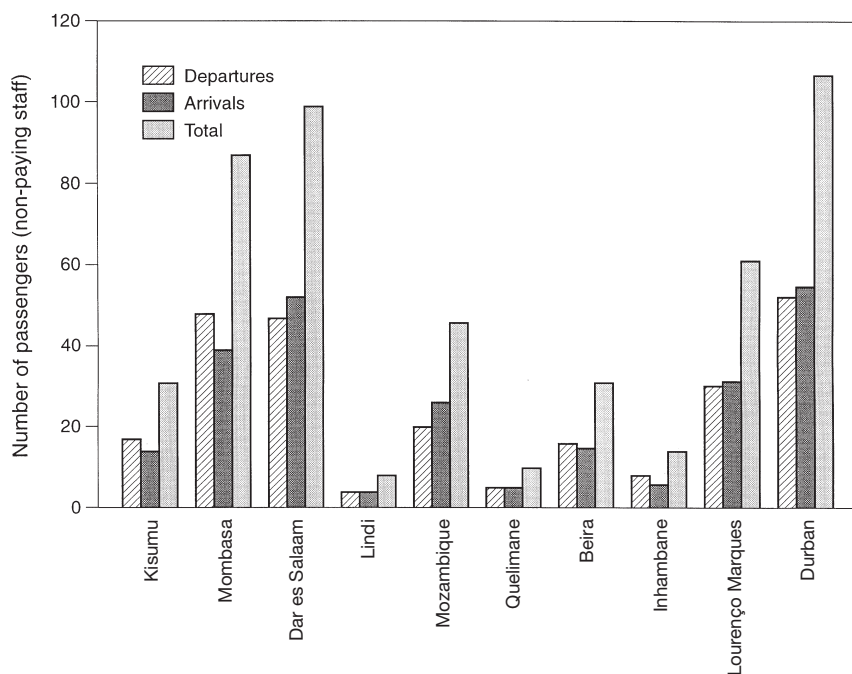


Figure 5 Inward and outward-bound staff traffic handled on Imperial Airways' east and southern African trunk route, July 1937–June 1938. *Source* Compiled from PRO, AVIA 2/1254

internal flights than from across the border. Clearly, Imperial Airways generated local air traffic along its African trunk route. That it should have done so along a coastal stretch is evidence of poor overland communications, slow or inconvenient services offered by coastal shipping lines, and undeveloped airstrips on land.

In the absence of evidence from the flight logs, it should not be assumed that every flight stopped at every point between Kisumu and Durban throughout the year. There is evidence that Imperial's flying-boat pilots tried to avoid lengthy taxiing and refuelling (tasks that accounted for about 20 per cent of the flying day) by avoiding minor halts where alighting areas and facilities were inadequate.³³ Pilots may have elected to bypass some stops in bad weather or to make up lost time on a delayed flight. Some stops may have been optional, depending on aircraft loads and passenger destinations, and some passengers or staff may have boarded or alighted at unscheduled stops where emergency landings were made.

The passenger traffic movements contain what may be called a 'distance decay effect'. Almost half the paying passengers flew only to the nearest stop, and two-thirds flew no farther than two stops (Table 4). Half the 'next stop' traffic was accounted for by journeys between Lourenço Marques and Durban, a leg on which slightly more than a fifth of the paying and the non-paying passengers were carried.

Table 4 Number and proportion of paying passengers flying between one and nine stops on the Durban–Kisumu route, July 1937–June 1938

<i>Stops flown</i>	<i>Passengers</i>	<i>%</i>
1	645	49
2	139	11
3	209	16
4	97	7
5	30	2
6	38	3
7	59	5
8	62	5
9	34	3
Total	1,313	100

Source PRO, AVIA 2/1254.

The monthly traffic variations on the Kisumu–Durban route were quite considerable (Table 5). The number of paying passengers peaked in June 1938 at 141, and was at its lowest (seventy-nine) in April that year. For seven months of the year paying passenger totals ranged between 101 and 110. The monthly pattern of Imperial Airways staff travelling as passengers had even greater extremes. The fewest staff (an unusually low total of three) flew in the same month that the number of paying passengers was highest, but this inverse relation was inconsistent. In all other months the number of staff flying was in double digits, and was highest at thirty-five in February.

