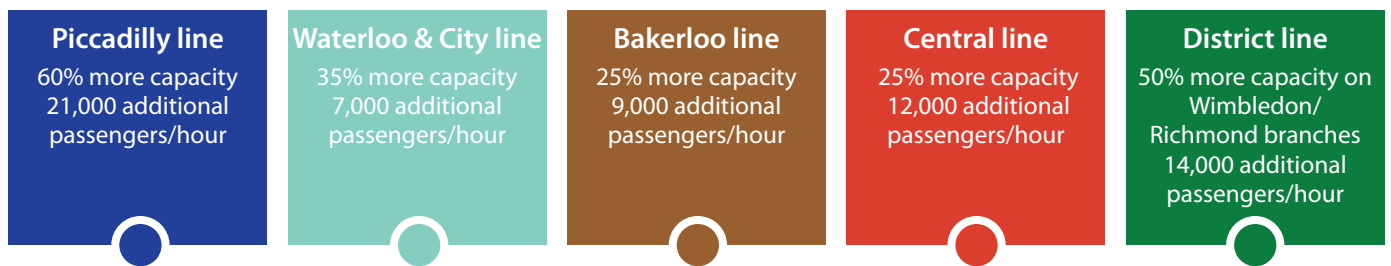




Infrastructure
and Projects
Authority

Case Study New Tube for London

The New Tube for London (NTfL) programme delivers a key part of the Mayor's Transport Strategy (MTS). Responding to current and forecast increases in passenger demand, the NTfL programme will modernise four London Underground lines – Piccadilly, Waterloo & City, Bakerloo and Central.



New generation trains of high capacity, walk-through air-cooled and modern signalling control systems and supporting infrastructure permitting high frequency train operation. The current forecast is for spend of about £16.5 billion over more than 20 years.

Overall, the NTfL lines constitute a third of the Underground network, carrying around two million passengers per day to key locations across London, including: The City, West End, Stratford, Kings Cross and Heathrow Airport. Underground demand is forecast to grow by over 25 per cent over the next 10 years which will increase the need for additional capacity on these lines.

The Development Journey

NTfL began life as 'Deep Tube' with a focus on the Piccadilly Line and rolling stock. Over a period of years, the realities altered and led to major changes in areas such as line sequencing and scope of work. This required the programme to 'take stock'. Three separate and complementary reviews helped to create the content for development:

- The IPA Routemap provided a detailed diagnostic and posed challenging questions at a project and programme level
- The PgM3 Self-Assessment was a more high level review involving the whole programme team and provides a benchmark that can be tracked
- An independent baseline review was done off-site as purely as document review

This resulted in the creation of multiple work-streams of work managed within a disciplined delivery framework.

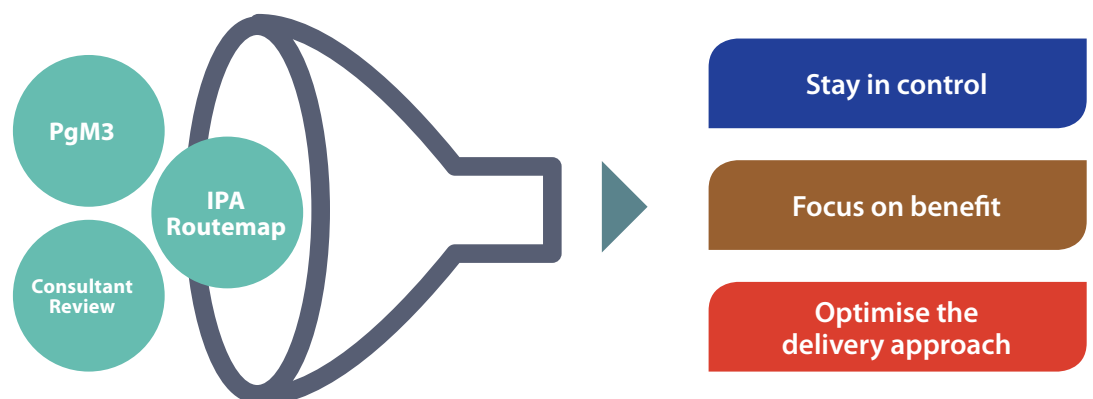


Fig.1: Programme Development – Working to Improve the Environment of Delivery

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NTfL and the Routemap

The findings of the Infrastructure and Projects Authority (IPA) Routemap exercise were presented to the NTfL Programme Board in November 2015 and formed a core part of the Programme’s development plan. A review visit was carried out in April 2016 to check on progress and an annual visit is due for October 2016.



Fig.2: Developing the Enhancement Plan content

Key Routemap Findings and Actions

The key findings were around:

1. **Maintain as a Programme**
2. **Clarity of Requirements**
3. **Need to engage workforce**
4. **The ability to be a good client**

The ongoing actions to address the findings are described briefly below:

1. Maintain as a Programme – recognise the advantages of programme-wide activity for assets and line, set up programme structures and a consistent organisation

The critical need to ‘maintain as a programme’ was made clear. A first step was to refresh the Purpose which would deliver the Vision. NTfL has undertaken to ‘deliver with certainty with an inspired and capable team.’ This allows focus on discipline, rigour and people development. A full Operating Model exercise was carried out to ensure that all capabilities required of an effective programme were available. A Service Catalogue was created for all elements with Red, Amber, Green (RAG) ratings on Exists (and working well), Exists (needs improvement) and Does not Exist – this is driving part of the Development Plan.

The Operating Model also drove out accountabilities for the Programme-level Execution Plan. A Programme-level Baseline was created incorporating the current realities, alongside other key top level documents such as Risk Management Strategy, Health, Safety and Environment Plan, Systems Integration Management Plan, Equality Impact Assessment.

