

Reprinted from

FLIGHT

11 December 1959

BRIDGING THAT GAP

WHAT PROSPECTS FOR THE VEHICLE AIR FERRY?

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Dijon, Strasbourg, Dusseldorf and Bremen. The events which led up to these two significant announcements are examined below; they are related to the peculiar problems of vehicle ferry operations and the changing habits and demands of the Continent-touring motorist.

Although fairly suitable for vehicle ferry operations, the Bristol Mk 32 is not outstandingly economical and maintenance costs are high. When the Air Ferry first came into operation eleven years ago the average British motor car was about eighteen inches shorter than it is today; but, despite this, load factors had to be high to achieve economical operation. The average number of passengers accompanying cars was low enough to make this very difficult, and with the length of the most popular family models increasing, it is becoming increasingly hard to obtain a three-car load in the 42ft of space available, despite vehicle fares aimed to attract the owner of the small car.

Very much smaller models are now being introduced, but they are not yet used in large numbers for Continental touring, where the «family size» car still predominates.

The average length of the most popular models increased from 14ft 5 in. in 1950 to 15ft 3 in. in 1959.

This average multiplied by three in 1950 was 43ft 3in and in 1959, 45ft 9in, showing—purely theoretically—an excess of 1ft 3in over the available hold length in 1950 and 3ft 9in in 1959. More relevant perhaps is that two cars of this average length in 1950 would have left space to book a car 13ft 2in in length but in 1959



In this photograph, the writer of this article, Mr. D.A. Whybrow, (Director of Channel Air Bridge) is seen talking to Mr. Jan Piers, Burgomaster of Ostend, at the opening of the Town Terminal near the Kursaal.

Also in the picture, is Mr. D. E. Elliott, Station Manager of Channel Air Bridge, and just behind is Mr. L. Garnier, Station Manager, Sabena.

Eleven years ago, to their very considerable credit, Silver City Airways started in a small way the world's first commercial service for the combined transport of passengers and their motor vehicles by air. They operate mainly on the Lydd-Le Touquet route, where large numbers are transported over a short distance. Other services are operated to Cherbourg, Deauville, Calais and Ostend.

In 1954 Air Charter was granted licences for additional vehicle ferry services, from Southend to Calais and subsequently from Southend to Ostend and Rotterdam, using Bristol 170 Mk 31s, of which they already had experience, on the run between Berlin and Hanover and Hamburg. The demand for the services from Southend to Calais was encouraging, and in 1955 they took delivery of the first two Mk 32 (long-nosed) Bristol Freighters (the fleet is now nine). By December 31 a year's total of nearly 12,000 services will have been operated on the Calais, Ostend and Rotterdam routes and 20,000 vehicles, 100,000 passengers and between 5,000 and 6,000 tons of freight will have been carried.

One of the problems which first faced Air Charter in starting the Air Bridge services was that Southend was not on the traditional route to the Continent; and although the relative costs were fairly obviously favourable, a different sales approach was needed.

Early this year, following a long period of examination and investigation, the Air Bridge announced two important plans for its future operations: an aircraft to succeed the Bristol 170 and seven proposed long-range vehicle ferry services, to Tours, Paris, Lyons,

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would leave only 11ft 6 in. The chances of booking a car up to 13ft 2in overall length are obviously greater than those of being offered one from the much smaller market of under 11ft 6in overall length.

The following list shows the percentages of different makes of cars carried on the Channel Air Bridge routes in 1958: Ford, 23; Austin, 14; Morris, 10; Vauxhall, 8; Hillman, 6; Standard, 6; Bentley, M.G., Jaguar, Rover, Humber and Wolseley, 18; other British cars, 6; foreign cars, 9.

Other operating problems which are not so obvious as car length include the loss of one-third of the payload if, as frequently happens, a booked car fails to arrive. No-show is a well-understood problem with passenger carriers, who frequently allow for it by a calculated amount of overbooking. Whilst this is possible with capacity for anything from 30 to 100 passengers, it is clearly impossible for an aircraft where capacity is limited to three cars. Consequently, the owner of a vehicle who becomes a no-show, or who makes a late change or cancellation, represents a considerable loss. A large number of services are affected in this way.

Another problem, seasonal fluctuation, is so varied that it almost defies prediction. As many as 100 or more services a day may be operated at week-ends in early July and as few as 20 in the middle of the week. The effect of this upon adequate staffing, overtime, and other costs is reflected in the peak fares at the week-ends from July to September. The unfortunate facts that 85 per cent of the total cross-Channel car traffic occurs between May and September, and no less than 52 per cent of the outbound traffic in a period of about four weeks in July and August, emphasizes the highly seasonal nature of this type of traffic. Services can still be offered to the motorist at a fair frequency throughout the winter months, but the amount of flying and the revenue earned during this period is small.

