Partnership

Subway Modernisation – progress update

Date of meeting 27 June 2025 **Date of report** 17 June 2025

Report by the Director of Transport Operations

1. Object of report

To provide the Partnership with the latest progress update on the Subway Modernisation programme.

2. Background to report

The Subway Modernisation programme is the most significant investment and improvement programme to be undertaken in the Subway within the last 45 years.

The programme was scoped for delivery under five principal workstreams. The first two of these workstreams are now fully complete:

- Stations and accessibility improvements
- New Ticketing System

The three remaining active workstreams are:

- Renewal and Upgrade of Existing Infrastructure & Depot Facilities
- New Rolling Stock, Signalling and Automated Control Systems
- Organisational Change and Employee Relations

This report provides an update on the key areas of progress and emerging issues since the last written report to the Partnership in December 2024.

3. Outline of proposals

3.1 Existing infrastructure

Works have continued on the infrastructure workstream with the ongoing focus of completing key improvement and modification works across tunnel, track and line assets. Progress made since the last update includes:

- The programme of tunnel lining improvements by Freyssinet Ltd has entered its final year with concrete repairs, water ingress management measures and improvements to joints in cast iron sections on-going.
- As part of a workstream to optimise the track alignment within the confines of the Subway, a contract has been awarded to Story Contracting Ltd. to develop, and then deliver against, a strategy for implementing track alignment improvements.
- As previously reported, works to confirm the continued health of legacy electrical, telecoms and IT assets is complete to ensure that sufficient obsolete spares are

available, and that SPT staff have the right knowledge, competence and information available to them, to keep the legacy systems operational have been completed.

- The conceptual and functional design process for improvements and/or upgrades of the Subway substations is now complete, with efforts being made to maximise energy efficiency principles for both climate and cost purposes. As previously reported, a technical feasibility study into regenerative braking energy capture was completed, with a positive outcome, and we are now developing a business case and obtaining a more detailed design, to allow for a possible future tender.
- As previously reported, the Traction Power Negative Feeder cable replacements at Byres Road Substation (Hillhead) and at Dundasvale Substation (Cowcaddens) are complete. Since the last report, Broomloan Substation negative feeder works have also been completed. The installation of the second of the two Broomloan Substation Transformer replacement works and is expected to be completed in the first half of the year.

3.2 Broomloan Depot facilities

Work activity to ensure the integrity, reliability and longevity of key assets within Broomloan Depot, in conjunction with readiness and new asset introduction, continues. In addition, the key areas of progress on this workstream are:

- Works to improve the condition and secure the long-term integrity of the retaining walls of the ramp access to the sub-surface tunnels at Broomloan Depot have been completed; and
- A depot protection system has been installed to enhance safety provisions for trains entering and departing the maintenance shed.

3.3 New Rolling Stock and Control Systems

All of the following activity is delivered by the Hitachi and Stadler joint venture (ANSTA) and its sub-contracted supply chain under the Manufacturing & Supply Agreement (MSA) contract:

- As previously noted, Stadler has completed production and delivery of all seventeen new trains. Since the last report, the seventeenth train has been accepted meaning the full fleet has now formally accepted by SPT following rigorous testing and completion of each unit's Fault Free Running (FFR) phase.
- Three trains have been reserved as dedicated test trains for the testing of the new signalling system and will not be used in regular passenger service until the new signalling system is brought into operation.
- As reported previously, the installation of the new signalling and control equipment in station equipment rooms has been completed in all stations with close out of snags continuing.
- Installation of the new signalling equipment and cabling within the stations and tunnels has been completed.
- Installation of the new communication equipment and cabling within the stations and tunnels continues to be carried out overnight and is nearing completion.
- Overnight testing of the new signalling system commenced in February 2025.
- Installation of signalling and communications equipment and cabling within depot and yard areas has continued and is nearing completion.
- Installation of the power cabling within the stations and tunnels has continued with focus on the cable element within the stations. Ceiling cableways remain exposed in certain parts of the system for this purpose and ceiling tiles will be

replaced as soon as possible after the cable installation works at each station are completed.

- As previously reported, installation of the new fibre optic cabling and relevant “J” hanger supports is complete.
- Works to install the communications backbone ‘waveguide’ cable that will facilitate communication between the new Operational Control Centre (OCC) and the new trains is complete in the tunnels and stations and is nearing completion in the yard and depot.
- Preparatory works for the future installation of the platform screen doors (PSDs) have continued, with the main phase of anchor plate installation due to commence in June 2025. This phase of works will see the introduction of temporary cover plates on all platform edges.
- Planning for the installation of the platform screen is in an advanced stage in readiness for the installation the first PSDs from July 2025.
- SPT continues to challenge and monitor the evidence provided by ANSTA to demonstrate the safety case required under SPT’s Safety Verification (SV) Scheme. The tunnel testing safety case has been updated in readiness for the testing of the new signalling system.