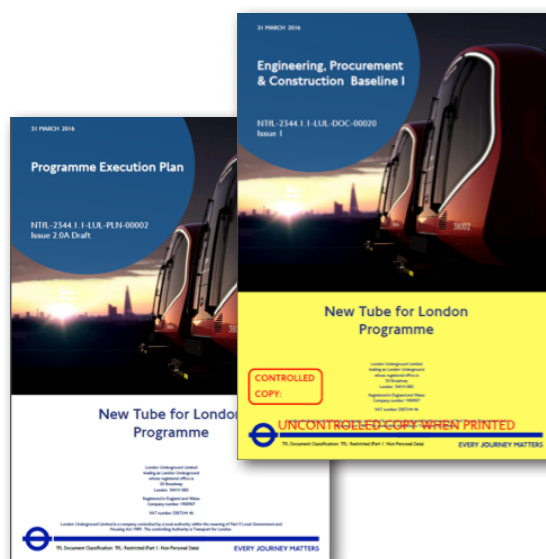


Fig. 3: Examples of Key Documentation

2. Clarity of Requirements

As stated above, the programme had lived in a fluid environment with scope and sequencing issues to the fore. The full Requirements suite has been refreshed and is currently undergoing impact assessment by the delivery team. With continuing cost pressures, the need to be agile in reviewing scope, maintain timing and delivering efficiencies will be paramount while maintaining rigour in change alongside a recognised baseline.



Fig. 4: One element of Requirements



Fig.5: Operations and Maintenance Concept

3. Need to Engage Workforce – referring to the Operational and Maintenance organisation

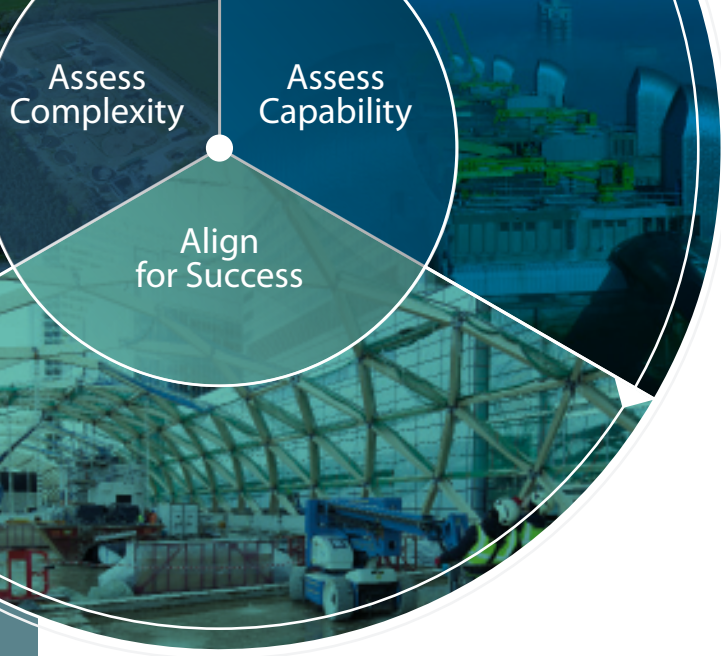
There was a concern about the level of engagement with the operational and maintenance side of the business. A clear delineation has been made that the delivery programme is accountable for the enablers – rolling stock, signalling, platform modifications, depot development – that will allow operational and maintenance transformation. The accountability for transformation in those areas lies with the Sponsor and the Operations and Maintenance Directorate. Engagement has come in the form of creation of the Requirements and the development of an Operations and Maintenance Concept that will drive change activity.

4. Governance Structures – at Programme Board and higher organisational levels

The development of Strategy, Requirements and Operations and Maintenance (SROM) and Engineering, Procurement and Construction (EPC) sub-committees to complement the Programme Board has allowed actions to be completed at a more granular level. At an organisational level, multiple governance layers can lead to protracted approval timescales. This was a point of focus for the IPA and has been recognised in a TfL Leadership Team Paper – the point awaits resolution.

5. The Ability to be a Good Client

NTfL is committed to being a lean client. Engagement with Suppliers in current transactions – the Rolling Stock Invitation To Negotiate (ITN) was released in January 2016 while the Communications Based Train Control (CBTC) Pre-Qualification Questionnaire (PQQ) was published in March 2016 – is proving positive. The wider delivery and procurement strategy which will involve multiple partners in various forms is being developed as planned and making use of the Routemap.



Key Challenges and Issues Going Forward

Programme Management is always a dynamic environment, as all readers will recognise. TfL's Commissioner has laid out the four stark realities of **Demand, Money, Politics and Technology**. External and internal environments will continue to buffet the NTfL Programme over time – these may be funding constraints, stakeholder demands, supplier availability, internal re-organisations and many more. Like any enterprise, however, the NTfL Programme will continue to work to create a level of certainty that allows it to deliver effectively and provide value for money – while anticipating changes, targeting efficiencies and being ready with scenarios.

The IPA Routemap Final Report commented that:

- 'This is an extremely complex programme, comparable with High Speed 2, Crossrail and European Rail Traffic Management System (when using the same approach to profiling complexity).
- 'A programme of this level of exceptionally high complexity requires the sponsor, client, asset manager and market to have higher levels of capability than most traditional projects and this will take time to develop.'

The IPA Routemap

The IPA Routemap exercise findings have been used actively by the NTfL Programme to help guide the development of its capability. The Routemap provides a comprehensive structure based on good practice, providing challenge to pure opinion. It helps to integrate different functions and is a very practical tool which drives action. Not least, with its increasing use, the opportunity to benchmark and share lessons with other organisations will be significant. The IPA will continue to be a key partner in NTfL's growth.

NTfL Programme:

Delivering with Certainty with an Inspired and Capable Team