



National Express Deploys In-Vehicle Broadband

National Express, the UK's number one coach company, operates the **010 express coach service** running between Central London and Cambridge. Following an initial six-month pilot, National Express has equipped the coaches with a free Wi-Fi service for passengers and real-time GPS vehicle tracking. The deployment was the first of its kind for Moovera's Moovbox M Series mobile broadband gateway.

OBJECTIVE

UK business travellers are accustomed to opening up the laptop and logging onto the Internet for emails, VPN and general web browsing in wide range of environments including airport lounges, coffee shops, hotels and motorway service stations. Wi-Fi hotspots are literally everywhere. But until recently, not on coaches. Logically, there's no reason why this should be so. However the majority of Wi-Fi hotspots are in fixed locations, and connected to the internet using phone line based broadband connections such as ADSL. The issue is how to get Wi-Fi to work on a moving vehicle and deliver a meaningful service to passengers. It was for this reason that Moovera approached National Express, part of the leading international transport group National Express Group, to see whether the firm would trial Moovera's brand new Moovbox M Series mobile broadband gateway.

Moovera contacted Gerry Price, Head of Engineering at National Express, explaining the idea in principle. The proposal was to look at putting the Moovbox M Series into the National Express coach fleet, starting with a pilot project.

Price thought the idea a good one. "Part of my role at National Express is looking at different ways of using innovative technology to satisfy the different needs of our customers with regards to what improved services and facilities we can put onto a vehicle, what we can put into it and how we can make the journey a better experience. Being able to provide Wi-Fi access was one of the things fairly close to the top of the list."



www.nationalexpress.com

COMPANY

National Express is the largest scheduled coach service provider in Europe. In the UK the distinctive white National Express coaches operate to 1,000 destinations and carry over 16 million customers a year.

National Express Ltd is part of a leading international transport provider, National Express Group (NEG), with over 45,000 employees. In addition to train and bus companies within the UK including Gatwick Express, Midland Mainline and Travel West Midlands, NEG's overseas operations include student transportation and public transit in the USA & Canada, ALSA bus and coach services in Spain and the management of Stewart International Airport near New York. In total National Express Group now carry more than 1 billion passengers a year.

OBJECTIVE

- Assess technology and determine Wi-Fi service viability during an initial pilot period.
- Increase passenger productivity time by providing on-board Internet connectivity.

SOLUTION

- Moovera **Moovbox M Series** mobile broadband gateways in each vehicle.
- T-Mobile Web 'n' Walk HSDPA mobile broadband service for each Moovbox.
- Moovsuite service with moovMonitor and moovTrac options for Wi-Fi management and real-time GPS vehicle tracking.

RESULTS

- A successful six-month pilot converted to a roll out between London & Cambridge.
- Hundreds of users access the Internet every month using the free service.
- National Express is exploring further UK routes for Wi-Fi services.

While customers weren't yet asking for the facility, National Express wanted to lead the way for the industry, and started to develop the solution with Moovera. "Moovera demonstrated an innovative and flexible approach so we thought we should work together and see whether we could provide something really great for our customers," says Price.

CHALLENGES

Delivering a Wi-Fi service on a moving vehicle requires that there be a sustained mobile data connection between the vehicle and a mobile carrier network, and that this connection should be 3G UMTS at a bare minimum, providing a download speed up to 384Kbps. Not all public transportation routes in the UK are fully covered by 3G networks so the route chosen for the pilot depended as much on 3G availability as anything else. Moovera assisted by doing a test drive which consisted of putting the Moovbox into a car, arming passengers with a laptop and driving the same 60 mile route the coaches took. Moovera was then able to go to National Express not with a theory about what might work but with a proven unit.

SOLUTION DESCRIPTION

The rugged Moovbox M Series is designed to be installed out-of-sight into vehicles, delivering a bridge between an end user's Wi-Fi equipped device and cellular carrier networks including 3G UMTS, HSPDA and TD-CDMA. Users connect as they would to any normal Wi-Fi hotspot, but the data is transferred seamlessly to the carrier's cellular network and then onto the public Internet. Inside the Moovbox is a mobile data card effectively substituting an ADSL connection. The service on the London to Cambridge route uses T-Mobile's next generation HSDPA network to deliver download speeds up to 1.8Mbps to the coach – similar to a medium range ADSL service – even at high speed on the motorway.

National Express also trialed Moovera's new GPS feature which enables vehicles to be tracked in real-time via any secure web browser. Each Moovbox has a built-in GPS receiver and transmits the vehicle's position over the cellular network. National Express can track the whole fleet using Moovera's Moovsuite online tools, as well as get up-to-the-minute reports on Wi-Fi network usage and overall monthly statistics.

Installation was swift, confirms Price, "There wasn't a need for any intensive staff training, and we placed stickers on the windows next to seats announcing the availability of the service, and distributed flyers with simple instructions on how to log on. When everybody is aware Wi-Fi is available on the vehicle, the service then needs to be as user-friendly as possible so our passengers can just open up the laptop and it's there for free, and it is a brilliant benefit of travelling by coach."

RESULTS & NEXT STEPS

The six-month trial was a success – hundreds of passengers used the service each month with an average online session of over half an hour. National Express converted the trial to a permanent service in January 2007 and are now considering similar deployments on other routes but the challenge remains that not all routes have sufficient contiguous 3G/HSDPA coverage to make a Wi-Fi service viable; with over 550 vehicles covering the whole country, National Express will choose routes that are both well covered and are likely to attract passengers with Wi-Fi enabled devices such those frequented by commuters and students.



"The Moovbox M Series has enabled us to roll out Wi-Fi on our coaches – a valuable service to our passengers – while also keeping track of our vehicles en-route."

Gerry Price
Head of Engineering
National Express

Connectivity in Motion™

© 2007 Moovera Networks, Ltd. All Rights Reserved. Moovera, Moovbox, Moovsuite, moovMonitor, moovTrac are trademarks of Moovera Networks. All other trademarks, trade names or company names referenced herein are used for identification only and are the property of their respective owners. Specifications subject to change without notice. E&EO.

Part Number CS03-170507 v2