



Department  
for Transport

# Angel Road Station Closure

**Moving Britain Ahead**

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# Foreword

Network Rail, working in partnership with Enfield London Borough Council and the Greater London Authority, developed a plan for a new station to the south of the current site of Angel Road station. Network Rail are now constructing this new station (to be named Meridian Water) to function as a better gateway to the changing local area and support social and economic regeneration through the development of fast and efficient links between homes, work places and key destinations. The station would serve increased local passenger demand resulting from the adjacent Meridian Water development scheme, led by Enfield London Borough Council, which would bring approximately 10,000 new homes and around 5,000 jobs to the area. Passenger train services that currently stop at Angel Road station will be timetabled to stop at the new Meridian Water station.

Network Rail, as network operator, proposes closure of the existing Angel Road station when the new station opens. This proposal is in accordance with the Railways Closures Guidance within the Railways Act 2005.

Retaining the old station as well as the new station would reduce track capacity, increase journey times along the West Anglia Main Line and increase operating costs. Additionally, the current station is poorly positioned to best serve both the existing community and the future Meridian Water development scheme; access is via a footpath with steps to a highway flyover; its immediate surroundings are commercial and industrial premises.

By closing the old station, Network Rail will be able to focus rail industry resources on improving the passenger rail service in this area and support regeneration of the surrounding area in partnership with Enfield London Borough Council.

# Executive summary

## Introduction

Angel Road station is located on the West Anglia Main Line between Northumberland Park and Ponders End stations. Planned rail service enhancements, the Meridian Water development and the physical limitations of the station site prevent the development at Angel Road station of an integrated transport hub to serve the area.

Network Rail, working in partnership with Enfield London Borough Council and the Greater London Authority, developed a plan for a new station (to be named Meridian Water) on Glover Drive, approximately 580 metres to the south of the current site. The new station, which will have three platforms, is due to be delivered as part of the Lee Valley Rail Programme in May 2019. This programme will deliver new rail infrastructure to increase capacity, provide improved access at stations and reduce crowding for passengers between these locations, and support regeneration across the Lee Valley area.

The location of public access to a station has a major influence on the effective catchment served. Angel Road station local access is off Conduit Lane, an elevated access road to the north of the North Circular Road, with stairs and a 130m footpath to reach the north end of the station platforms. Conduit Lane is a 340m walk east and a 370m walk west to reach any of the local residential and business catchment.

The new station will have improved station facilities and environment for passengers as well as better integration with the proposed transport hub on Meridian Way which will include bus stops, a new controlled pedestrian crossing, cycle parking, taxi bays, Blue Badge parking and a pick up/drop off point. Unlike Angel Road station as it is, step-free access will be provided to all platforms and street level.

Meridian Water station would act as the gateway to the proposed surrounding Meridian Water development, and the improved connectivity would serve increased local passenger demand resulting from this major regeneration scheme. It will also serve as a pedestrian link, joining up different areas of the development on either side of the railway corridor. The initial access to the new station will be provided from Meridian Way (Angel Edmonton Road) at a point near to Glover Drive.

In order to obtain and maximise these benefits, Angel Road station will need to be closed and the train services will instead stop at Meridian Water station. Retaining the old station as well as the new station would reduce track capacity, increase journey times along the West Anglia Main Line and increase operating costs. Additionally, the current station is poorly positioned to best serve both the existing community and the future Meridian Water development scheme; access is via a footpath with steps to a highway flyover; its immediate surroundings are commercial and industrial premises.

## How to respond

The consultation period began on 22 August 2018 and will run until 21 November 2018. Please ensure that your response reaches us before the closing date. If you would like further copies of this consultation document, it can be found at <https://www.gov.uk/dft#consultations> or you can contact Andrew Johnson at the address or email below if you need alternative formats (Braille, audio CD, etc.).