3.4 Overnight testing

Since the start of 2025, ANSTA has been carrying out extensive testing of the new signalling and telecommunication systems in readiness for change over at CP4+. During this phase, each night the control of the Subway is temporarily switched over to the new signalling system for testing to be carried out. At the end of the night shift, the system is then switched back to the legacy control room, ready for passenger service to resume in the morning.

This testing phase allows all functionality of the new signalling and telecommunications systems to be thoroughly tested in an offline environment prior to bringing them into passenger service. This testing includes both operational functionality as well as all safety systems to ensure the finished system provides the highest levels of safety.

It is expected and typical of such testing that software modifications are required to fine-tune the system based upon the observed results. Following the completion of any identified software updates, the tests are then repeated as required. Only when all tests have passed, will the system move onto the Fault Free Running phase where each vehicle will be required to accumulate mileage without any issues occurring. It is planned to carry out the Fault Free Running phase in the second half of 2025.

3.5 Subway Sunday closures

As noted previously, SPT has agreed for ANSTA to utilise a number of Sunday closures. These closures give the opportunity to the contractor for extended periods of time to carry out more complex installation activities and also gives the opportunity for other activities such as further FFR or other system testing.

The next Sunday closure will be utilised for FFR of the trains under control of the new signalling system in early 2026. Successful completion of this testing will mark completion of Configuration Point 4+ (CP4+) at which point the new system is ready to be accepted by SPT for passenger service.

In addition to the above Sunday, in preparation for our transition to the new signalling system at CP4+, a number of Sunday closures are being planned to support final readiness preparations for the whole SPT Operations team at the conclusion of their training. This activity will be important to maximise readiness across the Subway team for

when we achieve CP4+. The final requirements and dates are still being confirmed, however it is expected that these dates will be in January and February 2026, and will take cognisance of significant events, such as football, where possible.

We will continue to communicate the forthcoming closures with the public via media outlets and our own social media channels.

3.6 Future Customer Experience

The introduction of the new signalling and telecommunication system will bring a number of benefits to the travelling public. The most immediate and visible of these benefits at CP4+ will be the introduction into service of the elements described below.

Throughout the second half of 2025, the target is to install Platform Screen Doors (PSDs) incrementally at up to six stations from Kelvinbridge, St. Enoch, Hillhead, Partick, Govan and Ibrox. These will initially be locked out of use with the platform doors remaining open at all times. From CP4+ 'go live' these will come into passenger use for the first time, providing enhanced levels of passenger safety. Following the introduction and bringing into use of the PSDs at the first stations, the remaining stations will be incrementally fitted with PSDs in the first half of 2026. These will be brought into use immediately following their installation at each station.

The new passenger information system will be brought into use at CP4+. This will consist of automatic audio and visual announcements on the trains as well as at platforms and station concourses and visual information at station entrances. The system will provide consistent and reliable information about the service, including next train times, service changes as well as key safety and emergency messages.

Passenger Help Points will also come into use at CP4+. These will provide the facility for passengers to contact staff with any general queries or support in case of an emergency.

As more elements of the Modernisation programme are rolled out to passengers, we will keep them updated as to the key benefits and next stages of the programme. The installation of PSDs across all fifteen stations will take time so we will be preparing passengers for the move to Unattended Train Operation (UTO), and the associated safety aspects including the passenger information system and help points available as they come into use.

3.7 Technical Support and Spares Supply Agreement (TSSSA)

The Technical Support and Spares Supply Agreement is the other contract being delivered by ANSTA. This contract provides all spares and special tools required for the integrated system maintenance and fault finding and also to deliver technical support on faults and issues including knowledge transfer to SPT. The TSSSA also manages the material supplies to SPT stores in relation to the modernised equipment.

As previously reported, the TSSSA contract has continued to require close monitoring at Project Board level to ensure ANSTA is delivering against its contractual obligations. We are continually reviewing the performance of the whole contract and recently commissioned a third-party audit of the TSSSA services. The outcome of this audit aligned with SPT's own view and is currently under further detailed review with a view to addressing specific areas of delivery and also implementing sustainable general performance improvement to ensure the value to SPT is delivered.

3.8 Organisational Change

Planning and delivery of the organisational change component of Subway Modernisation continues in parallel with the technical workstreams. The development of Target

Operating Models is progressing in Operations, Maintenance and Engineering. Communications with staff have increased, providing indicative timelines for engagement with specific teams. Early-stage consultations have also now been concluded to allow training programmes for the new Operational Control Centre, the hub of the new operating model, to commence.

As previously shared, the Target Operating Model assumptions include extension of our opening times, although periods for extended engineering access will still need to be accommodated. The details of future opening hours are still to be finalised.

Our new system will be capable of 'Unattended Train Operation', however there will be a requirement for staff presence within the system beyond this point. This is being actively considered as part of our Target Operating Model planning.

3.9 Learning and Development

Subway Operations remains an area with significant Learning & Development activity. Over the last six months there have been three weeks of Operational Training completed during February and April. During February training weeks, 112 staff had the opportunity to update on the Operational Readiness Programme and refresher training on Traction Current, delivered by our internal trainers. In April we had the first demonstration of the new Operations Management System, Intrax. During those sessions, sixty staff were given an introduction to the system functionality as well as health and safety guidance for the incident reporting module.

