



Report to: Finance Group
Agenda item: 7
Date: 19 March 2013
Subject: BTP CCTV Hub Phase 3
Sponsor: Director of Corporate Resources
For: Decision

1. PURPOSE OF PAPER

- 1.1 This paper summarises the full Ebury CCTV phase 3 Business Case. More detail can be found in the main document, and associated appendices.
- 1.2 The purpose of this paper is to obtain sign off for the Network Rail funding agreement of £1.8 million for the initial elements of Phase 3 of the CCTV Programme.

2. BACKGROUND

- 2.1 CCTV is a major aspect of BTP operational policing. Significant investment has been made of circa £8million to develop Phases 1 and 2 of the BTP Pan London CCTV Hub at Ebury Bridge. Phase 1 of the project provided a total of 31 CCTV workstations with the capability of accessing 7 rail transport CCTV systems that were integrated with the IPSC systems integration software. In addition to being able to view live and recorded images, CCTV operators are able to download recorded images (rail operator specific) and have the ability to push images to other locations or workstations.
- 2.2 Phase 2 further developed BTP's CCTV capability through the deployment of IPSC system at other key BTP and MPS Command and Control locations. An additional 7 rail operator CCTV systems were added to the IPSC, providing a footprint of 14 rail operators, 650 stations and 40,000 cameras in total.
- 2.3 The existing CCTV capability has been a huge success and has delivered a number of business benefits. It has been recognised that CCTV is now a critical tool for BTP in



event management, live viewing and post incident investigations. Phases 1 and 2 have delivered a number of benefits to BTP which include:

- Better accessibility to CCTV and capability for Live CCTV monitoring to identify suspicious and criminal behaviour
- Capability to push images to FCRL and FCRB¹
- Capability to rewind footage to enable rapid decision making
- Release of officer time by reducing involvement in requesting and downloading CCTV from TOCs
- Enabling CCTV to be used as an investigative tool to help identify suspects or witnesses and identify areas for forensic opportunities

2.4 With BTP using CCTV more proactively, it is necessary that the BTP system is further enhanced to provide a more resilient and efficient CCTV service. CCTV can now be used in new and innovative ways to support passenger safety, improve the judicial process through increasing timely judicial outcomes, support force priorities through policing initiatives such as Theft of Passenger Property and combat the current heightened national security threat.

3 PROPOSAL

3.1 Phase 3 of the CCTV Programme will continue to be funded by Network Rail and seeks to deliver two distinct deliverables. These are:

- Foundation Scopes (Funding of £1.8 million secured) to be delivered by March 2014
- Priority Scopes (Funding Proposal currently with Network Rail)

¹ Force Control Room London and Force Control Room Birmingham



3.2 A breakdown of the deliverables under the Foundation Scopes is outlined below:

3.2.1 A refresh of the IP Security Centre (IPSC) integrated CCTV system

- This scope will make an enhancement to system capacity by upgrading the platform resulting in improved scalability allowing a near infinite number of streams to be added to IPSC
- The refresh will provide improved mapping facilities to allow CCTV operators to obtain quick access to CCTV cameras across stations and increased system monitoring capacity to existing street camera locations
- Capability for playback of images and the ability to push them around the BTP estate where functionality is currently not available
- Upgrade of the Spot² recording solution allowing CCTV operators to obtain appropriate recorded images for investigation and intelligence

3.2.2 Network Improvements

- A review of the required level of security will result in improvements in network security from a physical and network perspective. Network enhancements of the Ebury Bridge hub will enable the CCTV system to be linked to other disparate systems across BTP. This is in alignment with Phase 2 of the CJS Efficiency Programme which focuses on the efficient capture of evidence and the emphasis of a 'digital first' approach through reducing the manual capture of evidence. Alternatively evidence should be collected digitally at the first point such as through body worn video or mobile data.

3.2.3 Refresh of existing video walls to manage CCTV in a flexible manner

- This scope will result in the refresh of video walls that have reached their capacity limits and are due for an upgrade. The new video walls will be able to incorporate multiple screens, examples of which include social media information, site maps, strategic plans and broadcast news enabling BTP control rooms to manage CCTV in a more flexible manner.

² Spot recording is the ability to instantly record live CCTV



3.3 A number of priority scopes are also scheduled for completion prior to March 2014. These include new integrations to strategic Rail operator locations. These are outlined below:

- Arriva Train Wales
- NR Blackfriars
- NR Kings Cross
- NR Glasgow
- NR Edinburgh
- NR Birmingham New Street
- NR Out of London Station Improvements
- Brent/Westminster/Heli/Tele
- St Pancras International
- High Speed 1
- Scottish Processing and Events Room
- Digital Evidence Repository³

3.4 In addition to the defined short-term project scopes there is an intention to improve the system incrementally over a further 5 year period. These additional scopes will be Network Rail funded through the CP5 funding stream. Initial discussions for the proposed longer-term work stream have taken place with Network Rail and a subsequent business case will be submitted to Network Rail following discovery workshops within BTP to understand the detail of the proposal going forward.

3.5 The longer term proposals are expected to provide additional TOC integration, on train CCTV footage and further infrastructure improvements enabling BTP to become industry leaders, in alignment with the CJS Efficiency Programme and ensuring that evidence is captured efficiently through a 'digital first' approach. Examples of these include:

- A CCTV Imagery network
- Live streaming of body worn cameras

³ Single repository for the storage of all digital evidence across BTP



-
- Automatic Number Plate Recognition (ANPR)
 - Streaming of CCTV footage into custody suites for early charging decisions

4. BUSINESS BENEFITS

4.1 The completion of Phase 3 of the CCTV Programme has a number of business benefits which include:

- An increased viewable footprint with improved CCTV coverage to support live viewing for intelligence gathering and/or serious and critical incident decision making, intervention and deployments
- The CCTV Digital Evidence Repository will be a single repository for the storage of all digital evidence across BTP and whilst increasing storage space it will also reduce the cost of DVDs and CDs
- Increased scalability will allow BTP to incorporate additional streams to the IPSC in the future

5. STRATEGIC BENEFITS

5.1 Phase 3 of the CCTV Programme will also result in business benefits that are aligned to BTP's 2013 - 2019 Strategic Plan. These include:

- **A 20% reduction in crime** – An effective CCTV system will reduce crime and disorder and protect the railway environment by reducing the turnaround time for all priority cases. An increased CCTV footprint will assist in timely production of CCTV evidence packages speeding up the investigation process and supporting frontline officers.
- **A 20% reduction in disruption minutes** – A more robust and efficient CCTV system with the right coverage, CCTV operatives and connectivity will enable better and more accurate decision making reducing delay caused by disruption.
- **A 10% increase in passenger confidence** – Phase 3 of the CCTV Programme will improve victim or rail customer reassurance and confidence by providing precise information through enhanced customer friendly capabilities for example when talking step by step through a case with the victim whilst viewing CCTV.



6. FINANCIAL IMPACT

6.1 The cost profile outlined below shows the financial breakdown of all the Foundation Scopes due for completion by March 2014. Additional funding to commence work on the Priority Scopes will require supplementary funding once the Foundation Scope works are completed and benefits are realised.

Network Rail CP4 Funding

| Deliverable | Funding Contribution | Contingency |
|--|-----------------------------|--------------------|
| Project mobilisation | £78,000 | £3,900 |
| Review Network Security | £10,000 | £500 |
| Server room infrastructure - core | £200,000 | £10,000 |
| IPSC Existing TOC/NWR Re-Mapping Surveys | £250,000 | £12,500 |
| Server room infrastructure- Support | £160,000 | £8,000 |
| Review / Implement Ebury Bridge Security Level | £100,000 | £5,000 |
| Completion of IPSC core platform to IPSC V5.0 | £250,000 | £12,500 |
| Develop National Network Architecture | £90,000 | £4,500 |
| Video Wall Refresh | £222,000 | £11,100 |
| - IPSC Map Navigation Interface | £210,000 | £10,500 |
| - Reporting Tools | | |
| - Improve Playback Push | | |
| - Upgrade Spot Recording | | |
| - System Configuration repair tools | | |
| IPSC Existing TOC/NWR Re-Mapping Implementation | £150,000 | £7,500 |
| Subtotals | £1,720,000 | £86,000 |
| Total cost of the Works and Services including retention and contingency excluding VAT | £1,806,000 | |

7. RECOMMENDATIONS

7.1 It is recommended that the Network Rail funding agreement for £1.8 million for the Phase 3 Foundation Scopes of the CCTV Programme is accepted.

**Ebury CCTV Hub Phase 3****BUSINESS CASE**

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Version: **0.5**

Date Issued: **15/02/2013**

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Revision History

| Version | Date | Comments |
|----------------|-------------|---|
| 0.1 | 27/12/2012 | Initial Draft |
| 0.2 | 31/12/2012 | Reviewed and updated |
| 0.3 | 02/02/2013 | Updated following review |
| 0.4 | 03/02/2013 | Review version |
| 0.5 | 15/02/2013 | Updated procurement section after workshop presentation |
| 0.5 | 20/02/2013 | Approved by SIB |
| 0.5 | 27/02/2013 | Approved by FEB |
| 0.5 | 01/03/2013 | Approved by Tech Board |



Table Of Contents

| | | |
|-----------|---|-------------------------------------|
| 1 | Purpose of Document | 3 |
| 2 | Executive Summary..... | 3 |
| 3 | Strategic Case..... | 5 |
| 4 | Typical rail Industry CCTV System capability..... | 6 |
| 5 | Current BTP Operational CCTV capability..... | 7 |
| 6 | Defining the Police Operational CCTV requirement | 9 |
| 7 | Proposed scope..... | 10 |
| 8 | Financials | 19 |
| 9 | Outline benefits..... | 23 |
| 10 | Governance | Error! Bookmark not defined. |
| 11 | Project Delivery..... | 29 |
| 12 | Procurement Strategy | 32 |
| 13 | Project Risks & Issues | 33 |
| 14 | Appendix 1 Proposed Scopes | 34 |
| 15 | Appendix 2 Proposed Timeline | 35 |



1 PURPOSE OF DOCUMENT

The purpose of this outline business case is to:

- Communicate specific Police requirements (within the strategic context) for the need to improve upon the British Transport Police (BTP) Closed Circuit Television (CCTV) system that has been implemented through Phases 1 and 2 of the BTP CCTV project
- Evidence the need to access fit for purpose live and recorded CCTV images, from additional rail transport operators and other CCTV owners, across a dedicated BTP CCTV network
- Communicate Safety and Security requirements for rail transport operators and Police
- Outline current and typical Rail Industry CCTV system capability and constraints
- Outline BTP's current operational CCTV capability
- Present the proposed new Phased Delivery Plan
- Benefits to support Safety and Security

2 EXECUTIVE SUMMARY

Approximately 2.5 billion passenger journeys each year are made using Britain's mass transit rail system. The rail network by definition is an open system and is difficult to protect against crime, disorder and terrorist related activities. The ability to quickly respond to incidents and make the appropriate decisions whilst attempting to keep the network operational, is becoming an increasing challenge. Disruption to the running of services can be costly to train operators and extremely frustrating for the travelling public.

Network Rail have various initiatives that can be influenced and improved by implementing enhanced CCTV, some of which are improving information during times of disruption, minimising delays to the Rail Network and reducing the size and quantity of CCTV downloads. Each of these initiatives has been communicated to BTP and has provided part of the incentive for this Business Case.

BTP also have aspirations to enhance further their CCTV capability, following recent successes with the current CCTV system during major events such as the Olympic Games, the Paralympic Games and the Queens Jubilee Celebrations. Following these successes these aspirations have been further endorsed and have created more appetite for a National CCTV capability utilising new technologies to realise the full benefit of the available CCTV.

Over and above the day-to-day Rail and BTP initiatives, further evaluation of the terrorist threat to crowded places, and evidence from historical events shows the UK railway and transport hubs to be a major target for terrorist activity. Any attack on the railway will engender fear among the public and seriously affect confidence in security and the national economy.

CCTV remains a major aspect of the BTP day-to-day event management; post incident production and National Counter Terrorism strategy, and following the Queens Jubilee Celebrations, London Olympic and Paralympic Games, has become a more prevalent tool



Ebury CCTV Hub Phase 3 Business Case

within BTP; other Police Forces and Government agencies to manage events and manage retrospective investigations.

The current condition of the rail transport industries CCTV infrastructure can be fragmented, disjointed and inefficient. Both legacy systems and newly implemented systems vary considerably and use different operating systems and technologies. In the absence of any industry wide CCTV regulations, Operators are at times implementing systems (which are designed to support the safe operations of trains and stations), that are not capable of producing images that can be shared, retrieved or used effectively for enforcement purposes. Not only does this put the railway network at risk, it also leads to Rail Operators, BTP and other Police / Security Services wasting time and resources trying to deal with the disparate systems.

The rail transport industries CCTV systems are typically a local station-based CCTV system installed at each of the controlled stations, allowing local live viewing of images and recording of CCTV cameras. Some of these are currently connected to the rail operators network operating centres and subsequently 14 have currently been made available to BTP to access at the BTP Ebury Hub, and other key BTP CCTV locations, albeit most have limited capability due to the rail operators CCTV system or transmission network constraints.

There is a requirement for Police to have the capability to, remotely, view live and review recorded station CCTV images, from key rail transport industries stations, in appropriate police command and control environments, to support investigations into criminal activities, respond to incidents such as person under a train and inform the immediate tactical response to incidents. This has been partly achieved through Phases 1 and 2 of the CCTV project, however further connections could and should be made and the existing connections to the Rail industry can be improved upon.

Significant investment has been made of circa £8million to develop Phases 1 and 2 of the BTP Pan London CCTV Hub at BTP Ebury Bridge, FHQ London, FCRL, and FCRB. These facilities improve the effectiveness of user functionality and overcome the difficulties of connecting into multiple CCTV systems, by the development and deployment of a systems integration platform, IP Security Centre (IPSC). This platform provides the capability to deliver multiple rail transport CCTV systems through a common front end user interface.

