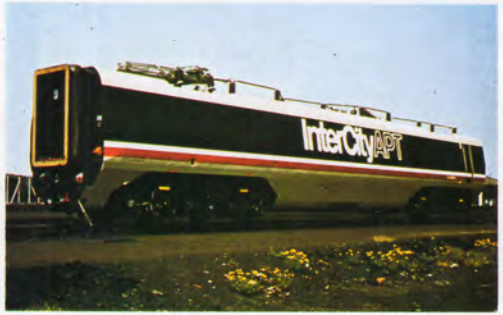
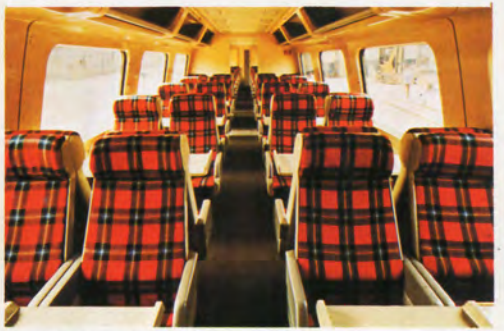


The APT-Ps

There are six 4,000 h.p. electric power cars for the three APT-Ps.
In service these vehicles will not be in front of the passenger coaches, as with conventional trains, but two will be located in the centre with six passenger vehicles either side. At each end of the train there will be a driving cab with the aerodynamically shaped nose which gives APT its distinctive and stylish appearance.
The 125 m.p.h. APT-P seats 592 people in its 12 trailer vehicles.
Five different types of coaches are being built for the pre-production trains:

Driving Trailer Car with nose module, driving cab and 52 second-class seats.
Intermediate Trailer Car with 72 second-class seats.
Catering Trailer Car with 28 second-class seats, kitchen and bar equipment to provide full meal and buffet facilities.
Intermediate Trailer Car with 47 first-class seats.
Van Trailer Car with 25 first-class seats, wheel-chair accommodation, guard's office and parcels van space.

The train is fully air-conditioned and has sliding power operated doors with overriding control by the guard.
Coaches are constructed of aluminium alloy to give a weight saving of over 40% compared with conventional steel coaches with no loss of strength.
The passenger vehicles are articulated with the ends of adjacent coaches sharing a single bogie.
The braking system for APT is designed to stop the train within the distances allowed for by the existing signalling system based on 100 m.p.h. trains.
Hydrokinetic, or water turbine, brakes are used to dissipate the large energy levels involved.
Because of the train's faster curving speeds, all coaches will tilt (or "bank") by up to 9 degrees under automatic control to maintain passenger comfort.
An entirely different livery of silver and dark greys with white and red bands running along the coach bodysides highlights the complete contrast between all aspects of the Inter-City APTs and the trains of today.



APT Diary

Power cars have been on test on the West Coast Main Line since October 1977 and the first trailer rake began tests in September 1978.
APT vehicles will become a familiar sight when the driver training and proving trials, from Shield Depot Glasgow, get under way in early 1979 in readiness for passenger services between Glasgow and London later in the year.
Looking further ahead to the mid 1980s it is planned to introduce APTs on all the principal West Coast Main Line services.

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Staff information

InterCityAPT

Faster trains

The APT project has now moved from the experimental stage with the delivery of the first vehicles to make up three pre-production trains destined for extensive commissioning and engineering trials on the main line between Glasgow and London. This means they will be making regular runs on the London Midland and Scottish Regions.

During the coming months you may well be involved with these trains or, at the very least, be asked questions by our customers who may spot them on test runs.

The purpose of this brochure is to explain to you the programme and purpose of the APT-Ps (short for electric pre-production Advanced Passenger Trains).

Many factors help to attract more passengers to our railway. Better coaches, more frequent services, brighter stations and improved catering are some of the most obvious and we have already done much in these areas. But research shows that the most significant factor in attracting more people to use rail is speed and the shorter journey times it brings.

The APT is designed to be a cost effective solution to the problem of providing fast inter-urban transport on existing tracks.

It is an exciting and stimulating project that is now with us in real hardware form. Let us all do our best to take it to the next stage – public service in 1979.

Leslie J. Soane
General Manager
Scottish Region

David Binnie
General Manager
London Midland Region

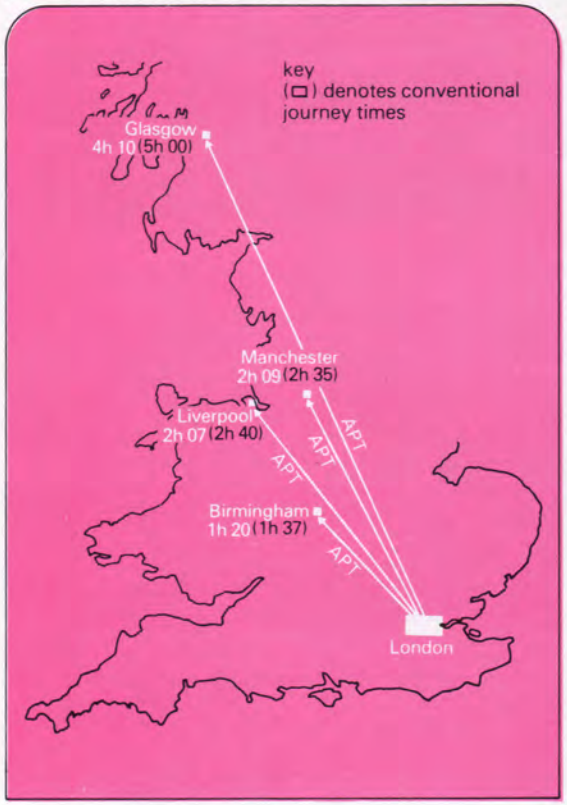
Theory and practice

The Advanced Passenger Train is the biggest single step in improved performance yet attempted by any railway.

The project started in 1967 as a by-product of basic research into the riding of railway vehicles. Once the possibility of carrying passengers economically at higher than average speeds had been proved, an extensive period of research and development began. Laboratory work was supplemented by the use of an experimental train – APT-E.

On 30 October 1975, towards the end of the experimental programme, APT-E demonstrated its unique capabilities on a route where conventional train speeds were restricted on numerous curves. APT-E ran from London to Leicester, a distance of 99 miles, in 58 minutes. This, with a recovery allowance, represents an APT service time of 62 minutes. The fastest scheduled service for the distance was 1 hour 24 minutes, an average speed of 70.7 m.p.h. APT-E reduced the journey time by over a quarter and maintained an average speed of just over 100 m.p.h. The improved performance was mainly due to the higher speeds on curves possible with APT. On other occasions APT-E demonstrated its high speed capability on straight track, reaching a maximum speed of 152 m.p.h.

Comparison of projected APT and conventional journey times from London



Representative APT vehicles