



FACIT
DATA SYSTEMS

TRANSPORTATION CASE STUDY



CASE STUDY

WEST MIDLANDS COUNCIL AUTHORITY - UK

(WMCA) designs Passenger Counting with Facit Data Systems

When the WMCA approved ambitious transport infrastructure investment plans for the region, it triggered a need for accurate reporting on passenger numbers. A real-time account of the number of passengers at train and bus stations was needed to satisfy a mixed range of success criteria, including government KPIs, health and safety issues, and not least, positive passenger experience. Facit Data Systems was invited by its partner TIS to design an innovative Calculus People Counter solution across the region's extensive CCTV camera system. Another significant aspect to the project involved creating dynamic

dashboard views in the central control room to enable operators to prioritise actions at potentially crowding stations.

PROJECT DRIVERS

WMCA approved a ten-year transport plan in September 2017

A transport blueprint that will see £3.4 billion of tram extensions, new suburban rail lines, cycle routes and motorway improvements built over the coming decade has been approved.



Members of the West Midlands Combined Authority (WMCA) agreed to the 2026 Delivery Plan for Transport at a meeting in Birmingham.

Prepared by Transport for West Midlands, the WMCA's transport arm, the plan is part of the authority's long term transport strategy 'Movement for Growth' and sets out a high level programme of infrastructure projects up to 2026.



A computer generated image of a Midland Metro tram running through Deritend, Birmingham.

This will be the first delivery phase of a longer term 20 year strategy to improve transport and unlock economic growth across the West Midlands to ensure the region is ready for the arrival of the HS2 high-speed rail system, which is scheduled to begin services from two new stations in Birmingham in 2026.

Cllr Roger Lawrence, lead member for transport for the WMCA and leader of City of Wolverhampton Council, said:

"The Delivery Plan maps out the way forward for transport in this region in delivering future prosperity.

"Transport is key as we work to ensure the West Midlands punches its weight nationally and globally. HS2 will bring us

closer to London and the UK's other big city regions and make us a world-class place in which to do business."

"Now that this blueprint has been approved, we can get to work in putting it into action.

"These are exciting schemes that will transform transport in our region and steer investment here to create new jobs and homes, building on the significant growth and development that is already happening through HS2."

The final plan was compiled including feedback from a six week online public consultation.

KPIS AND PASSENGER DATA NUMBERS

Within this strategy timeframe Birmingham has been awarded the Commonwealth games scheduled for 2022, which will see significant pressure placed on the Transport network throughout the period.

Birmingham is being supported by Central Government to provide a showcase event that promotes all the positive attributes of a Global event and has mandated the data sets to show the programme is being successfully delivered throughout.

WMCA, through their partner TIS have determined their need for an accurate data set on the usage and capacity of their transport Hubs, particularly Train and Bus Stations.

TIS selected Facit Data Systems to support them in the design of a solution to provide accurate information through the analysis of video in use across the region, which will then be presented centrally in the main WMCA Control Room, in formats which will allow the operators to make informed decisions based upon accurate data.

In scoping the project, Facit reviewed the WMCA Transport Hub to evaluate the Field of View available with the current network of cameras, while at the same time liaising with front-line operators about how they can most easily be alerted to pressure building in the network.

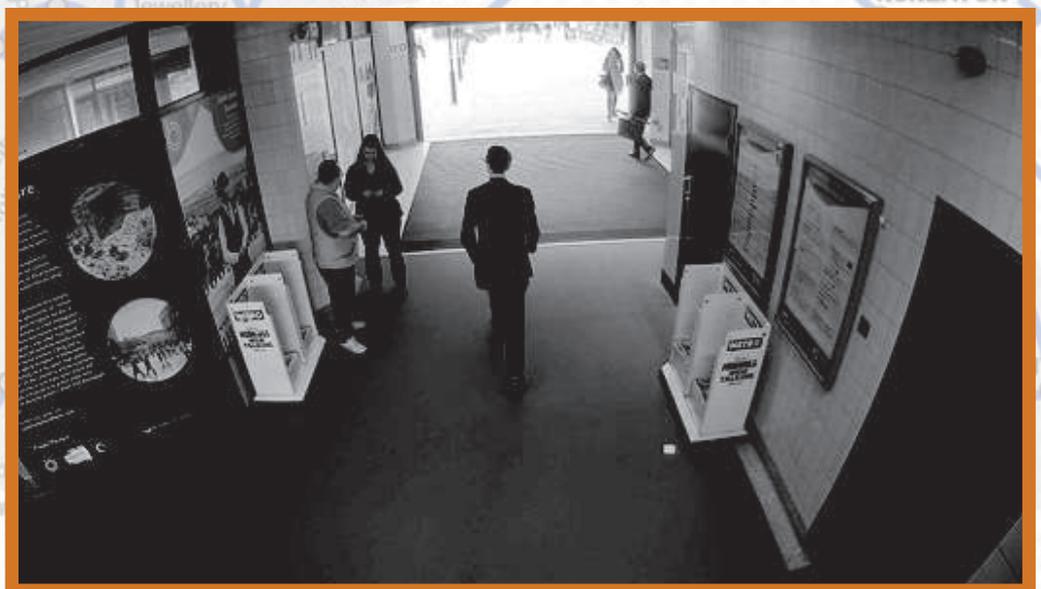
The Region of the Railways covered by the WMCA for this project:



