MAIT Cabins for long distance travel: 1

An alternative to air for long distance travel

Abstract

The depletion of oil reserves is expected to make conventional air travel increasingly uneconomic. Can journeys, currently made by air, be made by a ground based transport system, with an equivalent degree of convenience? We propose a different style of travel, in which passengers travel in the same private cabin for the whole journey in which they could sleep in comfort if they wish. This cabin is automatically transferred from one carrier to the next for each stage of the journey. Journey times will be longer but more comfortable and, typically, the amount of waking time spent travelling would be less.

The idea of a standardised, removable Cabin is the essence of the MAIT concept.

Introduction

Journeys by air within Europe are typically a few thousand km, with flight times usually less than three hours. However the total journey time is usually much more than this, with time spent checking in at one end and retrieving baggage at the other, plus the time taken to travel to and from the airports. Many journeys will take even longer, for example, where there is not a direct flight, or when an early or late flight require a stay in a hotel for a night. A substantial proportion of the time dedicated to the journey is spent is either sitting not very comfortably or is walking from one seat to another.

The proposed alternative is to accept journey times of 8 hrs or more but give the traveller ample room and comfort and allow them to sleep uninterrupted for as long as they like.

The traveller would be assigned a MAIT Cabin, which can be automatically loaded onto carriers and the journey proceeds as a series of links with automated interchanges in between.

We propose that the links would be not more than 1 hours travelling time and that toilet, nappy changing, washing and refreshment facilities would be provided at the interchanges.

A typical journey

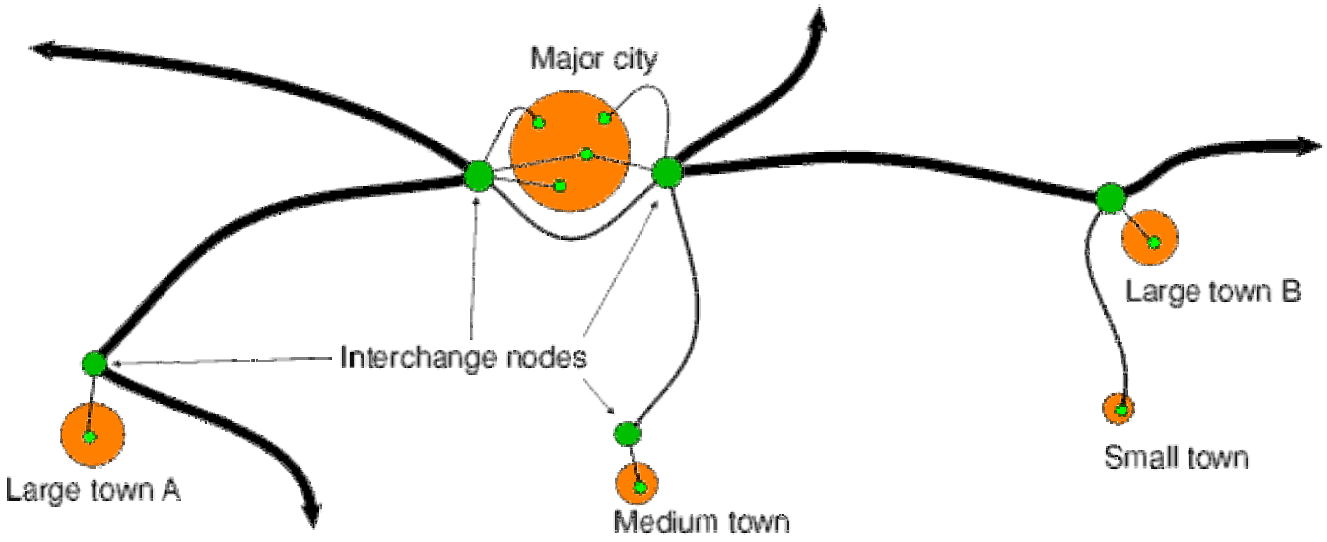
At the start of the journey the traveller is assigned a Cabin which they will occupy for the whole journey. They board this Cabin with all their luggage, instruct the system where they want to go and make themselves comfortable. (Cabins are big enough for four to sit comfortably and for a couple to sleep lying down. A single traveller would occupy a single Cabin.) The Cabin would be automatically loaded onto the carrier for the first leg and then transferred automatically onwards onto the next leg and so on to the destination. If the traveller needs to visit a toilet, have a wash or a meal, they indicate this to the system on the interface Cabin. At the next interchange the Cabin is directed to the appropriate facility instead of the next carrier. The traveller temporally leaves the Cabin to use the facilities and, when ready, gets back in and instructs the system to resume the journey. At the destination the Cabin can be parked so that the traveller can carry on sleeping if they wish.

The Cabin will be totally private and toilet and washing facilities could be provided so that they are accessed from individual Cabins and are also private.

The traveller could go to bed, for example, in London and wake up in Rome, with breakfast waiting.

Infrastructure

A part of a network is shown in the figure which is not to scale. The thickness of the lines indicates the type of link with thicker lines indicating longer and higher speed links. The larger green circles show interchange nodes located outside cities, like airports. The small green circles show stations where Cabins can start and end journeys at urban centres.



A traveller going from town A to town B would board their Cabin at the centre of the town. The Cabin would be taken by a local link to a major interchange outside the town and transferred to a high-speed link towards the major city. This city is shown with more than one high-speed interchanges (as with airports) joined by a medium speed link which takes the traveller on to the next high-speed link. Finally a low-speed link takes the traveller to the centre of town B

To begin with it may be possible to adapt existing high-speed railway technology for parts of the network. In the longer term, high-speed automated carriers will provide a lower cost, safer and more reliable system with lower environmental impact.

There are advanced transport technologies proposed and under development, such as mag-lev, tracked hovercraft, vacuum tubes and many others which offer significant advantages over rail.

Conclusion

We propose a different style of long distance travel where passengers are accommodated in a single Cabin for the whole of the journey. This Cabin is automatically transferred between a chain of high-speed carriers. Passengers would be able to sleep comfortably in their Cabin with complete privacy.

Passengers would never need to leave their Cabin while moving. They can pause their journey at any interchange between links in the chain of carriers to access toilets and refreshments, just like with motorway services. Interchanges would be separated by less than one hours travel time.