

Date: 24 February 2016

Item: Jubilee and Northern Lines Additional Trains Procurement

This paper will be considered in public

1 Summary

- 1.1 The Jubilee and Northern Line Additional Trains project was established to procure new rolling stock in support of service enhancements on the Jubilee and Northern lines.
- 1.2 These enhancements are being progressed under the London Underground World Class Capacity programme.
- 1.3 The project is proposing to release an Invitation to Negotiate (ITN) for these trains in April 2016.
- 1.4 The accompanying presentation, attached as Appendix 1 describes:
 - (a) Context and Project Overview;
 - (b) Requirements and Status; and
 - (c) Summary of Procurement Process.

2 Recommendation

- 2.1 **The Panel is asked note the paper.**

List of Appendices:

Appendix 1: Presentation on London Underground World Class Capacity Programme Jubilee & Northern line additional Trains (JNAT) Project signalling and train procurement.

List of Background Papers

None

Contact Officer: David Hughes, Director of Major Programme Sponsorship, London Underground
Number: 020 3054 8221
Email: hugheDa03@tfl.gov.uk



London Underground

World Class Capacity Programme

Jubilee & Northern line Additional Trains (JNAT) Project

Rail and Underground Panel

24 February 2016

Executive Summary

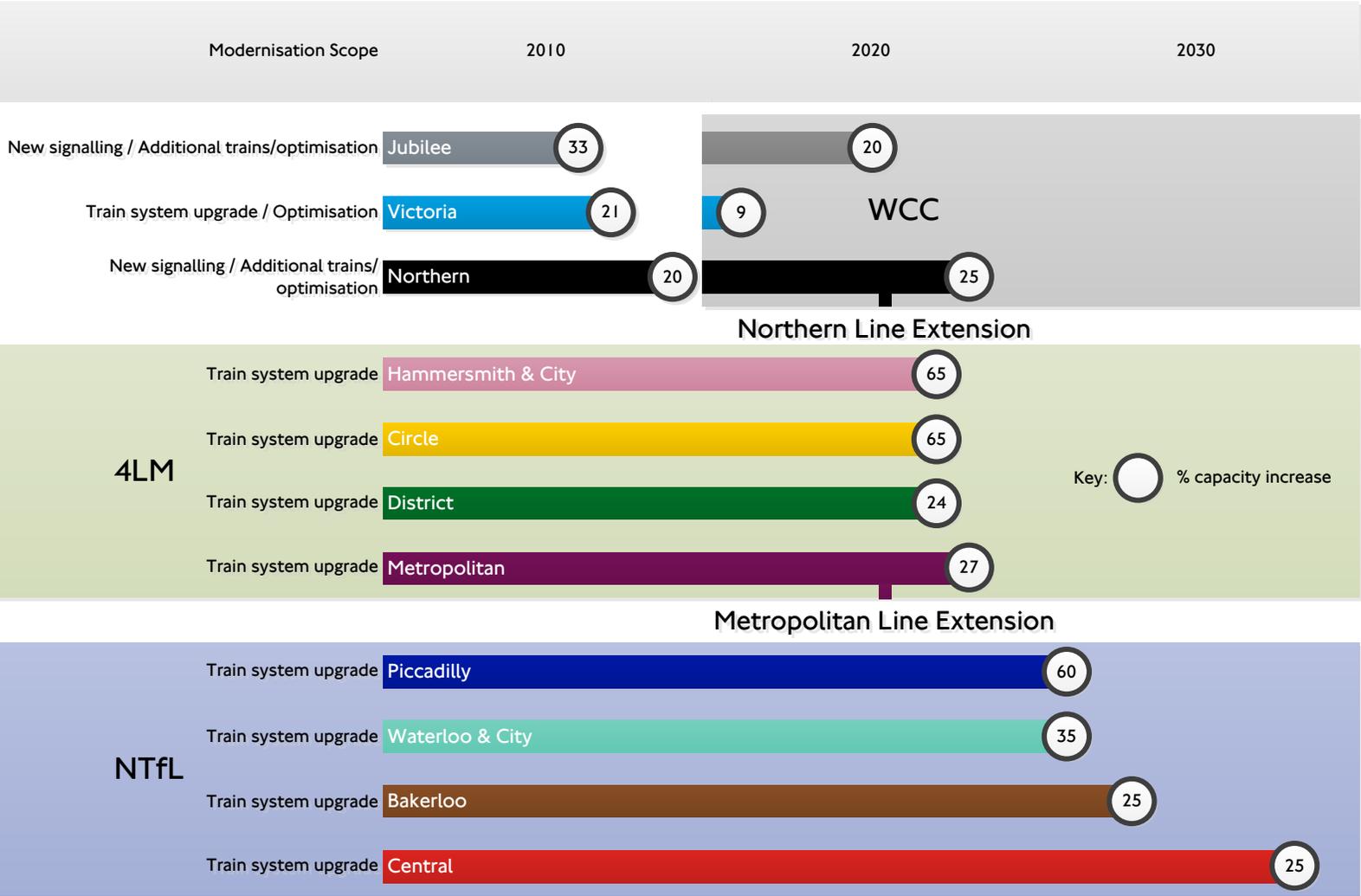
- Jubilee & Northern line Additional Trains (JNAT) will purchase additional trains for enhancements on the Jubilee and Northern lines
- Project authority for ITN development and release was granted at the July 2015 F&PC
- The technical specification has been subject to detailed review and the required fleet sizes confirmed
- The ITN is planned to be released in April 2016
- The structure and approach of the procurement mimics NTfL where relevant giving a consistent approach to the market
- To protect against the potential implications of the 2016 TfL Business Planning round on this programme, two prices will be sought to cover the key fleet size options:
 - a) 10 trains for the Jubilee line; and
 - b) 10 trains for the Jubilee line **plus** 17 trains for the Northern line (27 trains in total)
- This pack provides an update on the project, including: business context, requirements and status, and an overview of the procurement approach

