Tees Valley Combined Authority
Darlington Station

# Updated Business Case

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Fore

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## Appendices

# 1 Introduction

## 1.1 Overview

The economic geography and peripheral nature of the North East region as a whole is one of the greatest challenges, and this is particularly true for the Tees Valley as it contains a number of centres within a small geographical area. Much of the recent activity from the Tees Valley Combined Authority (TVCA) and the Local Authorities has been aimed at addressing the challenges of job losses in the industrial economy, issues of high unemployment and social exclusion and the difficulties within the local housing market. However, whilst the local economy now has stronger foundations as a result, further targeted intervention is required in order to achieve the ambitious growth targets.

The lack of a single dominant commercial centre has transport implications and means that good interconnectivity is vital for the Tees Valley to function effectively. The Tees Valley Strategic Economic Plan (SEP) and Strategic Transport Plan (STP) clearly articulate the need for better transport connections across the City Region, providing businesses and residents with a high quality public transport network that is frequent, integrated, reliable and offers a real alternative to the private car in order to be cleaner and more sustainable.

This will also boost competitiveness through improved connectivity across the North, as identified in Transport for the North's (TfN's) own Strategic Transport Plan, linking key sectors and leading industries with other centres of expertise outside of the Tees Valley. An improved rail network to, from and within the Tees Valley, will also provide more access to global markets, increasing the capacity for growth and creating more jobs for the people of the City Region – this is particularly important as 70% of major local businesses are internationally owned.

## 1.2 Business Case

This document and its series of appendices comprise an Updated Business Case (UBC) for major improvements to **Darlington Station**. The aspiration is for an enhanced rail gateway that can accommodate future demands for national, regional and local passenger rail services as well as freight, and an Outline Business Case (OBC) for the scheme was prepared in January 2020, leading to a "Decision to Develop' within the Rail Network Enhancements Pipeline (RNEP).

The OBC identified that the most effective and efficient route to delivery is to separate out the scheme into three elements:

- **Operational Railway** – the track improvements and new east side platforms (both local and through services);
- **Station Enhancements** – the new station building and accessible footbridge, together with any internal changes to the existing station required to provide the latter; and
- **Station Gateway** – new multi-storey car park (MSCP) and multi-modal interchange to the east, the enhancement to the portico and improved interchange to the west, and any amendments to the current approach from Parkgate.

Since the production of the OBC, a significant amount of further work has been done on each of these elements, which, allied to the need to confirm the scheme's continued value for money for each of the funding parties as the necessary land acquisitions take place, underpins the reasoning behind the need for this UBC.

## 1.3 Document Content and Structure

This document has been prepared with reference to the Transport Business Case guidance, the Transport Appraisal Guidance (TAG) issued by the Department for Transport (DfT) and TVCA's Assurance Framework. It also recognises the requirements of the Rail Network Enhancements Pipeline (RNEP), HM Treasury's Green Book and associated supplementary guidance on public sector business cases.

The remainder of the document is structured as follows:

- **Chapter 2: The Strategic Case**, a summary of the continuing clear rationale for investing in the scheme;
- **Chapter 3: The Economic Case**, which updates the impacts of the scheme in terms of value for money;
- **Chapter 4: The Financial Case**, which explains how the latest scheme costs have been derived and illustrates how the scheme remains affordable and fundable;
- **Chapter 5: The Commercial Case**, which re-iterates that the preferred option for each element of the scheme will result in a viable procurement;
- **Chapter 6: The Management Case**, which demonstrates that robust arrangements continue to be in place for the delivery, monitoring and evaluation of the scheme.

Given the level of detail provided in the OBC and the relatively short time period that has passed since its preparation, this UBC necessarily concentrates on the key differences between the OBC and the UBC. Further details on the scheme as provided in the OBC and its supporting appendices remain unchanged.

# 2 The Strategic Case

## 2.1 Strategic Fit

There continues to be a very strong and robust case for investment in Darlington Station. There is a clear strategic need for the scheme given that the identified issues with rail services at the station will only get worse in the future and the current track layouts at the station exacerbate these issues. In addition, the passenger experience and the facilities offered by Darlington Station should be representative of the economic ambitions of the town and its status as a key interchange for the Tees Valley, but this is not currently the case.

Many of the key elements of the Strategic Case for the improvements to Darlington Station remain unchanged from the OBC and can be summarised as follows:

- The Tees Valley contains a number of centres within a small geographical area – the lack of a single dominant commercial centre means that good interconnectivity is vital for the Tees Valley to function effectively;

- The Tees Valley SEP contains the target for 25,000 new jobs and 22,000 new homes by 2026, but to ensure the proposed economic growth and additional jobs are delivered will require more inward migration from other population centres – this will mean the transport network will have to cope with a greater demand for travel to/from and around the City Region;

- There is the opportunity to increase the number of people in employment by ensuring easy and affordable access to jobs, education and training by providing a high quality, cleaner, quick, affordable, reliable, integrated and safe transport network for people and freight;

- There has been strong recent growth in both private vehicle traffic and rail passengers across the Tees Valley, but continued growth in road traffic will have significant negative consequences in terms of congestion and the environment, both of which will stifle future growth unless there is a suitable public transport alternative;

- The existing rail network in the Tees Valley serves all of the Enterprise Zones and key growth sites - whilst the network is fairly extensive, it is still based to a large extent on historic patterns of development and travel demand and it does not necessarily fully meet the future needs of the City Region;

- The capacity and capability of the passenger and freight rail networks that serve the Tees Valley is now becoming a concern in terms of the impact this will have on future

economic growth – the East Coast Main Line (ECML) north of York is now at or very close to capacity with train operators struggling to deliver contract commitments as a direct result;

- To deliver the sort of step change in journey opportunities needed to support economic growth on this section of the ECML, Network Rail's recent capacity analysis and East Coast Route Study identify a package of investment that would be necessary to enable the future service level of nine trains per hour on the route – this includes the requirement to improve capacity and resilience at Darlington Station;

- The initial option assessment process was undertaken with the support of a range of stakeholders, including Network Rail, and identified a preferred option that comprises a package of improvements that will achieve the agreed objectives and provide a holistic solution to the identified national, regional and local passenger and freight issues;

- The preferred option goes beyond improvements to Darlington Station itself – it is also concerned with the regeneration role that an enhanced station gateway can play in relation to current and planned developments in Darlington town centre;

- Consultation in relation to the scheme has been considered since an early stage in its development and has shown strong support for the development of a fitting rail gateway for local, regional, pan-regional and national trips;

- The preferred option has a strong policy alignment with national transport and rail policy, will support the delivery of HS2 and Northern Powerhouse Rail (NPR), and is identified in the Investment Programme for delivery by 2027 as part of TfN's Strategic Transport Plan.

