Smart Transportation

Global Case Studies

NEC

Case study:

Environment Canterbury

Real-time arrival information elevates passenger experience

NEC's real-time information (RTI) system helped Environment Canterbury upgrade its operational intelligence to enhance management of bus reliability and boost the passenger experience across the Greater Christchurch network.

Challenge

- Radio-based system lags customer expectations

- Reception black spots in regional areas

- Unreliable data across the network

Solution

- Real-time information (RTI) system

- GPS-tracked arrival data across 250+ buses

- Embedded in online passenger journey tools

Impact

- Broader real-time tracking coverage

- Data-led network and timetable improvements

- Accurate journey planning tools and increased passenger confidence

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Country / Region: Hong Kong

Case study:

Hong Kong

Intelligent Bus Service for Urban Customer Satisfaction

NEC is committed to helping bus and other public transport operators to enhance processes and improve customer service. For example, in Hong Kong, NEC has worked with Citybus Limited & New World First Bus Services Limited (Citybus & NWFB) since 2007 on a comprehensive Fleet Management System.

Challenge

- Riding a bus can be intimidating for those unfamiliar with the route
- Inaccurate bus arrival information
- The bus bunching phenomenon

Solution

- Automatic bus stop announcements (ABSA)
- AI-based method for predicting bus arrival times
- Smart Command Centre

Impact

- Bus captains are freed from any additional manual operations
- Accurately predicting arrival times
- Contributing to better KPIs, for example excess wait time (EWT)

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Case study:

Ahmedabad

Seamless urban travel with an IoT-driven smart bus system

NEC's intelligent transport management system (ITMS) helped the city of Ahmedabad build an IoT-driven smart bus system to deliver a seamless, safe and reliable urban transit experience.

Challenge

- Underutilized manually operated bus services
- Unreliable routes and timetables
- Inconvenient cash ticketing

Solution

- Intelligent transport management system (ITMS) providing Operational Intelligence and Real Time Passenger Information
- Manages ops, data and optimizes touchpoints
- One touch ticketing with no human interface

Impact

- Real-time data analysis against KPIs, delivering better service management for passengers
- More efficient and dynamic bus services, increasing passenger satisfaction
- Boosted ticket sales from smarter, safer travel
- Cost Savings with better allocation of fleet

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Country / Region: India

Case study:

Surat

Enhancing Commuter Experience: NEC's AFC System Transforms Bus Travel in Surat

NEC implemented an Automatic Bus Fare Collection (AFC) system in Surat City, revolutionizing ticketing with contactless smart cards for convenient and eco-friendly travel.

Challenge

- Inefficient ticketing system leading to long queues, delays, and inconvenience for passengers
- Revenue leakage due to manual ticketing processes, ticket evasion, and improper fare collection

Solution

- Automatic Fare Collection System
- EMV compliant national standard card Rupay Card & QR code ticket validation
- Reconciliation with Card Hosting System
- Card Account Management
- Integrated Ticketing between BRT and Non BRT Buses

Impact

- Transparent Fare Collection System
- Improved Public Transport Service to Commuters
- Seamless Travel Across BRT and City Buses
- Won an award at the India Smart Cities Award Contest (ISAC) in smart city segment

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Country / Region: India

Case study:

Hubballi-Dharwad

Connecting Communities, Driving Innovation & Unlocking Urban Mobility

Leveraging NEC's intelligent transport management system (ITMS), Hubballi Dharwad city successfully implemented an IoT-powered smart transportation, ensuring a smooth, secure, and intelligent travel experience.

Challenge

- Outdated infrastructure
- Inefficient transportation systems
- Traffic congestion
- Inadequate safety measures
- Need for enhanced mobility solutions

Solution

- Intelligent transport management system (ITMS) providing Operational Intelligence and Real Time Passenger Information
- Parking Management System
- Automatic Fare Collection System
- Automatic Vehicle Location System

Impact

- Improved Commuting Experience
- Enhanced Convenience and Accessibility
- Increased Safety
- Reduced Congestion and Travel Times
- Enhanced Connectivity

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Case study:

Dhaka

Clearing house systems to enable the multi-modal payment platform

NEC designed clearing house systems to support the integration of transport fare collection systems in the Dhaka City area, enabling the use of common IC (integrated circuit) cards on both the city bus and MRT (metro), contributing to the convenience of passengers.

Challenge

- Wanted to use the same common IC cards and fare collection systems used for city buses in Dhaka City for the newly built MRT

Solution

- An AFC clearing house system was designed, developed, and tested, making common IC cards available for the MRT6 Line in addition to city buses

Impact

- Contributing to the convenience of 480,000 passengers of the 20km-long MRT6 in addition to bus passengers

Ongoing project:

Transport Canberra

Significantly more accessible public transport with Smart Mobility Platform

The NEC Smart Mobility Platform will help Transport Canberra provide a next-generation ticketing system, making it easier and more convenient to use public transport by providing more payment options for customers and better real-time information.

Challenge

- NEC's Smart Mobility Platform to provide smart ticketing, operational intelligence, safety, security, and customer experience services

- Transport Canberra needed a more modern payment system

Solution

- The NEC Smart Mobility Platform, a SaaS provisioned, managed, and operated solution

- Real-time passenger information system and journey planner

- EMV-compliant ABT (Account Based Ticketing) System

- MaaS application

Expected Impact

- Will provide travelers a simple payment process and will add choices to tap on/off using debits/credit cards and/or phones

- Customers can plan their journey, track the arrival of their next service, and pay for their travel, all from a web portal or mobile app

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Country / Region: Australia

Case study:

TassieLink Transit

Real time updates with the new Transport Management System

NEC has partnered with TassieLink Transit to help deliver a safer and more efficient experience for commuters travelling within the most extensive bus network in Tasmania.

Challenge

- Customers do not have real time arrival or departure information for their bus

- In student travel, parents are always worried about where their children are

Solution

- Transit Management System

- Fully automated, real time passenger update service

- Free mobile application

Impact

- Keep commuters better informed of any delays or changes to their chosen service

- Passengers can avoid long waits in case of service delays

- Parents know when to collect their child from the bus stop

Country / Region: Japan

Case study:

Hiroshima Electric Railway

Seamless travel experience for passengers and interoperability among multiple operators

NEC's Automated Fare Collection (AFC) System with Clearing House System (CCHS) enabled the use of common IC card and interoperability among 33 operators, and MaaS web application "MOBIRY" improved accessibility for travelers. To further simplify the complex ticketing process, Account Based Ticketing (ABT) System is planned to be introduced.

Challenge

- Poor transportation connections in the region

- Long wait times at service counters

- Ongoing manual processing errors

Solution

- AFC (Automated Fare Collection) System for the branded smart card "PASPY"

- CCHS (Clearing House System)

- MaaS web application "MOBIRY" for travelers

- Digital ticketing and journey planner
- Tourism promotions (Unlimited ride, coupons, multilingual support, etc.)

- ABT (Account Based Ticketing) System (Planned)

Impact

- Seamless ticketing experience

- Smooth transaction among multiple operators

- Better accessibility for travelers