Contents

1. Context and Project Overview
2. Requirements and Status
3. Summary of Procurement Process

Line Upgrades: Network Context

- Network wide programme of Underground modernisation



- The World Class Capacity Programme (WCC) will increase capacity on the following lines:
 - Jubilee (JLU2);
 - Northern (NLU2); &
 - Victoria (VLU2)
- JNAT was established to procure trains for JLU2 and NLU2:
 - It includes new trains for the Northern Line Extension (NLE)
 - Note: no additional trains are required for VLU2

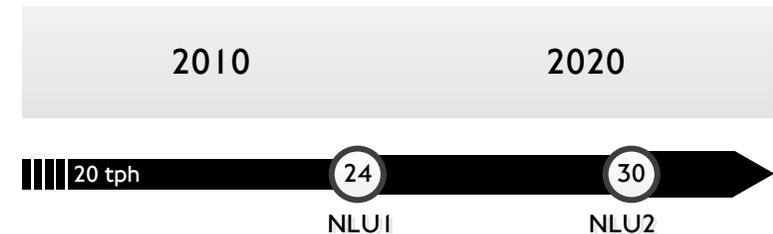
Jubilee line Upgrade 2 (JLU2)

- Optimisation of the upgraded Jubilee line
- Feasibility Phase concluded July 2014
- Single option selected which will increase peak trains per hour on Jubilee line from 30tph to 36tph:
 - Fall-back option of 34tph
 - Off-peak will increase from 24 tph to 27 tph
- Target completion 2020
- Fully budgeted:
 - Includes budget for 10 additional trains to be procured under JNAT
- Benefit Cost Ratio 8.6 : 1
- One of the R&U capital programme's lowest risk, highest benefit schemes



Northern line Upgrade 2 (NLU2)

- Optimisation of the upgraded Northern line
- Feasibility Phase concluded November 2015
- Single option selected which will increase peak trains per hour on Northern line from 24tph to 30 tph on the City and Charing Cross branches
- Target completion 2022
- Benefit Cost Ratio 4.8 : 1
- Requires 17 additional trains to run uplifted core service and associated uplifts on branches



Contents

1. Context and Project Overview
2. Requirements and Status
3. Summary of Procurement Process

JNAT Progress Update

- August 2014 - PQQ issued:
 - For between 5 and 68 additional trains for the Jubilee and Northern lines
- November 2014 - three bidders shortlisted :
 - Alstom, Bombardier and CAF
- July 2015 – F&PC:
 - Approved granted for project to progress to ITN release
- July 2015 – February 2016
 - Northern Line Upgrade 2 feasibility stage complete, confirming fleet size requirement;
 - Detailed review of technical specification, including bidder engagement; and
 - Alignment of JNAT and NTfL procurement approach / process
- February 2016 – April 2016
 - Final preparations for ITN release

Financial Context

- As a result of the 2015 Comprehensive Spending Review, R&U may need to reduce its capital programme
- This will be confirmed over the coming months as part of the next round of TfL Business Planning during summer/autumn 2016
- The possible implications for the JNAT parent projects are as follows:
 - JLU2 – at risk, but of R&U's uncommitted projects this is one of the lowest risk, and highest benefit and therefore R&U's intention is to preserve this project in all scenarios;
 - NLU2 – at risk, and recognised as a lower priority than JLU2:
 - Value engineering is ongoing to ensure a lean cost for this scope;
 - Deferral is not recommended for this project as the payback time on the additional trains is limited by the asset life of the existing trains;
 - Further de-scoping is not viable as the scope selected to fit within the project budget has already been much reduced
 - Therefore, an NLU2 go/no-go decision is timetabled for autumn 2016 as part of the pan-TfL re-setting of the Business Plan, and until that point the procurement will be structured to keep all options open