The remainder of this section briefly outlines some of the recent changes to the Strategic Case, many of which actually enhance case for change presented in the OBC.

## 2.2 Transport Context

Figure 2.11 and Table 2.1 of the OBC illustrated the strong recent growth in rail travel across the Tees Valley, and at Darlington station in particular.

Clearly the COVID-19 pandemic has significantly affected this recent growth, with the most recent DfT statistics showing national rail patronage in June 2021 being around 50% of the levels seen in February 2020. The longer term impact of the change in working regimes and confidence in the use of rail services on patronage are as yet unknown, with Network Rail indicating a working assumption that patronage may only return to 80% of pre-pandemic levels.

Given the polycentric nature of the Tees Valley, the local rail network remains a key part of the network required to support sustainable and inclusive growth, and the business cases being developed for HS2 and NPR show a continued strong demand for intercity travel by rail, one that will become even more important as the UK seeks to meet its revised net zero targets.

Therefore, the impact of the COVID-19 pandemic on the transport context presented in the OBC is considered to be negligible, with uncertainties over future patronage being addressed by the sensitivity tests undertaken and reported in the Economic Case.

## 2.3 Assessment of Need

Network Rail's capacity analysis, published in June 2019 and included at Appendix B to the OBC, indicated that neither Darlington South junction, nor the two through platforms at the station have the capability to accommodate the Indicative Train Service Specification (ITSS) that is being developed by the industry for the ECML to include HS2 and NPR.

The OBC specifically identified that the ECML north of York, and in particular north of Northallerton where it becomes a two track only railway, is now at or very close to capacity.

Further evidence of these network constraints has been provided through the recent consultation on the May 2022 timetable changes for the ECML published by London North Eastern Railway (LNER). In the main consultation document, LNER note that:

*"As was identified by Network Rail in 2014 and 2015 and the rail regulator in 2016, there is not the capacity north of York for the pre-Covid service plus our and Open Access operators' new services",*

with the result that the consultation document suggests a 0.5 trains per hour (tph) reduction in the number of LNER services between London King's Cross and Edinburgh calling at Darlington, as well not reinstating a 1tph TransPennine Express service between York and Newcastle that started in 2018 but was withdrawn due to the COVID-19 pandemic.

This proposal is being strongly resisted by TVCA and other partners in the North East, Yorkshire and within TfN, but it does emphasise the need for further interventions along the ECML, including at Darlington, to support the long term ambition for a 9tph service north of York. The impact of a 0.5tph reduction in LNER services at Darlington has been assessed as a sensitivity test within the Economic Case for completeness, but this approach does not represent an acceptance by TVCA of the proposal.

The local rail network issues identified in the OBC remain as described, noting that the provision of adequate capacity across the whole Tees Valley rail network is vital to support passenger and freight growth.

## 2.4 Policy Alignment

The main change in national rail policy since the production of the OBC has been the publication of Great British Railways: The Williams-Shapps Plan for Rail, in May 2021. This white paper sets out how the Government will make railways the backbone of a cleaner, more environmentally friendly and modern public transport system across the country. By replacing franchising, accelerating innovation and integrating the railways, the Government is aiming to deliver an efficient, financially sustainable railway that meets the needs of passengers and those who rely on rail on a daily basis.

Although the Plan is more about how the railway network in the UK is managed and operated in the future as opposed to specific investment commitments, of the 10 outcomes envisaged by the Plan, a number are of particular relevance to Darlington station, including:

- Passengers must receive high-quality, consistent services day in, day out. This means accessible, reliable journeys that are well connected with other transport services and include new customer offers at stations and on trains.

- A new customer offer will be driven by clearer, easy-to-understand information, simpler travel with contactless and cashless payment and clearer prices.

- Railways will be more responsive to the needs of local communities and customers.

- The pandemic has highlighted the importance of freight to our country and economy. National co-ordination, greater opportunities for growth and strong safeguards will put rail freight on the front foot.

- Restoring lost rail links and accelerating the delivery of critical upgrades to the network will help level up places across the country, spark new economic growth and improve public transport connectivity and prosperity across our nations and regions.

- Enhancing skills, leadership and diversity across the sector will create new opportunities for the hundreds of thousands of people working on our railways. High-value jobs for the future will be created and make the most of data and technology to better support customers.

The Plan also notes that *"railways also provide connections that are fundamental to good placemaking and rail links can be a catalyst for regeneration and development"* which is in

line with the scope of the Darlington Station scheme going well beyond the boundaries of the station itself to recognise its gateway role for both the town and the City Region.

Finally, the Plan identifies an aim that station management will be integrated within Great British Railways to improve accountability for long-term investment in stations and that getting to the station on a bike and taking it on a train will be made easier, both of which are strongly aligned to the scope of this scheme.

## 2.5 Constraints and Interdependencies

The OBC set out a number of 'live' rail network proposals that are of relevance to this scheme, with a short update on each summarised in the following paragraphs.

**Middlesbrough Station** - this project has two distinct elements, first, the provision of additional platform capacity at the station to deliver the required capacity for all future growth in service levels including service improvements and enhancements included in both the former? Northern and TransPennine Express franchises, new ECML services to London and further improved local services, and second, the provision of improved station facilities. The planned works at Middlesbrough are entirely complementary to the Darlington Station scheme and each requires completion of the other to unlock the full potential of the Tees Valley rail network. The extension to the existing Platform 2 was completed in June 2021, allowing the commencement of services to/from London in December 2021.

**Northallerton to Teesport Gauge Enhancements** - A major upgrade of the rail line between Northallerton and Teesport is required so that it can be used more effectively by both freight and passenger trains. A key element of this is the provision of W12 gauge clearance of the line, as a precursor to the future electrification of the route. This will support the ongoing development of Teesport as a truly international gateway for the North of England by allowing the largest containers to be transported by rail along the most efficient route as opposed to having to reverse at Darlington as at present. The provision of W12 clearance on this route will also help to alleviate capacity issues at Darlington by removing the need for significant freight movements to pass through the station. GRIP4 work to confirm of the requirements for gauge clearance on the route via Yarm is nearing completion.

