Project Lifecycle – Full Business Case Template

Project Name: University Station

Revision History (to be completed by the Applicant)

Please keep record of the document's Revision History using the table below:

	Version Number	File Name	Date submitted	Summary of changes made compared to previous version (please refer to previously received feedback and how issues have been addressed)
Current Version	2	WMCA FBC University Station	05/02/2020	Revised FBC as a result of GRIP4 stage costs production and 2018/19 ORR station footfall data release.
Previous Versions	1	WMBC FBC University Statiion	10/12/19	First Draft of the FBC, the OBC was approved at WMCA Board 08/11/19

Review History (to be completed by the Reviewer/Approver)

Name of Reviewer	Role	Date Business Case Reviewed	Summary of decision – whether approved or not – if not approved please explain the reason for non-approval and the additional evidence that would be needed for approval

Applicant Details

Lead organisation:			
Lead contact:	[redacted]		
Phone number:	[redacted]	**Position:**	[redacted]
Postal address:	16 Summer Lane, Birmingham, B19 3SD	**Email address:**	[redacted]
Local Authority area (base location of lead organisation)	Birmingham		
Ward (base location of lead organisation):	Aston		
Other organisations involved in project bid:	Greater Birmingham and Solihull Local Enterprise Partnership University of Birmingham Birmingham City Council West Midlands Trains Department for Transport University Hospitals Birmingham		
Lead organisation:	West Midlands Rail Executive/Transport for West Midlands		

Content of the Business Case

Content of the Business Case	
Section A	Status of Business Case Development
Section B	Project Description and Background
Section C	Strategic case and fit to Strategic Economic Plan Themes
Section D	Economic case – Options Appraisal
Section E	Commercial case – External Procurement (if appropriate)
Section F	Financial Case – Financial Analysis of the recommended Option
Section G	Programme Management Case – Achievability of Project Components

Section H	Recommendation
Section I	Appendices I1: Stakeholder Management Plan I2: A Profile for each Output / Outcome I3: Evidence of planning permission I4: [redacted] I5: Full Project Plan I6: Risk and Issue Log I7: Organogram Chart I8: [redacted] I9: [redacted] I10: Monitoring and Evaluation Plan
Section J	➢ Monitoring and Evaluation Plan

Purpose of the FBC

The key purpose of the FBC is to:

- Revisit the OBC and new assumptions (e.g. resulting from the procurement);
- Confirm that the recommended solution continues to optimise VfM; and,
- Establish that the management arrangements for successful delivery are in place.

The aim of the Full Business Case (FBC) Stage is to provide a mechanism for appraising projects against a comprehensive set of criteria for each of the Five Business Cases. The FBC Stage will revisit the assumptions and main findings from the OBC which may have changed for example due to procurement arrangements, but will also bring forward new evidence on issues such as procurement and management strategy.

Section A: Status of Business Case Development

Section A1: Status & Progress to-date

1. Progress achieved prior to Bid. What has been achieved so far within the project?

Since the Outline Business Case was approved at WMCA Board on 8th November 2019 there have been a number of achievements by the project, which are listed below:

- **GRIP 4 single option design –** the project has been continuing GRIP 4 work to progress the project. GRIP 4 Approval in Principle designs are being finalised and issued to Network Rail and West Midlands Trains to ensure their requirements have been met. There has been value engineering undertaken, to reduce the interface between the new station and the Scheduled Monument nearby and to deliver a more efficient station, while meeting the requirements of the many stakeholders involved in the project. The scope of the project is now confirmed (barring a couple of ongoing minor points) and is as broadly outlined in the OBC.
- **Stakeholder engagement (including with funding partners)** - there has been much ongoing engagement with stakeholders, particularly with the existing station owner Network Rail and existing station operator West Midlands Trains. Similarly, there has been progress in securing the required funding for the project from funding partners: the University of Birmingham, the Department for Transport, Birmingham City Council, Greater Birmingham and Solihull LEP, West Midlands Trains and most notably in terms of progress with the NHS, which is discussed further below. Planning permission is also being sought and public consultation to date has been overwhelmingly positive in favour of the project.
- **Capacity studies** - Further capacity studies have been undertaken and continue to support the business case for a much-improved station, a demand of 7.2 million passengers based on projected growth from 2018 forms the basis of the design and requirements. The current station was built for a capacity of 0.5million passengers;
    - Since the OBC was produced, latest data from the period May 2018-May 2019, suggests that patronage was 3.97m, an 11% increase from the previous year.
- **Securing contractor support** - the project has invited several principal contractors to tender a design and build contract, [redacted]

2. Has this project been subject to any other Assurance Frameworks (e.g. LEP Assurance Framework)? If so, please provide details, including information on:

[redacted]

West Midlands Combined Authority

[redacted]

West Midlands Combined Authority

[redacted]

Section B: Project Description and Background

Please refer to OBC Section B: Project Description and Background and <u>include any updates or changes here.</u>

The project summary within the OBC remains accurate, with an updated funding source table below and an update on the proposed UHB funding, which has progressed since the OBC. Similarly, note the below for an update on the unidentified funding for the project.

Funder	Funding Status	Confidence	Anticipated By	TOTAL (£m)
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			[redacted]	[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted].

Strategic Case

Section C: Strategic Case for Change and fit to WMCA Strategic Economic Plan Themes

Section C1: Overview and Rationale

1. **Please refer to the OBC Section C1: Overview and Rationale Q1 and include any updates or changes here.**

What is the rationale for intervention? And why are public funds necessary? What opportunity or barrier will this investment unlock? Please refer to Chapter 3 of HMT Green Book for more detail on the 'rationale for intervention'.

The figures below show the current overcrowded conditions that exist at University Station on a regular basis. It can take up to 6 minutes to get through the station in the morning peak and evening peak congestion on the platform and stairs now reaches the point that the Station Facility Owner (SFO) West Midlands Trains temporarily shuts access to the stairs on safety grounds. This delays passengers, causing them to miss trains, and leads to pavement congestion on the roads outside the station which are not attractive waiting environments. In addition, the narrow platforms without weather protection creates inefficient boarding / alighting in congested conditions leading to extended dwell times and thereby causing delays to other passengers using the train services.

Footbridge and Stairway Congestion AM peak

Platform 1 Congestion PM Peak.

AM Peak Platform 2 Congestion

The University Station Improvement scheme will invest in a new entrance with wider stairways and corridors, wider platforms with extended canopies and related access and urban realm improvements. It will reduce delays for passengers passing through the station, improve the quality and capacity of the waiting environment and improve boarding and alighting efficiency to improve train performance.

The improved station will encourage development and take up of opportunities by improving the rail travel option to the sites. The University is the primary research facility in the region with key engineering and medical facilities supporting the adjacent hospitals, medical research and advanced manufacturing including the automotive sector. According to the masterplans for the area, the student and staff population of Univsity of Birmingham (UoB) will grow by 10.5% (4,350 people) between 2018 and 2026. The University Hospitals Birmingham (UHB) facilities are expected to have an even faster rate of growth. This will be accommodated by an additional 46,700sqm to 73,200sqm of medical provision by 2026 (Women's and Children's NHS Trust and UHB NHS Trust). Future plans include the sustainable development of the Life Sciences and Battery Park sites all within walking distance of the station. Improvement of the station facilities will ensure this growth can be accommodated in the most sustainable manner.

The scheme supports the Midlands Connect Strategy, which identifies opportunities to improve transport connectivity between towns and cities within the Midlands and with key centres elsewhere to improve productivity and boost economic growth. Recent rail investment has increased the frequency of service to Alvechurch and Redditch and an extension to the Cross-City line is now operational to Bromsgrove (3 tph). In 2021 the rolling stock will be improved including train capacity. The station improvement scheme will ensure that the benefits of that connectivity are maximised at the University and Hospitals campus. It will support cross University research by improving the quality of rail transport across the UK.

The Birmingham Children's Hospital, currently in the city centre business district, is considering relocating to the UHB campus. While there is currently no commitment, a move in the next 5 – 10 years is possible. This would result in a substantial increase in University station's patronage, especially since the Children's Hospital undertakes more out-patient type appointments than are conducted at QE. The scheme will provide capacity for that change to take place in the most sustainable manner.

The scheme will contribute to the achievement of the Midlands Engine (HMG Industrial Strategy) programme with its focus on skills, innovation, transport and inward investment. The SEP recognises that the area's innovation infrastructure will play a crucial role in increasing productivity and reforming public services. The station serves the second largest employment site in the City and will provide a scale of facility appropriate

to maximise the delivery of skills (UoB growth), innovation (UoB and UHB research facilities and inward investment (UoB and UHB development plans).

The station suffers from severe congestion in peak periods in the morning and evening and the station facility owner (SFO) has appointed on platform train control staff to make best use of the facilities. However, the SFO recognises that with continued passenger demand growth there will be key passenger and staff safety concerns and the need to close the station in the busiest periods in the near future. This would be counter to the objectives of the stakeholders and is a real risk if the scheme is not delivered.

Network Rail has advised TfWM that the station is contributing to service unreliability due to the length of time taken to dispatch the evening peak trains which is due to the narrow platforms and limited canopy coverage constraining passenger circulation. Whilst the longer trains will help towards reducing train dispatch delays the wider platforms and extended canopies will ensure that capacity is utilised most efficiently even on wet weather days.

Public funds are needed to create a facility with sufficient capacity to reduce safety and efficiency problems and to enable the proposed growth in the University Hospitals Masterplan. This is required urgently and is not within the budgets of any single interested party. It is worth noting that there are several Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP) funded projects located near the site, including the Institute of Translational Medicine (City Deal) and the Life Sciences Campus (Growth Deal). As a result, the project supports the priorities of the GBSLEP's Life Sciences Commission and will provide the infrastructure needed to ensure that Greater Birmingham can become a 21st century life sciences hub, leveraging major investment from global pharma and driving growth while accelerating patient access to new treatments. S

What are the benefits of this project? Over what timeframe are they expected to accrue? How will the benefits be measured? Please outline the quantitative (monetised and non-monetised) benefits and the qualitative benefits. Note that apportionment of benefits should link directly to apportionment of WMCA funding (relative to other funding sources). Note that costs will be analysed in further detail below.

A new station building appropriate to the forecast patronage in the coming decades, will promote the area's growth into a nationally significant hub for learning, at the forefront of medical research especially, creating employment opportunities and improving Birmingham's educational and sanitary services. Immediate benefits will be experienced by 3.9m + passenger journeys per annum.

The primary beneficiaries of the proposed station are:

- University station rail passengers who currently must queue to access the stairs and bridge to exit the station, queue to access ticket machines and suffer cramped conditions waiting for trains on platforms without sufficient weather protection.

- West Midlands and Cross-Country Trains passengers (using hourly services) who risk very extended dwell times at University station delaying the journeys and putting connections at risk.

- The train operating companies and UK Government through the lost revenue as a result of having to open the ticket gates at peak times to minimise station congestion and related safety issues. The West Midlands Rail franchise is subsidised so improved proportions of ticketless travel will reduce the level of subsidy required.

Secondary beneficiaries of the project are:

- People living, working or studying in the area, experiencing the area's socio-economic development and attraction of opportunities.

- Road network users (cars, buses and freight) as a result of less traffic use and related peak period congestion as more people will choose rail to access the University and Hospitals campus.

- University and Hospitals campus, due to reduced demand for parking spaces, reducing parking search times and stress. Also, improved punctuality for appointments, meetings and lectures as a result of shorter travel times and improved train performance.

- General public, and specifically those visiting Commonwealth Games events in 2022 with a number of activities planned at facilities of the University.

The additional entrances, new wide ticket gate-lines, wide stairs and passageways and widened platforms will reduce queuing within the station. Legion Pedestrian Simulation Model was used to forecast the delays in the Do-Minimum and Do-Something scenarios and to forecast the time savings which equate to 2 minutes in the AM peak on average in 2017, growing to 3 minutes in 2024 and over 4 minutes in 2040 (WMCA Masterplan Scenario. The resultant impacts quantified for inclusion within the economic appraisal were;

- User Time Savings – applying the delay savings to forecast passengers and Value of Time from WebTAG – weighted by journey purpose.

- Induced demand, revenue and new user benefits - based on application of elasticity to the change in generalised journey times applied to MOIRA informed passenger volumes by service group and revenue yield.

Initial benefits are quantified as £1.68m per annum growing to over £3m per annum in 2030.

The new station facilities will include space for improved retail offer to passengers and will generate a retail income which will partly offset increased station operating costs. The retail income levels were taken from the University Station Retail Strategy Report (October 2018) and it was assumed that 2 coffee shops and 1 general retail facility would be provided. £94,398 per annum was assumed (2010 prices).

The benefits are expected to occur immediately on opening of the new facility and expected to cope with forecast demand growth to 7.2m passenger journeys per annum. Later adjustment to the existing entrance will further enhance capacity for longer term growth.

The TfWM University Station Outline Business Case Report (July 2019) presents the methodology and results for quantification of the business case. The key results are presented in section F4 Benefits Profiling.

Is this a predominantly 'People', 'Place', or 'Business' based project? i.e. does it target a particular cohort, geographical location, or business sector?

The project targets a specific place. The walking distance buffer surrounding University Station includes the Queen Elizabeth Hospital and University of Birmingham. Therefore, the bulk of the resulting accessibility benefits will be perceived by staff, students and a vulnerable subsection of the population visiting the hospitals.

The railway line divides the land uses with the University of Birmingham (UoB) to the east of the line and the Queen Elizabeth Hospital (QE), Medical School and other NHS sites to the west of the line.

With a student population of 34,000 and 7,500 staff the University of Birmingham (UoB) is the 4th largest in the UK. Student numbers have increased by 25% since 2012 corresponding with a 22% increase in rail journeys.

In 2010 the new Queen Elizabeth Hospital opened, becoming the largest single site hospital in the UK. There was a 21% increase in University station passengers in the year after the hospital opened. The overall hospital facilities employ 16,500 staff, serve 275,000 patients per year and generate over 200,000 visitors per year.

However, this also translates to a significant employment area, the business of which will be greatly impacted by the station's improvements.

Together, the campus is the largest employment site in Birmingham outside the city centre. Over 25,000 people are employed within walking distance of University station, as shown in Figure 2. This figure does not include students regularly commuting to the area.

