Playbook Mapping Enhancements

TfL Lane Rental Industry Publication

TRANSPORT FOR LONDON

Introduction

Transport for London's (TfL) Road Modernisation Plan (2014) has invested £4bn into transforming junctions, bridges, tunnels and public spaces. While this unprecedented work on London's road network was underway, stakeholders needed to be kept informed, with visibility of works required, from inception through to delivery.

The Playbook Enterprise is the way TfL disseminates this information in geospatial form, across internal TfL staff (Surface Playbook), external partners and 3rd party suppliers (External Playbook) and members of the public (ArcGIS Online). At the core of all three applications is the series of databases and servers known as GIS as a Service (GISaaS) which serves GIS data across the Playbook Enterprise to a wide user base. The Playbook Enterprise assists collaborative working between TfL and key stakeholders including London boroughs, utilities companies, developers and Highways England, to facilitate the long-term management of developments and planned road network interventions over the next 10 years. This ultimately provides optimum journey time reliability and reduced disruption to road users.

The Surface Playbook, released in October 2014, is an information portal used by TfL staff to share transport knowledge to support planning and decisions making, displaying over 700 datasets to over 2000 users. This latest application has continued to serve TfL staff with timely and accurate geospatial information, which has enabled better collaboration across departments. The Surface playbook has also unlocked traditionally siloed information, with the number of datasets available through GISaaS growing by over 1300% since its initial delivery. The primary aim of iteration 4 was to improve usability, unlock functionality and ensure the future support of Surface Playbook and GISaaS's 2025. This would ensure the Playbook Enterprise could continue supporting users across London as part of the Road Modernisation Plan.

Playbook Enterprise
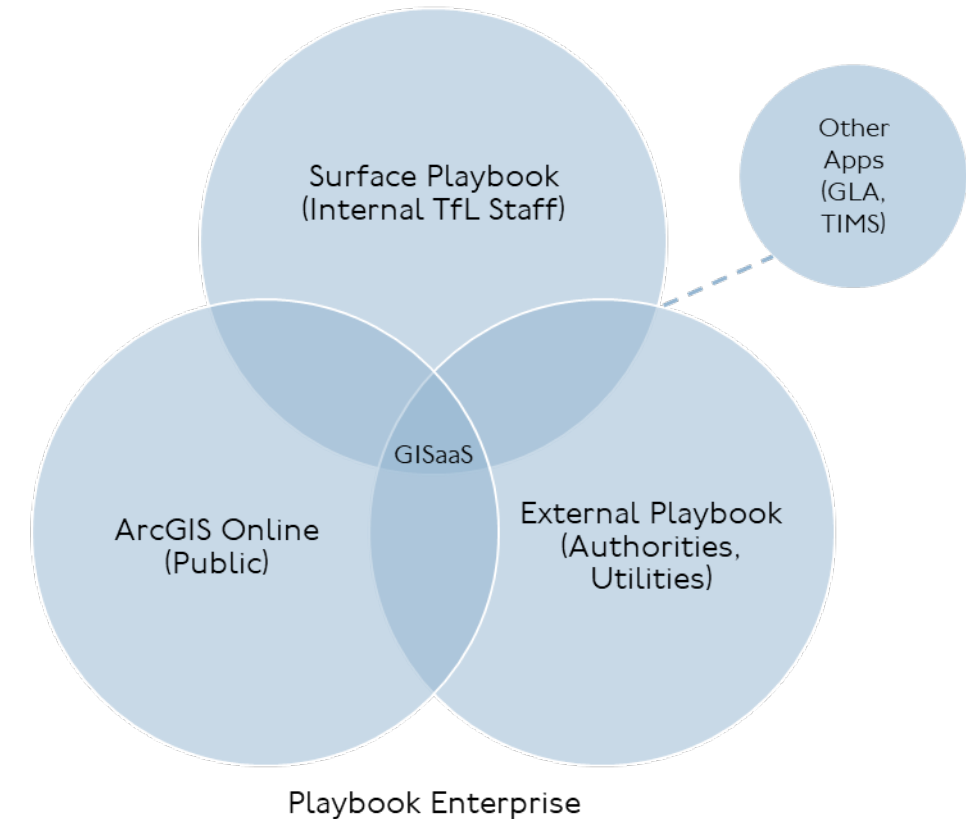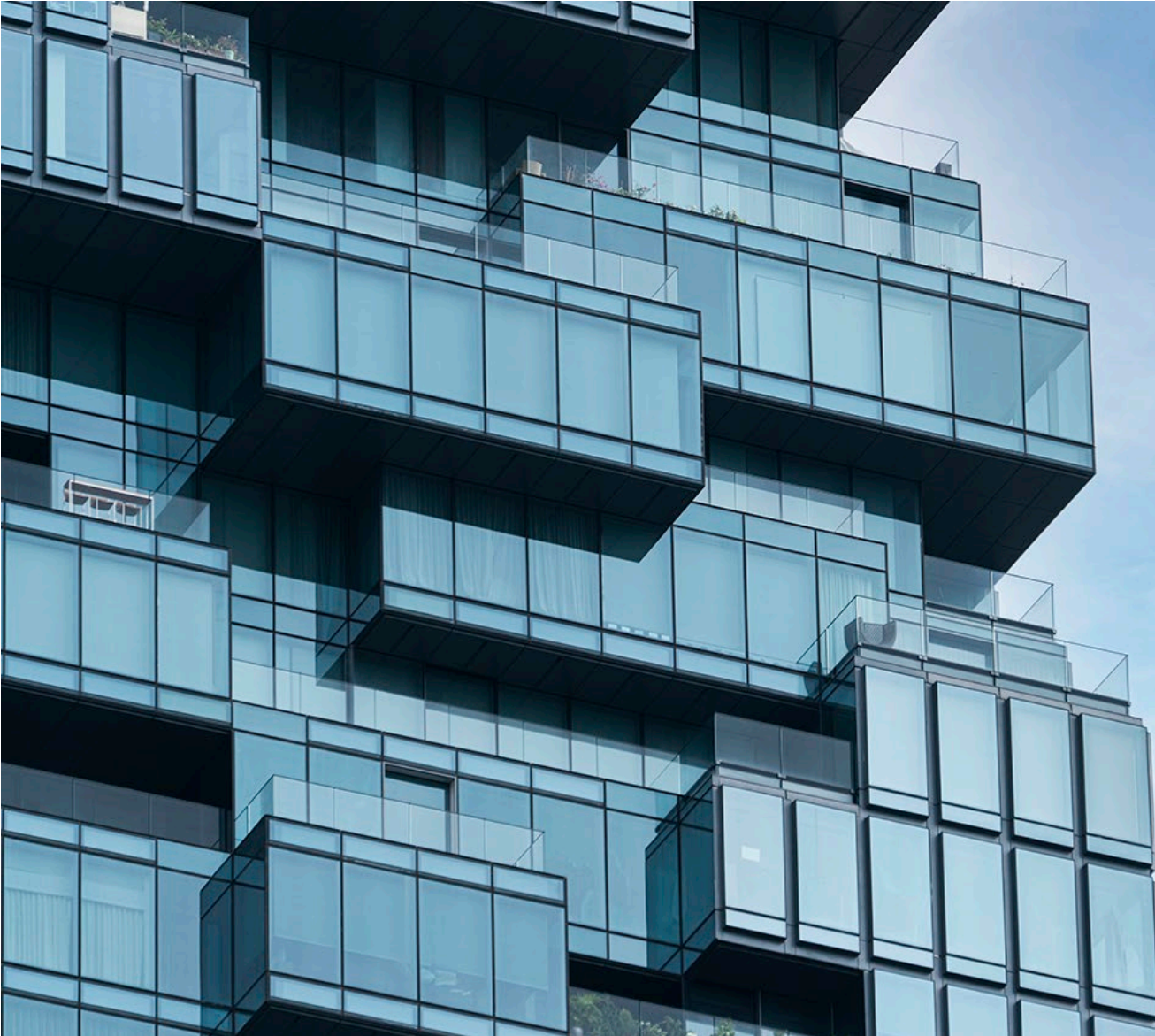
The Project