It is easy to see that overall utilization is low; not only because of seasonal fluctuations but also by reason of the considerable time spent in turn-round and handling in relation to hours flown. On the Southend-Calais route the turn-round time scheduled is two-thirds of the flying time. On the other hand, on the route Southend-Rotterdam, the turn-round time remains the same—20 min—and the flying time is 70 min. It must be apparent that over the years we have been looking for a more economic aircraft than the Freighter.

Equipment Problems. The specification for the ideal next-generation ferry aircraft is probably as follows:

low basic cost, simple to service and overhaul, 70ft of hold space, accommodation for 25 passengers, and a payload of not less than eight tons and preferably nearer ten. It could usefully be a little faster than the Freighter—and certainly quieter—and the space and payload penalty for providing a toilet and galley should be acceptable.

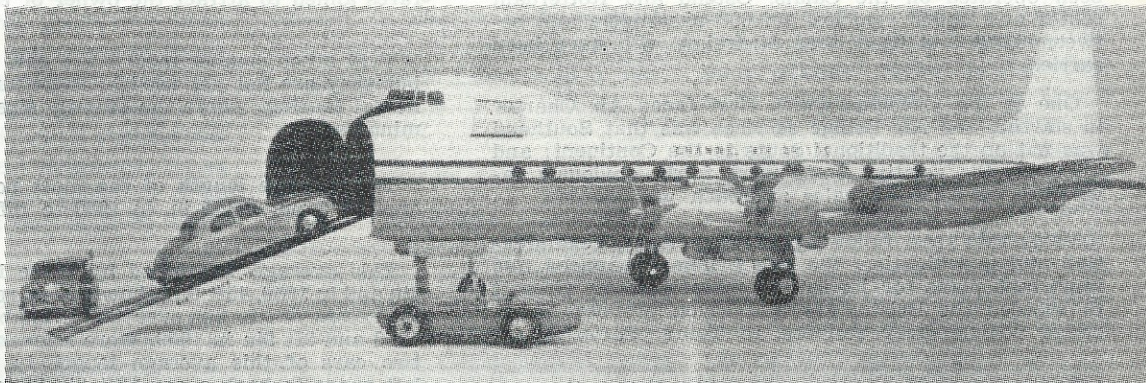
No aircraft operated on the present routes will achieve a high utilization even assuming that its operating costs are lower than those of the Bristol 170 and that fares could be further reduced. If the basic costs of a new type was high, the amortization cost per hour could quickly overtake the economic virtues (turn-round time for a larger aircraft would be a little longer, and extra speed would not make very much difference on short routes). And although the no-show problem would be reduced, the problem of filling the aircraft in the quiet season whilst still offering an attractive frequency would be greater. To illustrate this, whereas the amortization cost of a Bristol 170 Mk 32 amounts to about £15 an hour on a utilization of about 1,000 hours a year, for the AW.670, for example (at an expected basic cost of £650,000) amortization could not be less than about £75 per hour—and this assumes identical utilization. Incidentally, the prospect of finding other work for a large aircraft depends upon having available a pressurized cabin, if only for the crew.

An initially expensive aircraft, or one with the gas turbine's high fuel consumption at low altitudes, could not be considered as a future type for the Channel Air Bridge. And the market looked too small to interest any manufacturer in a specific design.

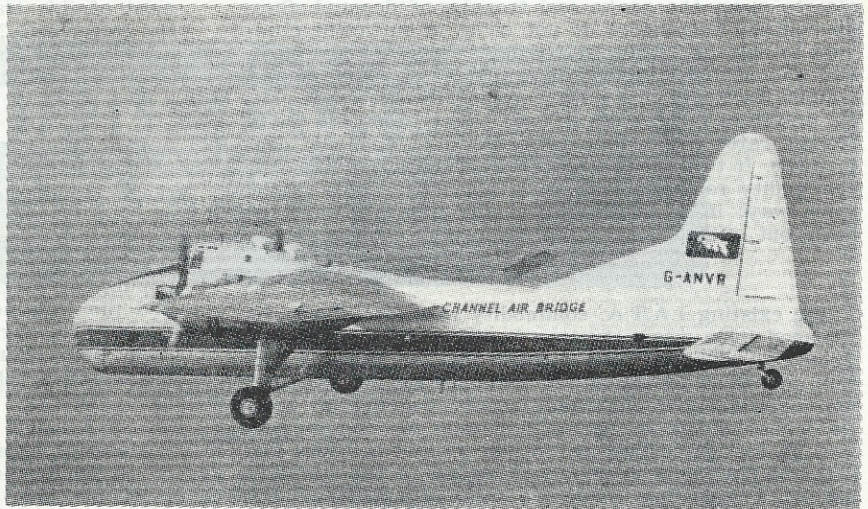
For a time the problem appeared almost insuperable, but one day Freddie Laker, Air Charter's managing director, announced that he «had an idea.» After considerable research and testing this idea is now taking shape as project ATL 98 in the hands of our associated engineering company, Aviation Traders Ltd., at Southend.