As well as the BTP and Network Rail investment a further £6million has been invested into improving BTP's access to 111 high priority London Underground Stations. These works have provided BTP with dedicated access to live and recorded images, with export capabilities potential possible in the future. This is a significant improvement on the life expired legacy system that previously existed.

Phase 1 of the Hub project provided a total of 31 CCTV workstations at Ebury Bridge with the capability of accessing 7 rail transport CCTV systems that were integrated into the IPSC systems integration software. In addition to being capable of viewing live and recorded images, they are able to download recorded images (rail operator specific) and have the ability to push images to other locations or workstations.



Phase 2 included deploying the IPSC Software at other key BTP and MPS Command and Control locations and adding an additional 7 rail operators CCTV systems into the IPSC, thus providing a footprint of 14 rail operators in total.

Whilst Phases 1 and 2 have provided BTP with the ability to access multiple CCTV systems, unfortunately due to the limitations and constraints of some of the rail operators CCTV systems and transmission networks, varying levels of performance is achieved.

This paper explores and promotes the extension of Phases 1 and 2 works through a further Phase 3 scope. In addition to making essential improvements to the rail operators CCTV systems and transmission networks, it also looks to increase the access to further rail operators CCTV systems, provide the ability to share access to additional locations, provide national resilience and transport data over a dedicated BTP imagery network.

Within the strategic context, this paper offers commentary on the planned improvements and delivery plan to meet the Phase 3 requirements and realise the benefits outlined.

3 STRATEGIC CASE

It has always been Network Rail and BTP's intention to incrementally build upon the solutions that have been deployed at Ebury Bridge, through Phases 1 and 2 of the CCTV project.

It is proposed to achieve this by expanding the existing system to have national coverage whilst capturing and distributing CCTV data; from and to additional strategic parties that would benefit from accessing live and recorded CCTV images. It is also proposed to adopt new technology to make the most efficient use of the available CCTV and enhance the already seen and proven benefits.

The driver for the project is to provide a more resilient and efficient CCTV environment for BTP, whilst ensuring benefit is provided to the rail industry in terms of passenger safety, better visibility during times of disruption and reduction in delay where disruption is caused by Police investigation.

From a policing perspective the project will also focus upon reducing the impact of CCTV to the rail industry and using CCTV footage in new and alternative ways to increase passenger safety and increase prosecutions of criminal activity, also by improving upon the existing available tools within the CCTV system to aid with combating the current heightened national security threat.

The benefits of the CCTV system have been demonstrated during the Queens Jubilee celebrations, the London 2012 Olympics and Paralympics and the recent Notting Hill Carnival. The aspiration for the proposed improvements has increased since this time due to the extremely successful delivery of these events from a Rail Industry and BTP perspective, where CCTV played a major role for both.

The proposed project will also support the BTP Strategic Plan 2011/14 by providing a range of services that enhance BTP's ability to meet its objectives. Detailed below is each of the Strategic Objectives with the associated CCTV service.

- **Objective 1 – Helping to keep rail transport systems running**

Live CCTV monitoring can of course identify suspicious or criminal behaviour before it has



impacted on the running of the railway.

As well as live monitoring it will be possible to access recorded information and “push” these images to the Command and Control environments. The ability to rewind video and display events to a Duty Officer to help determine whether or not a person under a train was in fact pushed or not i.e. murder or a suicide can lead to significant time savings in getting the line open again.

- **Objective 2 – Helping make the railway safer and more secure**

CCTV is a key investigative tool, not only can it show what happened at a scene it can also help identify suspects or witnesses and point to key areas for forensic opportunities. This increases the chance of detections and with good forensic processing of images can also support successful prosecutions in court.

The CCTV disciplines of Retrieval, Viewing and Dissemination as well as Post Production all support the reduction and detection of crime by enhancing the investigation process.

- **Objective 3 – Deliver value for money through continuous improvement**

Improvements to front line policing can be delivered through reducing the burden of time spent requesting and collecting CCTV from rail companies.

4 TYPICAL RAIL INDUSTRY CCTV SYSTEM CAPABILITY

The majority of rail operators have a local station-based CCTV system installed allowing local live viewing of images and recording of CCTV cameras. The design of these systems is predominately focused on supporting the live operational running of the station and network e.g. managing crowd control and congestion.

Many train operators connect their stations to a network-operating centre or control room, which allows them to remotely monitor stations and in some cases review recorded CCTV and even extract CCTV across the network. Most train operators have their busiest and geographically most important stations connected to their control centres.

This system topology typically means that BTP can access all of the Rail operator CCTV cameras and recording media with a single connection to the network operating centres. This does in most cases though create a “bottleneck” and constraint to the BTP network as the network connections from the network operating centres are insufficient for BTP needs.

The increasing need for appropriate CCTV images to support Police investigations and respond to incidents has identified many shortcomings with current station CCTV systems and transmission networks.

The following constraints typically apply:

- Poorly maintained systems resulting in poor images, cameras not working, cameras not aligned or cameras not recorded
- Ageing network architecture (slow low bandwidth networks)
- Mix of different manufactures of digital (standalone and networked) and analogue systems across their estate
- Life expired systems (cannot be upgraded or in some case maintained)



- Limited access to live images, typically only 1 or 2 images are available from each station at any one time
- Poor system and network reliability
- Low bandwidth data networks
- Poor image quality - not always of sufficient evidential quality

It is acknowledged that CCTV can be a costly asset for most Rail operators and due to a lack of clarity around CCTV operational requirements within Rail Operator franchises is rarely accounted for to a sufficient level. With this in mind this project will look to improve upon the Rail Operators CCTV capability at strategic locations; not across the board, as has been the objective up to now.

5 CURRENT BTP OPERATIONAL CCTV CAPABILITY

BTP do not currently operate or own any CCTV cameras or recording systems deployed across the rail network. Instead BTP presently relies on the CCTV systems provided and maintained by the rail operators. The intention is to change this philosophy and potentially install dedicated BTP cameras and recorders at strategic locations across the rail network, it is important that the amount of cameras are managed carefully and used at the most appropriate locations only.

Aside from the above initiative, BTP have been working with various train operators to improve the way CCTV is captured, managed and processed. Through these works BTP has recognised the need to network and thus share available CCTV images to a number of BTP command and control environments.

Presently some level of connectivity is available from the following train operators (all of which have different systems), but not all images are available in all BTP Command and Control environments:

- London Underground - around 111 stations (of a total of 269 LU owned)
- Docklands Light Railway
- Network Rail - 17 mainline stations both in and outside of London (including a number of train operator managed mainline stations)
- St Pancras International station
- Kings Cross
- South West Trains
- Southern
- Southeastern
- MPS / TfL / Local Authorities
- LOROL
- C2C
- Chiltern
- HS1 – Stratford International
- FCC



- FGW
- Heathrow Express

It is also important to note that due to limitations with the number of simultaneous views that can be achieved from each station, multiple remote users can often be blocked from viewing the required images, causing operational difficulties.

BTP's Pan London CCTV Hub at Ebury Bridge, provides a technical and operational environment to present and manage live and recorded CCTV images from the above train operator systems. It also provides a platform from which to provide live and recorded CCTV images to the relevant BTP and MPS command and control environments (outlined below). It also creates the necessary integration infrastructure for linking into other train operators:

- BTP Force Control Room London (FCRL) provides the business as usual command and control over deployment response to incidents across the three BTP London Police Areas, covering the South East of England. Live CCTV feeds will help inform and improve the effectiveness of these resource deployments.
- The Real Time Intelligence (RTI) provides the operational environment for the dealing with real time intelligence (adjacent to the FCRL), supported also with available live CCTV images.
- FHQ Silver Suite, a purpose built command and control environment with integrated CCTV, is designed to support pre-planned large operations and events i.e. London wide football policing, New Years Eve etc.
- Force Control Room Birmingham (FCRB) provides a similar service to FCRL but for the rest of England, Scotland and Wales. It too benefits from access to relevant CCTV images and would also provide Command and Control and CCTV business continuity.
- CCTV Intelligence Unit (CCTV IU) is located at Ebury Bridge and provides an intelligence led proactive live CCTV image monitoring capability, to support London Area tasking, RIPA surveillance needs, Force Control Room deployments and emerging incidents, and Silver Suite pre-planned events,
- The Ebury Hub CCTV link to MPS at Lambeth enables them to share views of currently networked rail operator images.
- The Ebury Hub CCTV link to SO15 at Newlands Park enables access to live and recorded images. When authorised by BTP, exports can also be carried out to support covert and surveillance activities.

To overcome the difficulties of connecting into multiple CCTV systems, a systems integration platform has been developed (IP Security Centre) and deployed at all of the above locations. This platform provides the capability to deliver multiple train operator systems through one front-end common interface, however the rail industry system constraints identified earlier at Section 4, may constrain its full capabilities.

The existing system provides a critical Policing tool for BTP, however to expand the capability inline with the proposals in this paper, it will be necessary to enhance the existing platform from a 32bit system to a 64bit system. This enhancement will provide the basis for all of BTP's known CCTV aspirations going forward.



6 DEFINING THE POLICE OPERATIONAL CCTV REQUIREMENT

Following the successes of the existing system during 2012 it has been recognised that CCTV is now a critical tool for BTP for event management and for post incident investigations. With external agencies and governmental departments using CCTV more proactively the existing BTP system should be seen as progressive and further advanced than most, if not all Police forces. The system provides the ability to transfer both live and recorded CCTV to the appropriate BTP locations but also to external 3rd parties that would benefit from this capability. The current system is almost at capacity and will require enhancements to facilitate the proposed BTP and external CCTV requirements.

The CCTV requirement has been communicated and developed with 3 key functions which are:

- Incoming CCTV from BTP and 3rd Parties
- Internal BTP improvements
- Outgoing CCTV to BTP locations and 3rd Parties

The functions are shown in the attached appendix 1 which also details each of the proposed scopes. The requirement has been split into these functions to show dependencies of incoming and out going 3rd parties and to show each work stream as an end-to-end scope.

The BTP high-level requirement statement is

“To provide a more resilient and efficient CCTV environment for the Rail Industry and BTP, whilst ensuring benefit is provided to the rail industry in terms of passenger safety, better visibility during times of disruption and reduction in delay where disruption is caused by Police investigation.

From a policing perspective the requirement is to reduce the impact of CCTV to the rail industry and using CCTV footage in new and alternative ways to boost passenger safety and increase prosecutions of criminal activity, reduce officer time spent with CCTV, support new Policing initiatives whilst also combating the current heightened national security threat.”

The high level requirement that covers all of the communicated functions and to achieve the above statement is:

- Enhance the IPSC CCTV platform to accommodate the BTP vision going forward.
- Create a National imagery Network to facilitate the BTP requirement (incoming, internal and outgoing)
- Increase the incoming CCTV feeds both Rail Industry and others
- Utilise new technology to make the use of CCTV more efficient and productive
- Update the way that CCTV is navigated using improved mapping systems and graphical interfaces
- Provide the ability to interface with all security levels (IL3 and PSN compliant) allowing the transfer of data and CCTV to BTP locations and external agencies such as Custody Suites, Court's, other Police forces and CJU
- Conform to all DPA and government initiatives



7 PROPOSED SCOPE

The project will be phased to make use of all obtainable funding streams, there will be a short term phase of works that will utilise the Network Rail CP4 funding which will need to be completed prior to March 2014 and a longer term 5 year plan that will hope to make use of Network Rail CP5 funding based on an annual budget allocation over a 5 year period.

This paper focuses on the detail of the short-term delivery proposals, but will also provide a high level proposal for likely long term scopes and associated indicative costs. It is not possible to provide detail for the long term scopes at this stage as the scopes will be informed by completion of discovery phases and design development within the short term scopes.

The short-term scopes have two distinct deliverables:

- **The Foundation scopes (Funding Secured)** will include the refresh and delivery of Version 5 of the IP Security Centre (IPSC) integrated CCTV platform. Planning for a National Imagery Network and all necessary infrastructure improvements to allow the BTP CCTV vision to be realised going forward.
- **Priority scopes (Funding Proposal with Network Rail)** that can be completed before the CP4 closure date. These scopes include re-introduction and implementation of additional Train Operator CCTV systems, additional functions to IPSC; additional network connectivity and improvements to existing network links and improvements to the way that BTP CCTV is stored in the form of a Repository solution.

All deliverables build upon the CCTV integration and network infrastructure already available at Ebury Bridge delivered through previous project phases.

It is important to note that it is vital that the foundation tasks are completed even if the priority tasks do not obtain funding within the CP4 funding period and are therefore not completed prior to the CP4 funding deadline

The reason for this is that the Foundation scopes will provide the platform to accommodate the increase in stations that will be funded by LU phase 5 projects and any further improvements by the Rail industry, without the enhancements to the IPSC platform it will not be possible to introduce any further TOC's or functionality. The Foundation scopes will also provide a much better and more efficient CCTV platform to improve further upon the existing CCTV system increasing stability and resilience.

As well as the defined deliverables the project team will also carry out some feasibility works and discovery works to inform the longer-term project scopes.

7.1 Foundation Scopes

This work stream has secured funding allocated from Network Rail as of 14th January 2013, formalities for the funding agreement are still to be put in place, however this will mirror the funding agreements agreed for Phases 1 and 2 of the CCTV project and no issues are foreseen.



The Foundation scopes will primarily be around planning, and where possible implementing a national CCTV imagery network and creating an upgraded bespoke dedicated single user interface platform with the ability to manage the proposed National CCTV system improvements.

These works will be completed in the financial year ending March 2014 and will form the key components and foundations with which to support BTP CCTV vision.

To maximise the benefit from the longer-term project it is fundamental that these foundations are put in place.