Covering three phases: design, concept and delivery, the project took approximately a year to complete. Consultation was carried out with solution/infrastructure architects and delivery through GIS developers and testers as part of a wider agile delivery team. During the initial three months, the team was split between the design of the architecture and delivery of user suggested improvements. This enabled maximum time efficiency to deliver all elements and enabled additional time for delivery .

The project design had to factor in current and anticipated demand to ensure services could be maintained and requirements from users was determined by assessing testing reports. The formal build work began in Jan 2021. Spanning approximately six months, GISaaS and Surface Playbook were migrated, tested and commissioned successfully in late July 2021.

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Outcomes

Users have reported substantial improvements to both reliability and performance of Surface Playbook. Initial tests have highlighted a reduction of approximately 40% in load times. Due to the software upgrade, data held within GISaaS can be interrogated using additional business intelligence tools. Business workflows have been improved due to user-suggested developments and additional functionality now being available. This has also meant that geospatial data is shared more efficiently across TfL and external colleagues.

The architecture is more reliable and platform performance has improve which will in turn, continue to improve planning and coordination of programmes through better awareness of planned works between stakeholders. By enabling clearer access to information, Surface Playbook now contributes positively to reducing roads disruption by providing a better understanding of assets, performance and strategic direction.

This project has paved the way for more efficient data sharing between the other elements of the Playbook Enterprise (External Playbook and ArcGIS Online). Moving forward, Playbook Iteration 5 will be focussed on further improvement of data availability to external users and the public while providing 3rd parties greater access to GISaaS.
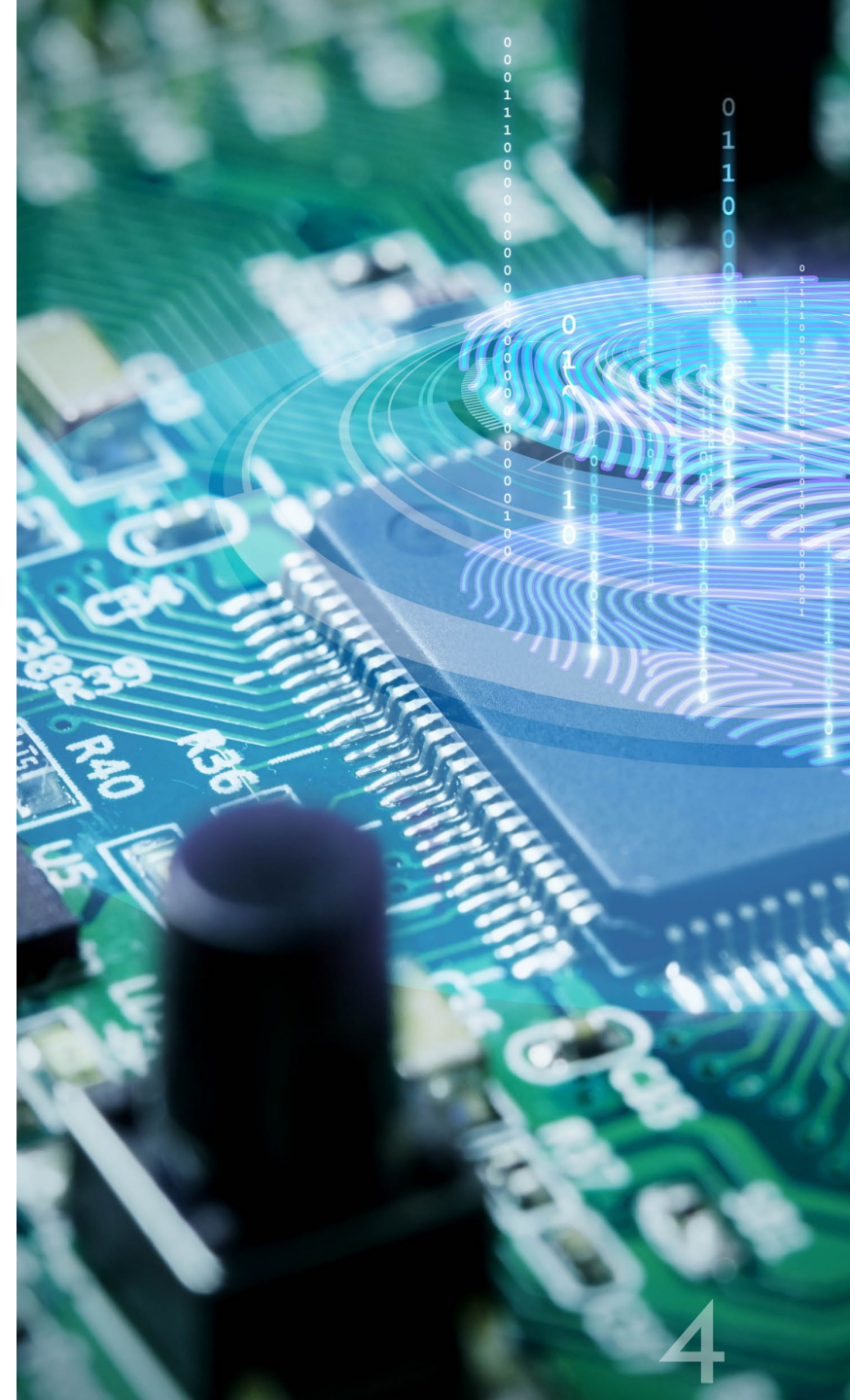
Lessons Learnt

- The loss of a GIS developer halfway through the delivery phase had a significant impact on the initial pace of delivery. Agile teams should reduce siloed working by planning in contingency and shared learnings.

- A shared working area and weekly issue forums with project partners, enabled transparency and quick resolutions.

- Updates to the ArcGIS Enterprise software must occur more regularly, with updates being performed one iteration after the latest vendor release.

- Annual feedback will be gathered from users and monitored to ensure the application continues to be fit for purpose.

Conclusion

The delivery of improvements to Surface Playbook and GISaaS has been successful, which has ensured continued dissemination of geospatial information for the next decade, while unlocking subsequent improvement phases to be implemented easily and quickly.

Within the next two years, Playbook Iteration 5 will look to reduce data duplication by migrating External Playbook users into Surface Playbook and provide one source of data to all users, fed centrally by GISaaS. The project will also repurpose the External Playbook to become a form of GeoHub which serves data from GISaaS as an API to enable 3rd party applications greater access to TfL spatial data.

TfL Lane Rental Scheme

Optimising customer journeys through the delivery of safer, innovative and sustainable roadworks

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