# Governance for Railway Investment Projects (GRIP) application for Thameslink Programme

1. Introduction

Governance for Railway Investment Projects (GRIP) is a key Network Rail process for effective control over railway projects. Similar to RIBA Plan of Work, TFL Pathway, Prince2, APM and PMI frameworks, GRIP provides a structure to the life-cycle of NR projects and comprises of 8 stages from definition of required outputs through to handover for operational use and close out of the project. Each stage is designed to deliver a pre-determined set of outputs that demonstrate the readiness of the project to progress, or otherwise, to the next stage.
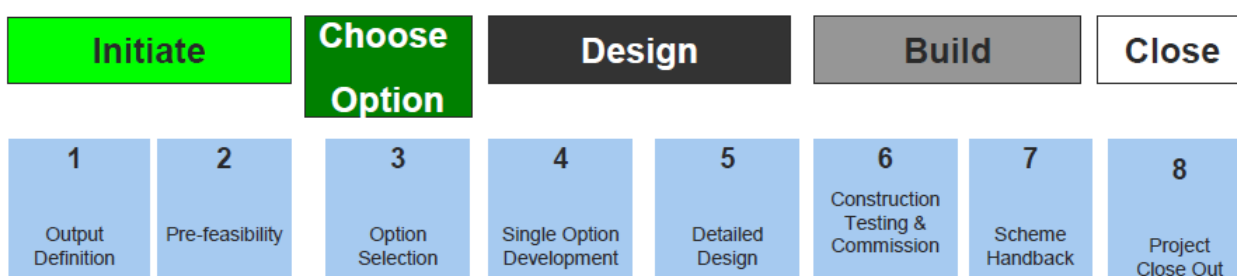
2. Background

Over the last 10 years, the delivery of infrastructure projects and programmes by Network Rail has come a long way and so have the processes for governance and control of these projects evolved to serve the operational challenges facing the company, adapt to various contractual arrangements for project delivery as well as meet the demands of multiple stakeholders.

Apart from the re-development of iconic stations like London Bridge, Blackfriars, Farringdon and the huge physical infrastructure improvements (signalling, track, telecoms, depot and rolling stock) that the Thameslink Programme (TLP) brings to the railway network, perhaps one of the many achievements to be admired by the industry is how GRIP was applied to such a diverse, multi-discipline, major programme by adopting a flexible but structured governance approach.

Using the experiences gained from predecessor programmes, Thameslink's team integrated the GRIP lifecycle with planning, execution, risk management, change control, reporting, assurance, H&S and document control processes to produce the **Thameslink Integrated Management System (TLP IMS)**. This was done by streamlining governance reporting, introducing the use of process maps, modified templates and centralised Project Management Office (PMO) operations.

3. Guide to Governance - Perception Matters

Thameslink Programme made key contributions (as part of the working group) in the transformation of Network Rail's project management methodology from "Guide to Railway Investment Projects" to a full corporate standard - Governance for Railway Investment Projects (GRIP).

Prior to 2010, GRIP was not a Network Rail company standard - it was then the "Guide" to Railway Investment Projects, which too many Thameslink and Network Rail personnel understood to be *advisory and not mandatory",* despite it being cited in the Network Rail Safety Management System as the way in which infrastructure project shall be delivered. So, everyone interpreted their understanding of the "Guide" based on their circumstance and experience. For instance, 18 different versions of GRIP trackers were discovered in all the projects within Thameslink after an internal audit in 2009. There was neither a strategic alignment at the

programme level nor a dedicated resource to follow up actions and make sure that compliance or deviation issues at project level were resolved in a timely manner.

The successful delivery of a GRIP compliant project requires project managers to produce a set of agreed documents that define how the project will be delivered. These documents are known as GRIP deliverables. However, there was no single list of these deliverables meaning that PMs often forgot to produce them. This in turn prevented project transitioning between GRIP stages. Our first success was to amalgamate all these disparate lists into the GRIP Compliance Matrix. This will be expanded upon later in this paper.

Let us start at the beginning with how TLP got a grip on GRIP.

4. What we did and how we did it

4.1 Lessons from previous Network Rail Programmes - WCRM and KXRP

We met with the key personnel who were involved in both the West Coast Route Modernisation (WCRM) and Kings Cross Redevelopment Programme (KXRP) to learn about how they applied GRIP, the challenges they faced, what worked well for them and what should be avoided. The knowledge transfer and support from these Network Rail GRIP champions infused our determination to get a grip on GRIP by making sure that we re-energised it and spread the enthusiasm amongst colleagues.