DC-4s, which Air Charter have operated for over five years, are plentiful. They are now freely available at around £70,000 apiece and in 1961 will probably cost about £50,000. DC-6s are unlikely to cost more than £75,000 by 1963-64 and by then it is possible that DC-7s will cost no more. Basically, the idea of the ATL 98 is, in the designer's own words, «to put a saw through the aircraft forward of the leading edge of the wing and to build on a new nose in which the crew would be accommodated above the hold, more or less as in the Bristol 170.»

Seen here in miniature is the DC-4/ATL-98, Air Charter's new vehicle ferry. Ten are to be constructed by Aviation Traders and should enter service in 1961.



The Bristol 170 Mk 32 forms the backbone of Air Charter's fleet and is now the only type used on the Channel Air Bridge. The colour scheme is red and white.



The result is almost exactly what one could ask for in a 170 successor. It will have at least 68ft of hold space for five small or four of the largest cars and a payload of nearly 19,000 lb. The total cost with conversion should be £130,000 and we can look to future development (with DC-6s and -7s) for a period of not less than 15 years; initial plans are to build ten DC-4/ATL 98s for our own use.

«Deeper Penetration» Routes. The new aircraft gives the flexibility required to plan in detail new routes which should interest relatively large numbers of motorists (see «Deeper Penetration for the Channel Air Bridgehead,» *Flight*, June 19). A plan which provides services for even a minute percentage of the total motorists touring the Continent has attractive repercussions on the utilization problem. Carrying a little a long way helps to balance some of the problems created by carrying large numbers on short distances, and the resultant increase in fleet utilization can bring cheaper fares for both types of customer. This is a lesson illustrated by two of our existing services: carrying five times as many vehicles on the 28 min Calais service as on the 70 min Rotterdam route has shown that differences in revenue are largely balanced by lower costs and greater utilization on the longer stage.

Destinations (see map) for our «deeper penetration» routes were selected from a wide variety of information about motorists' travelling habits. Distances and times are detailed in the table below:

TABLE I: DISTANCES AND FLIGHT TIMES OF DEEPER PENETRATION ROUTES

Southend to	Distance (n.m.)	Flight Time (min)*	
		Bristol 170	ATL 98
Paris (Le Bourget)	181	83	60
Dijon	320	148	107
Lyons	407	193	137
Strasbourg	350	162	117
Tours	255	118	85
Dusseldorf	233	108	78
Bremen	323	149	108

* Does not include chock-to-chock time.

Attracting the Motorist. In order to provide the right frequency of service, the starting point in the United Kingdom had to be investigated. To obtain both an attractive service and a reasonable load factor in both directions there is something like an optimum frequency for each service, and the wrong selection of timing or frequency can greatly reduce the attractions of the service offered. Fares may not be low enough to attract vast numbers of people for the first few years, but there will be large incidental savings in time and money.

The number of motoring tourists has gone up steadily every year, with the ownership of private cars increasing by leaps and bounds. Thus an established route gains a natural increase annually if its own share in the number going abroad is based on «attraction» rather than «overflow» from other more established services.

Undoubtedly, Silver City and ourselves do cater for a small number turned away if the slightly cheaper boat services are full. This percentage is not great, and one way or another it will doubtless always be with us. The longer range services have so much more to offer that it is extremely unlikely that they will be affected by this percentage as their attraction is complete in their own right.

A number of side benefits arise in the operation of longer vehicle-ferry services. For example, a booking clerk requires no more effort or time to book a car to Lyons than to book it to Calais, and the same effect is felt in a hundred ways throughout the operation. There is thus a lowering of overheads in relation to revenue earned.

Also, one of the most important features is that keeping a proper balance of long and short routes avoids the temptations of the mass market with its lower efficiency, comfort and standards of personal service.