Please send consultation responses to:

Angel Road Consultation

Department for Transport

Great Minster House

33 Horseferry Road

London SW1 4DR

Or by email to:

AngelRoad.Consultation@dft.gov.uk

When responding, please state whether you are responding as an individual or representing the views of an organisation. If responding on behalf of a larger organisation, please make it clear who the organisation represents and, where applicable, how the views of members were assembled.

A list of those consulted is attached at Annex B. If you have any suggestions of others who may wish to be involved in this process please contact us.

## Freedom of Information

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the Freedom of Information Act 2000 (FOIA) or the Environmental Information Regulations 2004.

If you want information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.

In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

The Department will process your personal data in accordance with the Data Protection Act (DPA) and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties.

## Confidentiality and data protection

The Department for Transport (DfT) is carrying out this consultation to gather evidence on the Network Rail proposal to close Angel Road station. The consultation

is being carried out in the public interest to inform the Secretary of State's opinion that the closure should be allowed. DfT is the data controller for your personal information.

When responding to this consultation you may share personal data with us such as postal, email or IP addresses. Any such data will only be stored for the duration of the consultation exercise and deleted following the publication of the DfT's response to the consultation. Until that point, your information will be stored securely.

### **Sharing personal data**

DfT may also share your consultation response with Network Rail or other parties involved in the Meridian Water project, to inform discussion which will feed into our consideration and decision-making. However, no personal data (such as names and contact details) will be shared with these third parties.

### **Further information**

DfT's privacy policy has more information about your rights in relation to your personal data, how to complain and how to contact the Data Protection Officer. You can view it at <https://www.gov.uk/government/organisations/department-for-transport/about/personal-information-charter>.

To receive this information by telephone or post, contact us on 0300 330 3000 or write to Data Protection Officer, Department for Transport, Ashdown House, Sedlescombe Road North, St Leonards-on-Sea, TN37 7GA.

# Closure of Angel Road station

## Purpose of the consultation

Network Rail, as network operator have carried out an assessment in accordance with the Department for Transport's (DfT) Railways Closures Guidance of whether retaining Angel Road station as part of the national rail network represents value for money. It concluded that retaining the station is neither an appropriate nor responsible use of resources given the investment in opening a new station and other infrastructure enhancements in that area.

Under section 29(7)(a) of the Railways Act 2005 the Secretary of State, as the relevant national authority, is required to carry out a consultation concerning a rail operator's proposal to discontinue use of a particular station if, having received the operator's assessment, the Secretary of State has formed an opinion that the closure should be allowed.

A copy of the Railways Closures Guidance may be found at:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/266296/railwaysclosuresguidance.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/266296/railwaysclosuresguidance.pdf)

Interested parties are therefore invited to comment on the Network Rail proposal.

## Background

The existing Angel Road station is situated on the West Anglia Main Line, between Northumberland Park and Ponders End stations, and was opened in 1840 by the Northern & Eastern Railway. It previously served as a junction station, the branch line connecting the station to Enfield Town having closed in 1965.

The existing station site is not well-located for many of the local residents and businesses in the Edmonton area or the planned Meridian Water development and does not act as an efficient transport hub, with street access from one side of an elevated highway.



Network Rail, working in partnership with Enfield London Borough Council and the Greater London Authority, developed plans to build a new station approximately 580 metres to the south of the existing station site. The new station will provide the following benefits:

- Three platforms - an additional track is being delivered as part of the Lee Valley Rail Programme, enabling a better train service frequency than exists currently;
- Improved concourse and station facilities, including full step free access from street level to all platforms;
- Station better located for many local residents and businesses in the Edmonton area;
- Connectivity and extra train services which would provide capacity for increased passenger demand from the adjacent Meridian Water development;
- Improved connectivity for pedestrians and cyclists across the railway corridor;
- Improved integration with other transport modes as part of future hub to be delivered on Meridian Way;
- Passive provision for further capacity enhancement schemes in the future, including Crossrail 2.

The new station will be delivered as part of the Lee Valley Rail Programme in May 2019. This is an integrated programme of works that will provide more capacity for suburban services on the West Anglia Main Line, as well as improvements at Tottenham Hale and Northumberland Park stations.