Development work also continues on both HS2 and NPR, both of which are supported by the scheme, and more details on the programming of both of these improvements are due to be published in the upcoming Integrated Rail Plan for the Midlands and the North.

## 2.6 Stakeholders

Consultation in relation to the scheme has been considered from an early stage in its development, for example, a wider consultation was undertaken with residents and business surrounding the station following the launch of the original Station Masterplan in 2017, which showed significant support for the proposals at the time.

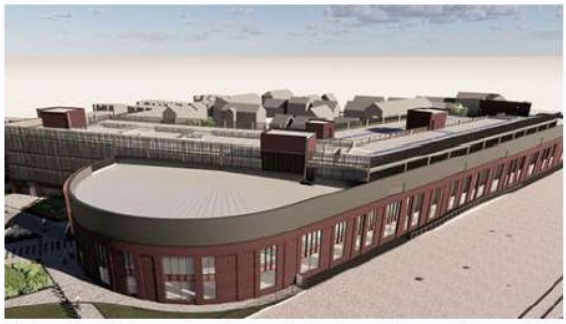
In May 2021, Darlington Borough Council (DBC) undertook a further public consultation exercise on the proposals for the development of land immediately to the east and west of the existing station (the Neasham Road side and the Victoria Road side) – these are the Station Gateway elements that DBC is leading on.

Updated plans and artist's impressions of these elements of the scheme were provided, as shown by the example below, and the views of the public sought.

View looking southwest (from Neasham Road) - from the interchange towards the new station and multi-storey car park

View looking southwest towards the new station entrance

View looking north-west from Neasham Road - showing the multi-storey car park in the foreground and interchange beyond



View looking southeast from above the rail lines - showing the new station building

In terms of the number of people reached the consultation was highly successful with well over a 100,000 people engaged with. A Statement of Community Involvement was prepared for the two parts of the Station Gateway element of the scheme following the

consultation, indicating a high level of support for the need to improve the station and its envroins. The design team has undertaken to consider these comments and where possible reflect them in the forthcoming planning applications.