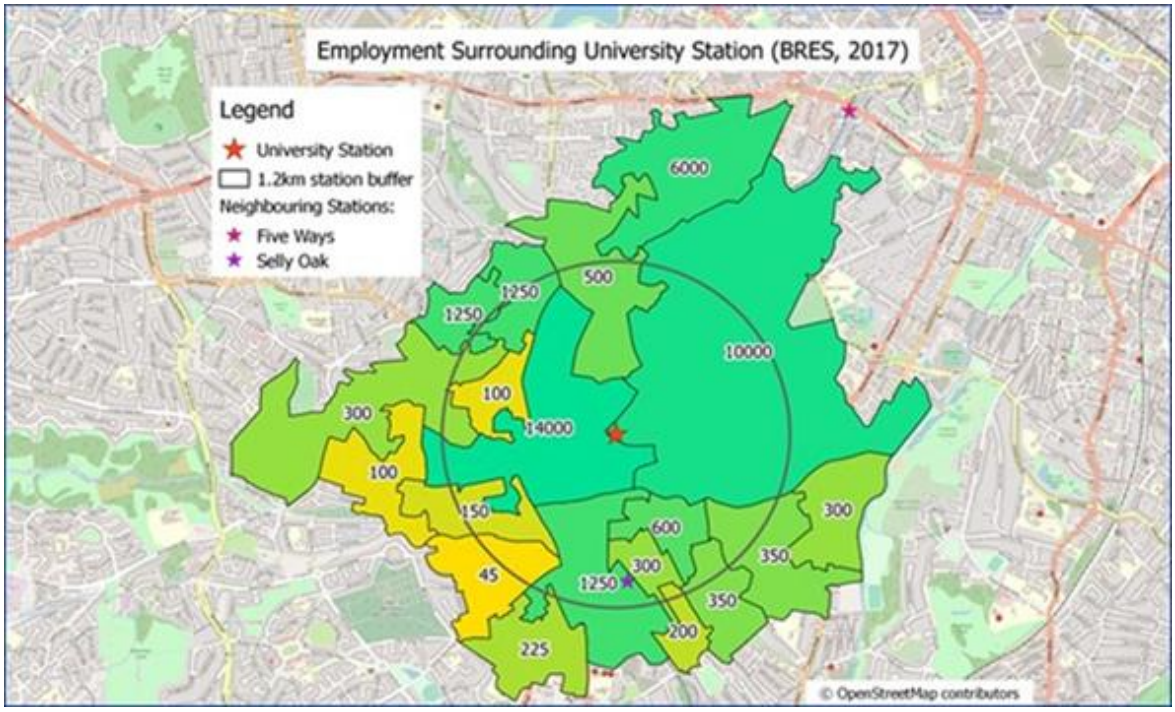


Figure 2: Employment surrounding University station. Source: National Business Register and Employment Survey, 2017.

Section C2: Strategic Economic Plan

1. **Please refer to the OBC Section C2: Strategic Economic Plan Q1 and include any updates or changes here.**

Which of the WMCA SEP priority programme areas does this project support? Please highlight from the list below and provide additional supporting evidence.

Note a summary below, with more detail provided afterwards:

- HS2 Growth: A programme to maximise the benefits of the largest infrastructure project in Europe for a decade to drive economic growth across the Midlands. **The project will reduce delays in accessing HS2 Curzon Street station and growth zone by rail. This will help to maximise the benefits to the region.**
- New Manufacturing Excellence: action to build on the fact that the West Midlands is home to one of the biggest concentrations of high value manufacturing businesses in Europe, and ensure that our global companies are supplied by clusters of local businesses; **The project will improve rail access to / from the education and research facilities at the University of Birmingham which included advanced engineering including the automotive sector.**

- Digital and Creative: a programme to ensure that the level of business start-ups, growth and survival matches the best in the country with a particular focus on the digital and creative sectors; **The project enhances access to digital and creative education and research facilities at the UoB.**
- Environmental Technologies: Action to secure environmental improvements and contribute to low carbon sustainability and by doing so enable the growth of the environmental technologies sector. **The project will encourage increased access to / from the UoB and UHB by sustainable (electric powered) transport and reduction in the use of private cars bring local and wider environmental benefits. The scheme improves access to education and training facilities at the UoB which includes environmental technologies.**
- Housing: action to accelerate the delivery of current housing plan and enable an increase in the level of house building to support the level of growth envisaged in this SEP; **The project improves rail access to the second largest employment site in the City which could support housing plans in the vicinity of other stations across the West Midlands. Removing the current barrier could encourage students and staff to buy / let housing in other locations supporting the growth agenda.**
- Skills for the Supply Chain and Employment for All: a programme of activity to ensure that the skills of businesses are met and that everybody has the opportunity to benefit from economic growth; **This is a major infrastructure project which will provide for local employment for a range of skills sectors. The scheme will result in improved access to a major education centre enhancing the level and range of skills to enhance employment for all.**
- Medical and life sciences: action to enable the growth of the health and care sectors in ways that improves the health and wellbeing of the area, reduces demands on public services and enables economic growth; **The project will enhance rail access to the UHB and Life Sciences campus which will contribute to the growth of the health and car sectors in a sustainable manner. It will contribute to enabling economic growth related to the education, research and health facilities in the vicinity.**
- Exploiting the economic geography: making the most of the scale and diversity of the West Midlands geography to enable economic growth and community wellbeing. **The project will enhance the quality and capacity of University Station which is a key regional asset providing sustainable access to the second largest employment location in the city, 4th largest UK university and largest single site A&E and general hospital facility in the UK. This will build on the key regional assets to encourage growth and provide a facility that will improve community wellbeing.**

Further detail on SEP priority programme areas:

Medical and life sciences:

In 2010 the new Queen Elizabeth Hospital opened, becoming the largest single site hospital in the UK. The hospital facilities employ 16,500 staff, serve 275,000 patients per year and generate over 200,000 visitors per year. The University Hospitals masterplan includes 46,700sqm to 73,200sqm of additional medical provision by 2026 (Women's and Children's NHS Trust and UHB NHS Trust).

The University Hospitals masterplan seeks to provide sustainable development of the Life Sciences and Battery Park sites (within walking distance of the station). Lack of peak station capacity threatens successful growth of the University and NHS Trust's plans and sustainable development.

The Selly Oak and South Edgbaston Development Framework, published in August 2019, further reinforces public sector commitment to the Life Sciences Park, which will provide around 54,000sqm of an innovative environment for biomedical industry and academia to come together. Phase 1 is due to open in 2022.

HS2 Growth:

HS2 Phase 1 will deliver a new station in Birmingham City Centre and high-speed services to Old Oak Common and London Euston. This will transform rail travel to the Capital and encourage development in a zone around Curzon Station. HS2 Curzon station will be a 10-minute walk from Birmingham New Street Station giving rise to additional demand throughout the local rail network.

The expansion of capacity at University station will ensure that the maximum economic potential can be gained at the UHB sites through the improved access to London and the North West that the scheme provides. There would be substantial agglomeration impact potential between the University and research centres in London and the North West as long as there is the capacity through the station.

Environmental Technologies:

The proposed development is unlikely to have an adverse impact on the surrounding environment. There are likely to be beneficial impacts on the local environment and upon human receptors. As such the impact of the scheme is not predicted to be significant.

We have reached this conclusion based upon; an assessment of the likely effects, the existing urban nature of the area, the existing railway infrastructure, the designs, the ability to mitigate impacts and a lack of sensitive environmental receptors. The direct effects arising from the development on environmental and human receptors is likely to be limited to the adjacent and nearby urban areas.

We have quantified environmental benefits resulting from the forecast reduction in private car use within the business case.

Housing:

Birmingham City Council's Development Plan 2031 sets out the intention for further investment in UoB and mentions future growth opportunities for QE. The plans go into more detail regarding housing plans, outlining the delivery of 700 new homes at the former Selly Oak Hospital site and other smaller sites across the South Edgbaston and Selly Oak area. The station's expansion will help deliver this new housing.

Which of the WMCA's growth objectives will the project address (please choose from the list below and provide additional supporting evidence)?

Economic Impact
• Economic Growth - To improve GVA for the region in line with the UK Average Provision of improved rail station capacity will provide for the economic growth planned to be delivered through the University and Hospitals Masterplan. According to the masterplans for the area, the student and staff population of UoB will grow by 10.5% (4350 people) between 2018 and 2026. The University Hospitals are expected to have an even faster rate of growth. This will be accommodated by an additional 46,700sqm to 73,200sqm of medical provision by 2026 (Women's and Children's NHS Trust and UHB NHS Trust). Future plans include the sustainable development of the Life Sciences and Battery Park sites all within walking distance of the station.
• Business Competitiveness - To improve the productivity (GVA) of our businesses focusing on our growth sectors The existing station is struggling to cope with passenger demand causing delays of up to 6 minutes for passengers using the station and causing unreliability of train services. The scheme will reduce journey times and improve reliability at congested times which will support business. The station scheme will support the current and future planned expansion of businesses in the area, including the University of Birmingham and University Hospitals,
• Increased employment rate in target growth sectors The QE Hospital, UoB and surrounding area campus is the largest employment site in Birmingham outside the city centre. The Do-Something scenario, of a new station building appropriate to the forecast patronage in the coming decades, will promote the area's growth into a nationally significant hub for learning, at the forefront of medical research especially, creating employment opportunities and improving Birmingham's educational and sanitary services.
• Infrastructure - improve the quantity of high quality, readily available development sites; turning brownfield sites to high quality locations that meet our housing and business needs The project will deliver a major improvement to the quality of the transport system in an area where brownfield sites are identified for redevelopment and intensification for University and Medical facilities including innovation and advanced research facilities. • Accessibility - To improve the connectivity of people and business to jobs and markets A key aspect of this scheme is to improve access to the University/Hospitals Masterplan area by reducing pedestrian delays and improving train reliability. The area is already connected to the rail network and by

bus services, so the accessibility impacts will be incremental. Table 1 shows the accessibility audit for the scheme. The scheme affects a small part of overall journeys to the main centre and therefore only 3 aspects are rateable. The benefits are concluded to be slightly beneficial to all groups.

Element of end-to-end journey	Impacts of transport intervention for journeys to key destinations [A]				Level of importance given to each element of the journey by each group [B]					Accessibility score [C] = [A] * [B] for access to the Main centre				
	Main centre	Education Establishments	Healthcare Facilities	Employment areas	No car h'holds	Young people	Older people	Women	Dis. pple	No car h'holds	Young people	Older people	Women	Dis. Pple
Pre-journey info	-	-	-	-	1	1	1	1	1	-	-	-	-	-
Info. at transport stop	2	2	2	2	2	2	2	2	3	4	4	4	4	6
Seating & protection	2	2	2	2	1	1	2	1	4	2	2	4	2	8
Ability to board vehicle from kerb	-	-	-	-	1	1	3	1	4	-	-	-	-	-
Ticket purchase and welcome from driver	-	-	-	-	1	1	2	1	3	-	-	-	-	-
Ability to navigate inside vehicle	-	-	-	-	1	1	3	1	3	-	-	-	-	-
Comfort of journey	-	-	-	-	1	1	3	1	3	-	-	-	-	-
Information given during journey	-	-	-	-	1	1	2	1	2	-	-	-	-	-
Ability to alight vehicle direct to kerb	-	-	-	-	1	1	3	1	4	-	-	-	-	-
Movement within interchanges	3	3	3	3	2	1	2	1	3	6	3	6	3	9
Total score										12	9	14	9	23
Accessibility Audit Appraisal										Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial
Overall Accessibility Audit Score										Slight beneficial				

Table 1: Distributional Impacts: Accessibility Audit

Social Impact

- Improved life chances for all including troubled individuals

The health benefits described below and the user benefits including improved accessibility, will positively affect the vast amount of QE hospital patients. QE is the largest single site hospital in the UK.

- Health & Wellbeing - We will have reduced our health inequalities and improved the health and wellbeing of our population including mental health

The reduction of overcrowding in the station will greatly improve journey quality for people with mental health issues such as anxiety. The scheme will improve the rail travel option to the hospitals for treatment for people with mental health issues.
The generation of new rail passengers will increase the level of walking and cycling to and from stations. This will improve the fitness of a proportion of passengers and lead to user and non-users benefits through reduced mortality and reduced absenteeism. The proportions of people walking and cycling were derived from the station access surveys (48% walk, 1% Cycle) and the quantification of the benefits used WebTAG guidance for Active Modes.

- Criminal justice – Reduce offending and prevent re-offending

N/A

- Employment & Skills - To improve skills levels of all ages so that people have the skills and qualifications to access jobs – Ignite (children and young people) / Retune (employability) / Accelerate (Skills for the future labour market)

The new station building appropriate to the forecast patronage in the coming decades, will promote the area's growth into a nationally significant hub for learning, at the forefront of medical research especially, creating employment opportunities and improving Birmingham's educational and sanitary services. The rail network serves a range of locations including deprived areas which will benefit from improved access to learning facilities.

Fiscal Impact

- Income & Expenditure – We will be a net contributor to the UK exchequer, no longer a public services cost centre

Although the larger facility will increase operating and maintenance costs for the station in the overall subsidised West Midlands Rail franchise the scheme includes new retail facilities which will generate an income stream to partly offset costs. Rail passenger growth and increased ticket sales will be sufficient to contribute a surplus to the franchise within 3 years. The benefits to the government of reduction in franchise costs are an important part of the value for money assessment presented in the Business Case report and TEE, PA and AMCB tables.

Environmental Impact

- Sustainability - To improve competitiveness through energy and resource efficiency and stimulate new technology and business

The current station's lack of necessary capacity at peak times and potential longer delays, threatens successful growth of the University and NHS Trust's plans and sustainability of development, with a consequent risk of discouraging the choice to use rail, resulting in more car traffic and increasing peak traffic levels on the A38. The Cross-City Line service expansion, discussed in the "Committed Schemes" section below, will result in a significant increase in station congestion in 2021, in the Do Minimum case.

What are the expected tangible Outputs/Outcomes to be realised (net additional)?