The following list outlines the Foundation scopes:

- Refresh IPSC to V5.0
- IPSC Map Navigation Interface
- IPSC Existing TOC/NWR Re- Mapping
- Reporting Tools
- Improve Playback Push
- Upgrade Spot Recording
- System Configuration repair tools
- Review Network Security
- Develop National Network Architecture
- Server Room Infrastructure Including Required Hardware
- Review / Implement Ebury Bridge Security Level
- Video Wall Refresh (FHQ & Intel)

The following section describes each Foundation scope

IPSC Upgrade

Refresh IPSC to V5.0

This scope will enhance the existing IP Security Centre system (IPSC) to enable it to accommodate all of the proposed Phase 3 scope, the system, will be scalable and will provide the foundation for all of the required systems integrations going forward.

IPSC Map Navigation Interface

This scope will create the mapping platform for the proposed improvements; it will be developed in conjunction with the IPSC refresh as it will be a core component of the IP Security Centre V5.0

**IPSC Existing TOC/NWR Re-Mapping**

This scope will populate the agreed Map Navigation interface implemented through item 2 of this paper. It will involve a survey of all necessary TOC stations, creation of maps and integration into IPSC platform.

Reporting Tools

These tools will be used to report system statistics and will also be a core component of the IPSC. The scope will deliver the information for various uses including, performance, crime statistics, business case generation, benefit success, download calculations and crime prevention areas

Improve Playback Push

The play back push function that exists in the current IPSC system where by operators can push recorded imagery to silver commanders, has been proved to be invaluable. However it is only possible to push from a user spot monitor, this scope is to expand the capability and create a more flexible and efficient solution. To enable operators to push appropriate imagery to decision makers thus improving the time taken to react to situations. This is also a core component of IPSC.

Upgrade Spot Recording

The current spot recording solution, where by the operator spot monitor is recorded at all times requires updating, the function is not fully integrated into IPSC and has attached that the operator has to check that the system is recording incrementally through the day. The intention is to make this function a core requirement in V5.0 of IPSC.

System Configuration repair tools

This scope will also form part of the core IPSC configuration, it is intended to provide a system diagnosis and repair tool for first line troubleshooting of system faults or issues. The tool will have a user friendly interface to enable simple restarts and configuration of the system. The function will reduce maintenance costs measurably.

Initial Network Improvements

**Review Network Security**

Prior to any amendments to the current CCTV network it will be necessary to review and understand the required level of Security. This will need a specialist resource to assess and advise of the required security levels from a physical and network (firewalls etc) perspective

Develop National Network Architecture

Following the review of the current network it will be possible to look at the required architecture and necessary network topology. Again this will require a specialist resource to negotiate and put in place the required network architecture and contracts. The network will be the foundation for the whole project and is fundamental to all proposed scopes. It is important to note that this work stream will not procure the network but will deliver the route for all future network links to be sourced.

Ebury Bridge Infrastructure Improvements**Server Room Infrastructure Including Required Hardware**

This scope will provide all of the necessary infrastructure at the Ebury Bridge facility to accommodate the proposed foundation system enhancements. This will include all cabling Cabinets power, cooling and hardware.

Review / Implement Ebury Bridge Security Level

With the increased level of network security there come further enhancements to Ebury Bridge, in the form of physical security and system security. This work stream will require specialist resources to assess recommend and implement the necessary enhancements. The enhancements will allow the CCTV system to communicate with all of the proposed disparate systems such as other Police Forces and CJU.

Video Wall Refresh (FHQ & Intel)

To accommodate the new system and provide the maximum benefit from the tools available it will be necessary to refresh the existing video walls and provide new video walls at key locations, this will allow the BTP control rooms to manage CCTV in a more flexible manner. The improvements will be in the form of new screens but also control modules to manage the screens.



7.2 Priority Scopes

The business case for this work stream is currently with Network Rail for approval. As the primary requirement from Network Rail is completion within the CP4 funding deadline, it may be that the business case proposal is reduced to minimise the risk of project completion extending past the CP4 funding deadline.

It is intended that a number of priority scopes will also be completed prior to March 2014, these scopes include priority implementation of strategic requirements and various feasibility scopes, these scopes will further inform the longer term objectives ensuring that the proposals are realistic, economically viable and produce the required benefit going forward.

The Priority Scopes are listed below:

- CCTV Player repository Improvements
- IPSC Speed & Seek Control
- Digital Watermarking
- IPSC Multiplex Mode
- IPSC Map Location ID (Landmarks)
- Upgrade Control Room Network Existing Links (IL3 or PSN)
- Connect to BTP PNN
- Scot Rail
- Nice AMS (multiple purpose)
- Arriva Trains Wales
- NR Blackfriars
- NR Kings Cross
- NR Glasgow
- NR Edinburgh
- NR Birmingham New Street
- NR Out of London Station improvements
- Brent / Westminster / Heli Teli
- St Pancras International
- High Speed 1
- Scottish processing and events Room

The following section describes the priority scopes

Priority IPSC Functional Upgrades

| | |
|-------------------------------------|--|
| CCTV player repository Improvements | With the introduction of digital CCTV it has become necessary for BTP to store both working copies and master copies of exported CCTV data. The exiting storage repository |
|-------------------------------------|--|



Ebury CCTV Hub Phase 3 **Business Case**

requires enhancement, to provide more space and resilience.

IPSC Speed & Seek Control

IPSC is capable of managing various control features when playing back recorded CCTV, however at present the system is constrained in some cases by the TOC proprietary SDK (and SDK provides the information with which IPSC integrates or talks to proprietary software). If the SDK does not have this function in it then the TOC system providers will be asked to deliver an SDK that does. Thereafter IPSC will re-integrate to these systems providing the invaluable tools with which to find and prosecute crime on the railway.

Digital Watermarking

When downloading and managing CCTV it is extremely important to be able to prove its authenticity, when using it in court. IPSC will be developed to provide a digital stamp or watermark to prove that the CCTV has not been tampered with and that the integrity of the submitted CCTV is maintained. This piece of work will be a “bolt on” to the foundation IPSC scope.

IPSC Multiplex Mode

The ability to view multiple images from a single CCTV DVR will provide the BTP operators with a much more efficient way to review and pinpoint Crimes and incidents. This capability will enable response times to be reduced and also provide much more succinct download requests for CCTV which saves on time and money for the Rail Industry and BTP.

IPSC Map Location ID (Landmarks)

The ability to search the IPSC mapping system for land marks and specific establishments such as department stores, stations and tourist locations will greatly enhance the operator's capability to pinpoint and react to incidents and crimes. Reports from the travelling public typically take the form of landmarks, shopping locations and public houses within stations. The ability to correlate the available CCTV with a landmark greatly reduces the time taken to deal with incidents and or crimes.

**Network Upgrades**

Upgrade Control Room Network
Existing Links (IL3 or PSN)

This scope will follow on from the foundation work stream to review and plan for the new CCTV network; it is intended to replace all of the existing network links onto the agreed new network contract or provider. This will be done on a link by link basis and will achieve economies of scale and standardisation of BTP network links. The network will be completely scalable to achieve all future scopes; however this cost is to replace the existing network links only.

Connect to BTP PNN

During normal operations it is necessary for data to be exchanged from the CCTV network to the BTP PNN network, to achieve this at present a manual process using data retrieval media is used, this is time consuming, carries risk to integrity of CCTV and risk to security of the PNN network, this scope will provide a suitable mechanism for the CCTV network to be connected to the PNN network and allow controlled data to travel both ways. This will greatly improve the way that CCTV is managed and form the basis for many of the phase 3 proposed scopes in the future.

Additional TOC's and Re integrations

Scot Rail

BTP have recently funded a project to introduce Scot Rail into the IPSC system, the existing IPSC system did not have the capacity to extend to Scot Rail. Therefore an interim standalone solution has been put in place. This scope of work is to integrate the standalone system into the enhanced IPSC 64 bit platform. This will require driver development and enhancements to the network topology.

Nice AMS (multiple purpose)

Connect IPSC into the Nice proprietary AMS system, this scope will resolve all issues that currently exist with Nice compatibility and will allow IPSC to integrate to all Nice systems including the Network Rail stations.



| | |
|---------------------------------------|--|
| Arriva Trains Wales | BTP have recently funded a project to introduce Arriva Trains into the IPSC system, the existing IPSC system did not have the capacity to extend to Arriva. Therefore an interim standalone solution has been put in place. This scope of work is to integrate the standalone system into the enhanced IPSC 64 bit platform. This will require driver development and enhancements to the network topology. |
| NR Blackfriars | Re connect to NR Blackfriars following the recent refurbishment. |
| NR Kings Cross | Re-connect to NR Kings Cross following the Nice AMS rebuild. |
| NR Glasgow | Re connect to NR Glasgow following the recent amendments to the system. |
| NR Edinburgh | Re connect to NR Glasgow following the recent amendments to the system. |
| NR Birmingham New Street | Re connect to NR Birmingham New Street following the recent amendments to the system |
| NR Out of London Station improvements | This scope is to increase the currently available 2 images per station to 8 images per station. This will allow NR, BTP and others to view the stations unimpeded. |
| Brent / Westminster / Heli Teli | Connect to the London Local Authority and MPS feeds for Brent, West Minster and Heli teli, the 3 links mentioned are seen to be important to BTP and the rail industry as they have prime locations such as Wembley, main routes for major events and the obvious benefits to the helicopter feeds. At present BTP gains access to these images via MPS, it is typical that some of these feeds are not available a direct link will reduce this risk during the times of greatest need. |



**Ebury CCTV Hub Phase 3
Business Case**

| | |
|-------------------------------------|--|
| St Pancras International | Connect to the remaining CCTV cameras that are currently unavailable due to the Nice compatibility issues. |
| High Speed 1 | Re connect to HS1 following the recent amendments to the system. |
| Scottish processing and events Room | BTP have recently funded a project to provide Scotland with an events room and processing suite to manage football and major events (such as Commonwealth Games and Golf) due to funding deadlines and a requirement for facilities work at AHQ Glasgow the project has been split into 2 phases. The first phase provided enhanced capability to the existing viewing and processing locations; this phase of works will extend the capability into a newly created area on the ground floor. |

7.3 Longer Term High Level Proposals

As well as the defined short-term project scopes it is intended to further improve the system incrementally over a 5-year period. The intention is to implement some known scopes that cannot be completed prior to the CP4 funding deadline and will therefore need to be deferred to the CP5 funding stream. It is also intended to implement the scopes subsequent to the feasibility and discovery works that will have been carried out in parallel to or inclusive of the short-term project scopes.

Initial discussions for this proposed longer-term work stream have taken place with Network Rail, it is likely that a Network Rail working group will be created to understand the requirements of CCTV from an on-going process and logistical perspective and for any enhancements or introduction of new technology to improve the use of CCTV for both the rail industry and BTP.

A further business case will be submitted to Network Rail following discovery workshops within BTP to understand the detail of the proposal going forward.

The initial proposed longer term scopes are outlined below but are subject to change dependent on funding availability and the results of the feasibility / discovery work streams. The scopes indicated with an * means they support feasibility or proof of concept works only.

| Longer Term Scopes | |
|---|-------------------------------|
| Additional TOCs & Re-integration | Incoming Improvements |
| Shard | *Body Worn |
| Cable Car | *Analytic Cameras |
| Centro | *Additional Local Authorities |



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Ebury CCTV Hub Phase 3 Business Case

| | |
|--|--|
| Stanstead Airport | *High Def Pinchpoint Cameras |
| Reading | *National Forces |
| NWR London Bridge | *On Train |
| Ebbsfleet | |
| | *E-Fit |
| New Technology | *Viper Link |
| DVD Recording | *Facial Composite (PACE ID) |
| iPad compatibility | *Level crossing Vans |
| | *Level crossing ANPR |
| Facewatch & Social Media Processing | *TSU/ Covert |
| Photo web | *Panic Guard |
| Alarm Monitoring | |
| Composite Production | Additional LU Stations (Phase 5) |
| | |
| Photo Anthropometry Training | Outgoing Improvements |
| Oyster card tracking (IBM) | Playback & Export Viewing |
| Trackernet | PDA & Home |
| | |
| Ebury Infrastructure Improvements | Birmingham processing / Events |
| Increase NAS Storage | |
| | Palestra |
| | National Processing Suites |
| | National EO Posts |
| Additional Playback Software | Storage Repository |
| | |
| BTP Process | CPS |
| Storyboard Packs | DR Site |
| | Courts |
| Update Mac Software and Image | Custody Suites (BTP) |
| Hard Drive Spares House Keeping | |
| Media AV Sheepdip | Security Service |
| Over all Process development | *Police Post Composite Viewing (BTP) |
| TOC MoU Development | *Police Post Storyboard Creation (BTP) |
| Training | *National EO Posts |
| SLA's | *Enhance Command & Control (MPS) |
| | *MPS VIDDO |

It is important to note that both the short-term and long-term scopes will be completely independent and will in no way impact the BTP IT asset in anyway.

8 FINANCIALS

The following table shows the proposed scopes for completion before March 2014, the left hand column forms the list of fundamental "foundation" scopes that need to be completed



Ebury CCTV Hub Phase 3 Business Case

prior to all other works; the right hand column shows the proposed priority scopes that can be achieved in the required time frame.