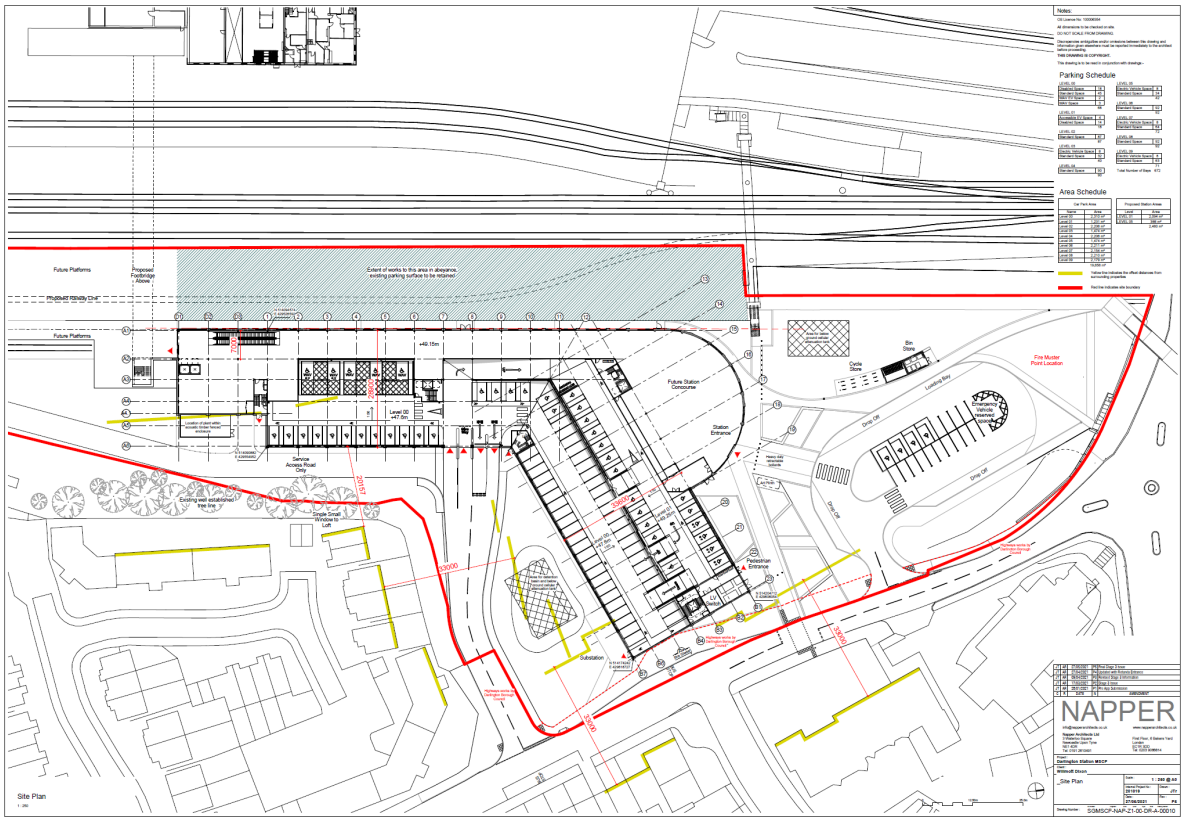
# 3 The Economic Case

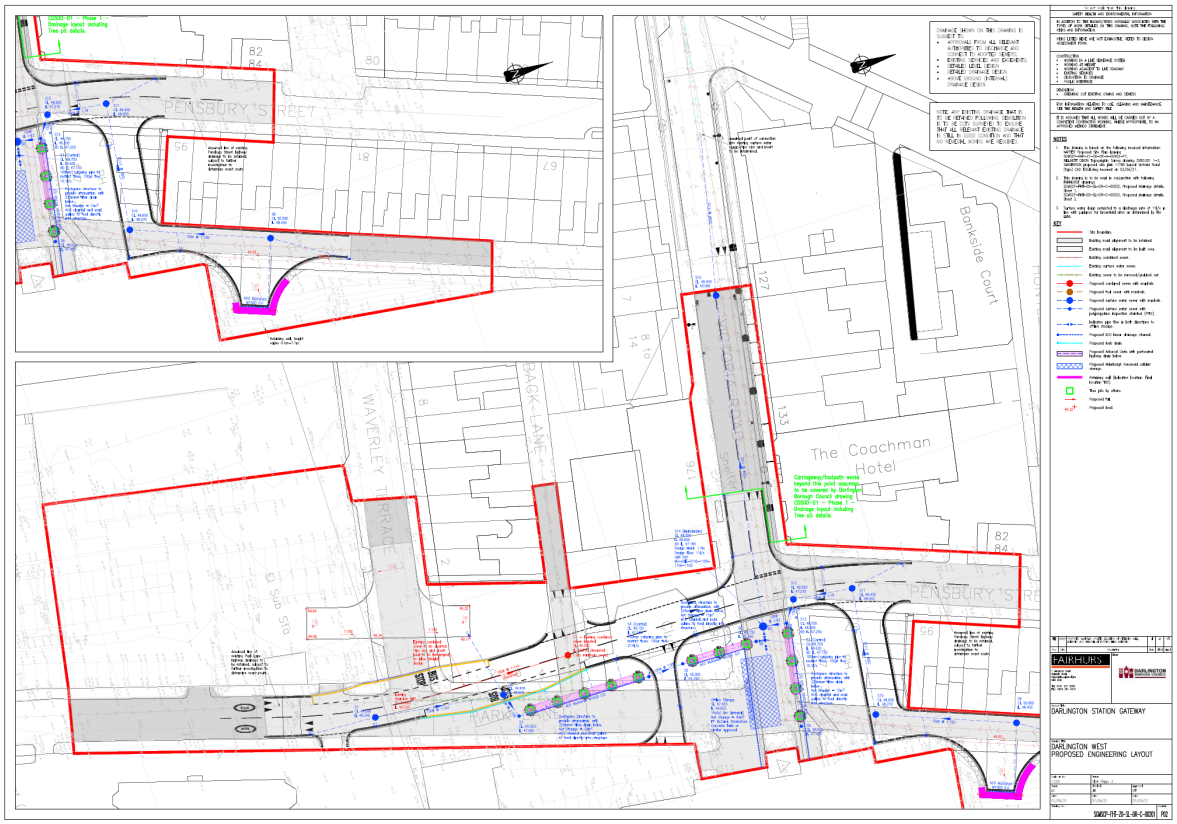
## 3.1 Preferred Option

The preferred option for the Darlington Station improvements set out in the OBC included the following components:

- Two new bay platforms on the east side to accommodate existing and future Tees Valley local services;
- The track between these platforms and Darlington South Junction designed to ensure the local services can operate independently from the ECML, removing current capacity and reliability issues at Darlington South Junction;
- Another new platform adjacent to the Up Goods Line, to be used by southbound long distance high speed services calling at Darlington, giving a much faster, unconflicted approach and departure in both directions, saving valuable time on the ECML;
- A new station building, with multi-modal connections, to service the new platforms;
- Bishop Auckland services to use the current platform 4, operating independently (conflict free) in the future, if desired;
- A new accessible footbridge linking the new platforms and station building with the remainder of the existing station;
- A new transport interchange and MSCP adjacent to the new station building, serving rail users and potentially, adjacent developments;
- Access improvements for pedestrians and cyclists from Parkgate; and
- Enhancement to the portico and transport interchange facilities on the western side of the station.

These headline components remain for this UBC, although more detailed work on the components of the preferred option has provided some more detailed amendments to the preferred option across the three elements of the scheme as illustrated by the drawings overleaf.


Parking Schedule
Area Schedule
Site Plan
NAPPER


PENSBURY STREET
Banksbury Court
The Coachman Hotel
WAVERLEY TERRACE
BACK LANE
FAIRHURST
DARLINGTON STATION GATEWAY
DARLINGTON WEST
PROPOSED ENGINEERING LAYOUT

## 3.2 Present Value of Costs

### 3.2.1 Investment Costs

The overall cost envelope of the preferred operation remains unchanged at this point from the cost estimate included within the OBC and summarised in the Financial Case. These estimates include all costs associated with scheme preparation and construction. The costs presented in the Financial Case include real cost adjustments to allow for inflation and an allowance for risk, in the form of a quantified risk assessment (QRA).

For the purposes of the economic assessment, and in line with the guidance in TAG Unit A1.2, an optimism bias of 18% continues to be applied to these costs. This is the recommended uplift for a rail scheme at OBC stage. However, it is important to note that optimism bias is only applied to costs in the economic assessment and is not included in the forecast outturn costs in the Financial Case.

For the economic assessment, all costs have also been adjusted to 2010 market prices and discounted to 2010 at an annual discount rate of 3.5% for the first 30 years after opening and 3% for years 31 to 60, in line with TAG. This represents the assumption that costs (and benefits) incurred at a future date are less valuable than costs incurred in the present.

The Present Value of Costs (PVC) for the preferred option therefore remains at £80.72 million (2010 prices).

### 3.2.2 Construction and Maintenance Delays

The capital cost of working within possessions has been allowed for in the rates used in the cost estimate. Risks have been applied in the QRA for construction delays and the values have been included in the risk cost allowance. However, at this stage in the development of the scheme, it remains difficult to quantify the impact of construction and maintenance delays, or how they could be mitigated.

### 3.2.3 Operating and Maintenance Costs

To provide for an assessment of whole life costs, the additional ongoing operational and maintenance costs for the new facilities have been assumed at 1% of the capital cost of the scheme for the first 20 years after opening and 2% of the capital cost of the scheme thereafter. Again, these have been discounted to 2010 prices as described above and are included within the PVC quoted in section 3.3.1.

## 3.3 Present Value of Benefits

In terms of scheme benefits, there are a range of quantifiable benefits, including:

- Journey Time Benefits, leading to User Benefits, Non User Benefits and Revenue Benefits;
- Reliability and Rail Delay Payment Benefits; and
- Wider Economic Impacts.

The first two of these are likely to deliver a significant proportion of the overall scheme benefits based on the changes to the operational railway layout as a result of the preferred option. For the OBC, Network Rail undertook some preliminary analysis of these benefits (including an assessment of actual delay payments incurred over the last five years at Darlington for all passenger services), and the ongoing validity of the assumptions has been reviewed as part of this UBC.

### 3.3.1 Journey Time Benefits

In both the Strategic Outline Business Case and the OBC, the following assumptions were made about the likely journey time savings that would accrue to both long distance and local services:

- 1 minute for ECML stopping services approaching from the south;
- 0.5 minutes for ECML stopping services approaching from the north;
- 0.2 minutes for ECML through services that do not stop at Darlington; and
- 0.5 minutes for local services.

