

Parking
Availability Trial

Mobility



5G Case Study

AppyWay 5G Kerbside Parking
Availability Trial



West Midlands
Combined Authority



Department for
Digital, Culture,
Media & Sport



EUROPEAN UNION
European Regional Development Fund



HM Government

Supported by the
Getting Building Fund (GBF)

Synopsis

The West Midlands is the first region in the UK to trial the concept of 5G-enabled identification of live kerbside parking availability.

With the support of parking technology provider AppyWay, a series of trials took place on Stratford Road in Birmingham.

The demonstration saw a live HD street scan being captured from a vehicle travelling an agreed section of roadway. The footage was transmitted and processed via 5G networks to confirm parking availability in real-time to the AppyParking app.

By unlocking real-time availability parking data to drivers journey times, the flow of traffic and emissions levels can be improved. This opens up the potential for further applications and benefits to road networks.





Problem

Currently, 30% of cars on the roads of West Midlands city centres are searching for available parking.

Local authorities are struggling to increase parking availability and reduce congestions in busy urban locations.



Solution

Maximise the kerbside by equipping last-mile delivery vehicles or buses with 5G-enabled HD street scanning equipment. Due to 5G's high capacity, low latency, real-time availability of parking spaces can then be monitored across a whole city centre.

Our trial with AppyWay proved this concept by using a single vehicle to capture, transmit and record live parking availability.



Benefit

Drivers will have access to the real-time availability of parking spaces, making their journeys quicker and reducing the time vehicles spend on the road.

This will reduce congestion, improve air quality within urban environments, and make it more accessible for visitors to access our city centres and local highstreets.

It also unlocks the value of the kerbside as a revenue stream for local authorities.

The trial specifics

In order to achieve large-scale roll out and obtain the full benefits of this technology it was vital to prove the concept worked in a real-life environment.

Prior to the trial a Getmapping survey vehicle was equipped with a roof-mounted HD camera, GPS and a 5G SIM to allow capture and transfer of data during the test.

An area of Stratford Road in Birmingham was identified for the trial as it was known to have parking issues and had 5G network coverage and speeds sufficient to accommodate real-time HD data transfers. The test area was then mapped with the survey vehicle to create a model for the AI (artificial intelligence) to identify and recognise the route and any available parking bays.

During the trial the same vehicle drove through the test area to capture HD footage and corresponding location data, transmitting it via the 5G network to the cloud. AppyWay's AI would then confirm availability before the information was relayed back to the user as a vacant parking space in the app in real time.

This trial proved that 5G's fast upload speeds makes it possible to achieve real-time relay of traffic information such as parking availability. This means the technology can be applied across multiple vehicles in the same area to generate a true representation of parking.



AppyWay in the future

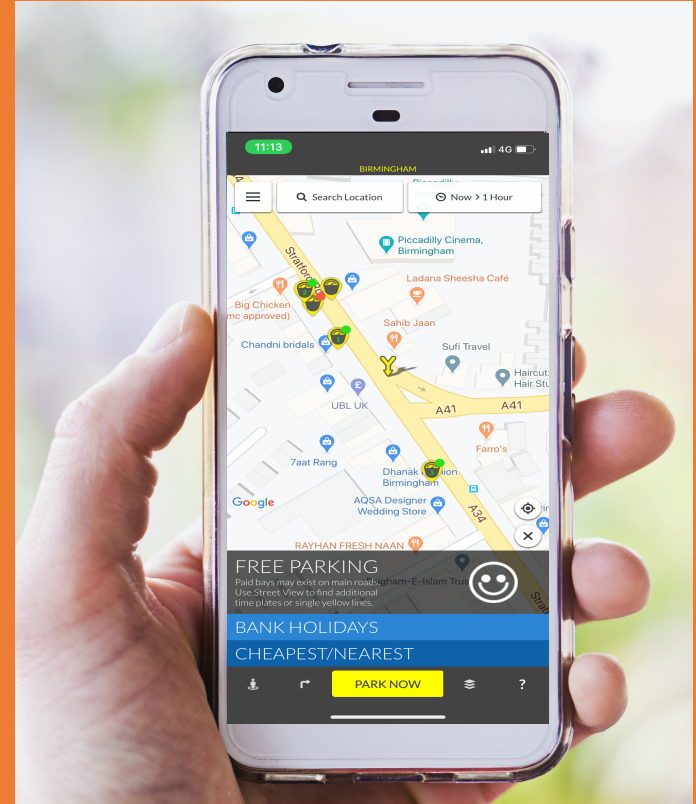
The footage collected from the vehicle is transmitted via 5G and analysed by AppyWay's AI to identify any vacant parking bays before refreshing the app to confirm availability in real-time.

Our trial proved the application of the technology and identified some key considerations for a future larger scale roll-out. To achieve a larger scale application, a variety of mobile sensors should be used to develop a complete picture of live parking availability.

In the future, this type of data could unlock smart parking enforcement, allowing regulations to be applied and drivers to pay for just the time parked.

This project is an enabler for the 'smart kerbside' unlocking its value to citizens and commercial organisations, such as parcel delivery firms.

It also adds value to local authorities by enabling micro payments for the time spent at the kerbside. The real time information gathered will open up further possibilities, for example smarter bin collections and street repairs.



“

The AppyWay trial is a precursor to our wider ambition of proving what will one day be possible with 5G-enabled transport networks.

This trial has shown great promise, proving a concept that can support the region's urban communities and keep people, goods and cities moving.

”

Chris Holmes, Programme Director –
Mobility at West Midlands 5G

“

It was good to see innovative new technologies trialled in Birmingham.

The team appeared to have had some good success in identifying whether the car parking spaces were in use as the vehicles travelled past and they are now focussing on trying to reduce the latency further.

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Andy Radford, Principle Traffic Office –
Birmingham City Council

Takeaways

Sustain



It is vital we continue testing and scaling this technology as it holds the key to unlock smarter city management.

Learnings



Reliable 5G connectivity is necessary to ensure real-time capability is achieved. GPS availability and HD street scanning equipment need to be of sufficient quality to ensure accurate data if this trial is to be upscaled.

Contacts



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More info



www.wm5g.org.uk



WM5G.org.uk

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