The additional Capital investment will incur some on-going revenue costs to BTP. For the Foundation and Priority scopes this will be in the region of **£92k** per annum.

| Initial Funding Request Foundation Scopes | | Remaining Priority Scopes | |
|--|-----------------|--|-----------------|
| IPSC Upgrade | | Priority IPSC Functional Upgrades | |
| Refresh IPSC (v5.0) | £250,000 | Increase NAS Storage | £200,000 |
| IPSC Map Navigation Interface | £80,000 | IPSC Speed & Seek Control | £120,000 |
| IPSC Existing TOC/NWR Re-Mapping | £400,000 | Digital Watermarking | £25,000 |
| Reporting Tools | £20,000 | IPSC Multiplex Mode | £60,000 |
| Improve Playback Push | £50,000 | IPSC Map Location ID (landmarks) | £40,000 |
| Upgrade Spot Recording | £40,000 | Total | £245,000 |
| System Configuration repair tools | £20,000 | | |
| Total | £860,000 | Network Upgrades | |
| | | Upgrade Control Room Network Existing Links (IL3 or PSN) | £160,000 |
| Initial Network Improvements | | Connect to BTP PNN | £120,000 |
| Review Network Security | £10,000 | Total | £280,000 |
| Develop National Network Architecture | £90,000 | | |
| Total | £100,000 | Additional TOCs & Re-integration | |
| | | Scot Rail | £120,000 |
| Ebury Infrastructure Improvements | | Nice AMS (multiple purpose) | £72,000 |
| Server Room Infrastructure inc IPSC hardware | £360,000 | Arriva Trains Wales | £120,000 |
| Review / Implement Ebury Bridge Security Level | £100,000 | NWR Blackfriars | £40,000 |
| Video Wall Refresh (FHQ & Intel) | £300,000 | NWR Kings Cross | £40,000 |
| Total | £760,000 | NWR Glasgow | £40,000 |
| | | NWR Edinburgh | £40,000 |
| | | NWR Birmingham New St | £89,000 |
| | | NWR OOL | £40,000 |
| | | Brent / Westminster / Heli Teli | £89,000 |
| | | SPI | £89,000 |
| | | HS1 | £60,000 |
| | | | £839,000 |
| | | | |
| | | Outgoing Improvements | |
| | | Scottish processing and events Room | £110,000 |
| | | Total | £310,000 |



Ebury CCTV Hub Phase 3 Business Case

| | | | |
|--|-------------------|--|-------------------|
| Foundation Scopes Total | £1,720,000 | Remaining Priority Total (3 Papers) | £1,674,000 |
| Contingency @ 5% | £86,000 | Contingency @ 5% | £83,500 |
| Total cost of works and services including retention and contingency excluding VAT for the Foundation Scope | £1,806,000 | Total cost of works and services including retention and contingency excluding VAT for the Priority Scope | £1,757,500 |
| Initial Funding Total | | £3,563,500 | |

This paper includes total cost of works excluding VAT as stated in the Network Rail Funding Agreement. It is understood that VAT is reclaimable from Network Rail against each purchase order requisition.

The following table shows the proposed scopes that will be completed over a 5 year period, it is proposed to request funding from Network Rail CP5 allocation to carry out these works from March 2014 going forward. The costs indicated with an * means they support feasibility or proof of concept works only. Additional funding will be required once these works are complete and benefits realised.



Ebury CCTV Hub Phase 3 Business Case

| Longer Term Scopes | | | |
|---|-------------------|--|-----------------|
| Additional TOCs & Re-integration | | Incoming Improvements | |
| Shard | £89,000 | *Body Worn | £20,000 |
| Cable Car | £89,000 | *Analytic Cameras | £40,000 |
| Centro | £120,000 | *Additional Local Authorities | £20,000 |
| Stanstead Airport | £89,000 | *High Def Pinchpoint Cameras | £40,000 |
| Reading | £89,000 | *National Forces | £40,000 |
| NWR London Bridge | £40,000 | *On Train | £40,000 |
| Ebbsfleet | £89,000 | | £200,000 |
| | £605,000 | *E-Fit | £20,000 |
| New Technology | | *Viper Link | £20,000 |
| DVD Recording | £12,000 | *Facial Composite (PACE ID) | £20,000 |
| iPad compatibility | £10,000 | *Level crossing Vans | £40,000 |
| | £22,000 | *Level crossing ANPR | £40,000 |
| Facewatch & Social Media Processing | £20,000 | *TSU/ Covert | £20,000 |
| Photo web | £20,000 | *Panic Guard | £20,000 |
| Alarm Monitoring | £20,000 | | £180,000 |
| Composite Production | £20,000 | Additional LU Stations (Phase 5) | £60,000 |
| | £80,000 | | £60,000 |
| Photo Anthropometry Training | £8,000 | Outgoing Improvements | |
| Oyster card tracking (IBM) | £30,000 | Playback & Export Viewing | £140,000 |
| Trackernet | £20,000 | PDA & Home | £40,000 |
| | £58,000 | | £180,000 |
| Ebury Infrastructure Improvements | | Birmingham processing / Events | £280,000 |
| Increase NAS Storage | £80,000 | | £280,000 |
| | £80,000 | Palestra | £256,000 |
| | £80,000 | National Processing Suites | £256,000 |
| Additional Playback Software | £50,000 | National EO Posts | £80,000 |
| | £50,000 | Storage Repository | £100,000 |
| BTP Process | | | £692,000 |
| Storyboard Packs | £120,000 | CPS | £20,000 |
| | £120,000 | DR Site | £20,000 |
| Update Mac Software and Image | £20,000 | Courts | £20,000 |
| Hard Drive Spares House Keeping | £20,000 | Custody Suites (BTP) | £20,000 |
| Media AV Sheepdip | £10,000 | | £80,000 |
| | £50,000 | Security Service | £60,000 |
| Over all Process development | £10,000 | | £60,000 |
| TOC MoU Development | £10,000 | *Police Post Composite Viewing BTP) | £20,000 |
| Training | £120,000 | *Police Post Storyboard Creation (BTP) | £20,000 |
| SLA's | £10,000 | *National EO Posts | £20,000 |
| | £150,000 | *Enhance Command & Control (MPS) | £20,000 |
| | | *MPS VIDDO | £20,000 |
| | | | £100,000 |
| Total | £3,127,000 | | |



9 OUTLINE BENEFITS

Meeting the Police requirements associated with improvements to the TOC CCTV connectivity /capability and improvements to BTP's CCTV infrastructure will contribute towards the following broad outcomes:

- Protecting the railway infrastructure
- Supporting an effective and proportionate response to incidents that minimises disruption
- Reducing the number of potential casualties in the event of a MAS and PBIED incident
- Providing a deterrent capability
- Delivering part of a complete approach to hostile reconnaissance and screening on the railway network
- Enhancing public reassurance
- Maintaining trust and confidence in the public transport system

Key beneficiary stakeholders include:

- Home Office
- Security Services and Local Police Forces
- Transport for London and London Underground Limited
- Network Rail
- Train and Freight Operating Companies
- Station tenants
- The Department for Transport
- The London Assembly and Mayor for London
- Rail staff and trade unions
- Travelling public

More specific Police benefits relating to delivery of the Police requirements in respect to the improvements are:

- An increased viewable footprint with dedicated and reliable views, to support live viewing for intelligence gathering and / or serious and critical incident decision making, intervention and deployments
- Provide the ability to remotely review recorded data to back track hostile suspects in support of live investigations
- Ability for BTP specialist CCTV resources to push images (sharing) if needed, to key BTP locations and MPS, providing local knowledge of station camera positions, station CCTV system constraints and assisting in managing ongoing operations thus saving valuable time.
- Expand MPS viewable footprint enabling continuous tracking and monitoring across local authority and rail transport operators environments



- Ability to present the images through a single user interface – achieved via BTPs integrated platform
- Ensuring the right people have the right images at the right time

As well as the overall benefits the project will deliver some specific BTP benefits that can be and have been statistically measured following Phase 1 and 2, this phase of works will further improve upon these known benefits.

Person under a Train

With situations such as a person under a train, it has been demonstrated that the decision making for re introduction of service for this particular scenario can be reduced from around 2 hours to 7 minutes, given the right level of CCTV coverage, CCTV operatives and connectivity. This specific benefit is widely acknowledged to provide the rail industry with enormous savings both in time and money, the phase 3 project will further enhance this benefit providing a wider geographical area, better use of BTP operators and a more robust and efficient CCTV system:

Reduction in Crime, giving better customer perception

The project supports strategic aims of reducing crime and disorder and protecting the railway economy, whilst ensuring effective CCTV can support protecting the network from the threat of terrorism.

BTP currently has 3 response levels these are:

- Priority 1 cases (example being, murder to armed robbery)
- Priority 2 cases (example being, cable theft to graffiti)
- Priority 3 cases (example being, other crimes)

The proposed system will provide the tools for BTP to meet its KPI deliverables of

- Priority 1 – 48 Hours turn around
- Priority 2 – 5 day turn around
- Priority 1 – 28 day turn around

These KPI's are designed to increase customer safety and perception of safety and deliver a more corporate and fit for purpose evidential pack for prosecutions.

Victim satisfaction

It is estimated that Victim or rail customer reassurance has been improved by around 20%, this is due to the system providing more precise information and providing the ability to talk to each victim or rail customer through their case step by step whilst viewing the CCTV. This process provides each victim with the confidence that everything possible is being done to address their situation.

Targeting types of Crime

Each BTP area has a specific crime target which will be driven by crime hotspots and type on the Railway system. The crime type that has been focused upon recently is Pickpockets.



The process from reporting a crime to viewing and submitting CCTV for evidence was typically 8 weeks, with the IPSC this has been reduced to 2 weeks and will be reduced further by the phase 3 scopes. This is due to the new system giving greater coverage is more response, intuitive and will also utilise technology to reduce human error and effort even further.

Planned events improvements Efficiencies

The use of CCTV has until now; been deemed a non-critical asset for event management. However during 2012 it has been proven that CCTV greatly enhances BTP's ability to manage large events and every day events. The London Olympics, Paralympics and Queens Jubilee showcased the existing system to be extremely useful. The success if the system has partly driven the scope for the proposed phase 3.

Reduction of Unnecessary Rail Industry downloads

As it is now possible to review CCTV before requesting a download, BTP have reduced the amount of download requests where there is no benefit from CCTV.

In the past CCTV downloads have been requested prior to reviewing, which means that unnecessary CCTV downloads were carried out. This is a costly exercise for both BTP and the Rail Industry in both commercial and person hour terms.

The phase 3 project will provide this ability at further locations as well as improving the system to allow a more effective CCTV review to take place and thus further improving upon this already substantial benefit.

10 PROGRAMME APPROACH

As demonstrated in Phase 2 of the CCTV project governance and the project management structure is extremely important to the success of the project. BTP created a successful governance and management model, following the issues that became apparent through the initial "turn key" solution in the 1st phase of the project. The model enabled the recovery of Phase 1 and the successful completion of Phase 2.

With this in mind it is proposed that Governance is broadly the same as the Phase 2 CCTV project to allow the required flexibility and focus upon delivery, the main difference is a new management level consisting of a BTP Programme Manager, BTP IT Resource, a BTP Business Change resource and a BTP project support Role. This governance model provides the necessary BTP controls, visibility of any broader organisational issues and governance and allows BTP representatives to fully understand the project and any agreed solution, it also minimises the risk to BTP going forward should the delivery project team not be available to BTP.

Aside from the team structure BTP also has some project sign off stages that must be adhered to. These are BTP Tech Board, then Service Improvement Board (SIB), then the Force Executive Board (FEB) and finally BTPA sign off. The new BTP Programme Manager will be responsible for providing all necessary documentation for these boards and will follow the governance model explained below to ensure that all agreements are in place before proceeding.



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It is proposed that the Delivery Programme Manager will be responsible for the co-ordination and alignment of the Phase 3 project including management of 3rd party contractors and management of all facets of tender documents, the Delivery Project Manager will be responsible for everyday management of the project and will report to the Delivery Programme Manager.

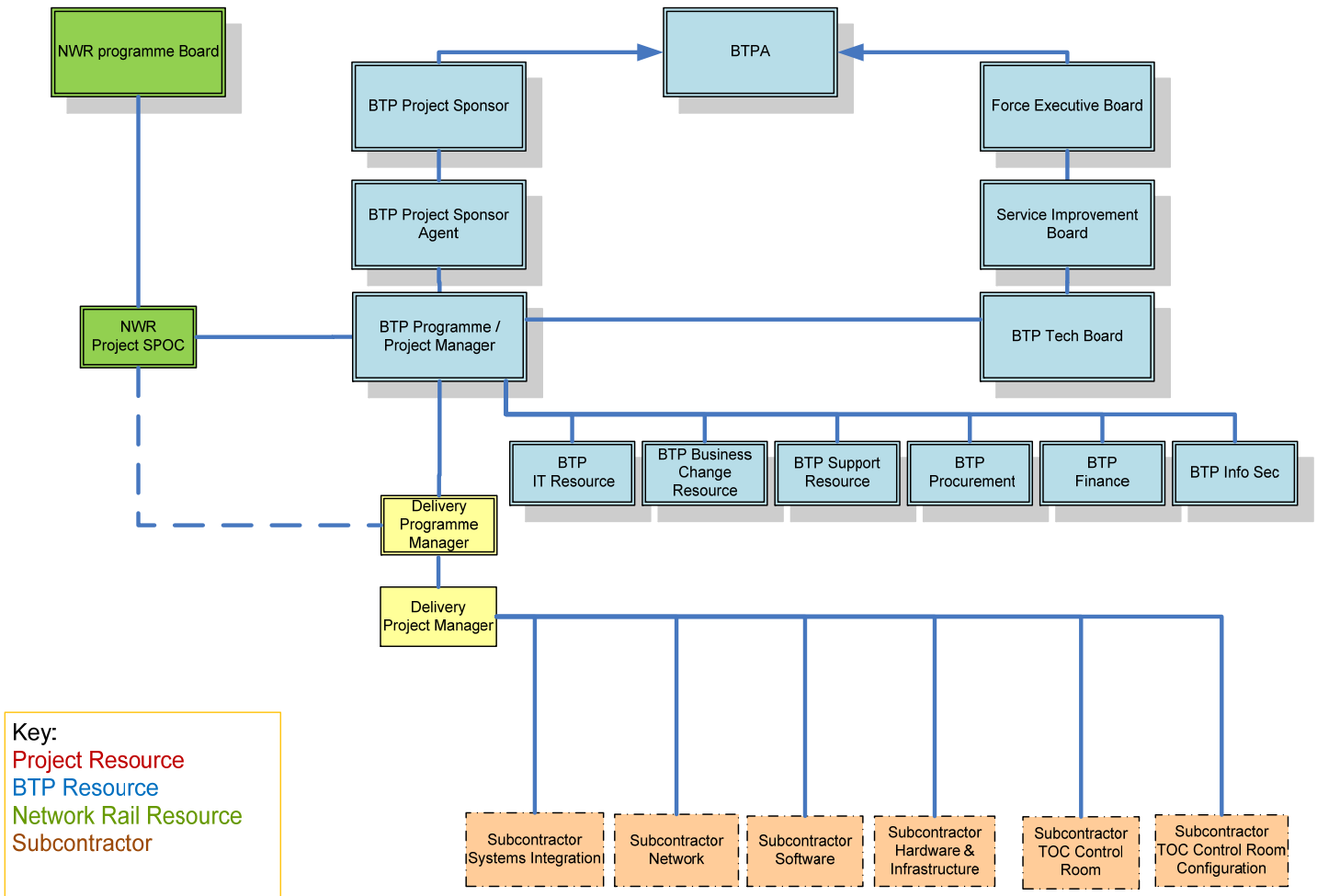
The Delivery Programme Manager will report directly to the BTP Programme Manager who will report directly to the BTP Sponsors Agent; formal governance will be provided in the first instance via the BTP CCTV Programme Board (Chaired by the BTP Sponsor) meeting on a regular basis. This Board in turn is directed by the BTP Force Programme Board, Chaired by the Deputy Chief Constable. Headline progress reports are made of critical Force programmes to the BTP Police Authority.