Expected tangible Outputs/Outcomes	Metric	2015 / 16	2016 / 17	2017 / 18	2018 / 19	2019 /20	2020 /21
Business assisted	**no.**						
Business created	**no.**						
Employment – Jobs created By sector	**no.**	The overall manufacturing, construction and delivery employment impact is forecast to be 1,004 jobs – much of which will be existing companies / employed people, but provides the opportunity to employ more local people valued following HM Treasury guidance as 1 in 10 FTE's (100 new jobs) including any induced impact in the local economy. The new station entrance will generate up to 30 further jobs – 9 to staff the ticket gatelines, 6 in the retail facilities and 15 in the NHS ACDC facility.					
Skills – Learners assisted by qualification level	**no.**	The University is the 4th largest university in the UK with a student population of 34,000 and 7,500 staff. Since 2012 student numbers increased by 25%. The University expects to grow by a further 10.5% by 2026.					
Place – New Dwellings	**units**	Birmingham City Council's Development Plan 2031 outlines the delivery of 700 new homes at the former Selly Oak Hospital site and other smaller sites across the South Edgbaston and Selly Oak area.					
Place – Land remediated	**Hectares**						
Place – New floor space by land use type	**Sq mtr**						
Offenders assisted	**Number**						
Troubled individuals assisted	**Number**						
Other – please specify							

Section C3: Public Service Reform

1. Please refer to the OBC Section C3: Public Service Reform Q1 and include any updates or changes here.

- Provision of a category B station designed for the long-term capacity requirements will encourage more University staff, students and visitors to arrive by train. In terms of the specific objectives in the Public Service Reform agenda;
    - Troubled Individuals: The proposed improvements will result in improved access to quality healthcare for sick, elderly and vulnerable people, including mental health facilities. The scheme improves access to education and training – enabling growth in skills. The project

is a major construction project providing a range of job opportunities accessible by train from a wide range of locations across the region.

- Mental Health: Overcrowded commutes can be a significant source of anxiety and stress for many people. Users of the upgraded station will have access to a spacious and modern station, with sufficiently wide and covered platforms. Furthermore, they will have easier access to healthcare facilities, including mental health.

- Offending and Devolution of Youth Justice: A more secure station will discourage offending within the station footprint. The project will help address economic problems in the area related to offending.

- Employment and Skills: The construction phase will provide many jobs related to the works. Additional long-term jobs will be created to operate and maintain the expanded station facilities. Furthermore, the station upgrade provides the capacity necessary to support the university Masterplan's aim for continued growth in students, staff and courses provided. Similarly, the station will improve accessibility to the growing hospital and new Life Sciences Park; two key sources of employment.

The Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP) has a focal role in the development of the region. The project supports the priorities of the GBSLEP's Life Sciences Commission and will provide the infrastructure needed to ensure that Greater Birmingham can become a 21st century life sciences hub, leveraging major investment from global pharma and driving growth while accelerating patient access to new treatments. Several LEP funded projects are located near the site, including the Institute of Translational Medicine (City Deal) and the Life Sciences Campus (Growth Deal).

The scheme supports the Midlands Connect Strategy, which identifies opportunities to improve transport connectivity between towns and cities within the Midlands and with key centres elsewhere to improve productivity and boost economic growth. Recent rail investment has increased the frequency of service to Alvechurch and Redditch and an extension to the Cross-City line is now operational to Bromsgrove (3 tph). The station improvement will ensure that the benefits of that connectivity are maximised at the University and Hospitals campus.

The Birmingham Children's Hospital, currently in the city centre business district, is considering relocating to the UHB campus. While there is currently no commitment, a move in the next 5 – 10 years is possible. This scheme would remove the barrier to encouraging a high level of sustainable access to the facility, which would be a key requirement. This would also be important in terms of the rail business as the Children's Hospital undertakes more out-patient type appointments than are currently conducted at UHB.

The scheme will contribute to the achievement of the Midlands Engine (HMG Industrial Strategy) programme with its focus on skills, innovation, transport and inward investment. The SEP recognises that the area's innovation infrastructure will play a crucial role in increasing productivity and reforming public services.

Discussions are ongoing with the UHB for the provision of an Ambulatory Care Diagnosis Centre facility within the station building.

Section C4: Stakeholder Involvement

1. **Please refer to the OBC Section C4: Stakeholder Involvement Qs 1-2 and include any updates or changes here.**

The Stakeholder table within the OBC remains largely correct, note a slightly amended version below:

Stakeholder	
Department for Transport (DfT)	Franchise Issues, Funding Partner

Office of Rail and Road Regulation (ORR)	Rail Regulation and Sign Off
West Midlands Combined Authority (WMCA)	Contracting Organisation, Funding Partner
West Midlands Rail Executive (WMRE)	Project Sponsor
Transport for West Midlands (TfWM)	Strategy, Planning, Project Development, Business case, Procurement
Birmingham City Council (BCC)	Local Planning Authority, Highway Authority, Funding Partner, University & Hospitals Masterplan
Network Rail (NR)	Asset Owner and Maintenance
University of Birmingham (UoB)	Land owner, Funding Partner
University Hospitals Birmingham (UHB)	Funding Partner, operator of ACDC facility.
Canals and Rivers Trust (CRT)	Land Owner
Historic England	Statutory Consultee (Roman Fort)
West Midlands Trains (WMT)	Franchise Issues, SFO, Funding Partner, train services operator
Greater Birmingham and Solihull LEP (GB&SLEP)	Economic Strategy, Funding Partner.
Cross Country Trains	Train services operator
DB Cargo	Freight Operator
British Transport Police (BTP)	Safety and security on public transport
Andy Street	West Midlands Mayor
Preet Gill	MP for Edgbaston
Waseem Zaffar	Transport Cabinet Member (TCM) for Transport and Environment (Birmingham City Council)
Deirdre Alden and Matt Bennett	Ward Councillors (Edgbaston)
Birmingham City Council Transport Delivery Committee	Transport Infrastructure Planning
Commonwealth Games Organising Committee	Planning for Events and Facilities for CWG 2022
West Midlands Fire Service, West Midlands Ambulance Service and West Midlands Police	Emergency Services
Seven Trent, Western Power, Virgin Media, BT Openreach, Cadent Gas	Utilities
Visually Impaired and Disabled Groups	Users Interests
Rail Passengers	Station and Service Users
General Public	Local residents and businesses, Hospital patients and staff, University students and staff.
HS2 Ltd	Interfacing programme of works in the Birmingham area.

Stakeholder Involvement

Stakeholder consultation continues to be undertaken during the development of the project. The objective of this consultation is to ensure that i) the requirements of key stakeholders continue to be identified and captured and ii) to ensure continued support for the project and to resolve any objections. A summary of consultation is provided below:

- Rail Industry: The key project stakeholders Network Rail and West Midlands Trains have been consulted throughout the project's development phase to ensure that the strategic principles of the project receive industry level support. On a more detailed level, the requirements of these organisations (design, operation, commercial) have been captured and fed into the project's specification, business case and programme.
- Consultation with these organisations continues through regular meetings, design workshops and written correspondence. The project will continue this level of engagement throughout the remainder of the project lifecycle. Requirements will be formalised through commercial agreements with both organisations that must be in place before completion of the FBC stage. This will ensure that WMCA has certainty regarding the opening and operation of the new station before it commits to fund the construction of the new station.
- Local Authority: Birmingham City Council has similarly been consulted throughout the

project's development phase to ensure that the strategic principles of the project receive Local Authority support (including from a strategic, highways and development control perspective). Consultation with BCC has been undertaken through regular meetings, councillor briefings and written correspondence. The project will continue this level of engagement throughout the remainder of the project lifecycle. The planning application for University station has been submitted to Birmingham City Council and has undergone the formal planning consultation period. Prior to submission, further Elected Ward Members and Cabinet Members briefings have taken place, with the key messaging that the project team has an 'open door' for further briefings at Members' requests.

- Public: Various media releases and local public engagement sessions have been undertaken to inform the general public about the project proposals and drive interest and engagement in the project. These media releases have been cascaded to the local press and public at appropriate times in the project lifecycle, for example upon the launch of the public engagement and the announcement of an in-principle funding agreements with key partners.

A public engagement exercise was undertaken in August and early September 2019, including drop-in sessions at University station, in Selly Oak centre, at the University of Birmingham and at University Hospital Birmingham and website articles with the opportunity for public feedback on the designs, note details below:

Venue	**Date**
UoB – Collaborative Teaching Lab	Thursday 22/08/2019
Queen Elizabeth Hospital Entrance	Friday 23/08/2019
Community Living Hub	Wednesday 28/08/2019
University Station Entrance	Thursday 29/08/2019
University Welcome Event 1	21/09/2019 Saturday
University Welcome Event 2	23/09/2019 Monday

Findings from the comprehensive public engagement exercise and next steps planned are presented in section G6.

The public further have the opportunity to comment on the planning applications during the formal planning application consultation period (note Appendix I3).

The University of Birmingham continue to pledge to support the scheme financially and have provided a written Statement of Intent to state this. They support the plans for the new canal footbridge and integration with the planned University Welcome Centre. Early engagement on station proposals with Calthorpe Estates has taken place and they are also supportive of the scheme as they understand that this unlocks further potential developments for them.

Regular meetings have also continued with the LEP to provide progress updates and address any

concerns they raise.

Plans of statutory undertaker's equipment have been analysed to identify any conflicts (including National Grid Gas, Severn Trent Water, Western Power Distribution, Sky, Virgin Media, British Telecom, and Vodaphone). The project team are working very closely with Historic England to minimise impacts on the scheduled ancient monument.

[redacted]

It should be noted that, based on current knowledge, no stakeholders have fundamental objections to the scheme and all their concerns are being mitigated and managed throughout the project lifecycle. All the funding partners have provided Statements of Intent, noted in Appendix I8. The Stakeholder Management Plan, detailing all stakeholders and high-level strategies to mitigate concerns and manage them.

Section C5: Strategic Issues/Risks

1. Please refer to the OBC Section C5: Strategic Issues/Risks Qs 1-4 and include any updates or changes here.

Within the OBC, the Scheduled Monument Consent (SMC) required for undertaking work near Birmingham's roman fort site, Metchley Fort was discussed at length. Work is ongoing to secure this principle consent, with an ultimate deadline in December 2020 prior to construction work beginning in January 2021. An archaeological strategy is also been created to ensure the archaeological history of the area is preserved. The revised GRIP 4 designs have reduced the interface, as the station building has been designed slightly smaller. As a result, based off current designs and indicative construction methodology plans, securing the consent should be straightforward. Regular engagement is occurring with Historic England and Birmingham City Council (site visits are ongoing for example) and team members with archaeological expertise are working on this consent and strategy.

The other strategic risk highlighted described in the OBC was the unidentified funding to complete the project. This has since been mitigated with Birmingham City Council agreeing to contribute £3.4m towards the project, subject to the agreement of an FBC by their full Cabinet.

[redacted]

[redacted]

[redacted]

Furthermore, within the design there is an entrance planned from the new station to the adjacent canal towpath. This will allow an alternative access out of the station which will allow pedestrian access to nearby areas. Due to concerns about maintainability and safety of this entrance, discussions are ongoing with the Canals & Rivers Trust, Birmingham City Council and West Midlands Trains to reach an outcome acceptable for all.

The regulatory Station Change required for the project is a key consent. The project has an excellent working relationship with West Midlands Trains and Network Rail and are beginning to engage with other passenger and freight operators (notably Cross-Country Trains and DB Cargo).

Planning permission is currently being sought by the project and should be secured by late February 2020. There has been ongoing positive engagement with BCC and any other interested stakeholders and barring the issues noted above, there are limited other concerns. Note Appendix I3 which details the planning permission application and acknowledgment by BCC.

Section C6: Alignment with a Broader Programme

1. **Please refer to the OBC Section C6: Alignment with Broader Programme Q1 and include any updates or changes here.**

Within the draft Selly Oak and South Edgbaston Masterplan produced in August 2019, there is a clear emphasis on the need for a much improved station. The University of Birmingham is investing £600million on its campus between 2016 and 2021 as it continues to improve its world class facilities. Similarly, demand for services at the nearby Queen Elizabeth Hospital has increased by 60% in the last eight years. There are also plans to significantly improve the Women's Hospital located nearby and there are emerging plans to relocate the Birmingham Children's Hospital (currently within the city centre) to co-locate with the Women's Hospital. A proposed Life Sciences Park will also increase transport demand in the area.

Noting the map below, it's clear (along with growth in other public transport services) how crucial an upgraded University Station is to the area.

The University Station Improvement Scheme is part of a wider Transport Masterplan supporting the Economic / Development Masterplan for the UHB/UoB area. Other schemes proposed to be implemented are the A38 Cycleway, highway improvements and a walk route along the canal between the station and the life sciences campus.

Furthermore, due to the University of Birmingham hosting two sports (squash and hockey) for the Commonwealth Games the project programme has some alignment with the CWG. The current programme has the main station building complete by the CWG but the station not entering into service until afterwards.

Fall-back plans are being agreed with the Station Facility Owner to ensure that the majority of the benefits of the scheme will be available during the CWG at least with some works (such as Station Fit Out) beyond the Games period.

Section D: Economic Case - Options Appraisal

Section D1: Short List of Options considered

1. Please highlight any changes to the Preferred Option, Alternative Option and Reference Case option (see OBC Section D1: Short List of Options Considered Qs 1-5 for detail).

The University Station High Level Feasibility Study was completed in September 2016 and examined more strategic options for a Category C station which was considered relevant at the time. The options included;
Do Minimum – Basic operational improvements. The ticket gates would have to remain open in peak hours to avoid safety hazards. This would result in more ticketless travel, relying on on-board sporadic ticket inspection.
New Station, away from the current location, rejected due to impacts on train operations and the relocation of access points, which would disrupt travel patterns, placing the station closer to other stations either side. Essentially, this would negatively affect operations.
Extend Over the Track, building over the railway line at the existing entrance location, rejected due to engineering difficulty, the impact on passenger and train operations (valued at £11.5m for possessions) and wouldn't deliver the scheme objectives – particularly on Platform 2. Moreover, this would be rejected by Historic England, as the previous scheme had been as a result of the impact on the Scheduled Ancient Monument.
New Station Building on University Land Adjacent to Platform 1 at the north end of the platforms. This was the preferred option as the new building could be designed with the appropriate capacity, platforms widened and additional facilities appropriate to the requirements including retail provided, whilst minimising the impact on the Scheduled Ancient Monument.
The tables shows the main advantages and disadvantages of the three options, and how they fit with the project objectives and why the proposed option has been selected. The report did not quantify the costs of the alternatives, concentrating on major 'showstoppers' leading to selection of the most practical solution.

Option Name:	Advantages:	Disadvantages:	Fit with Project Objectives:
Reference Case	Low Cost	Significant queues. The 2016 survey's conclusion states that University Station's overcrowding is a major deterrent to train use.	Poor Fit with Objectives – would not resolve the physical constraints and would fail to deliver required capacity relief. As the SFO is now temporarily closing the station on safety ground this option is not considered acceptable.
Proposed Option, new station entrance at the opposite end of the platforms.	Addresses the long-term capacity requirements, whilst broadly retaining the current access positions to minimise disruption and potential long-term loss of traffic. The option can be built	Moves the station accesses away from West Gate.	Resolves identified reference case issues. Provides sufficient increased capacity for the long term, minimal disruption during construction, stakeholder support

	keeping the station open.		
New Station, away from the current location	Potentially solving the same issues as the preferred option.	Negative impacts on train operations due to station spacing. Adjacent canal constraints. Disrupting travel patterns - the alternative location would be remote from the University and main part of the Hospitals site so passenger demand would fall and car use would increase.	Reduces the role rail can play in the transport masterplan. Increases the costs of the railway. Limits the growth potential.
Extend Over the Track	Retains the access in the existing position. Resolves some of the capacity issues.	Engineering difficulty and costs. Impact on passenger and train operations during construction would be unacceptable. Impact on the Scheduled Ancient Monument would fail to secure consent from Historic England.	Would not secure stakeholder support and may not deliver necessary width for additional capacity, particularly on Platform 2. Lacks stakeholder support.