Subway Operations Training Officers have delivered 18 weeks of induction training over six months for new staff and those undertaking flexible duties, as below:

- Station Assistant/Officer courses: 6 weeks (11 staff)
- Driver's courses: 12 weeks (10 staff)

To equip Line Managers with skills to manage safety responsibilities, a three-day IOSH Managing Safely course was delivered in-house with eight staff members attending, six of whom were from Subway Operations.

Integrated Technicians within Maintenance are continuing to receive training and assessments on a number of Modernisation and Infrastructure Assets, including undertaking re-assessments on Maintenance Tasks as their initial 12-month competencies near expiry.

Preparations are well underway as we wait to receive the next batch of training from Hitachi for CP4+, this is expected to be an intense training programme as we finalise our preparations to be ready for CP4+ and beyond, this training will primarily be delivered to our Integrated Technicians.

3.10 Programme Review

As noted previously, at the completion of CPX, a wider programme review and strategy update was undertaken to maximise efficiency in latter stages of the programme. This resulted in the planned introduction of Platform Screen Doors at three stations earlier than originally programmed. This approach will reduce the number of changes of state of the system and result in one less submission to the ORR. The programme continues to be delivered in line with this strategy.

The programme review is aligned with the Corporate Plan in seeking to achieve the following targets:

Milestone	Description	Planned Date
CPX	Introduction of new fleet to passenger service on legacy signalling system.	June 2024 (achieved)
CP4+	New signalling system and Operational Control Centre ready for operation.	By end Q1 2026
CP5	Platform Screen Doors installed and operational at all stations.	By end Q2 2026
CP6	Ready for Unattended Train Operation.	July 2026

While there are some changes to CP4+ and potentially CP5, works are ongoing in the Project to identify opportunities to maintain programme and deliver all remaining milestones at a high state of operational readiness. The end date of Subway Modernisation is not expected to change at this time.

3.11 Rules, Regulations and Procedure

Having introduced the new fleet, the Rules, Regulations and Procedures work has transitioned towards the development of CP4+ and CP6 components and materials. Each major milestone in the programme is accompanied by significant updates to rules and regulations. The team is learning lessons from CPX and applying them to the subsequent delivery phases.

- Rulebook updates:

  CP4+ and CP6 Rulebook updates continue to be the major focus, though updates to current rulebooks continue to be made in line with operational learning and technical updates. Completion of these elements enables the training packages for all staff in readiness for CP4+.

3.12 Accessibility in the system

Our Accessibility Strategy and Guidance have been developed and are now live on our website. A plan of works is well underway to continue to enhance the accessibility of the system through the provision of supporting information and continued training of our staff.

3.13 Journey to a Data Driven System

Since our last update, a key workstream has successfully developed and launched a suite of dashboards that are now driving data-informed decision-making across SPT. With the implementation of Business Intelligence (BI) Governance, more than 50 interactive dashboards are actively used across various departments.

The BI tools have transformed static, manual reports into automated, dynamic dashboards, significantly enhancing reporting efficiency and accuracy. This transformation has empowered staff with timely, reliable insights to support more informed decisions.

The dashboards offer a comprehensive view of Subway's performance, enabling the team to spot emerging trends and implement proactive strategies to improve train reliability and Subway daily operations.

To streamline business processes and unify operational procedures, significant effort has been dedicated to implementing a new Operations Management System (OMS), branded as "INTRAX". Started last October, the project brought together representatives from across Transport Operations. Since then, the incident and audit modules have been successfully configured and introduced to the Subway Operations Team and union representatives, while the configuration of the asset module is currently in progress. The OMS implementation is positioning SPT to adopt a cutting-edge digital solution, enabling smarter, more efficient operations.

Alongside the OMS implementation, the rollout of a new Learning Management System (LMS) began earlier this year. This initiative aims to centralise learning and competency management at the corporate level, while significantly enhancing the e-learning experience for staff. The LMS implementation aligns with SPT's corporate strategy to continuously improve staff competence and skills to support meaningful organisational transformation following Subway modernisation.

3.14 Programme budget

Within the overall Subway Modernisation budget of £288.7m, the 2025/2026 budget stands at £26.5m.

As at Period 2 2025/2026, £254.119m has been incurred against the total budget of £288.7m on the programme. The remaining programme budget, including contingency, will be required and utilised solely for the delivery of the MSA contract and associated programme support costs.

Since the last report, ANSTA has submitted a number of further claims which are being reviewed in line with the contractual process. The assessment of these claims is ongoing. Future Subway Modernisation reports will update on this progress and impact on contingency.

Overall, the Subway Modernisation capital programme remains within the approved budget, including programme contingency and available funding though noting the ongoing assessment of claims received.

Transport Scotland has committed to fund up to £225m for the project of which £199.9m was received by the end of 2024/2025. The remaining £25.1.m will be received in 2025/2026.