The programme of works, including the new station proposal, was endorsed by rail industry stakeholders under the Network Change process. The formal planning application for the new station is in progress. The detailed application for the station has been submitted under the Meridian Water Phase 1 Outline Consent, granted by the Enfield London Borough Council in July 2017. A staged approval process has been adopted to support delivery timescales for the new station. The Reserved Matters (Layout) application was approved in September 2017. The Reserved Matters (Scale and Appearance) application is currently under consideration, with approval targeted for August 2018.

Part of the programme of works includes the decommissioning of Angel Road station. Retaining the existing station would result in operational challenges affecting capacity and performance as well as increasing journey times.

A diagram of the area affected by this proposal is Annex C: and an artist's impression of the new station alongside images of the existing station are provided in Annex D.

## Meridian Water Development context

This £6 billion scheme is being led by the Enfield London Borough Council and aims to provide approximately 10,000 new homes and around 5,000 new jobs. It would play a significant role in meeting requirements stipulated by the Mayor of London for provision of new housing stock in the Greater London area.

The underlying driving force for local railway investment has been the Greater London Authority's Upper Lee Valley Opportunity Area, and, specifically for the Lee Valley Regional Rail Programme, the Meridian Water development zone sponsored by Enfield London Borough Council.

The appraisal supporting this station closure consultation considers the upgrade of the existing Angel Road station (the "Do Minimum" scenario) or provision of a new station, including the decommissioning of the old station, the "Do Something" scenario). The existing Angel Road station would need to be upgraded in the Do Minimum, as it currently has no step-free access, nor a third platform which would be required for the intended extra half-hourly local service using a third track, as part of the Lee Valley Rail Programme. The Lee Valley Programme is currently underway, with works to build a footbridge at Northumberland Park having already commenced. As funder of the station works at Angel Road/Meridian Water, Enfield London Borough Council is keen to ensure that the proposed station scheme meets the requirements not only of existing local residents but also of those that will be part of the Meridian Water development.

Working in partnership with the Enfield London Borough Council, Network Rail has developed a proposal designed to help fully realise the benefits that the new station would bring to the surrounding development. As a result, there are additional benefits accruing to the "Do Something" option which sit outside closure and re-location of the existing Angel Road station as considered in the appraisal. The realisation of these benefits is borne out in two key areas explained below.

### Design

The new station as proposed is designed to a higher specification than is quantified by the passenger benefits in the appraisal. Additional scope has been incorporated to enable the new station to support growth of the surrounding development. This can be seen in a number of areas:

- **A generously sized public bridge deck and staircases** - this structure, sized surplus to requirements for station access, will form part of a core east-west pedestrian and cycle link through the new development, carrying it over the railway corridor;
- **Activation of public spaces** - large areas of public realm are to be delivered on both the east and west sides of the station, the station has been designed such that it complements and enhances them;
- **Provision for retail** - the station includes space for a permanent retail unit as well as other opportunities for temporary retail units, this helps to encourage the station's role as a focal point well as providing an additional long term revenue stream for future station operators;
- **Striking civic architecture** - the station design is befitting of its status as a gateway to the new development (see artist's impressions in Annex C).

Enfield London Borough Council has also, in its design initiative for the new Meridian Water development zone, specified a station design significantly better than a replacement of the basic facilities otherwise required at an improved Angel Road station. Meridian Water station will be the permanent gateway for the development zone, which therefore merits a higher level of amenity, passenger facilities and a design scope which allows through-flow public realm on an east-west 'green' corridor past the railway station entrance and scope for station staffing and passenger accommodation eventually suitable for four-tracking and Crossrail 2.

**Location**

Most of the Meridian Water development zone is located south of the North Circular Road (locally known as Angel Road) and centred on the River Lee (or Lea). The zone is 1.4-1.9 miles north of Tottenham Hale interchange.