In December 2018 the GRIP 3 Option Selection Report Addendum marked the completion of this stage with a selected preferred option, design, programme and estimate. The scheme has been designed commensurate with the transport modelling advice, and value engineered within the defined capacity requirements. An urban realm improvement is planned between the station and Vincent Drive – designed in partnership with Historic England to reflect the underlying archaeology, in place of parking. The revised design had widened stairways and passageways, widened ticket gate-lines, enhanced footpath between the station and the hospitals, and integration with University of Birmingham Welcome Centre directly connected to the station via a footbridge across the canal.

There are two key aspects that led to this option being preferred. The first is the stakeholder engagement that was undertaken during its development. This option was developed as the preferred option from a selection of options presented to the stakeholders:

- Historic England and Birmingham City Council have been involved in the development of the option from a planning perspective. They have contributed to the positioning of the station building and bought into the principal of the landscaping adjacent to the Scheduled Ancient Monument. They have also specified a requirement for a high- quality design that is developed from a detailed understanding of the site context, in particular, the surrounding developments;
- The University of Birmingham are contributing to the scheme financially, and the providing some of their land for the building works. The preferred option has been agreed in principle by the University. It has been co-ordinated with their initial Welcome Building proposals and provides the canal footbridge crossing.
- The Canal & Rivers Trust were also involved in the stakeholder workshop and have contributed to the requirements list upon which the preferred option has been developed. Canal and Rivers Trust land will

be required in both the permanent state for construction of the canal footbridge and for construction access to Platform 2.

- Multiple other stakeholders including West Midlands Trains, the local NHS Trust and Network Rail have also contributed requirements to the development of the preferred option.

The second key aspect was the Pedestrian Flow Report. The early Grip 3 stage options were produced before the modelling was commissioned, they were found to provide insufficient space to accommodate the predicted passenger flows along the platforms, on the stairs / bridge and through the ticket gate-lines. The preferred option is the only option that provides the stair, footbridge and, more particularly, extra platform widths required by the recommendations in the pedestrian flow report.

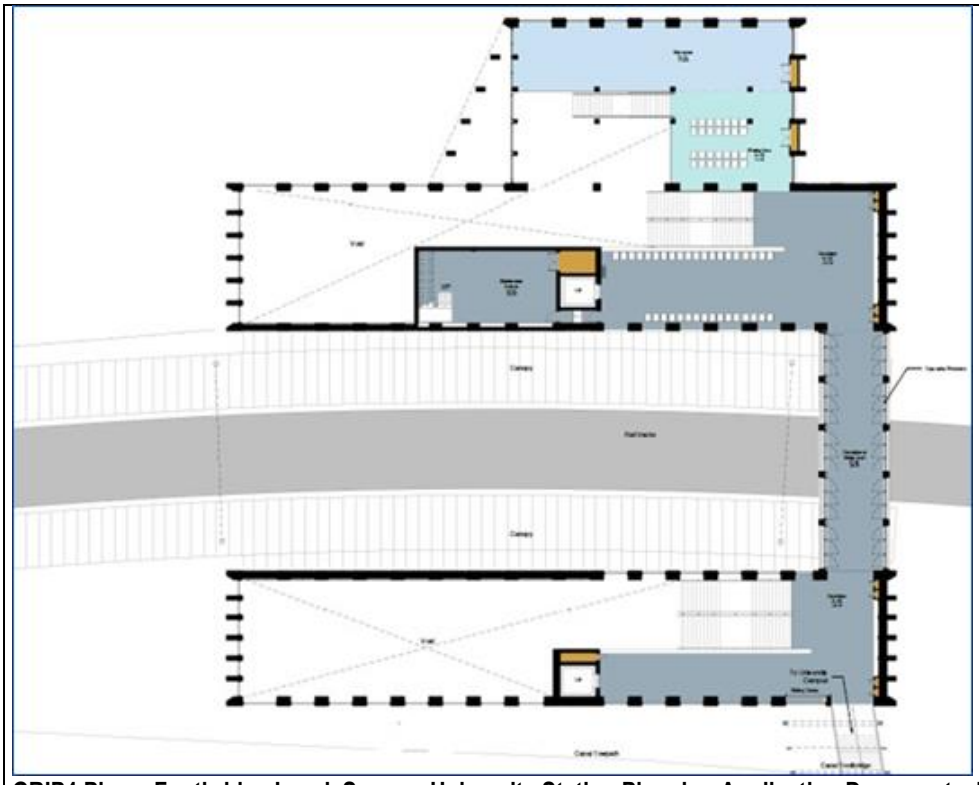
The GRIP 4 Stage of the Study is now complete and has improved the design with further value engineering informed by the pedestrian simulation modelling which enabled the width of the stairs and footbridge to be reduced leading to a reduction of the overall station footprint (and will be most cost effective). The latest scheme is shown in the following figures;

GRIP 4 Overall Layout Plan. Source: University Station Planning Application Documents, November 2019

GRIP 4 Section Through Proposed New Station Building. Source: University Station Planning Application Documents, November 2019

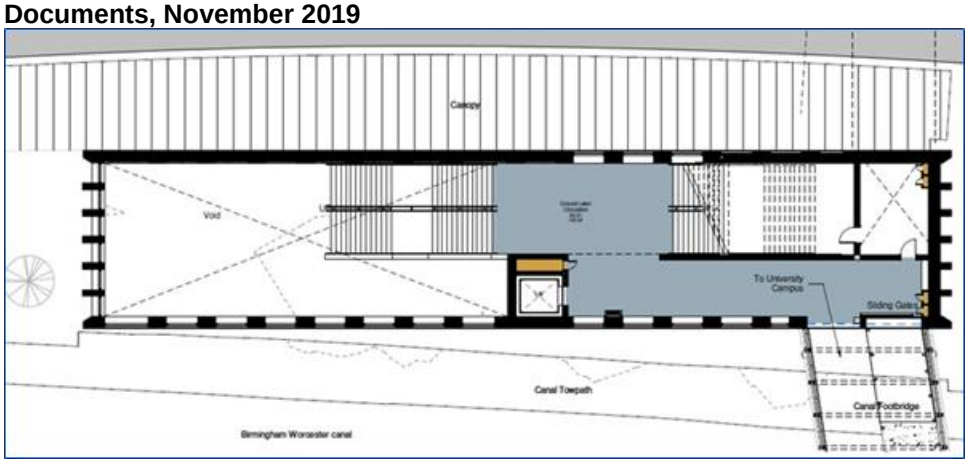
GRIP4 Plan – Platform Level Western Building. Source: University Station Planning Application Documents, November 2019

GRIP4 Plan – Mid-Level Western Building. Source: University Station Planning Application Documents, November 2019



GRIP4 Plan – Footbridge Level. Source: University Station Planning Application Documents, November 2019

GRIP4 Plan – Platform Level Eastern Building. Source: University Station Planning Application Documents, November 2019



GRIP4 Plan – Mid-Level Eastern Building. Source: University Station Planning Application Documents, November 2019

GRIP4 Elevation from Hospital

GRIP4 Elevation from University

Section D2: Demand and Project Need

1. Please refer to the OBC Section D2: Demand and Project Need Qs 1-2 and include any updates or changes here.

University station, a Department for Transport (DfT) Category D 'medium staffed' station, was built in 1978 and was designed to accommodate 0.25 - 0.5 million passengers per year. In 2018/19 3.97 million passenger journeys were made through the station resulting from the growth of the University and the NHS sites. This level of

demand raises the station category to level B 'Regional Interchange'. According to Section 5.1 of Network Rail's 2015 document Station Design Principles, a station with over 2 million trips per year can be category A or B. University Station's passenger demand level of 3.97 million passengers per year makes it the 7th busiest station in the West Midlands behind the Birmingham City Centre stations, Coventry, Birmingham International and Wolverhampton – other Category B stations. As a result of planned developments in the area, growth is forecast to continue to 7.2m passenger journeys per annum by 2069.

The existing booking office and ticket collection areas are too small for the current passenger numbers and there is regular congestion accessing and leaving the station see figures below. The platforms are narrow and overcrowded at peak times and have limited canopy shelter. The canopies covering only a small part of the platforms contributing to the congestion, due to passengers not wanting to move along the platform when it rains. The 2016 survey's conclusion states that University Station's overcrowding is a major deterrent to train use as well as presenting a significant safety risk. However, use of University Station has been continually growing overall, which will increase the risk to safety which, if is not addressed, could ultimately lead to the station being closed at peak times.

Footbridge and Stairway Congestion AM peak

Platform 1 Congestion PM Peak.

AM Peak Platform 2 Congestion

Evidence of the perception of the existing station comes from two surveys:

1. The University of Birmingham Staff and Student Travel Survey (2016), which is limited to UoB but attracted a significant response rate of 4019 students (13.1%) and 2350 staff (31.8%).

2. Market research of user satisfaction with the station, which was carried out by Transport for West Midlands (TfWM) in November 2017, through platform interviews (425 passengers of 6,478 counted (7%)), an email survey (412 respondents) and timed observations. This gathered behavioural patterns and station levels of satisfaction and suggestions for improvements.

There is widespread concern about delays in passing through the station and related impacts, including 34% of users expressing concerns about 'queues / queues for tickets too long' and 25% 'too busy/crowded/can't get out/ can't get in' and related factors including 'stairs can't cope with amount of people' – 11%, 'miss trains as too busy' – 3% and 'needs to be bigger/bottle neck' – 3%.

The UHB Staff Travel Survey 2018 reports that the hospital was required via Section 106 to ensure a 10% modal shift away from single occupancy cars to the site by 2013. Between 2003 and 2013 there was a 20% reduction in journeys of this nature. There was a further decrease of 3.8% between 2013 and 2016. This trend has continued with a significant reduction of 8% between 2016 and 2018. Hospital staff continue to move towards more sustainable modes of travel.

Similarly, the UoB Sustainable Travel Plan 2015 – 2020, update 2019, details measures to meet carbon reduction targets and manage congestion. A wide range of both hard and soft measures are identified to encourage selection of sustainable travel choices by students and staff and an action plan produced to track progress. University station improvement is identified in the plan.

<u>Market testing and Modelling approach:</u>

The base (May 2018) demands, revenues and average yields for University Station were established from MOIRA and converted to AM peak, PM peak and interpeak, term and non-term passenger flows from train counts undertaken in 2017.

Demand growth forecasts have been derived from ORR data taken between 2008 and 2019, University and Hospitals Masterplan (2016 – 2026) and DfT EDGE exogenous growth model (2018 – 2038). The growth forecast determines when 50% and 100% growth benefits estimated by the Legion Pedestrian Simulation Model will occur and intervening years are interpolated. In the Full Business Case report two Scenarios are presented DfT EDGE only forecast for the Department for Transport funding case and WMCA Masterplan Forecast which uses the masterplan growth between 2019 and 2026 for the other funding providers. This FBC presentation concentrates on the WMCA Masterplan Scenario.

Do minimum impacts are estimated based on 2017 counts by train, assumed growth, assumed demand cap, assumed delay and application of elasticity to MOIRA generalised Journey Times to estimate demand loss. WebTAG Marginal External Congestion Costs factors are applied to estimate additional traffic congestion as a result of demand capping.

User time savings have been simulated and forecasted using a Legion pedestrian simulation model, which established a comparative analysis of scenarios. The Legion model has been built and simulated using Legion Spaceworks v6.4.2. A range of model outputs have been produced to support the model validation and reporting. These have been produced in line with NR's Station Capacity Planning Guidance. The model is applied to base year, +50% growth and +100% growth scenarios. The revised version of the model developed and applied to the GRIP 4 designs was employed for the FBC, with a full set of time-periods including term and non-term time assessed and input to the appraisal model.

A 5% DM uplift factor was introduced in 2021 to reflect the impact of new rolling stock and improved evening and Sunday services planned within the West Midlands Trains Franchise commitments. In 2019 the DfT requested further evidence of the potential implications of the franchise commitments undertaken using a basic crowding modelling approach which suggested that this assumption is cautious.

Demand uplift was calculated using elasticity factors applied to the generalised journey times of passengers from MOIRA with values based on PDFH guidance.

Performance benefits are informed by the Legion modelling and application of elasticity to determine the demand impact.

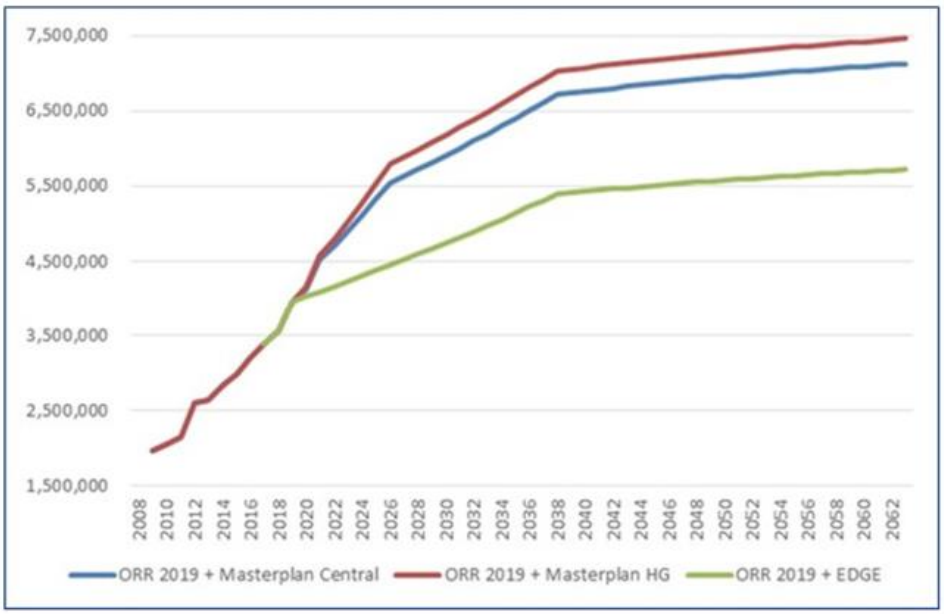
The demand impact of station facilities improvements is estimated using PDFH guidance and user benefits from TfWM's Facility valuation model.