In addition to the BTP governance, the Delivery Programme Manager will also report regularly with the BTP Programme / Project Manager on progress and expenditure to the Network Rail Project SPOC and any other Network Rail Boards that require sight of progress.

Reporting of progress, via scheduled meetings and Boards along with regular written Headline and Highlight Reports and any escalation process, is outlined in the following sections.

It is proposed that this phase of the project will be governed as outlined in **Figure 1 – Project Governance Structure**.

Figure 1 – Programme Structure



**10.1 Project Team Approval**

The Delivery Programme Manager will represent the sponsor's requirements and ensure the Delivery Project Manager delivers against them. The Delivery Project Manager will be responsible for day-to-day delivery and will report all necessary sign off to the Delivery Programme Manager.

All necessary documentation will be communicated at the necessary Project boards to attain project approval; then following project initiation, project meetings with the BTP Programme Manager (frequency to be agreed) will be chaired unless programme dates dictate that a decision is required sooner, if this is the case the Delivery Project Manager will request authorisation via email.

If financial sign off or project change is required the Delivery Programme Manager will ensure appropriate sign off with the BTP Programme Manager and /or the sponsors agent and if necessary the Sponsor.

Any project authorisation or approvals will be logged within the project meeting minutes.

10.2 Progress Meetings

Regular meetings will be held to review project progress; it is proposed that the following meeting timeframes should be adopted initially and reviewed and amended as necessary upon commencement of the project:

| Name of Meeting | Frequency | Attendance |
|-----------------------------|----------------|---|
| Project Team Meeting | Weekly | All project delivery team members |
| Supplier Progress Meeting | Bi Weekly | Delivery Programme Manager, Delivery Project Manager, Procurement and Supplier Project Manager's |
| CCTV Programme Board | Every 3 months | BTP Project Sponsor, BTP Sponsor's Agent, BTP Programme Manager, Operational Client (CCTV), Delivery Programme Manager, Finance, Procurement, Technology, Estates, Media & Marketing and Area Commander Representatives |
| Network Rail Sponsor Review | Every 3 months | Delivery Programme Manager, BTP Programme Manager and Network Rail Sponsor |

10.3 Progress Reporting

Regular progress reports will be prepared; it is proposed that the following timeframes should be adopted initially and reviewed and amended as necessary upon commencement of the project:

| Name of Report | Frequency | Author | Distribution |
|---------------------------|-----------|--------------------------|---|
| Supplier Progress Reports | Bi Weekly | Supplier Project Manager | Delivery Programme Manager, Delivery Project Manager, Procurement |
| Project Progress | Monthly | Delivery | BTP Sponsor's Agent, BTP Programme / |



| Name of Report | Frequency | Author | Distribution |
|--------------------------------------|-----------|----------------------------|--|
| Supplier Progress Reports | Bi Weekly | Supplier Project Manager | Delivery Programme Manager, Delivery Project Manager, Procurement |
| Report | | Project Manager | Project Manager, Delivery Programme Manager, Procurement |
| Project Headline Report | Monthly | Delivery Programme Manager | Force Programme Board, BTP Sponsor's Agent, BTP Programme / Project Manager, Operational Client (CCTV) |
| Network Rail Sponsor Progress Report | Monthly | Delivery Programme Manager | Network Rail Sponsor, BTP Programme Manager |

10.4 Communications

All project communication will be carried out through the reports listed in the Governance section any other communication required will be developed and circulated as required.

10.5 Escalation

The escalation path will be inline with the project approval route. All project issues will be reported to the Delivery Project Manager who will escalate as appropriate to the Delivery Programme Manager. The Delivery Programme Manager will report directly to the BTP Programme Manager who will in turn escalate to the BTP Project Sponsors Agent and BTP Sponsor, where necessary.

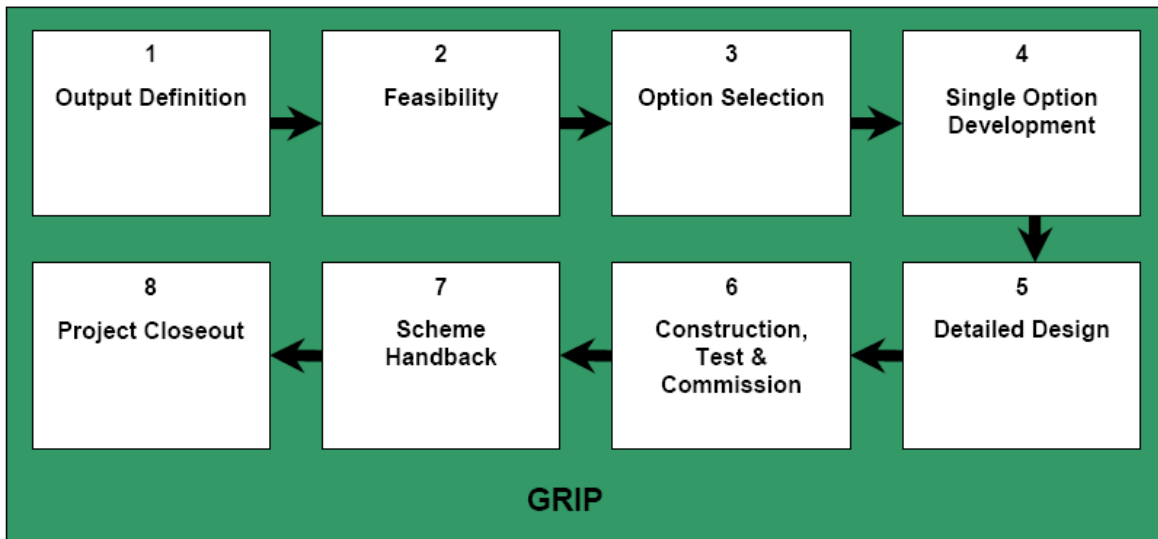
11 PROJECT DELIVERY

11.1 Delivery Approach

It has been demonstrated through the delivery of the Ebury Bridge Phase 2 project that a more hands on approach allows the delivery project team to have better control of 3rd party contractors, programme dates and budgets. This has enabled the delivery project team to expedite the project to a very aggressive duration within budget and achieve practical completion in the communicated and agreed timeframes. The approach also provided the flexibility required to be able to accommodate other project scopes such as the LU improvement project and amendments to further TOC's (C2C and Lorol).

With this in mind it is proposed to use the same delivery model but introducing an additional reporting and management level as described in the Programme Approach section of this paper.

As funding is provided by Network Rail; the project process and delivery methods will have to be based upon the Network Rail GRIP methodology shown below.



This process is used to deliver all Network Rail projects and can be described at a high level as stages 1-4 being a feasibility / Discovery phase and stages 5-8 being the Delivery phase.

This delivery approach allows the project to utilise the initial funding to be used for two purposes; the first is to deliver in full the short to medium term project scopes, whilst in parallel performing the required feasibility and discovery phases for the ongoing long term objectives.

Not only does this approach enable BTP to have a hand's on management role for the project as a whole; but also provides a platform to ensure that the most appropriate procurement route for each discipline or work package is implemented.

This should reduce procurement time frames and allow BTP to select the most appropriate contractor for each project task.

11.2 Project Delivery outline

Each of the following tasks will be necessary to complete the project in full and will align the project with the necessary Network Rail GRIP stages.

Discovery

To develop and design the most appropriate solution for the project it will be necessary to understand the existing infrastructure and any constraints that must be considered at the design stage. This task will be necessary for all parts of the project to minimise risk and to define capability and any required agreements with internal and external stakeholders.

Outline designs

High-level outline designs will be required to create a scope and work package for the tender or procurement documentation. The design will provide the contractors or suppliers with a clearly defined scope to respond to, an end to end solution will be developed to ensure no



gaps and that the full project requirement is met. This will require involvement from various subject matter experts to ensure that the scope is defined in the most appropriate way for BTP and the tender respondents.

Tender and procurement

When the discovery task and outline designs are complete it will be possible to develop a scope of works based upon the agreed and assured outline design solutions.

From the scope of works, tender or procurement documentation will be developed as necessary and in line with BTP procurement guidelines. In some cases it will be necessary to procure through a single source route; these instances will be prescribed by BTP compatibility needs or by the external requirements.

All tender responses will be assessed and scored using clearly defined criteria that are communicated within the tender packages. BTP will then appoint the most appropriate contractor or provider to implement the task.

The procurement scope or strategy will be developed with the BTP procurement department.

Implementation

The implementation phase will be co-ordinated and managed by the project team ensuring that all tasks are implemented to programme dates, to budget and that the end to end solution is completed fully with no gaps. This delivery approach enables BTP to manage critical path items giving more control than a turn key solution when critical decisions are required.

Project acceptance

The project will have pre-defined levels of acceptance and testing criteria, this will include Factory acceptance testing (FAT), System Acceptance Testing (SAT) and User Acceptance Testing (UAT). The project team will require all documentation and certification before acceptance of the project will be agreed.

Due to agreed part completion milestones it may be necessary to implement a practical completion approach. Where the term "practical Completion" is used it is defined by the system or project stage being operational with some minor snag issues remaining, these can range from aesthetics to some non essential system components. The practically complete scope may also have outstanding documentation such as O&M certification or maintenance certification

Project Close Out

The project will be closed out when all acceptance criteria is met and budgets are totalled and balanced.

11.3 Deliverable Quality Control

The project will have various sign off milestones to review and inspect the project deliverables against the tender output specification, these checks will be carried out by the Programme and Project manager who will report findings to the BTP Project Manager. The milestones will take the form of technical milestones for Site Acceptance Testing (SAT) and



User Acceptance testing (UAT), there will also be key transition milestones that will be presented to the operational client for sign off.

The following table details the quality control activities that will be undertaken to ensure the “fitness for purpose” of all project deliverables.

| Deliverable | Quality Control activities |
|---------------------------------|---|
| Procurement Strategy | Liaison and sign off with BTP procurement |
| Tender Review | Project team will review the Tender output specification with the Project Sponsor, the Operational Client and BTP procurement, to ensure it is accurate, in terms of content and legally acceptable. |
| Pre Qualification Questionnaire | To ensure the most appropriate suppliers are sourced a pre qualification stage will be included in the tender. |
| Tender Marking | BTP will follow an agreed tender scoring criteria to ensure that the correct project solution is taken forward |
| Contract negotiations | BTP procurement will perform all contract negotiations to ensure that BTP minimises risk and has clearly defined project criteria. |
| SAT acceptance review | Then programme and project manager will perform reviews of the SAT testing criteria and the SAT testing results, to ensure that all agreed project deliverables are as defined. The SAT testing milestones will be clearly defined within the project plan. |
| UAT Acceptance Review | The Programme and Project Manager will perform various pre defined tests to ensure that the project solution is fit for purpose and inline with the contractually agreed criteria. |

11.4 Change Control

Through phase 3 it will be necessary to make amendments to the existing system, for this reason it is crucial that a robust change control process is implemented, with the BTP Business as usual CCTV department. This process will ensure that no changes are made to the live system without prior agreement from all relevant parties.

From a project perspective any deviation from the project agreed scope will be strictly managed through the project change control process; this will follow standard Prince 2 change control procedures, that will involve Request for Information (RFI) pro-formas that must be agreed by the Programme and project manager prior to any change in scope.

12 PROCUREMENT STRATEGY

Procurement Department need to provide further clarity as to how the following can be procured.