TVCA continues to believe that these journey time assumptions are reasonable, but is aware that further work is ongoing with the rail industry to refine these benefits, specifically:

- Use of detailed technical scheme plans (for example, through RailSys analysis or similar);
- Performance modelling of agreed timetables on the new layout; and
- Development of a timetable that reflects the capability of the infrastructure, demonstrating what savings can be realised.

The outputs from this work will form a revised set of benefits to be presented in the Full Business Case, due for completion in early 2022.

For the economic analysis presented in the OBC, the most important of these journey time benefits were considered to be 1 minute for all services on the ECML south of Darlington (irrespective of whether or not the services call at Darlington) and 0.5 minutes for local services, given the impact of the scheme on these movements. This assumption is considered to remain valid, and also means that the analysis is not sensitive to any changes in the current service pattern for calls at Darlington, as the benefits on the ECML would accrue to all services.

However, although the actual journey time saving estimates remain unchanged, a new version of the TAG databook was released in July 2020 – this is version 1.14 and reflects the projected impact of COVID-19 pandemic and the March 2020 OBR economic forecasts – in combination, this equates to approximately 20% reduction in rail demand over the appraisal period. It also includes a higher carbon price valuation for a scheme's greenhouse gas impact.

In addition, the revised economic analysis also includes the updated CEBR city and regional forecasts for population, employment and GVA inputs - capturing the macroeconomic impacts of the COVID-19 pandemic. The resulting passenger growth rates for the long distance TOCs that serve Darlington range from 0.81% for CrossCountry to 0.97% for LNER, noticeably lower than the 1.5% per annum assumed in the previous analysis.

Using these updated assumptions, Tables 3.1 and 3.2 set out the results of the economic appraisal for long distance services and local services respectively, assuming the same level of journey time savings as included within the OBC. In this analysis, the forecast journey time improvement drives user benefits (reduced journey time), revenue benefits (additional passengers) and non-user benefits (reduced highway congestion). More detail is provided in the updated Economic Analysis Technical Note, included at Appendix A.

### 3.3.2 Non User Benefits

Mode shift to rail as a result of the improved journey times arising from the scheme will give highway decongestion, safety and some quantifiable environmental benefits. Impacts on the highway network have been appraised in accordance with TAG.

The additional rail mileage is calculated through MOIRA and combined with car occupancy and diversion factors from TAG to gain an estimate of the total reduced car mileage that can be expected as a result of the scheme. The reduced car mileage has been applied as per the method set out in TAG Unit A5.4 to gain a value for the marginal external costs, which provides the non user benefits shown in Tables 3.1 and 3.2.

**Table 3.1: Journey Time Benefits for ECML Services**

| Element | Benefits (£m PV, 2010 prices) |
|---|---|
| Rail user journey time benefits | 74.81 |
| Non user benefits - road decongestion | 33.24 |
| Non user benefits - noise, air quality, greenhouse gases & accident benefits | 6.44 |
| Indirect taxation impact on government | -9.92 |
| Non user benefits - road infrastructure cost changes | 0.18 |
| Revenue transfer | 69.81 |
| TOTAL | 174.54 |

**Table 3.2: Journey Time Benefits for Local Services**

| Element | Benefits (£m PV, 2010 prices) |
|---|---|
| Rail user journey time benefits | 1.88 |
| Non user benefits - road decongestion | 0.38 |
| Non user benefits - noise, air quality, greenhouse gases & accident benefits | 0.07 |
| Indirect taxation impact on government | -0.15 |
| Non user benefits - road infrastructure cost changes | 0.00 |
| Revenue transfer | 0.91 |
| TOTAL | 3.09 |

### 3.3.3 Revenue Benefits

Revenue benefits arising from increased patronage due to the predicted journey time savings are also included in Tables 3.1 and 3.2 above. More detail on how these benefits have been derived using standard industry approaches are included in the updated Economic Analysis Technical Note.

### 3.3.4 Reliability Benefits

The Network Rail Capacity Analysis Report (July 2019) indicates the significant constraints with the existing infrastructure at Darlington, and so removing some of these constraints will have benefits for the rail industry, both in terms of improved reliability and, in real terms, in the reduction in Schedule 8 payments to TOCs as a result in delays caused by the existing infrastructure.

The reliability benefits for the preferred option were estimated based on predicted Schedule 8 payment savings which could result from a reduction in delay as a result of reducing conflicts and interactions between local and intercity services. Using actual Schedule 8 payment figures for the last five years, these have also been grossed up to reflect that the reduction in delay also brings a benefit to passengers which is not captured in the pure financial saving or time saving benefits.

This approach is still considered valid, although there is a need to reflect the new TAG databook in a revised analysis. Table 3.3 sets out the results of the revised analysis, showing the significant reliability benefits that the preferred option could bring.

The precise quantification of reliability benefits will be subject to ongoing validation during option selection through to single option development. It will ultimately be dependent on the final scheme layout and will focus on mean time calculations between failure/s. It is Network Rail's preferred policy to fit all current and new infrastructure with remote condition monitoring (RCM), such that a "prediction and prevention" approach is adopted prior to any reliability issues.

**Table 3.3: Reliability Benefits for All Services (£m PV, 2010 prices)**

| Element | Northern Primary Delay + LNER, XC, TPE | Northern Primary and Reactionary Delay + LNER, XC, TPE |
|---|---|---|
| Rail user and Non user benefits | 17.46 | 24.33 |
| Indirect taxation impact on government | -1.14 | -1.44 |
| Revenue transfer | 7.5 | 9.01 |
| TOTAL | 23.47 | 31.90 |

### 3.3.5 Overall Level of Benefits

Based on these assessments, the overall Present Value of Benefits (PVB) for the preferred option at this point is £209.53 million (2010 prices).

Further investigation is also required on the potential for splitting the current Bishop Auckland to Saltburn through services. Although the initial analysis from Network Rail, along with feedback from Northern Trains, suggests that this has some user disbenefits, there may well be further operational benefits of such an approach, including the potential to increase services frequencies in the future between Darlington and Bishop Auckland.

Journey time and reliability savings for local services may be underestimated as the approach taken to date considers only those savings on the direct approach to Darlington. It could be that there is already resilience built into the timetable to reflect the current deficiencies in the infrastructure layout and operation that could provide further journey time savings and/or provide the opportunity to re-introduce stops at Teesside Airport station for all services with no adverse impact on end-to-end journey times of operational costs.