The Meridian Water development is planned to have 10,000 housing units – accommodating approximately 23,000 residents, and around 5000 jobs.

Angel Road is the nearest station to Meridian Water. As shown in Figure 1, Angel Road is one of the least used stations in the local area and London. The station’s current poor public access and service levels are far below the target of a convenient public transport offer. The table here shows the number of passenger entries/exits at Angel Road and nearby stations in 2016/17. As shown, entries/exits at Angel Road are substantially less than the stations surrounding it.

**Figure 1 Local station entries and exit numbers for 2016 / 2017**

	<b>Entries/Exits in 2016/17 (millions)</b>
<b>Angel Road</b>	0.03m
<b>Edmonton Green</b>	3.66m
<b>Northumberland Park</b>	0.44m
<b>Ponders End</b>	0.56m
<b>Silver Street</b>	1.58m
<b>White Hart Lane</b>	1.65m

Source: Office for Rail and Road, <http://orr.gov.uk/statistics/published-stats/station-usage-estimates>

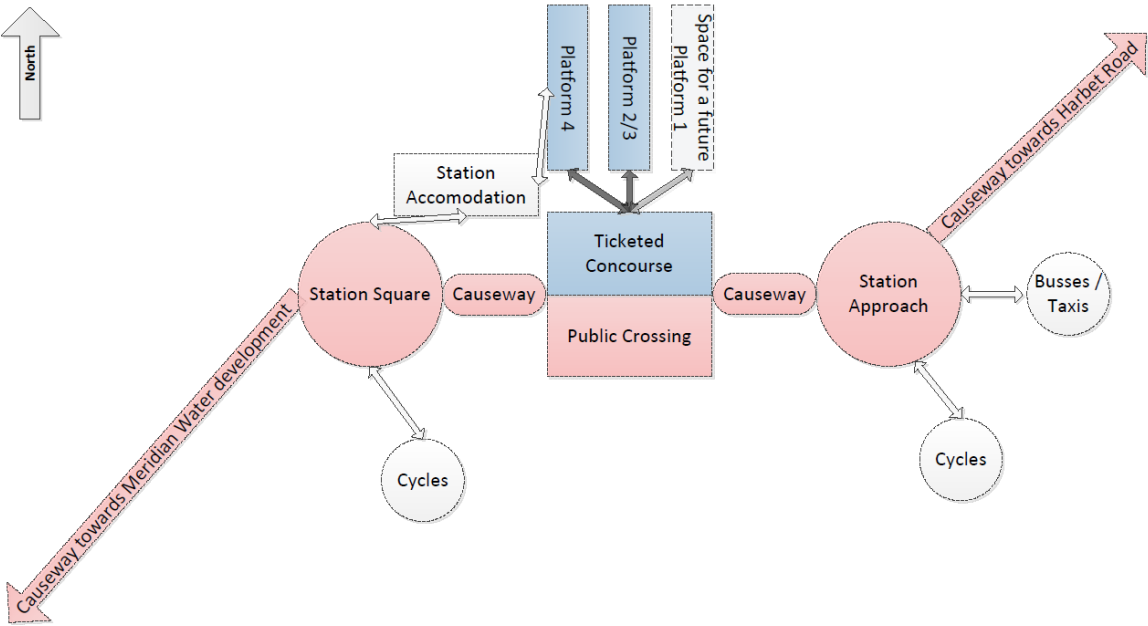
The location of public access to stations has a major influence of the effective catchment served by a station. Angel Road station local access is off Conduit Lane, an elevated access road to the north of the North Circular Road, with stairs and a 130m footpath to reach the north end of the station platforms. Conduit Lane is a 340m walk east and a 370m walk west to reach any of the local residential and business catchment.

The location of Meridian Water station allows it to serve a dual function role, as shown in Figure 2. As well as providing access to the railway network, it is also able

to form part of the 'Causeway'; the key east-west connection between the Meridian Water development and Harbet Road.