Importance of Freight. Some assistance from freight and supplementary passengers is necessary for an economic vehicle-ferry service, not only because of the small average number of passengers for each car, but

also to cover the peaks and troughs of demand. Supplementary passengers do not come in sufficient numbers to help in the vital off-season period, but we have had a considerable measure of success in building up freight traffic despite an absurd air freight rates policy practised by I.A.T.A. Three times in recent years freight rates have been subjected to a five per cent increase. If this was necessary, it is extraordinary that commodity rates should not have been affected in the same way; in our view, the commodity rate policy is quite out of keeping with present-day requirements.

The existing I.A.T.A. commodity rate idea should be replaced by a new structure based on surcharges for value and volume. The reduction for quantity—at present only at 45 kg—should be extended to 100, 250, 500, and 1,000 kg, with additional rebates for regular traffic. There should be rate-differentials for freight carried by fast passenger aircraft or freight services and deferred traffic. Also important would be the standard use of a monetary structure more simple than the English one, which requires rates to be arbitrarily rounded off.

Air-Sea Competition. There can be little doubt that the vehicle-ferry services have had a salutary effect upon the sea services over the years. Surface transport does offer individual examples of good service—particularly on the Townsend Ferry, which retains a measure of personal atmosphere, and on the Bardic Ferry, which provides a leisurely and comfortable method of «deeper penetration» between Tilbury and Antwerp. The Dunkirk ferry offers a useful timing outbound, and it is small enough to provide a good service. Others are less satisfactory.

Because British Railways and the French appear to be committed to a policy of larger vessels, it seems obvious that embarkation, disembarkation and Customs clearance must slow down as traffic increases. The railways' problem is common to all forms of transport; a little more capacity can often be added without affecting overheads and larger vessels are undoubtedly tempting.

It seems possible that hovercraft may be the answer. Smaller units travelling at relatively high speeds and frequencies and with speedy loading and unloading may well do the work of two large vessels. This could be highly competitive to the air ferry services from the South Coast.

There has also been much recent talk about the Channel tunnel. While there is no suggestion that the motorist would be free to drive through it, it would be possible, for example, to provide through car/sleeper trains from Glasgow to Lyons. But doubtless there would be many problems in making people tunnel-minded.

The Channel tunnel, it appears, would be even less able to bear the peaks and troughs of passenger or vehicle traffic than most forms of transport. It will offer faster travel than the surface routes, but its inflexibility may result in severe traffic limitations. It would require a very substantial «bread and butter» business in the freight traffic than now enters the United Kingdom mainly through the port nearest to the eventual destination. Are land charges going to be sufficiently attractive in ten years' time to funnel

most of this traffic through the north of France and the Dover area? The tunnel is unlikely to be the magic answer to ultra-low-cost transport between England and the Continent.

The «South Coast Gateway.» With the development of better transport facilities, the South Coast is, it seems, an illogical place through which to funnel Continental traffic. The vast natural barrier of the Greater London area has become an obstacle almost equal to the Channel itself. As more than four-fifths of the population of this country live north of the Thames and the Continent, it seems to me that aircraft (or hovercraft) services from the Thames Estuary and from areas north of the Thames have the greatest chance of development.

Many of those now living in the great dormitories of South London travel to Victoria as the starting point of their visits to the Continent. Their journey may in future start somewhere on the outskirts of the Greater London area or in the Thames Estuary, and their next change will be on the Continent.

In developing the Channel Air Bridge we make a considerable study of what we conceive to be the errors and shortcomings of all our competitors. Some of the essentials of the business are determination in the selection of staff allied to a high degree of training, and we believe that there should be a small number of senior executives of wide general transport experience to produce closely co-ordinated teamwork and rapid decisions.

I am sure that the rapid growth of Continental motoring, with all its attractions, will provide ample business for all—whether they are operators of tunnels or hovercraft, of ships or of aircraft. In the last few years there has been real competition between surface and air for the increased traffic coming along. This healthy competition will go on producing better, more frequent, and more convenient services for the motorist.

TABLE II: AIR BRIDGE TRAFFIC SUMMARY

	1954-55	1955-56	1956-57	1957-58	1958-59
	Southend-Calais- only	Southend-Calais, Southend-Ostend	Southend-Calais, Southend-Ostend, Southend-Rotterdam	Southend-Calais, Ostend and Rotterdam	Southend-Calais, Ostend and Rotterdam
Services operated	3,712	5,988	8,654	9,610	10,840
Passengers carried	19,286	31,827	46,641	64,429	86,622
Vehicles carried	6,965	10,261	13,579	14,877	18,446
Freight carried (tons)*	38	613	2,468	3,697	4,055
Revenue ton-miles	747,701	986,951	1,805,411	2,657,392	3,084,782

* In addition 5,300 tons of cattle were carried from 1956 to 1958.