4.2 Survey Questionnaire and Consultation Workshops

One of the first steps we took was carrying out a survey to gauge amongst other things, the training level that colleagues had on GRIP and project management (PM) in general. The questionnaire was emailed to over 620 TLP colleagues, with 352 responses received (about 56%). From the feedback analysis we made, the following points were obvious:

- Approximately 10% were satisfied with the GRIP or PM training they had, but were less confident in its day to day application.
- About 28% had some generic GRIP/PM training but with no specific Network Rail real life contents or case studies for them to identify with and therefore lacked the confidence to apply the GRIP principles in their roles.
- 62% had no form of GRIP or PM training and would like to be equipped to apply GRIP as a tool in their jobs.

Based on these outcomes, we resolved to revamp the GRIP training and induction process because in the words of Grady Booch "a fool with a tool is still a fool".

We also conducted a series of consultation workshops both to create awareness of GRIP and to find out what improvements our colleagues would like to see. These were focused mainly on how they apply GRIP to their daily tasks and separate sessions (with slightly different focus) were held for the teams as follows:

- Development and Sponsor – Making GRIP administration simpler & more efficient
- Engineering & Assurance – Improving assurance & visibility of GRIP in TLP
- Delivery & Project Management – Demonstrating compliance with tracking of deliverables
- Support functions (Document Control, Commercial, Finance, Team Organisers, Planners, Reporting
- Specialists and Programme Analysts) – What has GRIP got to do with my role?

The feedback and output from the sessions helped in the update of our GRIP Compliance Plan and GRIP Compliance Matrix.

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Simon Blanchflower
Major Programme Director – Thameslink

4.3   GRIP Compliance Plan & Matrix

There was no central baseline of deliverables as they were scattered in different Network Rail delivery manuals as well as the "Engineering Cookbook" – a spreadsheet within the corporate intranet portal that had over 600 items (many of them were activities not deliverables, while others were duplicate products for individual disciplines like - Engineering Remit, PM Remit, Client Remit, Development Remit and Environment Remit etc).

With the support of the Thameslink Board, the GRIP Compliance Plan - the strategic document that sets out how the Thameslink Programme applies GRIP – was updated to introduce kick off meetings, interim stage gate reviews, sponsor reviews (these are explained latter) and programme level GRIP reviews as well as mandating for Stage Gate Reviews (SGRs) to be chaired and signed off by the Sponsor and delivery personnel in Network Rail Band 2 and above.

Also (working with both the Head of Engineering and Head of Sponsorship), we introduced the GRIP Compliance Matrix (GCM) which provided the master list for all the deliverables and served as the Stage Gate Review (SGR) checklist. The products were sorted into three categories:

- Programme level – overarching strategic documents covering the entire TLP
- Composite – Programme Level documents with project level supplements
- Project specific - produced and maintained by the designated Project Delivery Team for each individual project, if identified as a requirement for the project stage at the Kick Off Meeting/s with the Sponsor and the Head of Engineering.

The work on the matrix began by combining the various lists (engineering cookbook and delivery manuals) together, taking out all the non-product activities and aligning all the duplicates, developing guidance notes and templates as well as good practice examples. This continued to be streamlined with each annual revision of the GRIP Compliance Plan.

The GRIP Compliance Plan and Matrix were underpinned by the introduction of **Thameslink Integrated Management System (TLP IMS)** which enabled us to use process maps to visually depict the relationships between GRIP and other processes like:

- Investment Authorisation
- Planning & Programme Control
- Project Reporting
- Station Change & Network Change (SCN & NCN processes)
- Design Compliance Verification Review & Engineering Validation Review (DCVR & EVR)
- Delivering Works Within Possession

4.4   Thameslink specific GRIP training course and mandatory GRIP inductions

"It is essential that those who are involved with project development and delivery are familiar with GRIP and equipped to implement it" (Simon Blanchflower: Major Programme Director – Thameslink)

With the above statement of endorsement, we adapted the 2 day Network Rail GRIP training presentation and made it Thameslink specific with TLP case studies. The 3.5 hours course had local experienced personnel as presenters, TLP examples, as well as interactive exercises and role plays. 32 sessions were ran across four TLP offices between 2010 – 2012 with an average attendance of 12 people per session and a positive feedback score of over 80% from all participants. Mandatory GRIP induction was also introduced for all personnel joining the Thameslink Programme in order to help them understand how GRIP is applied in TLP and who to contact for further guidance.

4.5   Strengthening Kick-Off Meetings and Stage Gate Reviews (SGRs)

The kick-off meeting at the start of every GRIP stage was required to provide opportunity for the project team and sponsor to consult the functional experts and technical authority in determining what products were required to be delivered for that particular GRIP stage. The final agreed list from the kick-off meeting/consultation was baselined, signed off by the Senior Sponsor, Head of Engineering and Programme Manager which then became the deliverables to be assured for completion at the Stage Gate Reviews.