Finally, even with the infrastructure constraints elsewhere on the Tees Valley's rail network, there may be opportunities to introduce new local services with minimal additional cost, such as a direct hourly service between Darlington and Hartlepool. Such a service would significantly enhance Hartlepool's connectivity to the national rail network whilst also encouraging mode shift from private car given the significantly shorter rail journey time that would be provided.

All of these are likely to provide benefits over and above those quantified for this UBC, but should provide a level of comfort into the appropriateness and the robustness of the approach taken to date to identify the principal user benefits of the preferred option.

## 3.4 Environmental and Social Impacts

The amendments made to the preferred option since the OBC has not materially altered the qualitative environmental and social impacts set out in the OBC.

## 3.5 Wider Economic Impacts

The wider economic impacts of the initial Darlington Station Masterplan interventions were assessed over a 20 year period and set out in the Strategic Outline Business Case (SOBC). The analysis indicated that the preferred option could deliver wider economic impacts of around £31.0 million (2010 prices). This figure was retained for the OBC, and thereafter

this UBC, as the essence of the preferred option that provided for these benefits has not changed since the SOBC.

The wider impacts of the estimated journey time improvements have not been assessed at this stage, subject to the suggested further work and their subsequent refinement mentioned previously.

As noted above, further benefit could be accrued from enhanced local services (both in terms of frequency and available destinations), although it is noted that some additional services are reliant on additional infrastructure elsewhere. Work undertaken for the Darlington Station Masterplan identified that enhanced local services could provide an additional £287.3 million in benefit over 60 years (2010 prices), although this figure has not been included in the economic analysis at this time.

## 3.6 Value for Money

The Value for Money assessment of the proposed scheme has been undertaken in line with TAG and is based on assessment of the economic, environmental, social, and financial impacts as described previously. The Benefit-Cost Ratio (BCR) is defined by dividing the PVB by the PVC.

The initial BCR includes the monetised benefits described previously. The calculation of the revised initial BCR is set out in Table 3.4 for the preferred option.

The revised adjusted BCR, that includes consideration of the wider economic impacts as described above, is also set out in Table 3.4.

It is clear from these results that the Darlington Station proposals continue to provide **High** value for money, based on the categories set out the DfT Value for Money Framework. The analysis to date provides confidence that even with further refinement, there is considered to be enough headroom to ensure this remains the case.

**Table 3.4: Initial and Adjusted BCR Calculations for the Preferred Option (2010 prices)**

| | Assessment | Comments/Notes |
|---|---|---|
| PVB (£m) | 209.53 | Cumulative benefit of journey time benefits for ECML and local services, reliability benefits for all services and high level safety benefits |
| PVC (£m) | 80.72 | From information in the Financial Case and assuming required level of Optimism Bias at OBC stage |
| *Initial BCR* | *2.60* | |
| Wider Economic Impacts (£m) | 31.0 | As set out in the OBC |
| Adjusted PVB (£m) | 240.53 | |
| **Adjusted BCR** | **2.98** | |

## 3.7 Sensitivity Tests

In order to understand how sensitive the benefits described above are to a range of alternative parameters, based on the current uncertainties with the scheme, three sensitivity tests have also been performed:

- The benefits that accrue to ECML services are lower than the 1 minute assumed;
- There is a lower than assumed growth rate in the early part of the assessment due to the ongoing impact of the COVID-19 pandemic; and
- An increase in the overall costs of the scheme.

As set out in the updated Economic Analysis Technical Note, the benefits for all services on the ECML south of Darlington were calculated if the overall time savings was 0.5 minutes per service rather than 1 minute. Using this more pessimistic assumption gives a PVB of £122.26 million (2010 prices), with an Initial BCR of 1.51 and an Adjusted BCR of 1.90.

The updated Economic Analysis Technical Note also provides details of the benefits that would accrue with a lower growth in the recovery period from the COVID-19 pandemic. This reflects guidance from forecasting toolkits that have been developed by rail industry stakeholders in an attempt to understand the return of demand to the rail network – in

essence, the forecast assumed that demand recovers to approximately 80%-85% of current forecasts. With this sensitivity test, the PVB is £177.20 million (2010 prices), with an Initial BCR of 2.20 and an Adjusted BCR of 2.58.

The final sensitivity test assumes an increase of 20% in the costs of the scheme – this is simply a test at this time intended to provide an indication of ongoing value for money to the funding partners, as an updated cost estimate has not been developed for the whole scheme. With a 20% increase in the total cost, the PVC would be £96.86 million (2010 prices), with an Initial BCR of 2.16 and an Adjusted BCR of 2.48.

Combining the latter two tests, to reflect where the greatest risks lie to the economic analysis at this point in the scheme development, gives an Initial BCR of 1.83 and an Adjusted BCR of 2.15.

As in the economic analysis included in the OBC, these sensitivity tests confirm the robustness of the scheme's value for money.

# 4 The Financial Case

## 4.1 Costs

The base scheme costs for each element of the scheme has not been updated for this UBC, hence the overall estimated preparation and construction cost of the preferred option as remains at £76.48 million at this point.

The cost estimate report provided with the OBC details the assumptions or exclusions applicable to the cost estimate provided.

The costs of maintaining the proposed new infrastructure at Darlington station are still considered to be broadly neutral due to the fact the amount of maintainable assets is not expected to change significantly. It is anticipated that any new assets will be incorporated in Network Rail's settlement for the next Control Period (CP7).

The operational costs for the new station facility (staffing and day to day running) will form part of the Station Change proposal and are expected to be covered by the incumbent Station Facility Operator (SFO).

However, an allowance for additional operating and maintenance costs is still included in the Economic Case, at a rate of 1% of the base capital costs for the first 20 years after opening and 2% of the base capital costs thereafter.

The allowances for risk and inflation included within the OBC are also unchanged at this point, although Network Rail continues to undertake risk workshops through the GRIP process and there is more certainty over items such as land costs. These will be reflected in an updated cost estimate and risk allowance that will be presented in the Full Business Case.

As part of the ongoing estimating process, Network Rail will also consider the whole life costs of the scheme.

## 4.2 Budgets/Funding Cover

The work done to date has concluded that the design and delivery costs for the interventions considered in this UBC will most likely be jointly funded from RNEP and the TVCA Investment Plan.