4. Conclusion

Progress continues to be made across all Subway Modernisation workstreams, most notably with the formal acceptance of the full fleet of new trains, continued focus on reliability growth of the new fleet, the continued installation and testing of the new signalling and telecommunications system, preparations for installation of platform screen doors, and the readiness activities in preparation for SPT's future acceptance of the new system.

The achievements over the last six months have been significant and would not have been possible without the focus, drive and professionalism of the SPT delivery team, our contractor ANSTA or indeed our wider supply chain.

5. Partnership action

The Partnership is asked to note:

- the continued progress made on all Subway Modernisation and improvement works since the last written update to the Partnership in December 2024;
- ongoing progress on the MSA contract, including formal acceptance of all 17 trains and continued passenger service of the first fourteen trains running on the existing signalling system;
- the ongoing installation and testing work in readiness for the new signalling and communication system;
- the challenges of introducing a new fleet to passenger service and delivering reliability growth;

- continued challenge towards performance improvement on the TSSSA contract;
- progress made on operational readiness and delay mitigation actions including existing infrastructure and fleet maintenance improvements;
- that the modernisation programme remains within overall budget and funding pending the outcome of the assessment of contractor claims;
- the commitment and performance of the SPT team, ANSTA and other contractors delivering the work; and
- that a further report on progress will be presented to the Partnership meeting in December 2025.

6. Consequences

Policy consequences	*The Subway Modernisation is a key objective of the Regional Transport Strategy.*
Legal consequences	*Reported delays and any proposed mitigation will be managed in accordance with the MSA contract terms and SPT Governance.*
Financial consequences	*Overall, the proposed works remain within the allocated capital and revenue budgets and Subway Modernisation business case.*
Personnel consequences	*No significant changes within this report although further changes are expected in the future system migration stages and as the operational readiness programme continues to develop.*
Equalities consequences	*Ongoing updates to accessibility guidance and information for customers using Subway.*
Risk consequence	*Delays impact to forward modernisation delivery, operational service delivery and budgeting. Impacts and risks are under assessment based on available information and mitigations are being continually reviewed and defined as required.*
Climate Change, Adaptation & Carbon consequences	*Seeks to secure the future operation of a sustainably powered public transport option for west of Scotland communities by delivering a state-of-the-art underground railway within Glasgow City.*

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Title	**Director of Transport Operations**	**Title**	**Chief Executive**

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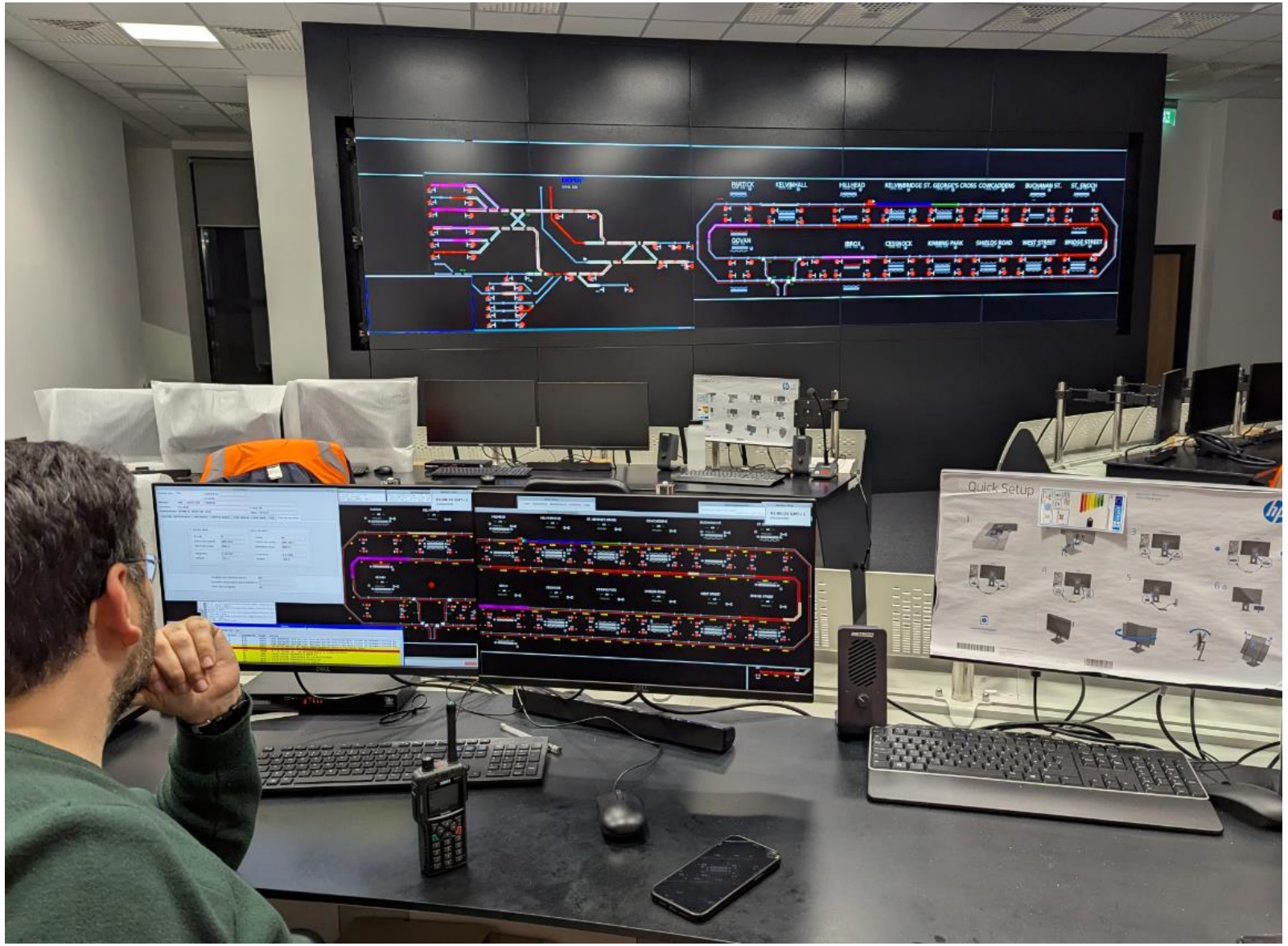
Subway Modernisation
Update to Partnership