4.6 eGRIP

It proved difficult to provide management reporting against GRIP products for instance percentage complete, and we tried to solve that problem (late in the programme) with the introduction of eGRIP. eGRIP is a bespoke reporting system that interrogates the programme's electronic document management system (EDMS) to provide metrics on the status of GRIP deliverables held in the EDMS. Since the introduction of eGRIP in 2017, it is used by TLP projects to support SGRs at the end of each stage and as a "filing cabinet" for collating the deliverables and their Product Acceptance Forms (PAFs). PAFs are used for the independent review by technical experts to assure that deliverables were of a suitable standard.

In hindsight, it would have been better if eGRIP was introduced earlier in the programme. Due to its late feature, key GRIP deliverables were already identified but not included within the (for instance design and build) contractors programmes, rather we had just design products and construction activities, which we had to retrospectively add and tracked using the reporting tool on eGRIP.
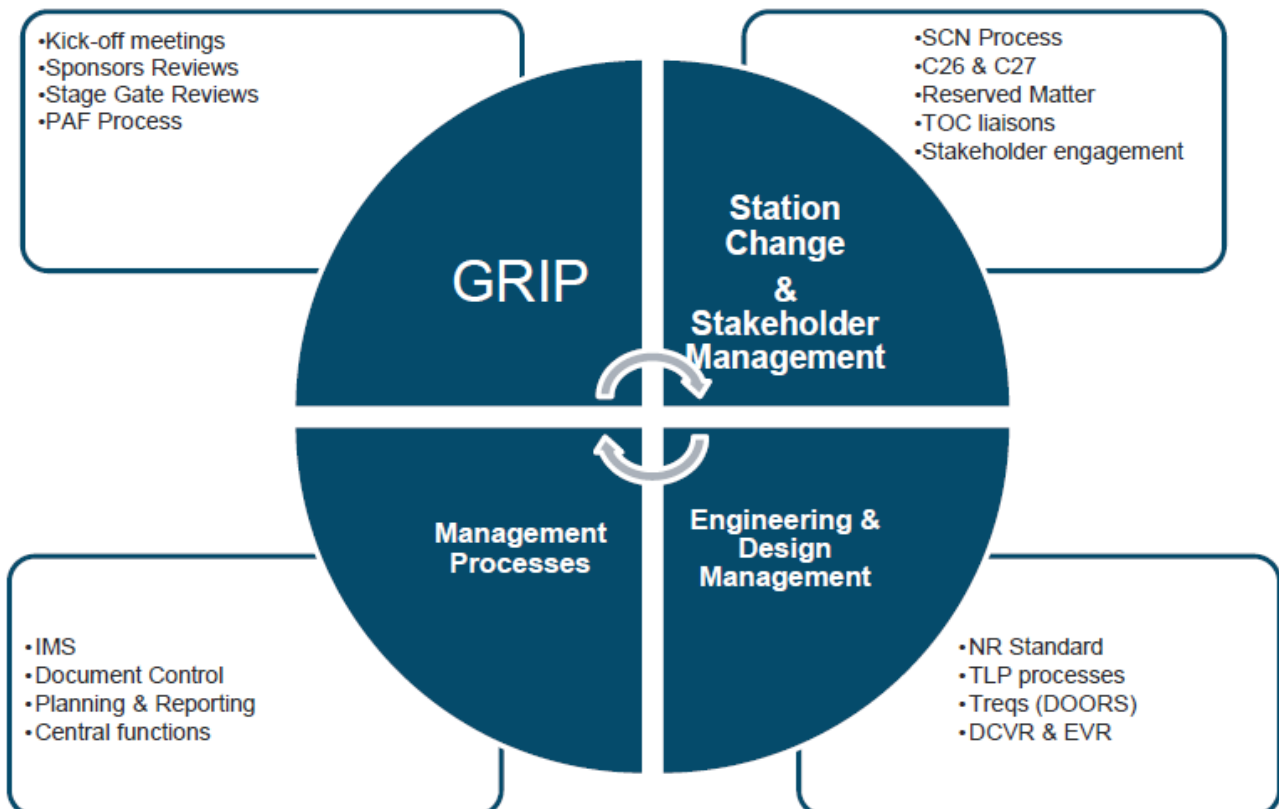
5. Key Lessons

The main challenge to governance in major programmes or any project is the ever present factors of behaviour, relationships, power, politics and influence. However, the effectiveness of any governance initiative largely depends on senior management endorsement and a bottom-up commitment to changing the culture and sometimes structure to allow for positive change.