- BAU Programme Team – Fixed Term Contract
- Delivery Project Management Team – Contract directly with BTP
- Delivery Subcontractors – Sprint ii Framework
- Network Architect – DfT DAC

Points to Consider



- Time to appoint team members could impact programme
- Sprint ii expires in March 2014 (issue for CP5)
- Delivery Team procurement issues could delay result in funding handed back to Network Rail
- DAC process could restrict level of appointment
- Need to fully understand CP5 procurement requirement

13 PROJECT RISKS & ISSUES

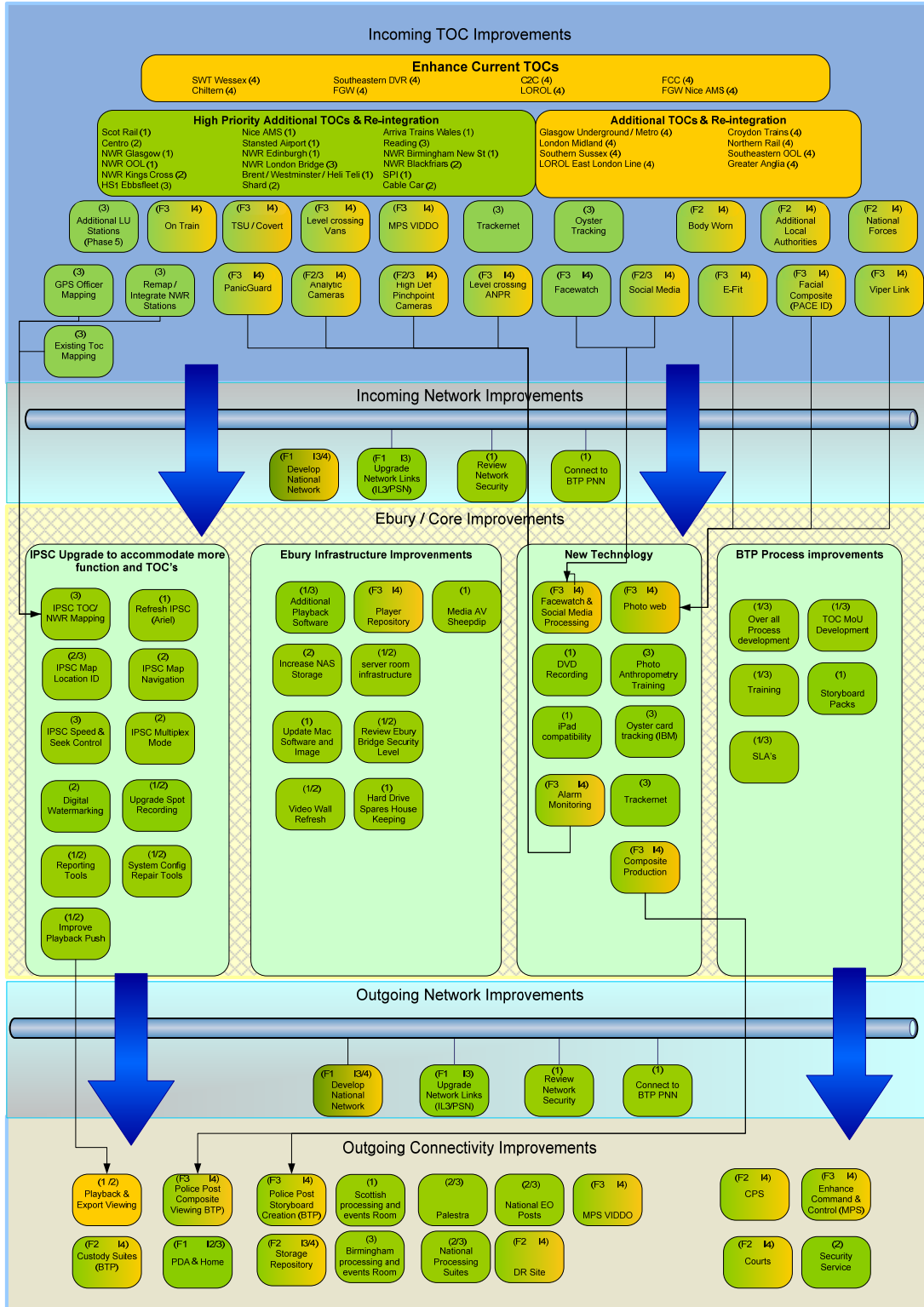
13.1 Project Risks

The following table summarises the initial risks that have been identified that may prevent the project being completed to the required quality, budget and timescale, together with the containment plan proposed to reduce them these are initial risks, following funding agreement and the scoping workshop these risks will be amended.

| Risk Description | Prob-ability | Imp-act | Containment Plan | Owner |
|--|--------------|---------|---|-------|
| Funding authorisation from BTP is available to late to spend funding before March 2014 | H | H | Governance process needs to be accelerated to obtain approval of initial funding | HE |
| Unable to single source resources, such as the project team and systems integrator | H | H | BTP procurement are looking at the most appropriate way to single source and re engage the project team, CNL the main integrator and Atkins the design authority. | TF |



14 APPENDIX 1 PROPOSED SCOPES





Kings Place
90 York Way
London
N1 9AG

Deputy Chief Constable Paul Crowther
British Transport Police
25 Camden Road
London
NW1 9LN
07 March 2013

Dear Paul,

Funding Agreement for Enhancements to The British Transport Police (BTP) Closed Circuit TeleVision (CCTV) Systems Integration Platform & Network (the “Project”)

An amount of £1,806,000 (one million eight hundred and six thousand pounds) (plus VAT if applicable) has been allocated for the development and implementation of the Project by Network Rail as part of investment in safety and environment projects in its regulatory control period 4, subject to the terms of this letter.

We confirm our agreement in respect of the funding for the development and implementation phases of this Project as follows:

1. The Works and Services

- 1.1. British Transport Police (the “**Customer**”) shall carry out or procure the services as detailed in Part 1 of Schedule 1 (“**Services**”) and works as detailed in Part 2 of Schedule 1 (“**Works**”), to achieve the deliverables set out in Part 4 of Schedule 1 (“**Deliverables**”). The Customer shall use its reasonable endeavours to ensure that the Works and Services are commissioned by 31 March 2014 as specified in Part 4 of Schedule 1.
- 1.2. The Customer confirms that it is prepared to proceed with the Works and Services on the terms set out in this letter including the Schedules, hereafter referred to as the “**Agreement**”.
- 1.3. Where the Customer needs to carry out the Works and Services at Ebury Bridge, then landlord’s consent must be obtained from Network Rail prior to the Customer commencing the Works and Services. The Customer and Network Rail will work together in good faith to put in place the relevant landlord’s consent where required prior to the Customer commencing the relevant Works and Services.
- 1.4. The Customer shall provide Network Rail with regular written progress updates, at no less than 4 weekly intervals in relation to the Works and Services and in particular will update Network Rail on the following:
 - (a) information on the progress of the Works and Services to date (including actual cost of the Works and Services to date) at least once per railway accounting period (“**Period**”);



- (b) a forecast of future cost of the Works and Services up to the completion of the Works and Services at least once per Period;
 - (c) a project plan showing the all the Works and Services including those which are still to be completed; and
 - (d) the latest estimated date for the completion of the Works and Services and the associated risks and mitigation measures.
- 1.5. The Customer shall carry out or shall procure the carrying out of the Works and Services in accordance with all relevant standards including safety, quality, and environmental standards.
- 1.6. The Customer must obtain technical approval of the designs and proposals and of the installation during the implementation of the Works and Services and of the finished Works and Services from Network Rail in accordance with the landlord's consent procedure.

2. Funding by Network Rail

- 2.1. Network Rail agrees to fund up to a maximum of £1,806,000 (the "**Funding Contribution**") (plus VAT if applicable) towards the capital costs of the Works and Services in respect of the Project. The parties acknowledge that the Funding Contribution includes a contingency amount of £86,000 which shall be payable by Network Rail in accordance with Part 4 of Schedule 1 provided that the Customer has demonstrated to Network Rail that the contingency has been reasonably and properly incurred in connection with the Works and Services. The Funding Contribution is for the Works and Services and excludes any contribution towards ongoing operations, maintenance, repair and renewal costs.
- 2.2. Network Rail upon completion of each Deliverable will pay the appropriate amount set out in Part 4 of Schedule 1 including any contingency payable pursuant to paragraph 2.1 for the relevant Deliverable when that Deliverable has been achieved and accepted by Network Rail, in accordance with paragraph 3.2.
- 2.3. Network Rail shall make payment to the Customer within 28 days following receipt by Network Rail of a VAT invoice for the appropriate amount set out in Part 4 of Schedule 1. Such invoice is to be issued in accordance with paragraph 3.2.
- 2.4. If Network Rail wishes to dispute the amount set out in an invoice, it shall notify the Customer within 10 days of receipt of the invoice specifying the disputed amount and the grounds on which it claims that such amount is not due and payable. Late payment of any amount due and payable under any invoice shall carry interest from the due date to the date of payment at the rate of 3 month LIBOR plus 2% per annum as quoted by HSBC Bank plc from time to time.

3. Completion of the Works and Services

- 3.1. The Customer shall notify Network Rail in writing once it considers that each Deliverable has been completed in accordance with the drawings, specification and design agreed by Network Rail (pursuant to the landlord's consent) in order to enable Network Rail to agree completion of the relevant Deliverable in accordance with paragraph 3.2.
- 3.2. Following receipt of a notification from the Customer pursuant to paragraph 3.1 that the Deliverable has been completed and provided that Network Rail is satisfied that the Deliverable complies in all respects with this Agreement, landlord's consent, and in the case of final completion that all deficiencies, snagging and defects have been rectified, the Customer shall issue an invoice to Network Rail for payment in accordance with paragraph 2. In the event that Network Rail considers that the whole or any part of the Deliverable does not comply as aforesaid, it shall notify the Customer in writing together with full details of its reasons why payment for the Deliverable will not be made.
- 3.3. Where notification that the Works and Services do not comply is received pursuant to paragraph 3.2, the Customer shall have regard to the reasons given by Network Rail and shall carry out such further work as is required to comply with this Agreement. Once the Customer has completed such further work the process in paragraphs 3.1 and 3.2 shall be repeated.
- 3.4. The Customer shall carry out the Works and Services having due regard to the target commissioning date of 31 March 2014. In the event that the Works and Services are not commissioned by 31 March 2014 Network Rail shall not be obliged to make any further payments pursuant to this letter.

4. General

- 4.1. The Customer shall use its reasonable endeavours to enable Network Rail to receive the benefit of all the capital allowances in respect of Network Rail's Funding Contribution towards the cost of the Works and Services, to the extent that Network Rail is entitled to those allowances.
- 4.2. In consequence of the implementation and existence of the Works, it is anticipated that there may be additional cost and expense in connection with the repair, maintenance, improvement, operation or alteration, and such additional cost and expense shall be the responsibility of the Customer.
- 4.3. Using the information provided pursuant to paragraph 4.4, Network Rail shall claim all capital allowances which may be claimed in respect of the Works.
- 4.4. The Customer will use reasonable endeavours to provide information reasonably requested by Network Rail for the purpose of claiming the full benefit of capital allowances in respect of the Works and recovering any part of the VAT element of the payments made pursuant to this Agreement. Relevant information is outlined in Schedule 2. Where the Customer unreasonably fails to provide such information reasonably requested in accordance with this paragraph, the Customer shall pay Network Rail such amount for capital allowances in respect of the Works or recovery of any part of the VAT element of the payments (where the ORR does not subsequently allow such irrecoverable VAT to be added to the RAB) made pursuant to this Agreement which would otherwise have been recovered.

- 4.5. Works set out in section 1 of Part 2 of Schedule 1 shall vest in Network Rail upon payment by Network Rail for such Works. Title for the Works set out in sections 2, 3 and 4 of Part 2 of Schedule 1 shall vest with the Customer.
- 4.6. Whenever reasonably requested by Network Rail the Customer will provide evidence within 14 days of a written request to the reasonable satisfaction of Network Rail that the appropriate insurances are being maintained in accordance with the provisions of this paragraph. In the event that the Customer fails to provide evidence of such insurances within 14 days of a written request Network Rail may take out and maintain such insurances and recover the cost of so doing from the Customer by reducing the funding. Appropriate insurance during construction will include; Public Liability Insurance, Contractor All Risks, and Professional Indemnity. Appropriate insurance after completion will include Property Insurance and Contents Insurance.
- 4.7. The Customer shall be responsible for compliance with all applicable laws and regulations and for obtaining all necessary consents (including planning consents) in carrying out the Works and Services.
- 4.8. Network Rail's aggregate liability in respect of this Agreement (whether in contract, tort, breach of statutory duty or otherwise) shall be limited to a sum equal to the Funding Contribution less the aggregate of any amounts already paid by Network Rail in accordance with paragraph 2.3 provided that such limitation shall not apply to any liability in respect of death or personal injury resulting from a negligent act or omission or breach of statutory duty by Network Rail.
- 4.9. The Customer grants to Network Rail an irrevocable, perpetual, non-exclusive royalty-free licence to use all the intellectual property created as a result of the design and implementation of the Works and Services for all purposes, including the right to sub-licence.
- 4.10. Each party shall treat as confidential all information provided by the other party pursuant to this Agreement, save where disclosure is required by law or regulation or where the information comes into the public domain through no fault of the receiving party.
- 4.11. If either party receives a request for the disclosure of information relating to the Works and Services and/or this Agreement (the "**Works and Services Information**") under the Freedom of Information Act 2000 and/or the Environmental Information Regulations 2004 (together the "**Information Acts**") it shall comply with such request in accordance with the relevant Information Act to the extent it is obliged to do so and provided that no exemption from disclosure in the relevant Information Act applies. Prior to making such disclosure it shall give the other party the reasonable opportunity to make representations as to why the disclosure should not be made (including but not limited to any exemptions from disclosure that may apply) and shall inform the other party of any disclosure made. For the purpose of Paragraph 43(2) of the Freedom of Information Act 2000, the parties acknowledge and agree that the disclosure by it of any commercially sensitive Works and Services Information is likely to prejudice the interests of the parties.
- 4.12. Neither party intends that any term of this Agreement should be enforceable, by virtue of the Contracts (Rights of Third Parties) Act 1999, by any person other than Network Rail or the Customer.
- 4.13. Any notice pursuant to this Agreement shall be in writing and shall be duly and validly served if delivered by hand or sent by first class post to the registered office of the

relevant party. Any notice sent by post shall be conclusively treated as having been served two working days after posting.