To recognise the economic benefit to the City Region of the scheme, funding of up to £25 million (fixed, nominal) towards the scheme was agreed at the TVCA Cabinet meeting in November 2018, confirmed as part of the agreement to the Tees Valley Investment Plan in January 2019, and has been used to develop the scheme to this point.

This funding has nominally been allocated to the Station Gateway element of the preferred option, given that the station enhancements and operational railway elements are designed to address an immediate capacity and operational issue identified by the rail industry, and therefore these are seen as more appropriate to be funded through the RNEP.

Therefore, a commitment to continue to progress the scheme through the RNEP is critical, not only to start drawing down the TVCA contribution, but also to ensure that the delivery programme for at least the first phase of the scheme can be achieved.

Opportunities for other private finance contributions have not been identified at this stage. The preferred option will potentially provide some commercial opportunities, but this will be revisited during the development of the Full Business Case.

# 5 The Commercial Case

## 5.1 Commercial Viability

The Darlington Station scheme is considered to be commercially viable as Network Rail will be considering whole life costs during its review of the scheme costs set out in the Financial Case and there has been an allowance made for operating and maintenance costs within the Economic Case. At this point, however, the whole life costs of the proposed new infrastructure at Darlington Station are still likely to be broadly neutral due to the fact the amount of maintainable assets is not expected to change significantly.

For the MSCP, TVCA still anticipates aligning with the existing operating models and commercial arrangements, rather than setting up separate provision. LNER operates and maintains the existing car park facilities under its lease with Network Rail as landlord and franchise agreement with DfT for the ECML, and the new MSCP could function on similar terms.

## 5.2 Output-based Specification

The anticipated outputs of the preferred option are set out in the Strategic and Economic Cases across three elements:

- **Operational Railway** – the track improvements and new east side platforms (both local and through services);
- **Station Enhancements** – the new station building and accessible footbridge, together with any internal changes to the existing station required to provide the latter; and
- **Station Gateway** – new MSCP and multi-modal interchange to the east, the enhancement to the portico and improved interchange to the west, and any amendments to the current approach from Parkgate.

Dividing the scheme into these three elements for the purpose of the delivery of the scheme onwards was considered to align with the suggested funding sources and availability and recognised that the MSCP in particular needs to be completed first given the proposed location of the new platforms and station building. There is no suggested change to this approach.

The improvements also still need to be delivered the within available funding envelope, ensuring best value, within the required construction design standards, maximising the economic objectives of the scheme, but with risk reduced to a level that is as low as reasonably practicable.

## 5.3 Procurement Strategy

The procurement strategy in the OBC identified the best way of achieving the objectives of the scheme and value for money, taking account of the risks and constraints and bearing in mind that the operational railway and station enhancements elements will be led by Network Rail, with the station gateway element continued to be led by TVCA/DBC.

### 5.3.1 Operational Railway/Station Enhancements

Given that it has been determined that the best funding route for the operational railway and station enhancements elements of scheme is currently through the RNEP (as described in the Financial Case), the DfT will be the Lead Client for delivery of these elements. This would follow the established Memorandum of Understanding (MoU) between DfT and Network Rail for delivery of schemes where DfT is the funder.

Procurement of further scheme development and design services will depend on the contracting strategy adopted by Network Rail/DfT. The procurement strategy for the delivery of the scheme, will be driven by the project output specification, key project objectives and appraisal of the design and associated risks.

The preferred type of contract to be used is a Hub and Spoke one, with an enhanced level of integration of the project teams. BAM was engaged for Early Contractor Involvement and Optioneering in 2020 with intent for BAM to form the main hub for the remainder of the works.

### 5.3.2 Station Gateway

In relation to the station gateway elements, the scope of works is substantially standard civil engineering and the OBC noted that the multi-modal interchanges at the east and west sides of the station would suit a design and build contract. The west side (Victoria Road) of the station is characterised by the red brick clock tower and portico whereas the east side offers the opportunity for a more contemporary design with the new MSCP and new station becoming key features split from the existing station footprint by the ECML. To achieve the required degree of interconnectivity with the MSCP and a cohesive architectural vernacular across the entire station site, it was considered beneficial to have all works carried out under the same design and build contract.

Willmott Dixon was appointed 2020 to undertake the design of the station gateway elements, but the construction contract is subject to a separate arrangement, albeit that the same procurement covers both. It is likely that this will start in Spring/Summer 2022.

TVCA and DBC continue to lead on the land assembly, enabling works and the station gateway elements working closely with Network Rail to ensure the future provision for the operational railway and station enhancements elements are considered.

The operational railway and station enhancements elements are within existing Network Rail owned land and buildings and will be the subject of a separate application undertaken by Network Rail for Prior Approval under Part 18 to Schedule 2 of the Town & Country Planning (General Permitted Development) Order 2015.

However, to deliver the station gateway element of the scheme land on both the east and west side of the station needs to be acquired and to date several key properties on both sides of the station have been acquired by agreement. DBC is therefore pursuing a Compulsory Purchase Order (CPO) for the land interests that cannot be acquired by private treaty, and for which the inquiry is due to start in late 2021. This should enable the station gateway element to be delivered by 2023.

## 5.4 Risk Allocation and Transfer

At this stage of scheme development and prior to the letting of any of the construction contracts, the scheme cost estimate contains a greater proportion of risk borne by Network Rail and TVCA than will remain after the appointment of all of the successful contractors.

Some of the risk is captured and quantified within the QRA process as outlined in the Financial Case. Once the tendering process for the various construction contracts is complete, some of the risk (such as scheme cost increases associated with the design and construction) can be transferred to the successful contractors. However, the risk of costs being higher than currently predicted remains until this tendering process is complete.

Other risks that will be transferred to the successful contractor at the appropriate time include those that encompass appropriate planning conditions, estimations of the quantities, mitigation measures and resources. Network Rail and TVCA/DBC will continue to take responsibility for risks that encompass land, residual planning and environmental permission, as well as the following specific risks:

- The need for changes to the scheme;
- Inaccuracies or incompleteness of any of the data or information related to the scheme;
- Pre-contract advance works which might result in delivery and programme delays to the contractor;
- Pre-contract arrangements with others/third parties; and

- Change in the law.

Other risks, such as the identification of statutory undertakers' equipment, and mitigation costs associated with these, can be removed from the QRA element of the scheme costs completely if they do not materialise, or transferred to "actual" scheme costs if they do materialise, rather than remaining within the risk allocation.