For instance in London Bridge Station Redevelopment (LBSR) we had to set up a Development Team who served as the "conscience" of the project in all matters relating to governance and key Network Rail processes like GRIP, DCVR & EVR. They provided a lot of confidence to the client, contractors and wider stakeholders by making it easier to apply processes like Station Change Notices (SCN), Early Warning Notices (EWN) through interfaces with the Sponsor, TLP Central functions, other projects, passengers and station management as well as liaison with Train Operating Companies (TOCs). See the chart overleaf for illustration.

It is important for knowledge to be transferred and opportunities for improvement captured for the benefit of any future major programme. Outlined in the next section are some of the issues to avoid, good practices and recommendations to future programmes.

Key Processes as Applied in LBSR

- Kick-off meetings
- Sponsors Reviews
- Stage Gate Reviews
- PAF Process

- SCN Process
- C26 & C27
- Reserved Matter
- TOC liaisons
- Stakeholder engagement

GRIP

Station Change & Stakeholder Management

Management Processes

Engineering & Design Management

- IMS
- Document Control
- Planning & Reporting
- Central functions

- NR Standard
- TLP processes
- Treqs (DOORS)
- DCVR & EVR

6. Lessons learned for future Infrastructure Programmes

- Insufficient number of Document Controllers earlier on the programme especially key output zero (KO0) and key output one (KO1) leading to loss of valuable information and delays in filling the backlogs of project deliverables.
- Changes to different EDMS (electronic document management systems) and slow migration of data between them (from CCMS to CCMS2 to MOSS and now eB).
- Preventing individual projects from selecting an EDMS of their own choosing.
- Too much focus on construction/delivery milestones with little emphasis on following the supporting processes and documentation especially for KO0 and KO1.
- Reliance on individual project managers' experience in determining what needs to be delivered for a GRIP stage – no kick off meetings with the sponsor and other stakeholders.
- Lack of clarity on what actual documentation should be applied to satisfy some GRIP products.
- No GRIP specific induction and training for personnel joining the programme.

7. Best practice for future Infrastructure Programmes

- Dedicated GRIP resource to support the project teams and senior management in setting policies and monitoring implementation. Also dedicated resources within project teams.
- One GRIP compliance matrix embracing all documents required by the functions with guidance information on why individual products are needed for relevant stages.
- Mandatory Kick-Off Meetings for every GRIP stage where stakeholders agree products tailored to the specific project and signed off by the Senior Sponsor and Programme Manager – this forms the baseline for validation at the Stage Gate Review.
- GRIP specific induction and training for all personnel (we had 85% positive feedback from 48 sessions which held 2010 - 2012).
- Use of IMS and process maps that links to templates and good practice examples as well as the integration of other supporting processes like station & network change, planning & programme control, investment authorisation, project reporting, delivering works within possession and contracts & procurement.
- Independent assurance of project deliverables using the product acceptance forms (PAF) process by functional experts.
- Senior Management involvement via the six-monthly Programme Level GRIP review where the actions from previous SGRs of all projects are examined and plans for coming ones are scrutinised by the Thameslink Executives.
- Empowerment of document controllers to be gate keepers of the EDMS
- Six monthly "Sponsors Reviews" especially for design and build contracts where the boundaries between stages are not as clear cut as it should be and where GRIP stages lasted over many years. For instance LBSR started construction long before the GRIP 5 design was finished.
- Interim SGRs which support progressive assurance – rather than leaving all products to the final stage gate review.
- eGRIP should be mandated in the future especially if the functionality and user-friendliness is improved so that it doesn't just serve as a filing cabinet.
- For London Bridge Station, GRIP was properly captured within the contract technical specifications both generally as it is an NR standard and specifically for particular products. In the London Bridge Station Redevelopment (LBSR) contract, the contractor is required to "support the GRIP process" and most GRIP products are specifically identified as deliverables in the contract technical workscope at design, construction and closeout stages. One example is the Design Compliance Verification Review (DCVR) where the contract made specific requirement for traceability between design deliverables and the Project Design Specification (PDS).

8. Conclusion

It is very encouraging to note that after the 2010 launch, the Network Rail GRIP standard has been updated and further streamlined to make its use and application easier. However, our experience has shown that GRIP works best when it blends together with integrated management system, effective document control, alignment of relevant company processes and supported by dedicated resources.

We would recommend the use and continuous improvement of GRIP to deliver projects and programmes because:

- It provides a flexible framework
- Incorporates good project management practice
- Allows choice of products based on complexity of projects
- Promotes regular health checks via stage gates
- Provides an auditable trail of products
- Keeps the project team honest!