Programme Requirements

Train type

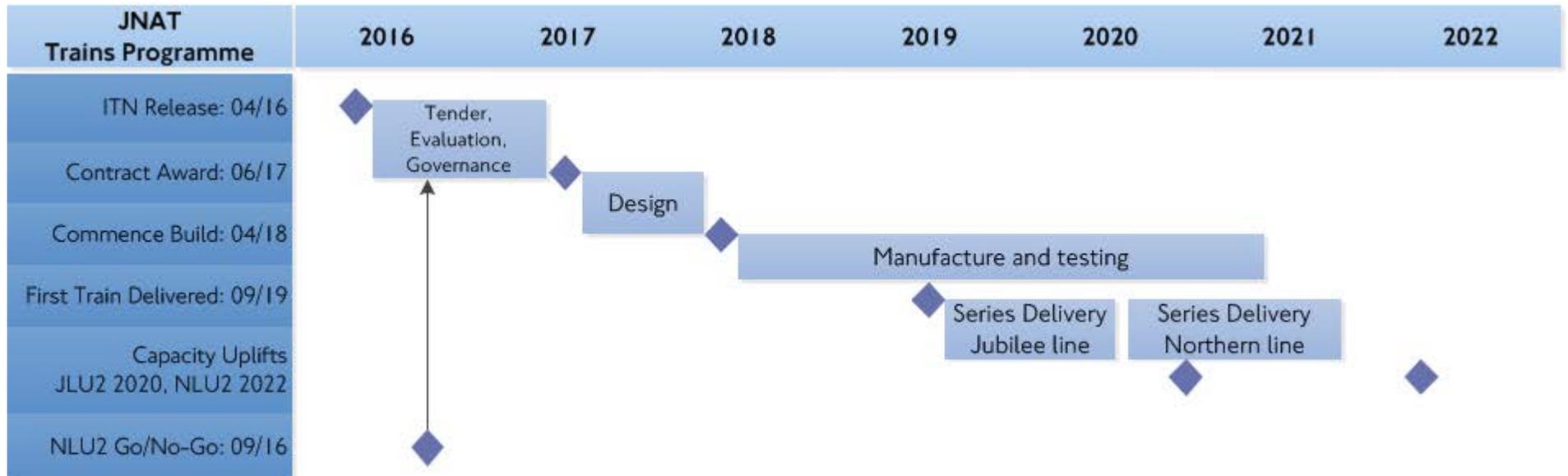
- Additional trains need to run alongside the existing 95/96 Tube Stock on the Jubilee and Northern lines
- New Tube for London style trains discounted:
 - Would not meet the Programme Requirements of the parent projects
 - Would not align with Jubilee Line Platform Edge Doors
 - Design costs and lead times would impact business case
- Numerous options for cascading existing fleets between lines were considered but dismissed due to weak business cases

Fleet size

- Given NLU2 funding position (set out on slide 9) ITN to ask contractors for two prices:
 - a) 10 trains (for Jubilee line); and
 - b) 27 trains (10 for Jubilee, 17 for Northern)
- In the event that NLU2 is not progressed, it is proposed that introduction of services to Battersea is accommodated from within the existing fleet of 106 trains

Rolling Stock Forward Programme

- Durations for the main elements of the JNAT rolling stock programme have been benchmarked against other similar projects
 - The conventional train requirements and smaller fleet size enable a quicker programme than NTfL
- Prompt ITN release will support delivery of the additional Jubilee trains in 2020 and Northern line in 2021
- This is required to enable service capacity uplifts in 2020 and 2022 respectively
- The NLU2 go/no go decision to inform tender evaluation is shown in autumn 2016



