

IT Impacts on Transport Services (1)

JR East's Suica non-contact IC card ticketing system

In November 2001, JR East inaugurated a new automatic ticketing system using a non-contact IC card nicknamed Suica (see pp. 20–27). Suica can be used as a commuter pass as well as a stored-fare card at 470 stations around Tokyo (including nine Tokyo Monorail stations), and the number of Suica holder exceeded 4 million by August 2002. Major private railways and municipal subways in Kansai District (Kyoto, Osaka and Kobe) are planning to introduce a similar system from next year, and private railways in Tokyo Metropolitan Area are planning to join the Suica network in the near future.



Passenger touching Suica IC card to automatic gate.

(JR East)



Current automatic gate has both a slot for conventional magnetic cards and a touch-and-go reader/writer for Suica.

(EJRCF)



(EJRCF)



(JR East)



(JR East)

Suica automatic vending machine with functions of rewriting route and validity date of commuter pass and recharging stored fare (left). Suica commuter pass (top right) also has function of stored-fare card. Suica IO card has only stored-fare-card function, but credit-card function will soon be added.

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IT Impacts on Transport Services (2)

Electronic Toll Collection (ETC) system on expressways

Toll gates are one of major causes of traffic jams on expressways. To enable quick transactions between cars and toll gates, Japan Highway Public Corporation, Metropolitan Expressway Public Corporation (providing urban expressways in Greater Tokyo) and Hanshin Expressway Public Corporation (providing urban network around Osaka and Kobe) have installed Electronic Toll Collection (ETC) systems. The ground facilities (left) include several vehicle detectors, vehicle height measuring instrument, bascule barrier to block illegal users, information indicator, interphones, antennas, etc. On-board device is composed of small transceiver with IC card, loudspeaker and antenna (middle), which can be easily installed around driver's seat (right). Tolls are charged to users' credit card accounts.



(Japan Highway Public Corporation)



(Mitsubishi Electric Co., Ltd.)



(Mitsubishi Electric Co., Ltd.)



(EJRCF)



(Coca-Cola Japan)

Mobile telephones used as means of payment

Mobile phones are thought to be the most promising substitute for today's magnetic and IC cards. In major Japanese cities, Coca-Cola Japan has installed automatic vending machines that can accept mobile phones as a means of payment (photographs). Users must enroll themselves, through mobile phone Internet access, as member of service provider and obtain a user verification code installed in their cell phones. By inserting cash to vending machine or depositing funds to the special account on the service provider's server, users can make advance payment that enables subsequent cashless purchases.

Similar mobile phone functions will soon become available for other services including public transport ticketing.