- 4.14. Neither party may assign or charge its rights or interests under this Agreement without the prior written consent of the other party (not to be unreasonably withheld or delayed).
- 4.15. No amendment to or variation of this Agreement shall be effective unless in writing and signed by or on behalf of each party. No general terms and conditions contained in any purchase order or other document customarily required by either party in connection with a request for works or services shall be binding on the parties.
- 4.16. Should a dispute between the parties arise out of or in connection with this Agreement, the parties' respective representatives shall initially discuss and attempt to resolve the dispute. If the parties' representatives are unable to resolve the dispute to the satisfaction of both parties within 7 days, it shall be escalated to the parties' appropriate senior managers for resolution. If the senior managers are unable to resolve the dispute to the satisfaction of both parties within 7 days, it shall be escalated to the parties' directors for resolution. If the directors are unable to resolve the dispute to the satisfaction of both parties within 7 days, the dispute shall be referred to adjudication in accordance with paragraph 4.17.
- 4.17. Either party may refer to adjudication any dispute arising out of or in connection with this Agreement in accordance with the Housing Grants, Construction and Regeneration Act 1996. The adjudicator shall be agreed between the parties and failing agreement within 7 days of receipt by one party of a proposal by the other the adjudicator shall be nominated at the request of either party by the President or Vice President for the time being of TECBAR.
- 4.18. This Agreement constitutes the entire agreement between the parties relating to the subject matter of this Agreement and supersedes any previous agreements between the parties. Each party acknowledges that in entering into this Agreement it is not relying upon any statement or representation not set out in this Agreement.
- 4.19. In the event of any inconsistency in the terms relating to the Customer's rights and obligations between this Agreement and, if applicable, the Asset Protection Agreement, then the terms of the Asset Protection Agreement shall prevail.
- 4.20. This Agreement shall be governed by and construed in accordance with the laws of England and Wales. Save as expressly provided otherwise, the parties agree that the courts of England and Wales shall have exclusive jurisdiction to settle any disputes that may arise out of or in connection with this Agreement.

5. Termination

- 5.1. Network Rail may terminate this Agreement by notice to the Customer if the contractor mobilisation of the Works and Services has not occurred by 20 April 2013.
- 5.2. If either Party is in material breach of this Agreement then:-
 - (a) the Party not in breach will notify the other in writing of such breach; and
 - (b) if the breach is not capable of rectification the Party not in breach shall be entitled to terminate this Agreement immediately on giving written notice; or
 - (c) if the breach is capable of rectification and the breach is not remedied within 21 days of receipt by a Party of the written notice then the Party not in breach may terminate this Agreement immediately by written notice.

- 5.3. Upon termination for material breach the party in material breach shall pay the reasonably and properly incurred costs in relation to termination. For the avoidance of doubt in the event of material breach by the Customer, such costs will include making good the Works.
- 5.4. Upon termination, all obligations of both parties under this Agreement shall cease except for:
- (a) the provisions of paragraph 4.10 (Confidential Information);
 - (b) the provisions of paragraph 4.8 (Liability); and
 - (c) this paragraph 5 (Termination).

And save also for any antecedent breach by either Party of the terms of this Agreement.

Please sign and return a copy of this Agreement to confirm your agreement to the above.

Yours faithfully

Robin Gisby Director, Operations and Customer Services
For and on behalf of Network Rail Infrastructure Limited

We agree to the above.

Andrew Figgures Chief Executive
For and on behalf of British Transport Police Authority

Dated

Schedule 1

The Works and Services

1.2 Works and Services Overview

The Customer, will undertake the following initial “Foundation” Works and Services as part of a 6 year strategic CCTV improvement programme (Phase 3). This programme aims to build upon the CCTV integration and network infrastructure already available across BTP, delivered through previous projects, and ensure its scalable and supports national growth due to technological and emerging policing demands.

The Project has a distinct key deliverable which will be referred to as the Foundation Works and Services which will include the refresh and delivery of Version 5 of the IP Security Centre (IPSC) integrated CCTV platform, planning for a National Imagery Network and implementation of all necessary infrastructure improvements.

The Foundation Works and Services will primarily be around planning and designing a national CCTV imagery network and implementing an upgraded bespoke dedicated single user interface platform (IPSC), with the ability to manage the proposed strategic improvement programme.

These works will be completed in the financial year ending March 2014 and will form the key components and foundations with which to support all of the proposed Phase 3 scopes. To maximise the benefit from the longer term project it is fundamental that these foundations are put in place.

The scopes are listed below:

- Refresh IPSC to V5.0
- IPSC Map Navigation Interface
- IPSC Existing TOC/NWR Re- Mapping
- Reporting Tools
- Improve Playback Push
- Upgrade Spot Recording
- System Configuration repair tools
- Review Network Security
- Develop National Network Architecture
- Server Room Infrastructure Including Required Hardware
- Review / Implement Ebury Bridge Security Level
- Video Wall Refresh (FHQ & Intel)

Project delivery will be in accordance with relevant Network Rail standards and will encompass all necessary Works and Services up to and including GRIP stage 8 and will include but not be limited to:

- undertake GRIP 1 to 8 (output definition, pre-feasibility, option selection, single option selection, detailed design, procurement, construction test & commissioning, project hand back and lessons learnt);
- procure and manage the contractor to deliver the Project;

- prepare, submit and manage all relevant documentation to deliver the Project;
- implementation of the Works and Services;
- testing and commissioning of the Works and Services;
- Provision of as built and maintenance records to Network Rail.

Part 1 Scope of Services:

The Services to be performed by or on behalf of Customer shall comprise:

- Liaise with the client as necessary to maintain a strong communication link between project team and client
- Implement and manage the change control process post Funding Agreement
- Oversee the design to check it complies with the brief
- Establish the project master programme with client input
- Strive to keep capital and revenue costs to a minimum, whilst maintaining the quality of work and client brief
- Establish a management structure that best serves the project objectives
- Control the master development programme
- Monitor the development and implementation budget
- Act as contract administrator and issue instructions to the contractor within delegated authority
- Keep Network Rail project sponsor informed of progress throughout each stage of the project
- Responsibility for liaison with the design team
- Have an input to, and adhere to, the design programme, and identify opportunities to improve it
- Report on the cost consequences of design development, amplification of detail and co-ordination of design and the installation of the work
- Report four weekly to Network Rail project sponsor, including but not limited to, budget estimating, cost planning, preparation of tender documents, evaluation of tenders and negotiating tenders, recommendations for payment
- Monitor the development and implementation, ensuring that it is in accordance with the contract documents
- Co-ordinate and control project information
- Issue project change orders (or similar) as defined in the cost control and reporting procedures
- Prepare reports/information and chair/attend meetings as requested by the Network Rail project sponsor
- Advise Network Rail project sponsor of specialist surveys as necessary
- Produce documentation as necessary for design approval
- Obtain the employer's requirements, budgets and project timetable
- In carrying out its duties in relation to the project the consultant shall communicate with the employer the project manager and the several consultants in accordance with the system prescribed by the project manager, and comply with his project control procedures regarding communications, meetings and reporting
- Expert guidance to client and facilitators to CDMC function on the application of the CDMC Regulations
- Establishing competence and resource of designers and principal contractor
- Input Health & Safety risks into the project risk register
- Preparation of the pre-construction Health & Safety plan
- Evaluate principal contractor's Health & Safety plan
- Conduct a formal quarterly review/audit against the Health & Safety plan
- Prepare and deliver Health & Safety file to client
- Undertake a review of the process following commissioning and hand back to identify lessons learnt and best practice.

The Customer's Project Management

The Customer will continue to provide ongoing project management throughout the main phase of the project including;

- The Customer will control the programme and budgets and provide four weekly progress reports to Network Rail's representatives
- The Customer will provide all the relevant contract and investment submissions
- The Customer will co-ordinate and manage all parties involved in the project.

Contractor Management

Once the contractor's contracts has been placed the Customer will manage the appropriate contractor's and the contractor's programme to ensure that the project is delivered in a satisfactory manner.

This will consist of overseeing the following:

- The contractor's onsite works
- Continuing coordination and communication updates to stakeholders as or requested
- Coordinating programmes between the contractor's and all other parties (including other trades and client organisations)
- Controlling the change process and negotiations for the specialist systems
- Controlling the project plan and risks
- Providing a primary point of contact with the Customer

Part 2 Scope of Works:

The Works to be performed by or on behalf of the Customer shall comprise:

| |
|---|
| Project mobilisation |
| <ul style="list-style-type: none">○ Development of procurement strategy including framework and contract negotiations○ Appoint project team and subcontractors○ Set up project management documents and reports○ Carry out technical workshops for project initiation○ Development of work packages |
| Review network security |
| <ul style="list-style-type: none">○ Establish network lifecycle of CCTV from source to destination○ Review hardware and software configurations○ Agree lifecycle security levels○ Establish remote maintenance connectivity○ Generate security report○ Create scope of works for rectification |
| Server room infrastructure – core |
| <ul style="list-style-type: none">○ Generate detailed designs for core infrastructure to support IPSC upgrade○ Procurement of specific server room equipment at Ebury Bridge including but not limited to switches, firewalls, encoders, decoders, servers and licenses○ Implement the above equipment and commission |
| IPSC existing Train Operating Company / Network Rail Re-mapping surveys |
| <ul style="list-style-type: none">○ Carry out workshops to establish user requirements○ Create station map asset register○ Generate requirements and scope of works document○ Create survey register and arrange surveys○ Carry out surveys to validate map data○ Generate implementation report for priority stations |
| Server room infrastructure – support |
| <ul style="list-style-type: none">○ Generate detailed designs for support infrastructure○ Procurement of specific server room equipment○ Implement the above equipment and commission |
| Review / Implement Ebury Bridge security level |
| <ul style="list-style-type: none">○ Review requirements documents○ Establish scope of works of security enhancements○ Procure required hardware and security software○ Implement solution○ Generate security certification |
| Refresh IPSC to V5.0 |
| <ul style="list-style-type: none">○ Carry out transition workshop○ Create staged implementation plan○ Discuss operational impact with BTP○ Generate a proof of concept terminal and test○ Develop core operating system and deploy |

| |
|---|
| <ul style="list-style-type: none"> ○ Migrate TOC's to new system ○ Commission system and test |
| Develop national network architecture |
| <ul style="list-style-type: none"> ○ Identify and procure network architect consultants ○ Carry out workshops with network architect consultants ○ Generate recommendations report |
| Video wall refresh (FHQ & Intel) |
| <ul style="list-style-type: none"> ○ Review existing videowall architecture ○ Establish operational user requirements ○ Agree refresh plan ○ Carry out detailed design and procurement of required hardware ○ Implement refresh solution |
| Mapping reporting tools, improve playback push, upgrade spot recording, system configuration repair tools |
| <ul style="list-style-type: none"> ○ Agree IPSC component deliverables ○ Generate development and commissioning plan ○ Carry out development and system commissioning ○ Carry out testing and train users |
| IPSC mapping implementation |
| <ul style="list-style-type: none"> ○ Review implementation report ○ Generate delivery plan ○ Remap priority stations ○ Import to IPSC system and test live and recorded alignment ○ Familiarise users with new interface |
| Project closeout |
| <ul style="list-style-type: none"> ○ Generate comprehensive O&M manual to support ongoing BTP Maintenance of the system. ○ Performance testing, commissioning and handover of all of the equipment and systems ○ Finalise budgets ○ Generate close out report |

Part 3 Programme:

| Event | Date |
|---|-------------|
| Project mobilisation | Jan 13 |
| Review network security | April 13 |
| Server room infrastructure – core | May 13 |
| IPSC existing Train Operating Company / Network Rail Re-mapping surveys | Sep 13 |
| Server room infrastructure – support | Nov 13 |
| Review / Implement Ebury Bridge security level | Nov 13 |
| Refresh IPSC to V5.0 | Dec 13 |
| Develop national network architecture | Dec 13 |
| Video wall refresh (FHQ & Intel) | Dec 13 |
| Mapping reporting tools, improve playback push, upgrade spot recording, system configuration repair tools | Jan 14 |
| IPSC mapping implementation | Feb 14 |
| Project closeout | Mar 14 |

Part 4 Deliverables:

| Deliverable | Funding Contribution | Contingency |
|--|-----------------------------|--------------------|
| Project mobilisation | £78,000.00 | £3,900.00 |
| Review network security | £10,000.00 | £500.00 |
| Server room infrastructure - core | £200,000.00 | £10,000.00 |
| IPSC existing Train Operating Company / Network Rail Re-mapping surveys | £250,000.00 | £12,500.00 |
| Server room infrastructure- Support | £160,000.00 | £8,000.00 |
| Review / Implement Ebury Bridge security level | £100,000.00 | £5,000.00 |
| Completion of IPSC core platform to IPSC to V5.0 | £250,000.00 | £12,500.00 |
| Develop national network architecture | £90,000.00 | £4,500.00 |
| Video wall refresh | £222,000.00 | £11,100.00 |
| - IPSC map navigation interface | £210,000.00 | £10,500.00 |
| - Reporting tools | | |
| - Improve playback push | | |
| - Upgrade spot recording | | |
| - System configuration repair tools | | |
| IPSC existing Train Operating Company / Network Rail implementation | £150,000.00 | £7,500.00 |
| Subtotals | £1,720,000.00 | £86,000.00 |
| Total cost of the Works and Services including retention and contingency excluding VAT | £1,806,000 | |

Schedule 2

Information Required from Customer to enable Network Rail Recovery of Capital Allowances and VAT.

The Customer shall provide Network Rail with the following required information to enable it to claim Capital Allowances and reclaim VAT. In order to reclaim VAT and make applications for capital allowances, Network Rail requires Customers to provide it with the final costs of feasibility, development and implementation for the schedule of works covered under their respective agreement. This should take the form of a detailed breakdown based on the Anticipated Final Cost (AFC).