All new demand forecast is input to the TAG Marginal External Congestion Cost model to derive non-user benefits and tax implications, with values updated to the latest TAG databook for the FBC.

MOIRA and Legion results and the business case model have been audited internally, using the Jacobs CRA-V approach (Check, Review, Approve and Verify).

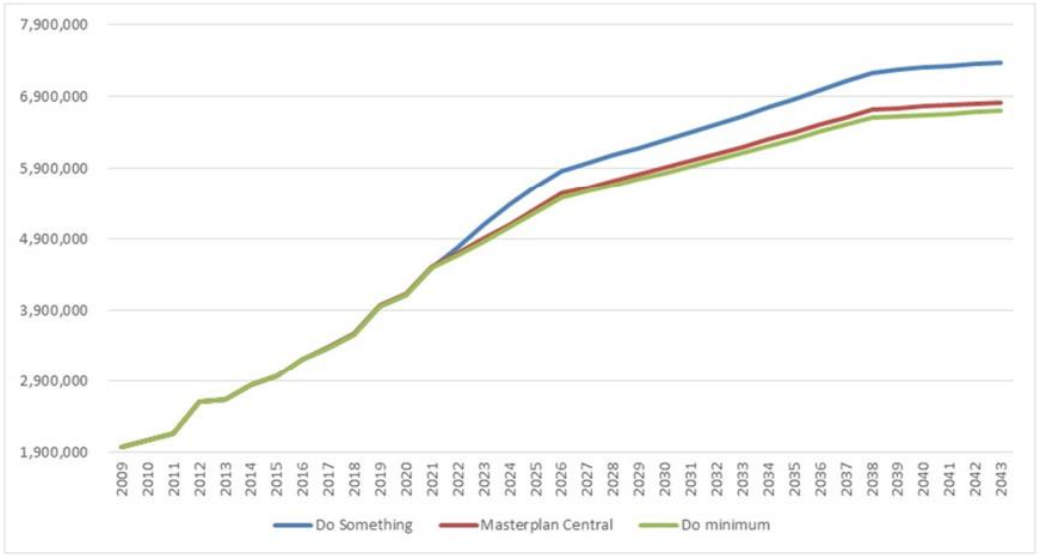
We refer you to Appendix A of the revised Full Business Case Report (28/01/2020) for details of the do-minimum and do-something transport modelling demonstrating likelihood of further passenger demand growth which will lead to heightened concerns and the benefits that the intervention will bring.

The figure below shows that the EDGE model forecast (for the DfT Funding Requirement assessment) is substantially lower than the recent growth observed and masterplan forecast.



Demand Growth Ranges Assumed

The figure below shows the difference between the "do-minimum" (reference case) and "do-something" (with scheme) demand forecasts.



Scheme Impact compared to reference case.

Section D3: Additionality

1. Please refer to the OBC Section D3: Additionality Qs 1-3 and include any updates or changes here.

The station's main issue surrounding lacking capacity is most evidently manifested through the passenger congestion created on the platforms and stairs/footbridge. As a result of insufficiently wide platforms, staircases, footbridge and gate-line. Observations show that, during the peak hour, the average time it takes for the last person to exit the station from platform 1 is 03:15 minutes/seconds. Queues are even worse on platform 2 during

the peak hour, where the average time it takes for the last person to exit the station is 03:40 mins/secs. In certain extreme cases, some passengers queue over 6 minutes to exit the station from both platforms. In the evening peak platform 1 is congested and passengers queue on the stairway to access the platform.

Without intervention, the forecast growth in demand will increase delays and discomfort for station users and increase train service delays, due to a longer time spent at the station. The station facility Owner (SFO) West Midlands Trains already employs peak train dispatch staff to manage queuing in the station and encourage the use of the lifts as well as stairs and to use the whole length of the platform. The SFO has reported that they have had to resort to more drastic action - temporarily closing the station entrance to manage the highest peak conditions to maintain safety. However, they are also concerned about safety outside the situation as the pavement is narrow. Barriers prevent pedestrians straying into the road where there is passing traffic. Shutting the entrance for even short periods creates congestion on the pavement and prevents the through movement of other pedestrians. The operator will be forced to close the station on an increasing level as demand grows affecting around 3% in 2017, 8% in 2024 and 18% in 2040 and a combined net economic loss of £31m PV. This would undermine the UHB and UoB travel plan objectives limiting the effectiveness of their plans and would discourage investment in the area.

The delays will lead to people avoiding use of the station at the most congested times (estimated as 40k people in 2024 – 4% of PM peak flows and a proportion will resort to use of private vehicles and taxis.

The station's lack of necessary capacity at peak times and potential longer delays, threatens successful growth of the University and NHS Trust's plans and sustainability of development, with a consequent risk of discouraging the choice to use rail, resulting in more car traffic and increasing peak traffic levels on the A38. The Cross-City Line service expansion, discussed in the "Committed Schemes" section below, may result in a significant increase in station congestion in 2021, in the Do Minimum case.

The demand growth forecasts were built into the Legion model to assess the 'do-minimum' / counterfactual scenario against which the scheme was compared to assess time savings benefits.

Birmingham has been successful in securing the Commonwealth Games in 2022. The University has been selected as a venue for the hockey and squash events and is likely to provide training facilities and a base for at least one of the major teams. It is therefore expected that there would be significant additional flows through the station which could cause further congestion. This will not present Birmingham (and the wider West Midlands) in the manner that the games planners desire and the scheme represents an opportunity to present Birmingham in a positive way to the wider world.

University Station use has been increasing steadily year after year from 2.2 million passengers in 2010-11 to 3.97 million in 2018-19. Both the Hospital and University have plans for growth, which would further increase use of the station. The station with no improvements would deter many people from using rail and encourage people to use other modes including the private car, which would impede the area's growth plans. There is a real risk that as a result of safety concerns, the rail operator will have to close the station, causing major passenger delays.

Numerous options have been considered, reaching the current proposal; the only one that satisfies all constraints, including heritage considerations, pedestrian flow, acceptable facilities and requirements set by the funding stakeholders (e.g. UoB's canal bridge entrance). This new Grade B station would reflect the significance of the area, which is the largest employment site in Birmingham outside the city centre.

The table below summarised the Counterfactual and with-scheme issues.

Threats of Counterfactual	**Opportunities of Investment Case**
The existing station, a category D 'medium staffed' station, was designed for a maximum of 0.5 million	A modern category B station would support UoB and UHB, both of which are nationally significant

passengers per year and is currently overcapacity at 3.97 million passengers per year. The current and future expansion of local businesses is expected to increase yearly patronage to up to 5 million by 2024.	institutions, forecast to grow by more than 10.5% by 2026.
The station's patronage has been growing steadily by an average of 8% per year. since the hospital's renovation in 2012. There is significant user dissatisfaction with the existing station's facilities and level of congestion, reaching peaks of up to 6 minutes to exit the station.	Spacious and covered platforms, several entrances and exits and direct access to UoB; are all features that will satisfy current users and further attract patronage.
A mode shift to road travel, due to poor access to rail, would affect the A38 corridor, an already congested arterial route into Birmingham.	New facilities with significant capacity will reduce delays in the station.
Both the station and the area's car parking are overcapacity and could lead to trip suppressing or peak spreading.	A new facility with widened and covered platforms will encourage better use of the platform length and train capacity and reduced delays.
Overcrowding of the narrow platforms could represent safety risks and leads to train delays affecting the entire route.	The improved facilities will encourage more rail use reducing traffic congestion.
The Birmingham – Worcester – Hereford line and Cross City line service improvements and new rolling stock with increased capacity will increase passenger demand and increase station congestion in 2020/21.	

The Wider Economic Benefits of the scheme were analysed with a scoping assessment, which helped determine that these were very low and not requiring to be quantified. Agglomeration impacts relate to City – City improvements which do not apply to this scheme. There is limited potential for induced investment except for change in intensity of land usage which is part of the Masterplan changes proposed by the University and Hospitals. The land use change is controlled by Calthorpe Estates, the University of Birmingham and UHB NHS limiting the potential for commercial decisions. There is limited scope for the station improvement scheme to impact on employment due to the control on land use change. However, there are direct employment impacts which can be quantified as 1004 construction jobs and 9 additional FTE ticket gate-line staff 6 retail staff and up to 15 NHS ACDC facility staff. The table below shows the scoping assessment results.

	Agglomeration		Induced Investment					Employment Effects			
	Static Clustering	Dynamic Clustering	Productive Capacity	Household Location Decisions	Firm/business Location Decisions	Change in land use purpose	Change in intensity of land usage	Level of Employment	Location of Employment/ Accessibility	Labour Supply	Displacement
University Station			1	0					0	0	

Commercial Case

Section E: Commercial case – External Procurement (if appropriate)

1. **Please highlight any changes to the Commercial Case (see OBC Section E: Commercial Case Qs 1-8 for detail). Do they impact on any other aspects of deliverability?**

[redacted]

2. **If you've been to procurement, how has this impacted price?**

[redacted]

3. **If you haven't, why not? What are your plans for doing so?**

Please note the programme timescales below for next step in the procurement process:

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

[redacted]

West Midlands Combined Authority

Financial Case

Section F: - Financial Analysis of the recommended Option

Section F1: Costs and Cost Assumptions

1. **Please highlight any changes to the Costs and Cost Assumptions (see OBC Section F1: Costs and Cost Assumptions Qs 1-4 for detail).**

[redacted]

Section F2: Funding, Financing and Assumptions

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			[redacted]	[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

West Midlands Combined Authority

[redacted]

[redacted]

[redacted]

[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

[redacted]

Section F3: Cashflow

1. **Please provide an updated Cashflow (see OBC Section F3: Cashflow Q1 for detail).**

[redacted]

Section F4: Benefits Profiling

1. **Please provide an updated profile of the qualitative and quantitative benefits of the project (see OBC Section F4: Benefits Profiling Q1 for detail)**

Benefit	Metric	Owner	Priority	Dependency

Reduced Delays in station	Time Saving User Benefits £2.4m in 2040, 318k additional passengers and £82k new user benefits 2040	WMCA	Very High Core Objective	Delivery of the new entrance and wider platforms
Performance improvement impact	In 2040, £1.1m of additional revenue, 110k additional passengers and £394k of user benefits p.a. (time savings)	WMCA	Very high core objective	Delivery of wider platforms
Improved station facilities	In 2040, £0.3m of additional revenue, 120k additional passengers and £0.5m of user benefits p.a. (perceived environment benefits)	WMCA	Secondary objective	Delivery of station improvement, including extended canopies and retail facilities
Modal shift	In 2040, £2.3m of additional benefits, including traffic congestion relief, infrastructure savings, reduced accident, improvements to local air quality, reduced noise and reduced greenhouse gas emissions	WMCA	Secondary objective	Increased station demand. Hospital and University growth.
Urban realm improvement	Non quantified	WMCA	Tertiary objective	Delivery of walkable outside area, reflecting the heritage beneath

Do Minimum Impacts

Increasing passenger congestion will lead to unsafe conditions and increasing the number of occasions that the station would have to be closed to manage throughput. Estimation of the impact was based on observed boarding and alighting observations by train, coupled with the SFO report that the congestion levels are already close to breaking point. That occasion was assumed to relate to the 17:25 train when around 200 people board. As demand grows the high congestion level will need to be dealt with on more occasions during the peak. Quantification was based on flows over 150 people for each train being delayed which equated to 3% in 2017 growing to 8% with 50% more demand in 2024 and 18% with 100% more demand in 2040. Three resultant impacts were quantified for inclusion within the economic appraisal

- User Disbenefits – based on estimated delay time related to the service headway;
- Lost passengers and revenue – based on application of elasticity to the change in generalised journey times applied to MOIRA informed passenger volumes by service group and revenue yield.
- Non-User Benefits – principally additional highway congestion estimated through the Marginal External Congestion Costs methodology.

Do Something Delay Time Savings

The additional entrances, new wide Ticket Gatelines, wide stairs and passageways and widened platforms will reduce queuing within the station. The Legion Pedestrian Simulation Model was used to forecast the delays in the Do-Minimum and Do-Something scenarios and to forecast the time savings which equate to 1.5 minutes in the AM peak in 2017, 2.4 minutes on average in 2024 and growing to 3.7 minutes in 2040. The resultant impacts quantified for inclusion within the economic appraisal were;

- User Time Savings – applying the delay savings to forecast passengers and Value of Time from WebTAG – weighted by journey purpose.
- Induced demand, revenue and new user benefits - based on application of elasticity to the change in generalised journey times applied to MOIRA informed passenger volumes by service group and revenue yield.

Performance benefits

The wider platforms and extended platform canopies will result in better use of the whole platform and provision of sufficient space for forecast passenger volumes. This will lead to faster alighting and boarding and reduction in delays to other passengers. The level of benefits was estimated from the Legion model results taking account of the impact of the introduction of 6-car complete fleet impacts in 2021 and residual delays over 60 seconds dwell time through to 2040. The quantified benefits for the economic appraisal were;

- User Time Savings – applying the delay savings to forecast passengers, both University Station and through passengers informed by MOIRA and with Value of Time from WebTAG – weighted by journey purpose.
- Induced demand, revenue and new user benefits - based on application of elasticity to the change in generalised journey times applied to MOIRA informed passenger volumes by service group and revenue yield;

Improved Station Facilities

The new station facilities will be appreciated by the existing passengers and the generated passengers. The approach used the PDFH demand uplift factors which are based on experience from elsewhere. There is a limited range of facilities quoted with the appraisal assuming improved retail offer (from none to small shop) and improved waiting facilities (from poor to good seats and from wind shelters in some places to all round protection). The estimated impact was restricted to a maximum 2% for Business and Leisure passengers and 1.9% for Commuters. The quantified benefits included within the economic appraisal were;

- User benefits – through application of TfWM's Facilities Valuation Model (10p per user);
- Additional passengers (PDFH uplift);
- Additional revenues and new user benefits.

Additional Retail Income

The new station facilities will include space for improved retail offer to passengers and will generate a retail income which will partly offset increased station operating costs. The retail income levels were taken from the University Station Retail Strategy Report (October 2018) and it was assumed that 2 coffee shops would be provided;

Non-User benefits

The new passengers assumed to be generated by the scheme (from delay time savings, performance impacts and station facilities improvements) will include passengers who would previously have travelled by private car. The scheme will therefore result in a range of non-user benefits, principally traffic decongestion but also reduced highway infrastructure costs, reduced highway accidents, reduced traffic noise, improved air quality and reduced greenhouse gasses. These will be slightly offset by the reduction of indirect tax (fuel tax) to government. The estimation was based on the average journey length for users of University Station informed by MOIRA and assuming 27% of new travel is diverted from cars (following WebTAG guidance) and average car occupancy of 1.2 persons. Quantification used the WebTAG Marginal External Congestion Costs approach for key years with interpolation between.