The Kisumu–Durban route falls entirely within the southern hemisphere and might be expected to show seasonal effects. For seven months, including five successive summer months, southbound traffic exceeded northbound. Care must be taken not to read too much into the variation, however. Whichever direction was dominant in any month, the absolute difference in the number of passengers never exceeded twenty, and might simply be accounted for by a difference in the number of flights, possibly because of delays.

The dominance of short-haul passenger traffic on the Imperial Airways African service continued in 1939. Monthly passenger returns submitted to South Africa's Directorate of Civil Aviation by the airline's 'station' superintendent at the flying-boat base in Durban show how many passengers embarked and disembarked there. During the first nine months of the year the airport handled 448 inbound and 475 outbound Imperial passengers (Table 6).

Information retrieved from hand-drawn bar charts tracing each passenger's destination or origin show that traffic both to and from Durban was concentrated at half the twenty-one Imperial Airways stops between England and South Africa. Ninety per cent of the passengers who held tickets to or from Durban were handled at nine airports. Brindisi, Butiaba and Luxor handled no Durban-bound or Durban-based passengers. The information

Table 5 Monthly bi-directional paying traffic, southern Africa, July 1937–June 1938

<i>Year</i>	<i>Month</i>	<i>Southbound</i>	<i>Northbound</i>	<i>Total</i>
1937	July	51	46	97
	August	67	70	137
	September	60	46	106
	October	67	59	126
	November	40	60	100
	December	53	48	101
1938	January	48	60	108
	February	50	56	106
	March	51	61	112
	April	39	40	79
	May	48	52	100
	June	75	66	141
	Total	649	664	1,313

Source PRO, AVIA 2/1254.

Table 6 The most important origins and destinations of Imperial Airways passengers arriving at and departing from Durban, January 1939–September 1939

<i>Airport</i>	<i>Southbound: Durban-bound passengers boarding</i>		<i>Airport</i>	<i>Northbound: Durban-based passengers departing</i>	
	<i>No.</i>	<i>%</i>		<i>No.</i>	<i>%</i>
<i>Lourenço Marques</i>	155	35	<i>Lourenço Marques</i>	148	31
Southampton	80	18	Southampton	120	25
<i>Beira</i>	47	10	<i>Beira</i>	48	10
<i>Mombasa</i>	41	9	<i>Mombasa</i>	38	8
Alexandria	23	5	Cairo	22	5
<i>Mozambique</i>	20	4	<i>Mozambique</i>	21	4
Cairo	19	4	Alexandria	13	3
Rome	12	3	Athens	10	2
Top eight	397	89		434	91
Other thirteen	51	11		41	9
Total	448	100		475	100

Note East African coastal airports italic.

Source Compiled from South African National Archives (Pretoria), DCA 94 (2017/19): Imperial Airways monthly returns, Durban.

recorded at Durban does not show how many passengers boarded northbound aircraft beyond Durban, taking up seats vacated by departing passengers. Nor do the data show how many passengers left southbound aircraft before they reached South Africa. Intermediate traffic between, say, Beira and Dar es Salaam would not have been collected at Durban.

If most empire air passenger traffic on the African route in 1939 had been between England and South Africa, Imperial's flying-boat terminus at Southampton would have received and despatched most passengers from and to Durban. But many passengers arriving at and departing from Durban travelled on tickets valid for only shorter sectors of the Europe–Africa trunk air

route. During the first nine-month period of 1939 the majority of Imperial Airways' passengers on the African trunk route did not hold through tickets for flights between Durban and Southampton. Only a quarter of those boarding at Durban flew all the way to England, but their number and proportion of the total were higher than the volume and share of passenger southbound traffic between London and Durban. Less than a fifth of those arriving in Durban had begun their journey at Southampton. More Imperial passengers handled at Durban came from and went to Lourenço Marques than any other airport. Approximately a third of both inbound passengers (155 out of 448) and outbound passengers (148 out of 475) using Durban held tickets for the short hop to or from Lourenço Marques. Sixty-five per cent of southbound passengers started their air journey at coastal African airports, and 56 per cent of northbound passengers ended their air journey at coastal African airports.