Contents

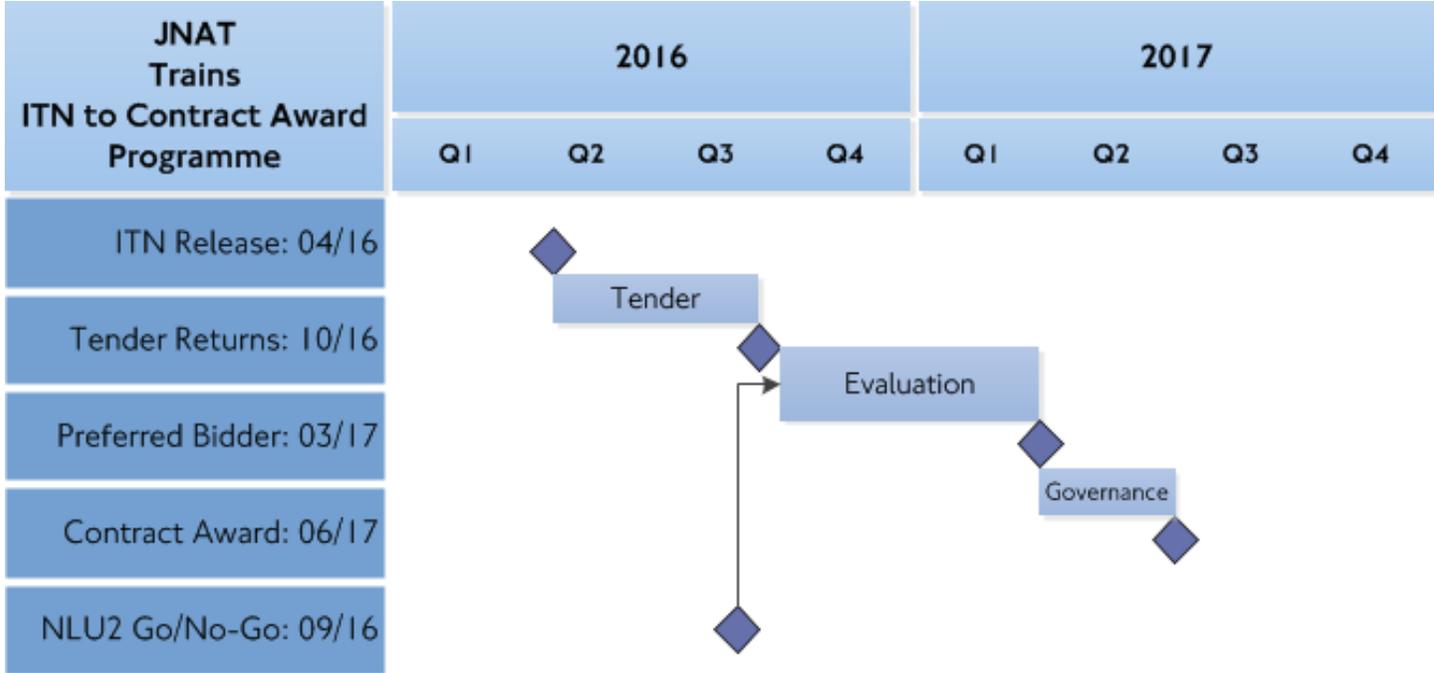
1. Context and Project Overview
2. Requirements and Status
- 3. Summary of Procurement Process**

Procurement Approach and Overview

- The JNAT ITN documents replicate the suite developed for the NTfL procurement
- This will:
 - Present a high degree of consistency of approach by LU to the rolling stock supply market, and
 - Avoid duplication of effort between the NTfL and JNAT procurement teams, and minimise expenditure on external legal advisers
- The ITN will comprise of five elements:
 1. Instructions for Bidders (ITB): provides background to JNAT, details of the procurement process and instructions to the bidders concerning the preparation and submission of their bids;
 2. Proposal Template (PT): stipulates the format of bid submissions;
 3. Manufacture & Supply Agreement (MSA): contains provisions for design, manufacture, testing, delivery and acceptance of the trains, and provision of spares/technical support during the warranty period;
 4. Fleet Support Agreement (formerly known as the Technical Support and Spares Supply Agreement (TSSSA)): contains provisions for the long-term supply of spares and technical support of the trains, and
 5. An electronic 'Data Room', which contains information to assist bidders in responding to the ITN

Trains Tender Period Timeline

- The proposed programme between trains ITN release and contract award is as follows:



- This shows the key stages and the timing of the NLU2 go/no-go decision associated with the TfL business plan which will confirm the bid option to be evaluated

Trains Tender Evaluation Stages

- The tender evaluation phase will generally follow the NTfL approach:
 - Stage 1 – General Review and Mandatory Requirements;
 - Stage 2 – Technical Compliance and Maintainability;
 - Stage 3 – Project Deliverability; and
 - Stage 4 – Whole Life Costs and Contractual Compliance
- Bidders need to pass each stage, meaning that only those bids which pass Stages 1-3 will be considered for the fourth evaluation stage
- Once these elements have been determined the “acceptable” bids will then be assessed to determine which offers the best overall value for money in Stage 4 of the process
- Stage 4 differs from NTfL slightly as follows:
 - It excludes benefit valuation as the specification is considerably more prescriptive than NTfL in order for the additional trains to interface with existing trains and infrastructure (PEDs) and to minimise Train Operator training;
 - It is therefore an assessment of the whole life cost of meeting the specification including supply cost and projected spares, maintenance, energy usage and carbon impact throughout the life of the train