## 5.5 Contract Length and Management

### 5.5.1 Operational Railway/Station Enhancements

Based on the project plan, it is expected that a 'Decision to Deliver' will be taken by Spring 2022, meaning that the main construction contract for the operational railway and station enhancements elements is likely to run for a period of around 24 months from Summer 2022 to the end of 2024.

### 5.5.2 Station Gateway

As the station gateway elements, particularly the new MSCP can, and need to be, delivered first, the start dates will depend on the length of time to complete any CPO process required, with an overall construction period expected of around 18 months. The anticipated timeline would see construction of these elements from mid-2022 to the end of 2023.

## 5.6 Human Resource Issues

At this time, sufficient resources continue to have been identified to deliver the scheme and further details of the required capabilities and assigned resources are set out in the Management Case. The resource requirement will be kept under review by the Programme Board and, if necessary, additional resources brought in.

# 6 The Management Case

## 6.1 Governance, Organisation Structure and Roles

To date, TVCA has led the development of the scheme in partnership with Network Rail and this will continue until such time as the FBC is prepared and agreed.

The Senior Responsible Owner (SRO), who has overall accountability for the delivery of the programme and will continue to have the authority to make decisions concerning the delivery of the programme within a certain delegation, is the TVCA Head of Transport, Tom Bryant. The SRO reports into the Tees Valley Management Group within the TVCA governance structure, and then on to the Tees Valley Combined Authority Transport Committee and Cabinet.

The Project Manager leads and manages the team with the authority and responsibility to run the programme on a day-to-day basis and provide regular reports to the Programme Board. Alan Weston is the current Programme Manager employed directly by TVCA.

The Darlington Station Programme Board was set up to manage the delivery and production of the OBC and supporting workstreams for the scheme. The Board is chaired by the Tees Valley Mayor, currently meets on a quarterly cycle and comprises senior level representation from the following:

- DfT;
- Network Rail;
- TVCA;
- DBC;
- TfN; and
- LNER.

The agreed terms of reference for the Programme Board include the following strategic purpose for the Board:

*"Oversee the development and delivery of the Project, with a collaborative, new and innovative approach to development and delivery of an Enhancement Scheme for the rail network. The Project will create a Station growth hub that will transform local, regional and national rail services in the Tees Valley. The Project includes plans for new commercial, residential and retail developments that will make the most of the*

*advantages unlocked by investment in the Station's infrastructure. Investment will ensure fast and frequent direct trains to London, Edinburgh, the north and the wider Tees Valley – stimulating economic growth, and ensuring that the Tees Valley is ready for NPR and HS2."*

The Programme Board, via the SRO and/or the Project Manager, reports progress against milestones, as required, to:

- DfT;
- TVCA Transport Committee and Cabinet;
- Tees Valley Transport Advisory Group;
- Local Authority Cabinets/Executive Groups; and
- TfN.

The Programme Board receives progress and project exception reports from, and gives direction to, the Project Manager.

From the point that the FBC is accepted, it is proposed that the existing North of England Programme Board would be a suitable body for the oversight of the development and delivery of the operational railway and station enhancements elements of the preferred option. The Programme Board is held every eight weeks with a supporting Programme Delivery Group (PDG) every four weeks. Progress updates will be provided by the Project Manager identifying key issues affecting the project and key decisions to be made, firstly to the PDG and then onward to the Programme Board.

The ECML Programme Board and associated PDG would also be kept informed of progress and issues. Both Programme Boards are chaired by the DfT and contain cross-industry representation. Additionally, progress updates will be reported to Route Investment Review Group (RIRG).

The interface with delivery of the public realm and MSCP elements of the preferred option that remain to be completed when the FBC is accepted, is proposed to be managed through the retention of the current Programme Board specifically for Darlington. The Programme Board would continue to be chaired by the Tees Valley Mayor and, in essence, this will provide for a co-client relationship in the next stage of works between the two principal funding parties (DfT and TVCA).

The responsibilities of the Programme Board going forward would include:

- Strategic direction;
- Business case preparation;
- Funding strategy;
- Co-ordination across the different elements of the preferred option, but also with other transport interventions across the City Region; and
- Stakeholder engagement.

The Programme Board would also have the authority to commission any further technical work as necessary and will liaise with other stakeholders with regard to the progress in relation to their interests.

## 6.2 Project Plan

A Project Plan was developed for the OBC and has been updated for this UBC. The current version of the project plan is included at Appendix B.

The current project plan envisages completion of the scheme by mid-2024, with entry into service by December 2024, but the Programme Board will seek opportunities to expedite the process where possible to meet this date.

Following submission of this UBC, TVCA is seeking confirmation of a funding allocation for the next stage of works through a 'Decision to Deliver' in Spring 2022 to maintain momentum towards the target completion date. A proportionate and efficient approach to the production of GRIP products will be taken at all stages.

## 6.3 Risk Management Strategy

To facilitate effective risk management on the scheme, a Risk Register was produced as part of the QRA process for the OBC, and is updated on a regular basis – the latest version is included at Appendix C. It has been developed through a collaborative process at suitable times during the development of the scheme to date.

The strategic and programme risks continue to be excluded from the quantitative assessment undertaken, as the risks will be managed by the DfT and Network Rail respectively.

## 6.4 Benefits Realisation Plan

An outline Benefits Realisation Plan (BRP) was produced as part of the OBC to begin the process of identifying, tracking and comparing the various benefits expected to be delivered. The scheme objectives and a logic mapping process were used to develop the "desired outputs, outcomes and impacts" of the scheme.

The BRP has since been updated and the latest version is included at Appendix D. Responsibility for the BRP and the associated monitoring and evaluation sits with the Programme Board.

## 6.5 Monitoring and Evaluation

The scheme will be subject to a programme of before and after monitoring and evaluation, and the outline Monitoring and Evaluation Plan, included at Appendix N to the OBC, sets out the activities that will be undertaken to demonstrate the extent to which scheme objectives were met, monitor performance of the scheme and ensure that any potential issues post implementation are identified and addressed.

The plan will be updated as part of the Full Business Case in light of the continued development of the scheme.

The SRO will take overall responsibility for the monitoring and evaluation of the scheme, with the Project Manager taking responsibility for the delivery and programming of the evaluation programme. This may include the procurement of specialist consultancy support and survey contractors to evaluate, report, collect and collate the necessary information, respectively.

# Appendix A

Economic Analysis Technical Note

# Appendix B

Project Plan

# Appendix C

Risk Register

# Appendix D

Benefits Realisation Plan

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