Monthly variations in the origin–destination patterns of Imperial's passengers show no consistent patterns except for a sharp decline in August on the eve of war. Despite month-by-month variations in inbound and outbound passenger traffic at Durban, the rank order of the busiest origin and destination airports is fairly consistent. Lourenço Marques had the largest share of passenger travelling to and from Durban until August 1939, and from September end-to-end journeys between Southampton and Durban became dominant as war traffic took precedence.

Conclusion

One of the most basic measures of the utility of passenger transport is the number of users. This indicator has been missing from research into a transport organisation that had material and iconic significance in the late British Empire, and that was also one of only a few organisations in a new intercontinental transport order between the two world wars. If the surviving company records of Imperial Airways do contain a fine-grained chronology of passenger numbers on different empire air routes it has yet to be found. Condensed rather than duplicate data would most likely have been lodged with civil aviation's central reporting agency, the International Commission on Aerial Navigation. It made available, but had no powers to insist on, a standard rubric for the collation and tabulation of numerical data about flights. State agencies that monitored aircraft movements and cross-border cargo and passenger flows may also contain records pertaining to Imperial Airways.

In the absence of easily intelligible and detailed statistical information about passenger volumes on empire air services, previous understanding of the part played by Imperial Airways as a passenger carrier has relied on impressions and inferences. These are not a sound basis for ascertaining the role and impact of Britain's designated empire airline. A surer foundation is needed to assess the role of the British airline among the maturing scheduled civil air transport services operated by other European powers and by rival domestic airlines in the colonies. Better information will also help clarify the

extent to which Imperial Airways fulfilled the hope that it would serve empire and help prolong and legitimate the institution. Better data will also present the performance of the airline in a new light, and provoke new research questions.

The standard passenger traffic data used in both popular and academic writing about British Empire civil aviation are taken from a narrow and limited set of figures. Without other numerical information, statistical records produced by Imperial Airways for operational and accounting reasons, and released by the airline for public consumption, have their use. Yet these figures are not easy to comprehend, and they are difficult to rework into meaningful categories. Annualised data, and figures aggregated across the two European and the two empire trunk routes, obscure monthly and geographical variations in passenger traffic. The data also fail to distinguish between paying and non-paying passengers, and between seat bookings and actual travel. This article has used incomplete data to cast light on three dimensions of passenger travel on imperial air routes, and the following conclusions can be drawn from its analysis.

First, the number of empire passengers was a tenth of the number who used the less heavily subsidised European operations. The services operated by Imperial Airways on the empire routes were given an air of statistical ‘respectability’ in comparison with other European airlines by multiplying passenger numbers by the distance flown. Guessing ‘average’ passenger journey distances so as to deduce empire air passenger numbers is futile, not least because an average figure would distort variations attributable to passengers who flew only a short distance on empire services.

Second, there are distinct geographical and temporal patterns in empire air passenger traffic. Seat bookings, as opposed to seat occupancy, show a marked seasonal effect at Christmas and the New Year in 1938/39. Overall, five times more paying passengers booked seats than did non-paying passengers in 1938–39. Most non-paying passengers were airline staff, and their bookings were relatively stable. Of the six distinct route sectors, the least booked routes were the newest ones. In descending order, the three most heavily booked empire routes radiated east, south and north of Cairo. Each three-route sector displayed similar monthly volatility in seat bookings.

Third, the large amount of intra-regional flying shows that much empire air traffic was short-haul. Two quite different sets of passenger traffic data pertaining to the southern half of the African empire air route in the late 1930s indicate considerable use of trunk services for local passenger travel. Use of Imperial Airways’ empire services on stages within Mozambique is particularly notable. Data categorisation and labelling, preconceived ideas and generalisations from London-based sources have previously given rise to the notion that long-distance travel between capital cities dominated the empire airways; this article has shown that the presumption has remained unchallenged too long and needs qualification.

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