Health Benefits

The generation of new rail passengers will increase the level of walking and cycling to and from stations. This will improve the fitness of a proportion of passengers and lead to user and non-users benefits through reduced mortality and reduced absenteeism. The proportions of people walking and cycling were derived from the station access surveys (48% walk, 1% Cycle) and the quantification of the benefits used WebTAG guidance for Active Modes

Demand and Revenue

Forecast Additional Passenger Demand

The table below shows the new rail demand and revenue by source from the various modelling processes for 2025, the first full year of benefits after the assumed ramp up after opening and in 2040.

Demand Source	Demand 2025	Revenue 2025	Demand 2040	Revenue 2040
Time Savings Demand Uplift	176,176	£458,945	318,255	£829,207
Performance Improvement Impact	50,038	£436,376	109,575	£955,586
Improved Station Facilities	94,062	£245,031	119,643	£311,669
Do Minimum Delays Revenue	46,212	£120,381	116,633	£303,828
Total	**366,491**	**£1,260,733**	**664,106**	**£2,400,135**

Summary of Demand and Revenue Impacts of the Scheme

User Benefits

The table below summarises the user and new user benefits by source for 2025 and 2040.

Source	User Benefits 2025	New User Benefits 2025	User Benefits 2040	New User Benefits 2040
Do Minimum Delays	£429,185		£1,391,039	
In Station Time Savings	£875,400	£23,271	£2,421,202	£81,707
Performance Benefits	£178,915	£1,436	£393,609	£5,368
Station Facilities Benefits	£392,532	£5,102	£499,283	£8,561
Health Benefits	£82,669		£148,749	
Total Benefits	**£1,797,701**	**£29,809**	**£4,853,882**	**£95,636**

Summary of User and New User Benefits

Non-User Benefits

The table below summarises the non-user benefits for the central case scenario for key years of 2025 and 2035. The results are interpolated between 2020 and 2035. Beyond 2035 the appraisal assumed benefits rise with underlying demand growth and value of time growth

	2025	2035
Congestion	£750,156	£1,653,250
Infrastructure	£3,447	£6,310
Accident	£122,501	£268,349
Local Air Quality	£4,402	£5,661
Noise	£8,167	£17,890
Greenhouse Gases	£17,850	£28,745
Total	**£906,523**	**£1,980,205**

Scheme Non-User Benefits for Key Years

The table below shows the Indirect Taxation implications as a result of the transfer of car trips and related reduction in fuel tax, assuming that the car is not used by other members of the household.

	2025	2035
Scheme	£-76.6k	£-71.0k

Scheme Indirect Tax Implications for Key Years

Section F5: Affordability and Value for Money

1. Please provide evidence of affordability.

Section B shows that the anticipated capital costs of the scheme are expected to be covered by the contributions from the funding partners and /or financing arrangement. The liquidity of the contractors was assessed as part of the SQ process and the four which were invited to bid have been vetted on this. As for the funders they are all public sector or have public sector funding (UoB or WMT) limiting risks.

The table below shows the additional annual operating and maintenance costs for the station and the revenue. This reveals no subsidy requirements.

	2022	2023	2024	2025	2026
Opex	£294k	£392k	£392k	£392k	£392k
Retail Income	£56k	£75k	£75k	£75k	£75k
Revenue	£248k	£703k	£1,114k	£1,240k	£1,375k
Subsidy/Surplus	£11k	£387k	£798k	£924k	£1,058k
%	0%	0%	0%	0%	0%

Financial Appraisal – Masterplan Scenario, 2018 Prices.

The scheme is considered affordable in the short term and long term subject to agreement with WMT.

The Train Service capacity is to be increased in 2021 through the rolling stock plans in the franchise. The performance benefits are resolved in the short / medium term and trains the demand growth is incremental and not expected to lead to additional costs.

2. Please provide evidence of Value for Money. For example, please provide a Benefit-Cost ratio or a Cost-Effectiveness indicator, or other means to demonstrate why this project is a good use of public monies

The economic appraisal links the user and non-user benefits with the scheme costs and assesses the value for money over an appraisal period of 60 years. In concluding the strength of the business case for the scheme account was taken of the DfT's guidance on value for money for transport schemes (Guidance on Value for Money: Explanatory Note, DfT, 15.12.04). Specifically, most schemes with a quantified benefit cost ratio (BCR) of 2.0 or above will be supported, some schemes with BCR between 1.5 and 2.0 will be supported and few schemes with BCR below 1.5 would be supported.

However, where a scheme has significant non-monetised benefits, such as providing economic regeneration benefits to an assisted area, the BCR and funding decision can be raised by one category. I.e. a scheme with BCR above 1.5 would be likely to be supported subject to available funds.

The economic performance of the preferred scheme and alternative scenarios are contained in the table below. (The Transport Economic Efficiency (TEE), Public Accounts (PA) and Analysis of Monetised Cost and Benefits (AMCB) tables for the Preferred Option are presented in the University Station Full Business Case Report (December 2019) Appendix E.)

Within the economic appraisals the train company is assumed to be no better / worse off meaning that if the operating costs are higher than revenues a subsidy benefit is included in the TEE table and subsidy cost in the PA table. Similarly, if the revenues are higher than the operating costs the profit is transferred to the government - taken off the TEE table and added as benefit in the PA table. In this case large net revenue incomes over the scheme life are transferred to the government.

	PV Masterplan Scenario
Present Value of Benefits (PVB)	£133.0m

Present Value of Costs (PVC)	-£1.5m
Net Present Value (NPV)	£134.5m
Benefit Cost Ratio (BCR)	Very High Value for Money

Note that the revenue transfer is £36m which is higher than the PV of the capital infrastructure costs leading to a negative PVC value and consequent negative value for the BCR (-£86m). This actually reflects very high value for money for the scheme.

Without the revenue transfer the PVB is higher, PVC is positive and the BCR 5.4 also reflecting very high value for money.

The BCR calculation was explained to the DfT through a PowerPoint presentation (four slides below for the Masterplan Scenario). The methodology for presentation of the Cost Benefit Analysis is prescribed by the DfT and agreed with Paul Cobain. It has been accepted by the DfT.

TEE Table

TfWM University Station FBC
Table 1: Economic Efficiency of Transport System (revenues are scored as positives, costs as negatives)

	All Modes	Road	Road	Bus & Coach	Rail Total		Rail	Rail
	Total	Cars, LGVs and goods vehicles	DM Cars, LGV's and Goods Vehicles	Passengers	Passengers	Walk and Cycle	Company A e.g. NR	Other e.g. TOC/FOC
Consumers - Commuting								
User benefits								
- travel time saving	38,399,215	6,002,133	927,284		31,469,798			31,469,798
- Vehicle opcost	-				-			
- user charges	-				-			
- during construction & maintenance	-				-			
Net Consumer Benefits (1a)	38,399,215	6,002,133	927,284		31,469,798			31,469,798
					-			
Consumers - Other								
User Benefits								
- travel time saving	69,782,281	29,861,542	4,613,382		35,307,357			35,307,357
- Vehicle opcost	-				-			
- user charges	-				-			
- during construction & maintenance	-				-			
Net Consumer Benefits (1b)	69,782,281	29,861,542	4,613,382	-	35,307,357		-	35,307,357
Business								
User benefits								
- Travel time	7,998,038	1,416,652	218,862		6,362,523			6,362,523
- Vehicle opcost	-				-			
- Reduced absenteeism	-							
- user charges	-				-			
- during construction & maintenance	-				-			
Net Business User Benefits (2)	7,998,038	1,416,652	218,862	-	6,362,523	-	-	6,362,523
Private sector provider impact								
- revenue	43,683,515		4,467,690		39,215,824			39,215,824
- opcost	- 7,405,331				- 7,405,331			-7,405,331
- investment cost	-				-			
- grant/subsidy	-				-			0
- revenue transfer	- 36,278,183		-4,467,690		- 31,810,493			-31,810,493
Sub total (3)	-	-		-	-			-
Other impacts								
- Developer contribution (4)		-		-	-			
Net business impact (5 = 2+3+4)	7,998,038	1,416,652	218,862	-	6,362,523	-		
Total, PV of transport econ eff. Benefits (6 = 1a + 1b + 5)	116,179,534							

1. The forecast revenue is higher than operating costs leading to a revenue transfer

2

JACOBS

West Midlands Combined Authority

PA Table

TfWM University Station FBC
Table 2 Public Accounts (costs should be recorded as a positive number, surpluses as a negative one)

	All Modes Total	Road Infrastructure	DM Highway	Bus & Coach	Rail	Walk and Cycle
Local Government funding						
- Direct Revenue	-					
- Operating costs	-					
- Investment costs	- 155,733	-142,297	-13,436			
- Developer and other contributions	-				0	
- Grant/Subsidy (k)*	-					
- Revenue transfer	-					
Net (7)	- 155,733	- 142,297	- 13,436	-	-	
Central Government funding: Transport						
- Direct Revenue	-				0	
- Operating costs	-					
- Investment costs*	34,897,262				34,897,262	
- Developer and other contributions	-					
- Grant/Subsidy (k)*	-				0	
- Indirect Tax Revenues						
- Revenue transfer	- 36,278,183		-4,467,690		-31,810,493	
Net (8)	- 1,380,921	-		-	3,086,769	
Central Government Funding: Non-Transport						
Indirect tax Revenues (9)	1,525,882	1,354,973	170,909			
Totals						
Broad Transport Budget (10 = 7 + 8)	-1,536,654					
Wider Public Finances (11 = 9)	1,525,882					

2. the revenue transfer is passed to central government as benefit offsetting the capital costs

Revenue Transfer Higher than Capital Costs = negative PVC

JACOBS

AMCB Table

TfWM University Station FBC
Table 3: Analysis of Monetised Costs and Benefits (AMCB)

	Total	Road	DM Highway	Bus & Coach	Rail	Walk and Cycle
Noise	440,350		36,936		403,414	
Local air quality	140,606	127,650	12,956			
Greenhouse gases	710,197	648,191	62,006			
Journey ambience (incl. rolling stock quality, and in vehicle crowding)	-					
Accidents (incl. safety)	6,613,437	6,051,206	562,231			
Physical Fitness	1,655,819				1,655,819	
Economic Efficiency: Consumers Users (Commuting) (1a)	38,399,215	6,002,133	927,284		31,469,798	
Economic Efficiency: Consumers Users (Other) (1b)	69,782,281	29,861,542	4,613,382	0	35,307,357	
Economic Efficiency: Business users and providers (5)	7,998,038	1,416,652	218,862	0	6,362,523	
Wider Public Finances (indirect Taxation Revenues (-11)	- 1,525,882					
Reliability (incl. performance & reliability)	-					
Option values	-					
Interchange / station quality and crowding)	-					
Station Facilities Users	8,748,627					
Present Value of Benefits (PVB) (sum all benefits - 11)	132,962,687					
Broad Transport Budget (10)	-1,536,654					
Present Value of Costs (PVC) (10)	-1,536,654					
Overall Impacts						
Net Present Value (NPV)	134,499,341					
Benefit to Cost Ratio (BCR)	-86.53					

3. as a result of the revenue transfer the Present Value Costs is negative resulting in a negative Benefit Cost Ratio

Removal of Revenue Transfer

- If the revenue is not transferred to central government the economic appraisal becomes;

PVB	£164.8m
PVC	£30.3m
NPV	£134.5m
BCR	5.4

A range of sensitivity tests was produced in the Full Business Case which revealed the BCR fluctuating between 8.2 and very high BCR's with negative sign showing transferred revenues higher than investment costs. The lowest BCR's were related to removal of performance benefits, low growth and high capital costs. The BCR remains at very high value for money in all scenarios.

In the DfT EDGE only scenario produced for the DfT the BCR was reported as 4.9, varying between 2.9 and 9.0 representing very high value for money. More detail on the EDGE forecast is available in the Full Business Case (titled TfWM University Station FBC 28 Jan2020, which is a supporting document).

In terms of non-quantified benefits, the Urban Realm benefits have not been estimated and WebTAG does not recommend quantification of social and some environmental impacts (eg townscape and accessibility). In addition, the benefits of avoidance of delays to passengers using hourly train services (Cross Country and WMT Hereford services) has not been included and is therefore cautious.

Section G: Programme Management Case - Achievability of Project Components

Section G1: Project Plan (Extract of Key Milestones)

1. Please provide an updated list of Key Project Milestones and Gantt Chart (see [Appendix XX]) (see OBC Section G1: Project Plan Qs 1-2 for detail).

Key Milestone	Delivery Date
GRIP Stage 3 start	5 Feb 2018
GRIP Stage 3 design complete	22 July 2019
Scheme design (GRIP 4) start	22 July 2019
ITT issued	20 Dec 2019
Scheme design (GRIP Stage 4) approved	27 March 2020
Tender returns	20 March 2020
Tender evaluation complete	17 April 2020
Main contract award	15 May 2020
Detailed design (GRIP 5) start	18 May 2020
Construction start	21 Jan 2021
Detailed design (GRIP 5) complete	26 March 2021
Construction substantially complete	30 May 2022
Partial opening (for Commonwealth Games)	1 June 2022
Commonwealth Games start	27 July 2022
Commonwealth Games finish	7 August 2022
Formal EIS complete	23 August 2022
Station fully open	23 August 2022

A full Project Management Plan is provided in Appendix I5 and a full Project Schedule (which is based off Early Contractor Involvement) is provided in Appendix I11.