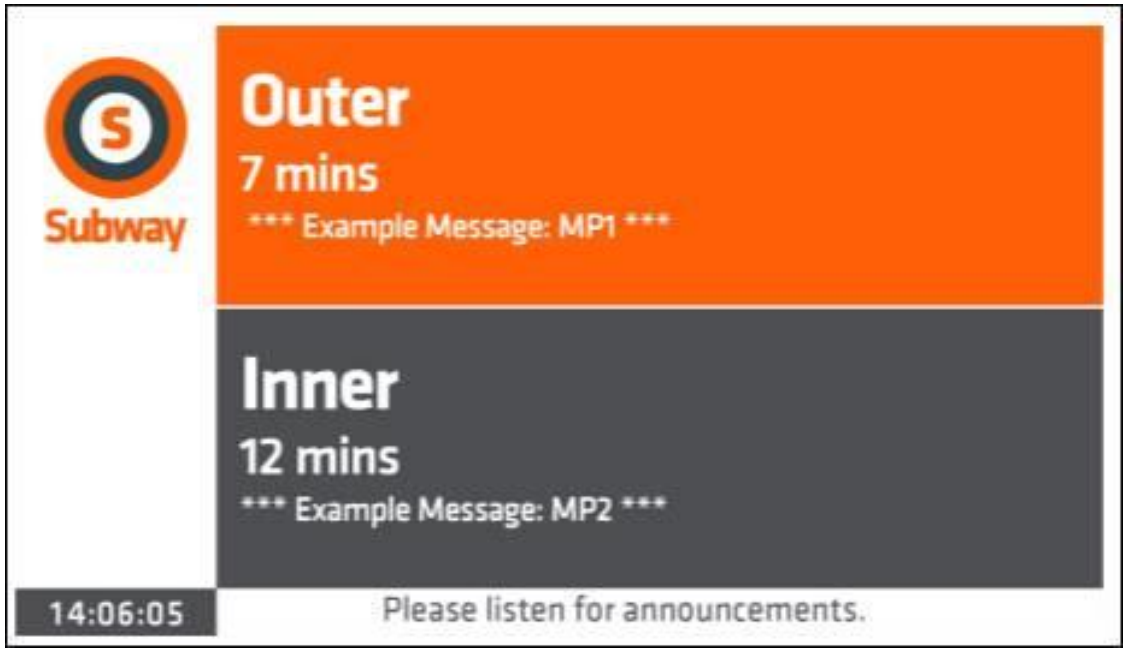
Subway Modernisation
Progress on signalling system testing