The following schedule of assets is attached as an indicative list of works and assets where such information would be required. This schedule should be tailored to reflect the works and assets relevant to the project. The Customer should advise Network Rail of the AFC of the relevant works and assets when this information becomes available from GRIP 5, and then provide to Network Rail the confirmed final cost of these with the submission of invoices for payment of completed Deliverables.

1. Items of Plant Qualifying for Allowances

| Items of Plant Qualifying for Allowances | Anticipated Final Cost (£) |
|---|-----------------------------------|
| PC Workstations | |
| Servers | |
| Display walls | |
| Cabinets | |
| | |

If expenditure on any of the above categories is not new or does not relate to the improvement of an existing asset it should be recorded as Repair for tax purposes.

Other VAT Information Required

In addition to the information for the relevant assets indicated above, the Customer will also need to provide to the Administrator a valid tax invoice, as referred to in Paragraph 7 of this Agreement, for the payment of chargeable VAT for taxable supply. The valid tax invoice will need to be provided in accordance with the requirements of the VAT Act 1994 and the VAT Notice 700 published on the HMRC website, which outlines the required information.

BTP CCTV Programme Phase 3

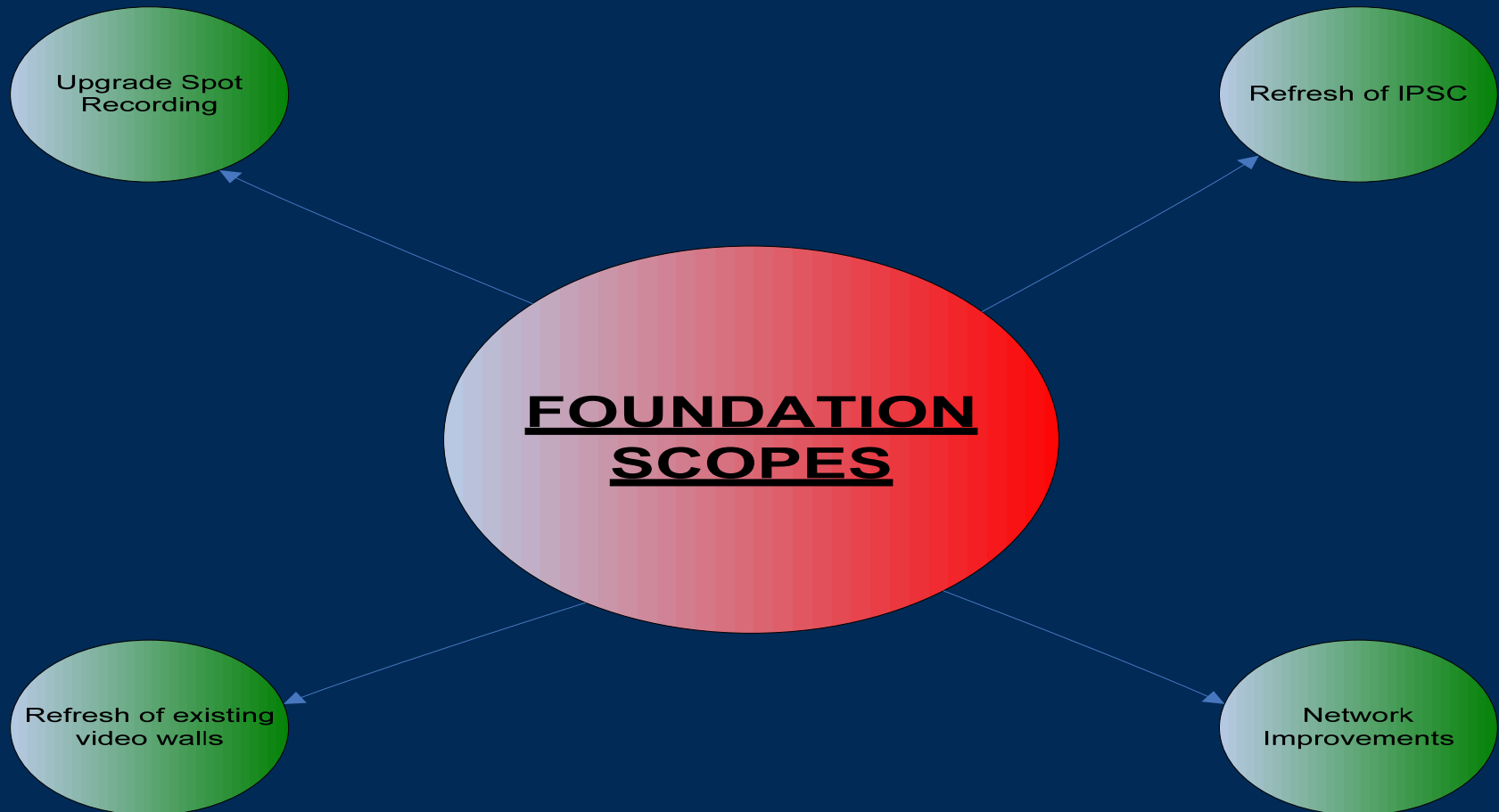
Hacer Evans

Vision

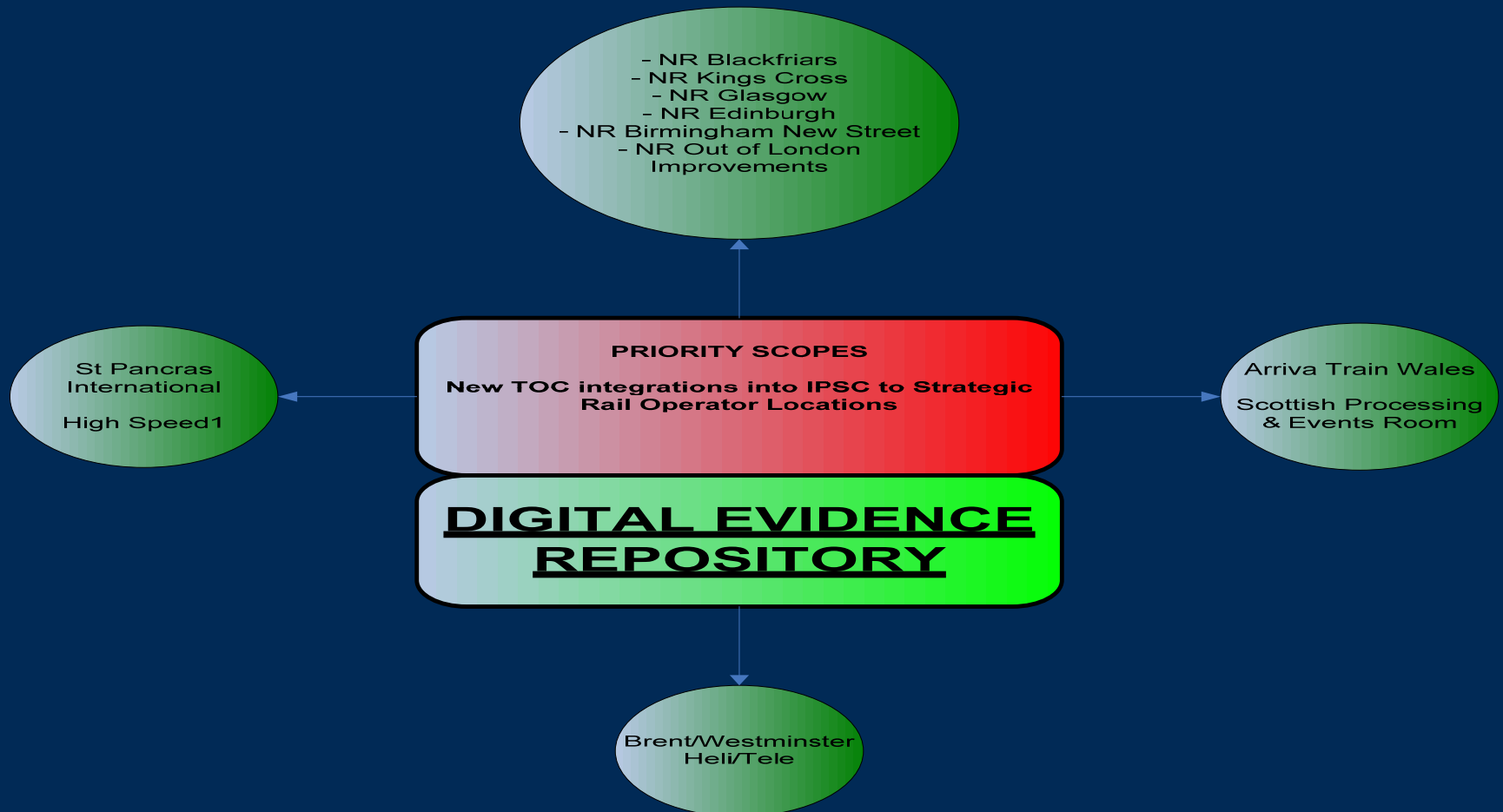
Phase 3 vision

‘ to provide a more resilient and efficient CCTV environment for BTP and the Rail Industry, whilst ensuring that benefit is provided to the rail service in terms of passenger safety, better visibility during times of disruption and reduction in delay where disruption is caused by Police Investigation.’

Foundation Scopes



Priority Scopes



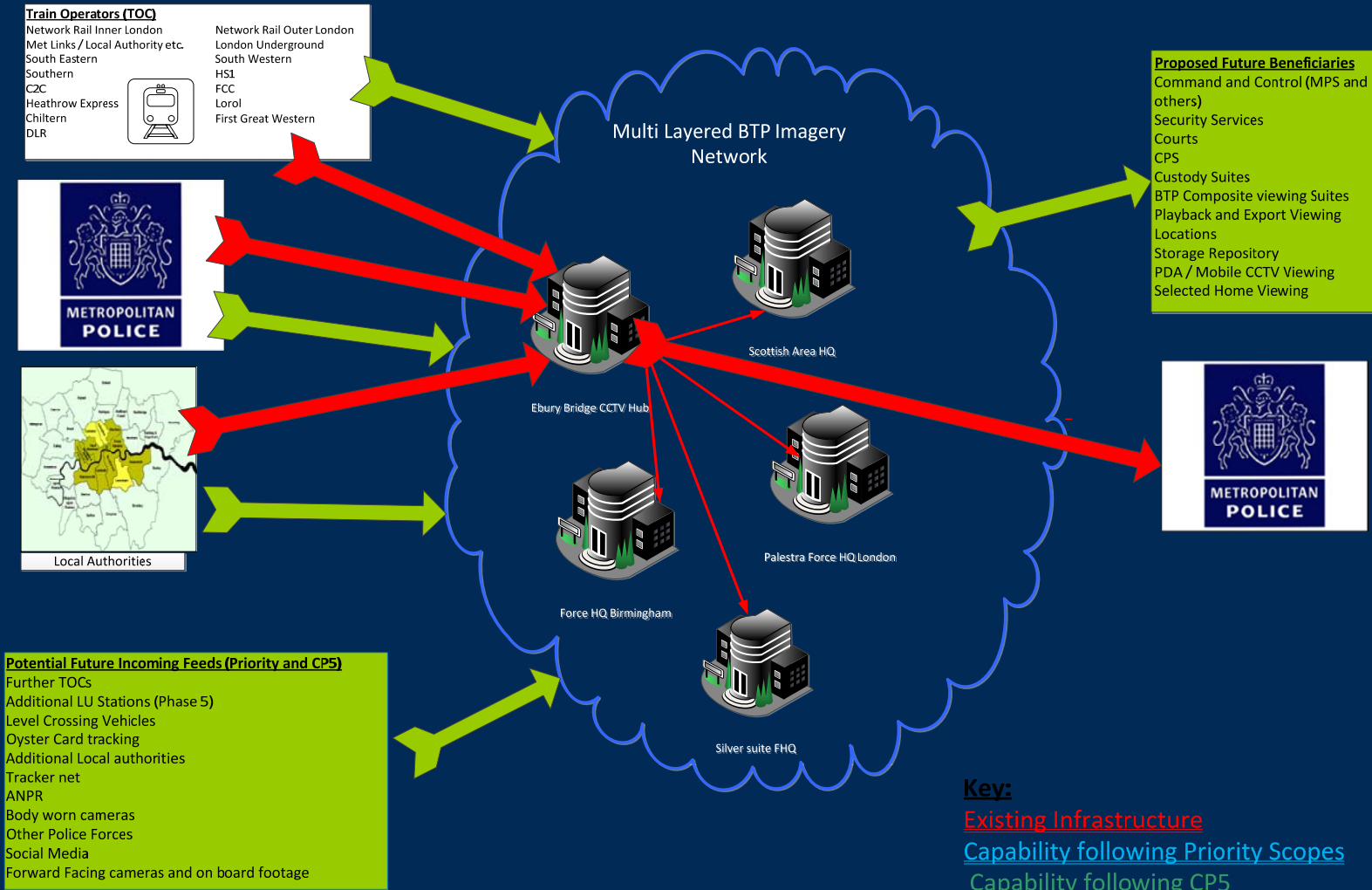
CP5

Further enhancement to the CCTV Infrastructure over a 5 year period

Alignment with the CJS Efficiency Programme ensuring that evidence is captured efficiently through a 'digital first' approach

- CCTV Imagery Network
- Live streaming and body worn cameras
- Automatic Number Plate Recognition
- Streaming of CCTV footage into custody suites for early charging decisions

National CCTV Strategic Alignment Programme



Business Benefits

- Increased viewable footprint
- Digital Evidence Repository
- Increased Scalability
- Added resilience around CCTV infrastructure
- Platform for CP5 integration
- Improved functionality for front-end users

Longer-term Strategic Benefits to support:

- A 20% reduction in crime
- A 20% reduction in disruption minutes
- A 10% increase in passenger confidence

Any Questions



15 APPENDIX 2 PROPOSED TIMELINE