Section G2: Risk Monitoring and Management

1. Please extract the details of the top 5 Risks from your project Risk Register:

Description of Risk	**Failure to secure the capital funding for the project to be designed and constructed**
Impact (1-4)	4
Probability (1-4)	4
RAG rating (Red, Amber, Green)	Red
Risk owner	Rail Scheme Sponsor
Mitigation	1. Formalise funding agreements with each funder. 2. Seek approval for short-term undertaking to start works 3. Explore contractor options for delivery

Description of Risk	**Current programme is based on information known at GRIP 3 & 4. Additional complexities may be uncovered during the detailed design phase.**
Impact (1-4)	4
Probability (1-4)	4

RAG rating (Red, Amber, Green)	Red
Risk owner	Senior Project Manager
Mitigation	1. Formalise disruptive possessions with rail industry 2. Early engagement with all parties highlighting key programme dates
Description of Risk	**Extended approvals processes (from Network Rail and West Midlands Trains) for design cause project delays.**
Impact (1-4)	4
Probability (1-4)	4
RAG rating (Red, Amber, Green)	Red
Risk owner	Design Manager
Mitigation	1. Use of design process to ensure designs submitted are compliant. 2. Escalate delays in approval to Rail Scheme Sponsor and NR Sponsor.
Description of Risk	**Formal contractual relationships between WMCA, Network Rail and other stakeholders (for example Asset Protection Agreements) are delayed, leading to programme delay.**
Impact (1-4)	4
Probability (1-4)	4
RAG rating (Red, Amber, Green)	Red
Risk owner	Rail Scheme Sponsor
Mitigation	1. Programme shared with all parties. 2. Code of practice received from Canals Rivers Trust. 3. Asset Protection Agreement drafting has commenced.
Description of Risk	**A late change to methodology or works requirement causes significant delay due to Schedule of Ancient Monument present nearby.**
Impact (1-4)	4
Probability (1-4)	4
RAG rating (Red, Amber, Green)	Red
Risk owner	Design Manager
Mitigation	1. Continue briefing these constraints to designers and contractors whilst planning works. 2. Transfer risk to Contractor via contract once in place (will be better placed to manage on the ground) 3. Consider acceleration of Schedule of Ancient Monument consent (already drafted).

The full risk register is attached in Appendix I6.

2. For all other risks not identified, please provide details of who will own the risk.

The sponsor and project team, with risk management professionals have worked collaboratively to create the risk register and believe all risks currently known have been captured. For any new risks going forwards, these will be owned by the Rail Scheme Sponsor or Senior Project Manager/ Project Manager.

Section G3: Freedom of Information

1. Please indicate whether any information in this proforma is considered exempt from release under Section 41 of the Freedom of Information Act 2000. Please outline why if so.

Yes , the following sections are proposed to be exempt:

Capital Costs, Revenue Forecasts, Operating Costs and Financial case due to commercial confidentiality of information and influence on competitive tendering to secure best value.

Section G4: State Aid Condition

1. Please highlight any State Aid issues that were not raised in the OBC (see OBC Section G4: State Aid Condition Q 1).

No additional State Aid issues have been noted since the OBC, so the following comments within the OBC still apply:

The WMCA Legal team has provided a note on how this project complies with State Aid Legislation. In summary, the EU published a notice on 19 May 2016 that seeks to clarify the scope of state aid rules when public investment is made in provision of rail infrastructure.

The Guidance notes that investment in the physical rail infrastructure in the member states is generally not considered to compete with other providers providing the same kind of activity in their local areas. Ownership and maintenance of the rail network is the responsibility of Network Rail exclusively within the UK.

The infrastructure that is being provided in the case of this station will serve a local catchment area and in EU terms does not affect other network operators across EU borders.

2. All applicants need to take steps to satisfy themselves that any WMCA funding approved does not amount to unlawful State Aid. Further confirmation to this effect will be requested at the Full Business Case stage. A declaration of compliance with EU State Aid regulations will be required prior to any WMCA funding being provided.

If your project is awarded funds from the WMCA it will be subject to a condition requiring the repayment of any WMCA funding in the event that the European Commission determines that the funding constitutes unlawful State Aid.

Please confirm your acceptance to this condition:	*Yes*	

Section G5: Project Governance: Key roles & Responsibilities

1. Please set out the Key Roles in governing the Project, with named officers, which will oversee, deliver and close the project.

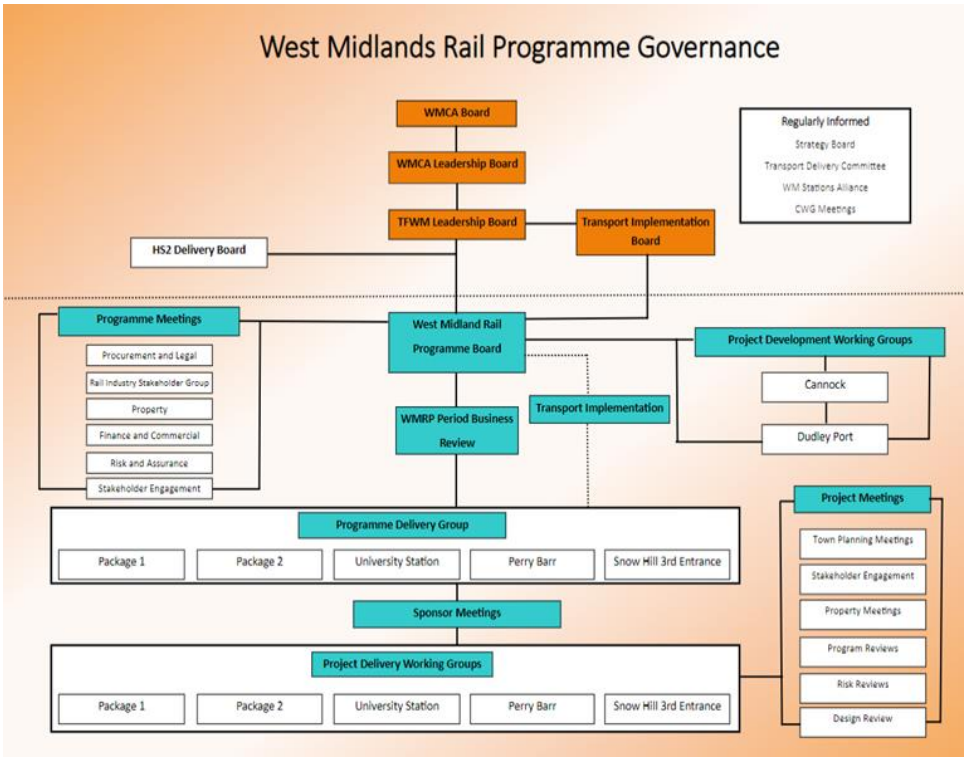
Note the table below which details the named officers within the project:

Responsibility	Title
Senior Responsible Owner (Accountability for overseeing the project)	Executive Director (WMRE), Director of Rail (TfWM)
Project Delivery Lead (Accountable for project delivery)	Programme Delivery Manager
Sponsorship Lead (Accountable for stakeholder management, securing the required funding and benefits realisation)	Programme Sponsor
Transport for West Midlands Development Lead	Rail Development Manager
Sponsor (day-to-day sponsor lead, responsible for stakeholder management,	Rail Scheme Sponsor

securing the required funding and benefits realisation)		
Senior Project Manager (day-to-day project management lead, responsible for project delivery)	Senior Project Manager	
Project Manager (day-to-day project management lead, responsible for project delivery)	Project Manager	

2. Please outline any governance procedures that will support the successful delivery of the project

The project is part of the governance process which governs the West Midlands Rail Programme and ultimately Transport for West Midlands and the West Midlands Combined Authority. Note the below flowchart which details this and is the process for reporting progress, highlighting key risks and escalating noteworthy issues. The project management and sponsor team work collaboratively to support this process each month.



Section G6: Key Stakeholder engagement strategy

1. Please identify your preferred strategy for engaging key Stakeholders in making your project successful.

For engaging with local residents and other local stakeholders, a Statement of Community Involvement (SCI) has been prepared to form part of the Planning Applications. The SCI provides a summary of the pre-application consultation and communication undertaken with key stakeholders and local community. The SCI outlines the aims of the community engagement, the engagement methods adopted and how feedback from the consultation has helped to refine the development proposals.

To ensure successful engagement, the strategy draws on the Gunning Principles of engagement, as follows:

i. That consultation must be at a time when proposals are at a formative stage;
ii. That the proposer must give sufficient reasons for any proposal to permit intelligent consideration and response;
iii. That adequate time is given for consideration and response; and
iv. That the product of consultation is conscientiously taken into account when finalising the decision.

The strategy was devised to ensure engagement followed an appropriate order of stakeholder involvement, from 'most targeted' to 'most public'.

The objectives of the public engagement were:

- To inform local residents and businesses about the scope, approximate timescales and processes involved with the proposed scheme;
- To provide an opportunity for residents and businesses to speak directly to members of the project team in order to answer questions and gather local knowledge;
- To identify any further groups or individuals whose local knowledge of the area would be beneficial in the detailed design process;
- To encourage feedback on pre-application proposals to identify potential areas for improvement in terms of design, access, and other material considerations;
- To understand the levels of support and/or areas of concern for the development and subsequent operational aspects of the proposed stations; and
- To obtain feedback to inform amendments to application proposals.

The SCI demonstrates that a successful pre-application consultation programme was undertaken in order to proactively communicate and engage with the local community and key stakeholders. The programme has attracted substantial involvement from the local community and stakeholders and the response to the proposed station is largely positive.

- The highest rated design feature at 81% with a very good or good scoring was the *location and ease of access* of the new station. Only 9% rated this as *very poor/poor.*
- 77% rated the *overall impression* of the new station as very good or good. 12% rated this as very poor/poor.
- 70% rated the design *appropriateness for the local area* as very good or good.

Suggestions for improvement centred on both aesthetic and functional components (artwork, vegetation, incorporation of historic features in the station design e.g. Metchley Roman Fort and the incorporation of community space). There were also comments on the need to make adjustments to the access to the station building and platform level to improve the quality of access for mobility impaired users. Comments were also made by TfWM's Walking and Cycling Officer on improvements to the positioning of cycle parking and access by cyclists e.g. the installation of wheel ramps to stepped access.

Comments from the public engagement have been discussed by the project team and a formal workshop is planned to formally document how these have been addressed (if possible).

For other stakeholders with levels of interest and/or influence, note Appendix I1 which details full methods of engagement in the Stakeholder Management Plan.

Section G7: Communications Plan or strategy

1. **Please identify your preferred communications strategy for Internal Stakeholders and External Stakeholders for reporting progress and gathering support.**

The following were identified as appropriate communication tools for satisfying the aims of the engagement strategy:

1. A combination of targeted (group-specific) and general (public) engagement;
2. A variety of information delivery methods to include: Face-to-face; e-mail; letter; online and printed information;
3. Promotion of the public engagement through: social media, printed media, local community group notification and at community events e.g. Farmers' Market, Ward Forum notification, venue-specific email circulation, WMCA Mayoral Briefing, BCC Member briefing, press release and local TV/radio coverage;
4. Provision of a mixture of written and graphic information available online and at drop-in sessions;
5. Ensuring staffing of drop-in sessions covered a range of specialisms (planning, ecology, engineering etc) to be able to answer attendees' questions adequately; and
6. An option to provide feedback via a survey available online or paper (at the drop-in sessions - including large format).

The 'reach' of the communications for the public engagement attracted a total of 234 responses, the vast majority through web survey responses. In addition to the survey responses, of very notable value is the quality and number of engagement conversations which were held with members of the public and the University's student population at the Welcome Week events.

As part of the wider communications programme, the project team adopted a 'joint-working' approach through meetings and dialogue with Officers from BCC and the University of Birmingham. These discussions assisted with the identification and applications of the best approach to communications with stakeholders, from the public engagement exercise, through to face to face briefings and meetings, email correspondence and press releases and local media coverage.

Section G8: Issue Resolution Plan

1. **Please extract the top 5 Issues from your project Issue log:**

Description of Issue	Detailed design and build ITT is being issued based on incomplete outline designs
Impact (H,M,L)	H
Owner for resolution	Senior Project Manager + Project Manager
Resolution	Issue draft design pack to tenderers and provide regular updates throughout process.
Resolution Date	17/01/20

Description of Issue	Securing required funding from seven funding partners by contract award in May 2020
Impact (H,M,L)	H
Owner for resolution	Rail Scheme Sponsor

Resolution	Liaise with all stakeholders on progress, progress funding agreements and secure FBC approval.
Resolution Date	15/05/20

Description of Issue	Programme requirements and the 2020 mayoral elections (and resultant purdah) have led to accelerated governance timescales. FBC and GRIP 4 estimate to be developed in tandem.
Impact (H,M,L)	M
Owner for resolution	Senior Project Manager + Project Manager
Resolution	Project team to accelerate production of GRIP 4 estimate. Release during the WMCA assurance process of the FBC, following agreement with WMCA Finance
Resolution Date	31/01/20

Description of Issue	Scope creep - from Network Rail Asset Owners in particular
Impact (H,M,L)	M
Owner for resolution	Rail Scheme Sponsor + Senior Project Manager + Project Manager
Resolution	Work with Network Rail on requirements and work with designers to mitigate any scope creep to ensure limited impact on programme and delivery cost
Resolution Date	Will be ongoing but requires resolving before detailed design commences in May 2020.

Description of Issue	Uncertainty surrounding proposed UHB ACDC facility at the station from UHB
Impact (H,M,L)	H
Owner for resolution	Rail Scheme Sponsor + UHB Project Manager
Resolution	Secure initial requirements and liaise with other stakeholders (Network Rail and West Midlands Trains in particular) for feedback on proposal
Resolution Date	31/01/20

Note the project is not currently using a full Issue log and the five issues above are the current priority of the project team.

Section G9: Project Team

1. Please describe the experience of the project team and attach the team structure.

The University Station project is part of a wider portfolio, known as the West Midlands Rail Programme (WMRP), which is managed by the West Midlands Combined Authority, West Midlands Rail Executive and Transport for West Midlands. The WMRP has both sponsorship and project development/ delivery functions to ensure successful completion of the project.

The role of the Project Sponsor is to ensure the project is delivered in accordance with the requirements, delivers its objectives and ensure governance processes are followed. The project delivery team is to deliver the project on behalf of the Project Sponsor. This delivery team is formed of discipline leads on commercial and procurement, engineering, programme, risk and project management. Regular project meetings are held to ensure a close working relationship between the sponsorship and delivery teams.

To support the WMRP, SLC-AECOM have been engaged to provide rail project delivery experience and to provide commercial, engineering and project management services.

SLC-AECOM have recent experience delivering a number of third-party railway station projects such as:

- Coventry Arena Station;
- Bermuda Park Station;
- Kenilworth Station;

And are currently delivering:

- Coventry Station Masterplan;
- Worcestershire Parkway; and
- Kidderminster Station.

The Project Team, both WMRP and SLC-AECOM, also have extensive experience in project development/ delivery from similar roles in previous organisations such as Network Rail, HS2, train operating companies, various design consultancies and large contractor organisations.