Subway Modernisation
Customer benefits: Platform Screen Doors

Subway Modernisation
Platform Screen Doors – Anchor plates

Subway Modernisation
Customer benefits: Customer Information System - concourses

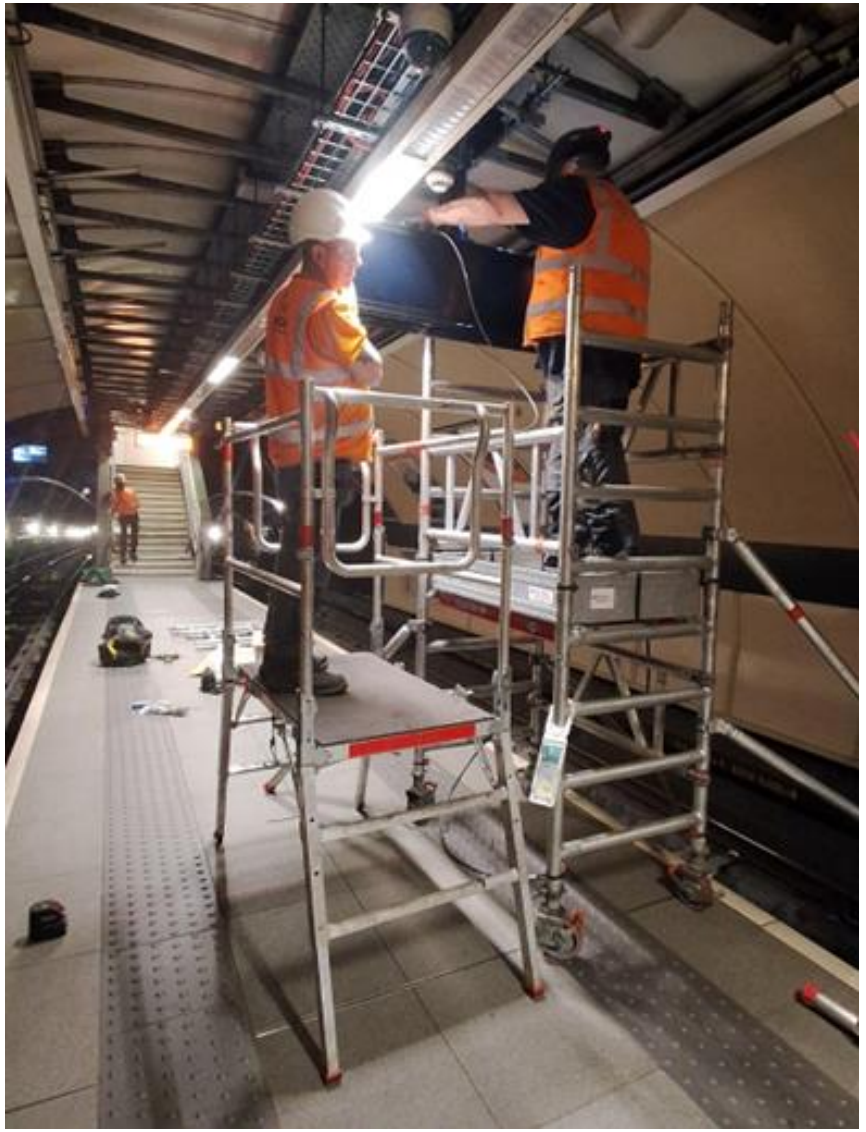


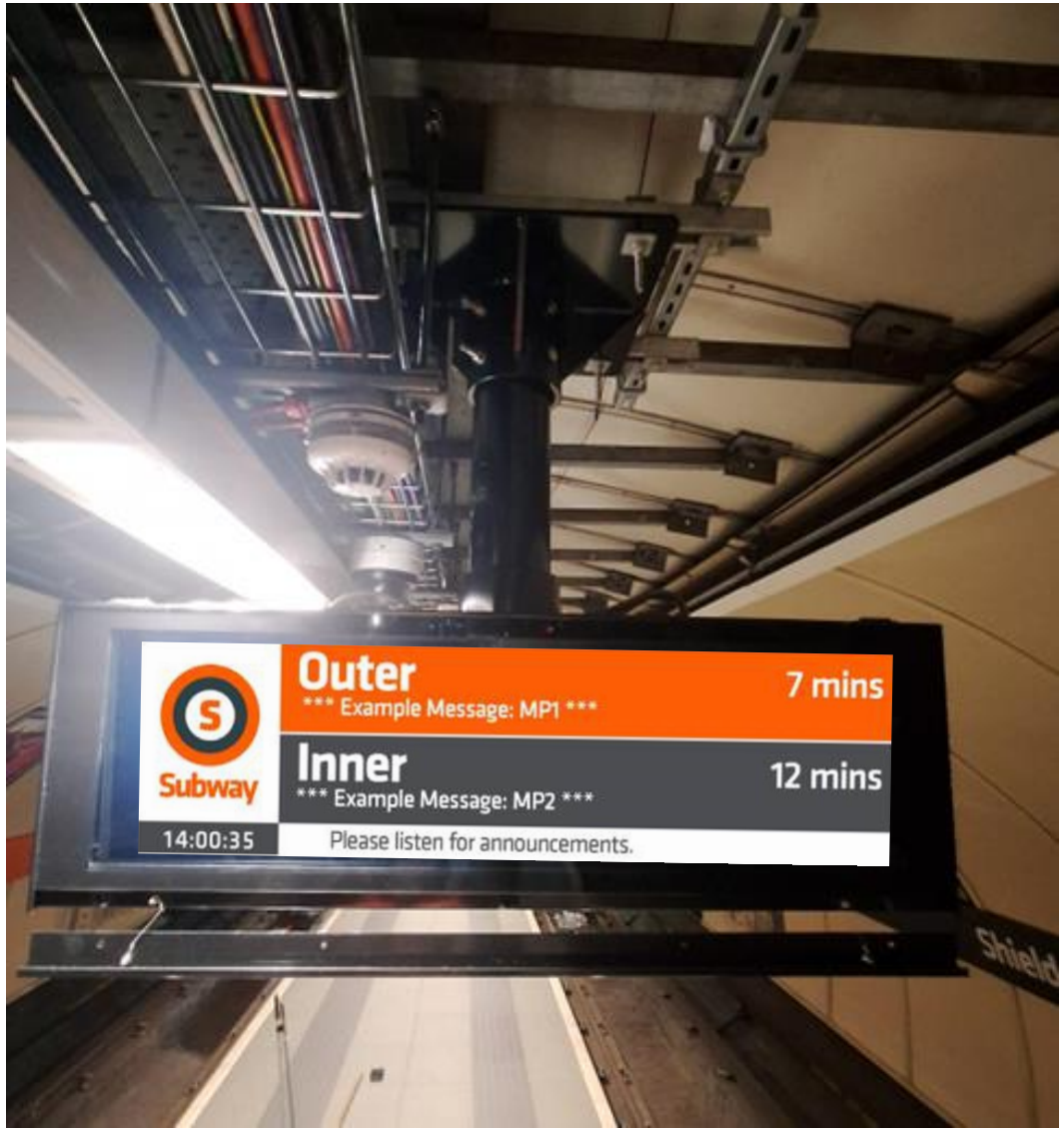
Subway Modernisation
Customer benefits: Customer Information System – station entrances (external)

