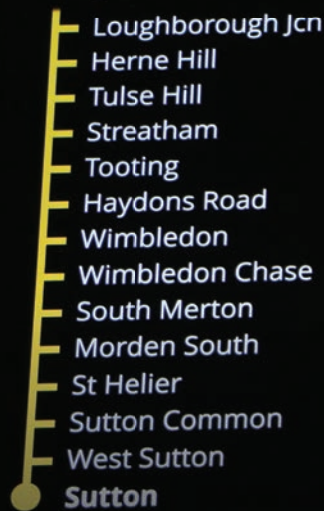


Due**1st train****22:06** Sutton
via Wimbledon

Calling at:



ended on the Bakerloo line.

22:06.00**2nd train** **4 minutes****22:10** Brighton
via Gatwick Airport

Calling at:

Page 1 of 2



declassified. Services are part suscep

Later trains	Departs
3rd 22:36 Sutton	29 min
--- 22:40 Brighton via Gatwick Airport	Cancelled
4th 22:54 Brighton via Gatwick Airport	45 min
5th 23:06 Sutton	59 min
6th 23:24 Brighton via Gatwick Airport	77 min

Improving Thameslink information

With tests on the new trains and new signalling systems already underway on the Thameslink core through the heart of London, it won't be long before trains are running through this vital piece of railway at the rate of 24 trains an hour, almost one every two minutes. To maintain this schedule, trains will be stationary for only 45 seconds.

Around 117 million passengers will travel on the Thameslink route every year, so it is essential that commuters receive as much information as possible in the shortest space of time.

Hoping to alleviate station congestion and ensure maximised safety, Network Rail selected Linbrooke Services to install 225 new Customer Information System (CIS) displays across Blackfriars, City Thameslink, Farringdon and London St Pancras stations. The ultimate objective was to provide passengers with more comprehensive information regarding their train departures than previously installed systems.

Streamlining passenger information

The additional information to be provided included a diagram of all specific platform and train access points, every journey calling point and 30 minutes' worth of departure

times. With the original screens only displaying three or four departures at any one time, the new model was explicitly designed to give passengers more information, allowing a longer notice period for their journey and subsequently promoting less urgency, increased efficacy and to 'signpost' more passenger journey options.

Ensuring that the screen display could present information from various Network Rail and TOC train reporting services, Linbrooke worked in collaboration with Worldline and Infotec to develop a solution which streamlined the information. Creating innovative screen 'pairs' through the merging of traditional information, this also enabled logical presentation of the combinations of data for the first time, making it more accessible and useful for passengers.

In order to facilitate this, Worldline provided modifications to existing systems on Govia Thameslink



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- DOO - Driver Only Operation
- Operational Telecommunications
- Digital Transmission Networks
 - FTN and FTNx
- Trunk Copper and Fibre Bearer Networks
- Services for Signalling Control, Re-control & Relock

Established in 2002, Linbrooke is renowned for delivering outstanding mission-critical solutions in telecoms, power and signalling – predominantly in **Rail**, **Utilities** and **Subsea** environments.





Railway to allow the Local Information Control Centre (LICC) to support the new display formats and enrich the information passed via the external data feed protocol to the displays. This permitted an integration of information to be derived from a combination of the existing timetable, static station-specific features and data from additional rail systems. This was to ultimately create a single data feed to provide information such as train facility locations, cancelled calling points and boarding zone updates.

In tandem with these changes to increase the amount of data passed to the customers, there have also been initiatives to pass data more efficiently to screens, allowing the LICC server to update screens more swiftly and monitor for any hardware failures, adjusting its data streams to prioritise working displays as required.

With Linbrooke and Worldline providing modifications to existing configuration data, Infotec utilised ARM-based technology (a RISC - reduced instruction set computing - architecture for computer processors, developed by ARM Holdings of Cambridge) to maximise HD graphics and provide product flexibility and longevity. Gerry McFadden, engineering director for Govia Thameslink Railway (GTR), stated that the new screens are absolutely "essential in coping with the dramatic expansion of both passenger and train flows in 2018".

Innovative thinking

One of the first challenges for Linbrooke throughout the planning and delivery of the project was to ensure the information on the screens interfaced with various Network Rail and TOC train reporting services. Developing a solution for a new data feed to streamline the presented information, this also enabled a logical appearance of the combinations of data for the first time, making it more accessible and useful for passengers.

Undertaking site surveys to ascertain the most suitable positioning for the CIS equipment, Linbrooke sought locations with adequate headspace to ensure a safe installation, placement and siting for customers while

maintaining the stations' aesthetics. Displays with screen sizes of 32 inches and 42 inches were selected, building bespoke 'rapid-deployment brackets' to accommodate the differences in size while keeping the look and feel of the equipment the same.

Due to the substantial weight of each screen cluster, Linbrooke built and tested in Sheffield a high availability, manually operated materials lift for the installation of the screens. This reduced the amount of time spent on site, solidified the quality control, enabled safer and more efficient delivery and ensured that each of the screens could be safely installed and brought into service within a single shift.

Providing the exact platform standing points for disabled access, cyclists, first class passengers and regular travellers, the new CIS screens will streamline boarding and exit time, facilitating the scheme's continual aim of increased safety and passenger risk reduction.

As London St Pancras is one of England's busiest stations, with 24 hours a day passenger access, it was essential for a work schedule to be developed within a number of mixed access arrangements and possessions - including night shifts - both underground and over ground, to ensure minimal passenger disruption.

The planning of the works at Farringdon station was also particularly challenging as Linbrooke was not only dealing with the added requirements of an LUL managed station, but was also contending with a limited amount of pre-programmed possessions imposed on them from the outset.

Fine-tuning the scope

Linbrooke's overall scope of works encompassed the design, installation, test and commission of CIS equipment across London St Pancras, Blackfriars, Thameslink and Farringdon. Additional works that were further incorporated included the upgrading of the existing Public Address/Voice Alarm (PAVA) system to enable dual, simultaneous announcements as well as the survey of existing CCTV systems across all stations in respect of the sighting issues and new CIS displays. Supplementary surveys of existing signals were also undertaken in order to ascertain any sighting issues that needed rectifying.

Throughout the planning and execution of the project, Linbrooke ensured that stakeholder engagement was meticulously maintained. Collaborating with Network Rail, London Underground, GTR and numerous statutory bodies, the project team facilitated a number of screen formatting changes that were required as the project developed.

Janahan Manickavasagar, scheme project manager for Network Rail, was impressed with the overall results, stating that "the innovative screens were installed and commissioned on time to a very high standard, delivering a richer level of information than has ever been seen before on the UK railway network".

With implementation of these CIS screens, the project has contributed to increasing throughput and capacity while improving the staff and customer experience and reducing overcrowding on the platforms. The equipment and methodologies used have also further contributed to the aesthetic uniformity of stations on the Thameslink line. ●