[redacted]

Recommendation

Section H: Conclusion

1. Please state clearly the desired action that your Business Case supports. Please outline.

Since the OBC, the business case for this project has only been enhanced with an even higher increase in patronage at the station than anticipated and further development of plans for the surrounding area in the Selly Oak and South Edgbaston Masterplan. This business case report demonstrates that the provision of an improved and enhanced station facility at University (Birmingham) has a strong fit with strategic and local policies, subject to mitigation of environmental impacts. The improved facility would contribute to the economic objectives and masterplan for the area by enabling additional rail passenger growth, reducing capacity constraints in the station - to make the rail option better - and encouraging rail utilisation to access the University and Hospital facilities. This will enable the continued attraction of development and expansion of facilities at the sites served by the station, which will bring further economic benefits.

The scheme represents very high value for money and delivers a range of benefits to the key stakeholders / funding organisations – West Midlands Trains, Network Rail, Birmingham City Council, WMCA, the University of Birmingham, University Hospitals Birmingham and the Department for Transport. This business case supports the funding of the scheme development and implementation phases.

It is also recommended that the WMCA assurance process:

a. Approves the Full Business Case for the University Rail Station Development.

[redacted]

[redacted]

Section I: Appendices

[redacted]

Monitoring and Evaluation Plan

Section J: Monitoring and Evaluation Plan

1. **Please outline your proposed monitoring and evaluation arrangements to assess whether the project is on track to achieving its objectives and outputs, and to check to what extent the actual costs/benefits are matching the expected costs/benefits.**

Note: The focus here is on economic/impact evaluation rather than on process evaluation. The project applicant will be responsible for the latter to ensure their project runs to time and budget. **Please refer to HMT Magenta Book for supporting best practice guidance on M&E.**
Within your M&E plan please highlight:

- The logic model or impact pathway (in graphical form) outlining how the funding you will receive will lead to the benefits that you have outlined
- The key metrics on actual costs and benefits that you will measure over time and align them to the outcomes highlighted in your Business Case
- How regularly you propose to collect data to assess progress , and where you will source the data from
- How 'feedback loops' will be built in to your M&E plan to ensure that lessons learnt along the way are built back into the project plan
- Who will be responsible for ownership of the M&E aspects of your project

How funding will lead to benefits outlined

Appendix I10 is our Monitoring and Evaluation Plan (MEP). This is a 'live' document, bespoke to the scheme, and its specific objectives, outcomes to be monitored, and impacts to be evaluated – although cross-scheme M&E efficiencies around baseline and outcome data collection, and design and delivery of evaluation methods, are being actively sought. A summary of this main plan is below:
In line with the 2018 TfWM Monitoring and Evaluation framework (as updated), itself aligned with the 2012 DfT Monitoring and Evaluation Framework for Local Authority Major Schemes, 'standard monitoring' would be required for a scheme of this scope, covering (with data collection and reporting at one and five years after implementation):

- Scheme Build
- Delivered Scheme
- Outturn Costs
- Impact on Travel Demand, Travel Times and Reliability
- Impacts on the Economy
- Carbon impacts

In addition, it is also proposed to undertake a review of scheme value for money, alongside a wider set of outcome monitoring –a 'standard plus' level of monitoring and evaluation against the core scheme objectives:

- Resolving current station congestion – results in a safer environment, improved efficiency and reduced journey times;
- Provision of improved rail station capacity to provide for the economic growth planned to be delivered through the University and Hospitals Masterplan; and
- Encouraging more use of rail and reduction of car use to deliver sustainable development and carbon reduction.

How scheme funding will lead to benefits that realise these objectives is shown in the logic map:
The blue numbered boxes reflect where, on each causal pathway, a stated programme objective is anticipated to be achieved. The logic map will be tested and reviewed throughout the M&E process.

Key metrics to track – and timescales

M&E activity has two main strands, process and outcome monitoring – with their own metrics, and timescales

Process metrics and timescales

The process strand covers

- Schedule Management;
- Risk Management;
- Stakeholder Engagement;

- Risk and Benefits Management; and
- Comparison of the actual delivered scheme with that proposed.

It is proposed to undertake six-monthly reviews during delivery for those management elements of greatest change and importance, and an end of construction review of secondary processes.
This approach has been adopted as it yields the most valuable information in a proportionate way and has been successfully used on other projects:

- **Scheme Build – six-monthly**
  - Schedule Management
  - Risk Management
  - Stakeholder Engagement
  - Benefits Realisation
- **Costs – six-monthly**
  - Financial Management 6 monthly
- **Delivered Scheme –end of construction**
  - Scheme Description
  - Changes in Design

Each of these review areas will be delivered through the desk-based analysis of available data and information, supported by interviews with delivery team members. The evaluation of the delivered scheme will feed into an End of Construction Report. The desk-based review will utilise existing reporting schedules, including the WMCA Performance Management Framework (PMF) as set out in the TfWM Monitoring and Evaluation Framework; and the WMCA Delivery Dashboard. For scheme build:

- **Scheme Build – key metrics**
  - Schedule Management – using dashboards and Scheduled Performance Index (SPI)
    - Changes in programme delivery and milestones
    - Causes of programme slippage/change
    - Accuracy SPI forecasts
  - Stakeholder Engagement –captured in a scheme Stakeholder log
    - Effectiveness of engagement activities
    - Views of statutory and other stakeholders
    - Lessons learnt on timing and extent of stakeholder engagement
  - Risk Management – in scheme risk register
    - Main risks encountered during delivery
    - New risks identified post the start of implementation
    - Mitigation procedures and measures
    - Risks requiring escalation
  - Benefit Realisation – Benefits Realisation Plan
    - Evidence of benefit management and tracking

For scheme costs, addressing financial management elements:

- **Cost monitoring – key metrics:**
  - Cost by scheme element and period
  - Comparison with forecast costs
  - Cost of manifest risks
  - Scheme elements with manifest risks
  - Scheme elements generating cost savings
  - Reasons for savings materialising
  - Scheme elements generating cost overruns
  - Reasons for overruns materialising
  - Identification of maintenance and operating costs
  - Identification of attributable additional passenger revenue
  - Comparison with forecast costs

Overall scheme delivery will be monitored against the final business case baseline for schedules, consideration will also be given to the development workstreams. Key milestones and deliverables will be used to track progress, identifying issues and reasons for variance from the baseline schedules. The WMCA PMF and Delivery Dashboard will provide an oversight of progress against schedule, and six-monthly interviews will consider schedule slippage (total, proportion of delivery period, and cumulative), changes in phasing, milestones, and the consequences on dependent delivery activities. The monthly dashboard reports will be used to obtain an overview of the programme management challenges and mitigation. The key quantifiable metrics will be the Scheduled Performance Index (SPI).

- **Key Scheme Milestones**
    - Key Milestone Delivery Date
    - GRIP Stage 3 start 5 Feb 2018
    - GRIP Stage 3 complete 22 July 2019
    - Scheme design (GRIP 4) start 22 July 2019
    - ITT issued 20 Dec 2019
    - Scheme design (GRIP Stage 4) approved 27 March 2020
    - Tender returns 20 March 2020
    - Tender evaluation complete 17 April 2020
    - Main contract award 15 May 2020
    - Detailed design (GRIP 5) start 18 May 2020
    - Construction start 21 Jan 2021
    - Detailed design (GRIP 5) complete 26 March 2021
    - Construction substantially complete 30 May 2022
    - Partial opening (for Commonwealth Games) 1 June 2022
    - Commonwealth Games start 27 July 2022
    - Commonwealth Games finish 7 August 2022
    - Formal EIS complete 23 August 2022
    - Station fully open 23 August 2022

The process monitoring will conclude with the assessment of the delivered scheme:

- **Delivered scheme – key metrics**
    - Scheme description
        - Full description of the scheme
        - Map of the scheme
    - Changes in Design
        - Details of changes in scheme design following full approval
        - Reason for changes
    - Service levels
        - Timetables

The overall process strand review schedule and reporting plan is:

- October - December 2020: Initial review with development team(s) to establish an understanding of the start of construction schedule, costs, risks etc to act as baselines for future comparison;
- August - September 2021: First 6 monthly review, covering: Schedule Management, Risk Management and Financial Management.
- February - March 2022: Annual review, covering all Scheme Build and Cost elements;
- August - September 2022: Second 6 monthly review covering: Schedule Management, Risk Management and Financial Management.
- October - December 2022: Second Annual Review, including an assessment of the delivered scheme, on the assumption that work is completed. The End of Construction Report will be produced within this period.
- One Year (2023) and Five Year After (2027) Reports: Detail from the End of Construction Report will be used as required within the One Year and Five Year After Reports

Outcome metrics and timescales

Metrics and timescales for the outcomes strand align closely to the logic map, and are summarised in the table:

Outcome	Key metric	Objective	Timescales (after 2020 baseline)	Data collection	Availability
Accessibility	Catchment living in 45 mins by public transport	1	Can be generated as required	TfWM using TRACC software	Yes, TfWM
Passenger satisfaction	Percentage passengers satisfied/very with improved facilities	1	Milestone based e.g. 1 and 5 years post-opening	Passenger Counts and Surveys	To be collected
Accessibility for PRM	Number and percentage of passengers with reduced mobility using station	3	Milestone based e.g. 1 and 5 years post-opening	Passenger Counts and Surveys	To be collected
Safety	Percentage of station users' accidents within the improved station	1	Milestone based e.g. 1 and 5 years post-opening	Passenger Counts and Surveys/station accident log	To be collected (survey)/Network Rail (log)
Delay at Station	Delay in accessing station and moving around station	1	Continuous	Walk-through surveys/CCTV	To be collected/ Network Rail
Service punctuality	Train delay minutes	1	Continuous	PSS performance system	Network Rail
Patronage	Passenger journeys and miles	2	Continuous	LENNON, counts, station gatelines, bus boardings	TOC, TfWM, Bus Alliance
Traffic counts	Vehicle flows	3	Biennial	700-point surveys	TfWM
Mode shift	Trips by mode	3	Biennial	LTP cordon counts, surveys	TfWM
Journey times	Rail assenger journey times	1	Continuous	Timetables/ surveys	Network Rail/to be collected
Crowding	University station crowding	1	Milestone based e.g. 1 and 5 years post-opening	Surveys/CCTV	To be collected/ Network Rail
Sustainable access	Cycles parked at station	3	Bi-monthly	Counts	TfWM
Wider impacts	Various economic indicators - see MEP 4.3.13	2	Continuous	Secondary	Public domain
Carbon	Change in emissions	3	Milestone based e.g. 1 and 5 years post-opening	Calculated from other data collected	To be calculated

Note that there will be a large passenger 'churn' factor to take into account due to the approximately one-third of students leaving/arriving every year, and with the Hospital visitors changing continually. Surveys will be carefully designed to address the volume of students and NHS visitors, with the focus of behavioural change expected to be commuters. Meanwhile, the impact of new trains and better timetable in 2021 will also be factored in. Survey design will make full use of data collection already undertaken, including the University of Birmingham Staff and Student Travel Survey (2016), and market research of user satisfaction with the station, carried out by TfWM in November 2017 (significant dissatisfaction with queuing, crowding, and available facilities emerged).

In addition, to enable the attribution of impacts, and to enable the evaluation to take account of other potential impacts, and 'noise' distorting the view of impacts, there is a need to gather background data on transport levels of service and conditions pre, and post-opening (and during construction), at a level appropriate to scheme size, risks (including around innovation), and sensitivity.

Value for money

As part of the 'standard plus' approach, an assessment of value for money of the project will also be undertaken.
The economic appraisal spreadsheet will employ cost benefit analysis in accordance with DfT appraisal guidance. The analysis will compare the outcomes with the business case assumptions to determine where the outcomes differ from expectations and the resultant impact on the value for money of the scheme.

Ownership of M&E

The MEP will also sets out roles and responsibilities in M&E activity, in line with requirements of the WMCA Assurance Framework, and with the project governance structure discussed in Section G to ensure this is undertaken robustly and disseminated appropriately, so that benefits can be properly assessed and lessons learned.

Responsibilities

The University Station Major Improvement Scheme comes under the remit of the West Midlands Rail Programme Board, which is delegated by the WMCA to carry out the Assurance and Monitoring functions, and reports to the WMCA on this assurance activity, programme progress, risks and issues. As representatives for their business area's interests, West Midlands Rai Programme l Board members will provide decision making and agreement of recommendations to the WMCA where decisions are above the Board's delegated authority. This will include acceptance of projects into funded programmes of works, tolerance setting, and exception decisions on projects, process developments, review and prioritisation of the project pipeline and future programmes of works. In addition, there is a programme review group which is a monthly project assessment tool used to examine project progress and provide support and guidance to projects, this feeding into the Programme Board reporting mechanism.

Resourcing and Skills

It is anticipated that TfWM will commission a suitably qualified and experienced sub-contractor to deliver the detailed elements of the MEP. This will be undertaken in liaison with, and under the direct management of, the West Midlands Rail Programme Board. The Programme Manager will be the primary TfWM contact for the sub-contractor, with the Programme Director having oversight of the regular review process. The sub-contractor will be required to provide detailed costings for each element of the MP, along with a Resource Plan. A review will be undertaken of the experience and skills of the proposed evaluation team by the Programme Manager in order to ensure that the team is suitably qualified and the appropriate level of expertise is acquired. It is recognised that the scope and duration of the evaluation will require a particular set of skills, particularly in relation to the process monitoring elements.

Risk Management

The MEP will operate a risk register that feeds into the programme risk register and will be subject to the same review process as the scheme risk registers. The sub-contractor will be responsible for updating the MEP risk register whenever a new risk is identified as well as on a standard monthly basis throughout the evaluation activity period.

Quality Assurance

The appointed sub-contractor will be required to hold relevant QA certificates such as ISO-9001. This will provide TfWM with confidence that the Quality Management Systems (QMS) and processes operated by the supplier meets the required standards. The West Midlands Rail Programme Board meet monthly to discuss progress against programme, and to ensure any programme related issues are swiftly and proactively resolved. The board also act to ensure that described assurance processes are adhered to.

Dissemination Plan

The formal reporting requirements for the scheme, and timescales, are:

- Baseline Data Report – **2020**
- End of Construction Report – **2022**
- Year One Post Opening Report – **2023**
- Five Year Post Opening Report – **2027**

West Midlands Combined Authority

Declaration

To be completed by the Business Case Applicant:

I hereby confirm that the information provided in this form is complete and, to the best of my knowledge, accurate.

I acknowledge that the West Midlands Combined Authority may seek to verify the information set forth herein, and agree to provide further information where it is available.

I acknowledge that any funding agreement reached with the WMCA is provisional until approved by the West Midlands Combined Authority Board and confirmed in writing.

Signed .....

Date .....

Name .....

Position .....

Organisation/Company .....

West Midlands Combined Authority

[redacted]

[redacted]

[redacted]

[redacted]	[redacted]
[redacted]	[redacted]