Typical display for an island platform:

Typical display for a Flank platform:

Subway Modernisation
Customer benefits: Customer Information System - platforms





Outer Circle

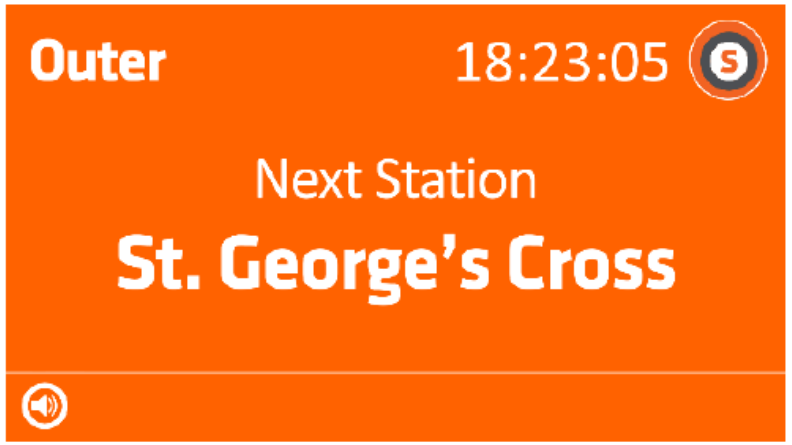


Figure 3: Outer Layout "Next Station". Footer with Horizontal Scrolling

Inner Circle

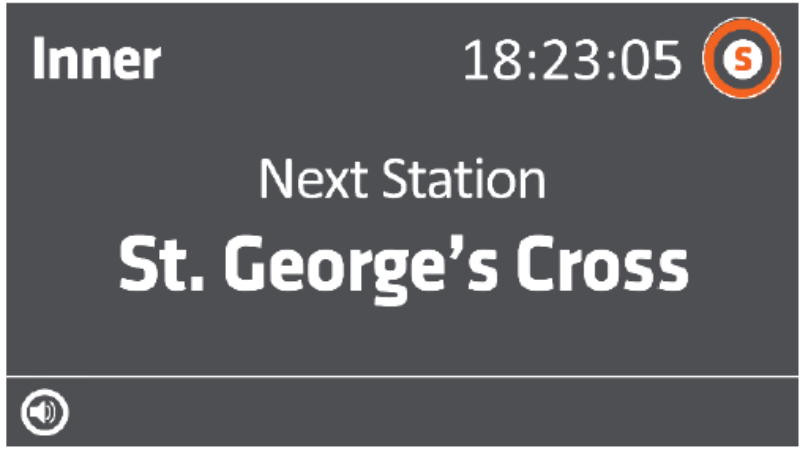


Figure 4: Inner Layout "Next Station". Footer with Horizontal Scrolling

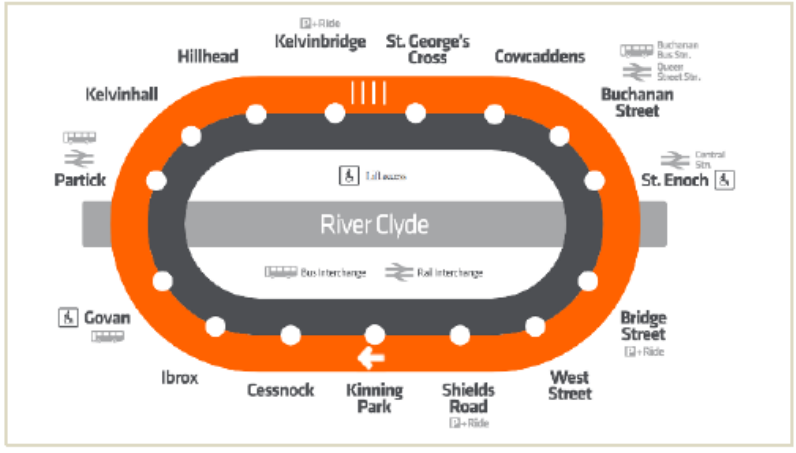