A CAMERA-BASED COUNTING SOLUTION

The Cameras -

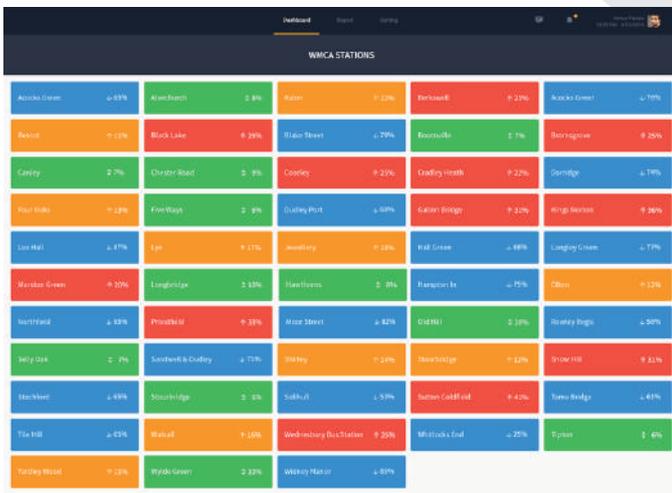
Facit Data Systems built the solution for WMCA on the backbone of their Calculus People Counting application, using perspective view counting as provided by the legacy camera estates. Here is a selection of typical camera views.



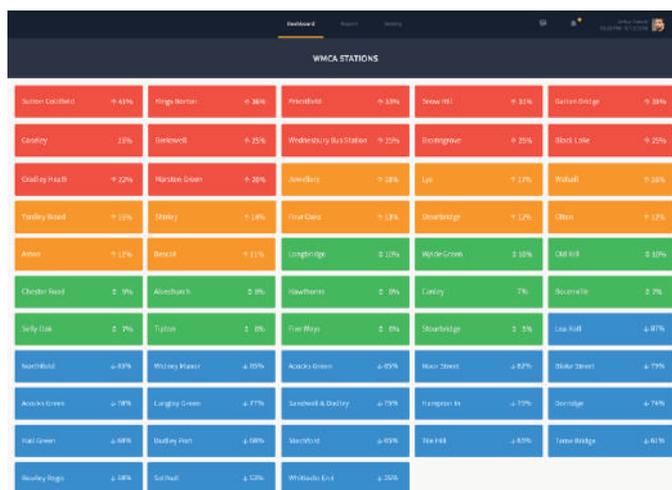
The Control Room -

Data from video images was fed into report screens to enable operators to see instantly when stations became busy to pre-determined levels that required them to take further action.

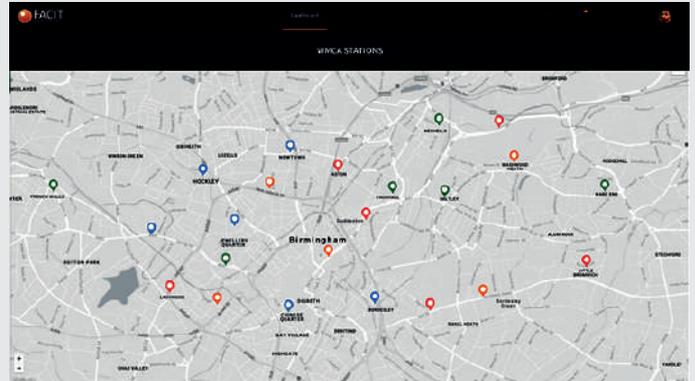
In this first screen all stations are shown in one alphabetical view. The image can be displayed live in the Control Room, where the station colours change dynamically to indicate the current occupancy levels at each station...



In the following screen the data has been sorted by order of priority, to indicate clearly to Operators where thresholds have been breached, in real time, to enable Operators to focus their attention and activities on hotspots and potential crowding problems...



In the following management screen, the colours of the stations correspond to the previous screens but are overlaid on Google Maps so that geographic region's bigger picture is clear in one dynamic report...



Following trials at Snow Hill Station, in which accurate data sets were fed to the Central WMCA Control Room, Facit was able to demonstrate results and make roll-out recommendations to the Authority.

Waqas Hassan, Facit Data Systems
Managing Director



“We are very pleased with the solution design and how it has been received by WMCA and TIS, our SI Partner”

“Facit’s continued strategy of going to market through system integrators has once again allowed us to focus completely on finding the most suitable technical solution for the end user, where our core skills lie, leaving TIS and their customer free to focus on managing the installed solution for the benefit of the region.”

The project continues to be implemented throughout the region as the overall Transport Strategy is deployed.

A comprehensive suite of analytics tools

People Counter is just one of the tools available in Facit’s video analytics software suite. Heat Map and Queue Manager also help customers to achieve business insights, manage risk and improve operational efficiency in sectors such as retail, local government, public spaces, logistics, healthcare, leisure and high footfall tourist attractions. Additionally Facit also helps customers to deal with the compliance implications of holding or sharing video footage through its industry-leading rapid redaction software, Identity Cloak.



Want to learn more?

If you would like to find out more on our People Counting Solution please visit:
www.facitdatasystems.com



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