

# DOUBLE THE FUN



Is it a bus or is it a train? The world's first dual-mode vehicle (DMV), capable of running on both road and rail, has been produced by Hokkaido Railway Company (JR Hokkaido). The development of such dual-purpose vehicles has a surprisingly long history. Prototypes were built in Britain, Germany and other places starting around 75 years ago, but none of them ever entered into service.

"The main reason they never became a reality

was that the technology of the time couldn't cope with the mode change from road to rail," explains Toshio Nanba, head of JR Hokkaido's DMV Center. "Mode change on these early dual-purpose road/rail vehicles took four to eight minutes. At that rate, it was much quicker for passengers to disembark and transfer to another vehicle. By teaming the latest hydraulic technology with electronic control, we reduced the time required for mode change to just



**ABOVE:** The DMV running on rails. The first dual-purpose road/rail vehicle was developed some 75 years ago in Britain, but it never entered into service. Until the DMV was developed, such vehicles remained a dream.

**FACING:** The DMV is driven by rubber tires on the rear of the vehicle. When it runs on rails, the front tires are retracted.

10 to 15 seconds. This was the deciding factor in bringing the DMV into service."

A low operating cost is a key attribute of the DMV. Since it runs on existing rails and roads, there is no need for investment in expensive infrastructure. Moreover, because the DMV is based on a microbus

platform, purchase, fuel and maintenance costs are lower than for conventional trains.

The DMV is currently operating on a trial basis in Hokkaido. In approximately three years time, once the seating capacity of the DMV has been increased from the current 16 to more than 25, carriage-coupling issues are resolved and the safety of operating systems are improved, JR Hokkaido aims to launch the DMV into full-time service.