Figure 5: Map Outer with an Example of a Transition

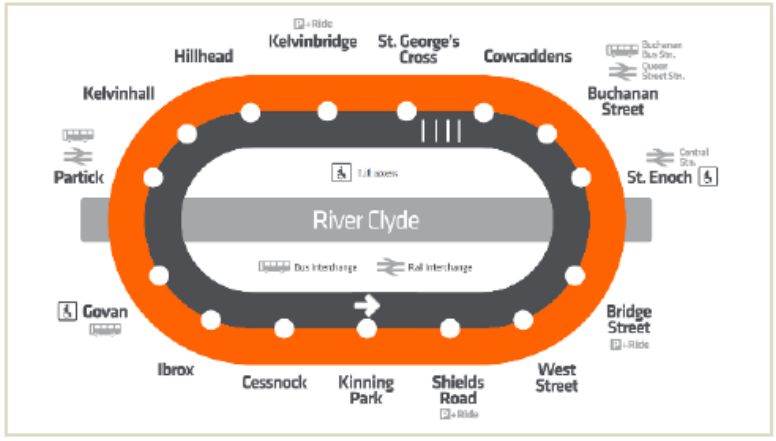
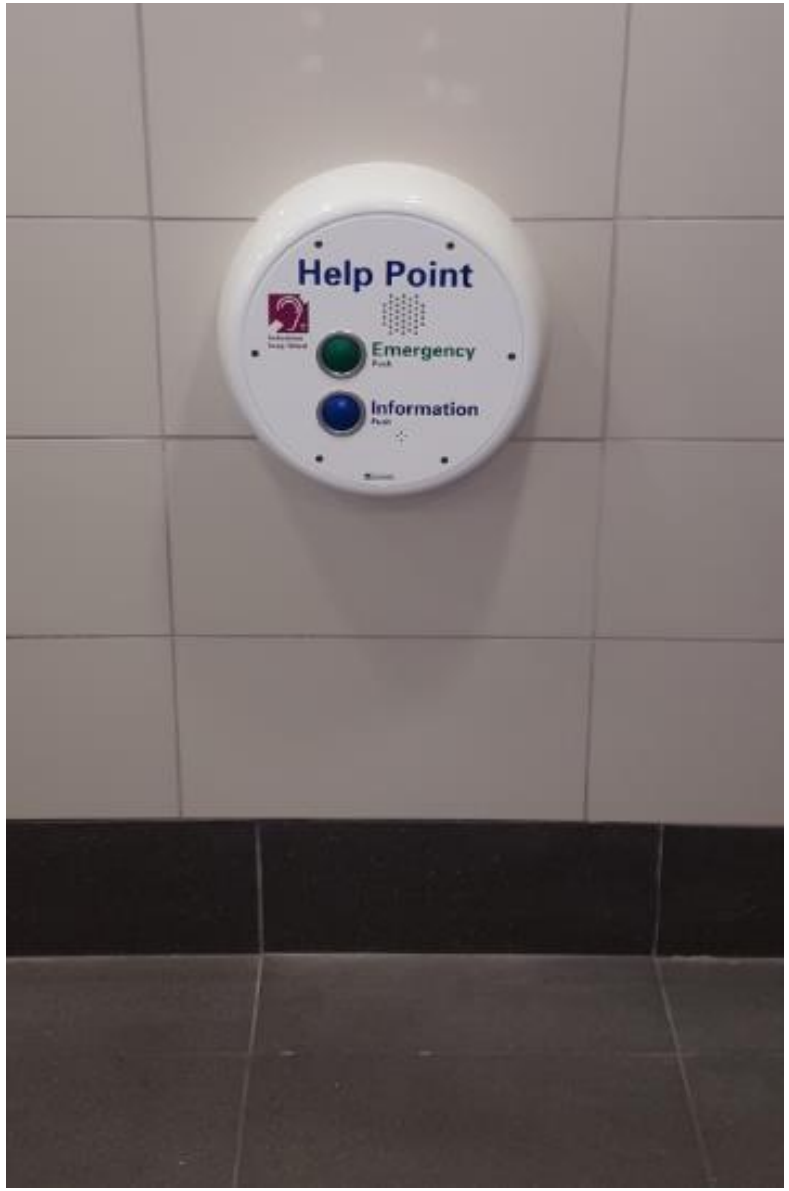


Figure 6: Map Inner with an Example of a Transition

Subway Modernisation
Customer benefits: Customer Information System within the Train

Subway Modernisation
Customer benefits: Help Point



Thank you for your attention

For further information, please visit spt.co.uk or connect with us at X @SPTcorporate.