The new bridge will provide access to platforms 2, 3 and 4 (platform 1 will not be built until four tracks are provided through the station) and 24 hour access over the railway for pedestrians and cyclists. This will connect the Causeway to the first phase of the Meridian Water development at Willoughby Lane and integrated transport hub.

Figure 2 Dual function of the new Meridian Water station



This dual function approach provides several key benefits to the wider development:

- **Single structure** - a single structure could be built over the railway rather than two separate structures to serve the station and the Causeway respectively, thereby reducing capital costs, minimising impacts on the operational railway from construction works, and keeping ongoing operation and maintenance costs low;
- **Focussed activity** - the station, Causeway and integrated transport hub would all be in the same location, helping to further embed the station within its urban setting and the community. The bridge deck area will be used by more people, improving security and creating a more convivial space.

## Summary of appraisal

This closure proposal considers the provision of a new, modern station and whether Angel Road station, some 580 metres distant, should be closed. It does not follow the normal model where something is taken away with no alternative facility offered. Therefore a proportionate appraisal has been undertaken in respect of this proposal (set out in Annex A).

The formal appraisal compared the Do Minimum base case of undertaking works at the existing Angel Road station (required to accommodate the new infrastructure being delivered as part of the Lee Valley Rail Programme) against the Do Something, which is construction of a new Meridian Water station. Implicit within the business case for this, is the switching of passenger train services to the new station, as passenger benefits and industry cost savings would be eroded if both stations were to operate concurrently.

The central case scenario reflects the present Department for Transport's East Anglia Rail Franchise agreement for train service frequency requirements, with 2 trains per hour STAR<sup>1</sup> and another 110 trains per week at Meridian Water. The investment in the new Meridian Water compared to investing in Angel Road to deliver the same train service, generates benefits to wider society and 'pays for itself' in the long-run since outlays are less than revenues and cost-savings combined. The Net Present Value is estimated to be £25.1m and the Benefit Cost Ratio (BCR) is -2.3<sup>2</sup>. Value for money is "Very High (and Financially Positive)." Details of this scenario are reported in Annex A.

The single largest benefit is the revenue impact arising from more passengers using Meridian Water station compared to Angel Road. The benefit of time savings for passengers using the railway who would not have otherwise done so, is also included. This benefit is made up of passengers who consider the railway to now be beneficially faster than alternative modes, or more attractive compared to alternative journey options. The road-related benefits linked to fewer accidents and lower emissions are also included. The initial capital costs are to some extent offset by capital expenditure which would be required in the Do Minimum option.

The Railways Closures Guidance 2006 sets out five key criteria which need to be addressed by the appraisal. The conclusions are summarised below.

### Environmental

The modal shift from road to rail will contribute to reducing noise and airborne emissions, as well as a reduction in greenhouse gas emissions.

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<sup>1</sup> As part of the Lee Valley Rail Programme, Network Rail are building an additional track between Stratford and Angel Road/Meridian Water (STAR) to allow up to an additional 2 trains per hour. More information on this is available here: <https://www.networkrail.co.uk/running-the-railway/our-routes/anglia/lee-valley-rail-programme/>

<sup>2</sup> Railways Closures Guidance 2006 recommends use of the benefit cost ratio to help to assess value for money. However, for a scheme such as this where the additional revenue is greater than the change in costs, this leads to a negative BCR as calculated by WebTAG. Therefore, we use the Net Present Value to assess value for money as this is a more intuitive measure of net monetised benefit.

## **Safety**

The modal shift from road to rail will contribute to reducing the risk of highway accidents. The new Meridian Water station may also provide safer access to the train station for passengers.

## **Economy**

The new station provides journey time benefits for rail passengers and road de-congestion benefits for road users.

## **Accessibility**

The new station provides a wider catchment area relative to the current station location and is well placed for access to the Meridian Water Development (provision of step-free access is included in the Do Minimum appraisal baseline).

## **Integration**

The new station will be fully integrated with new public realm spaces on both the east and west sides of the railway corridor to be provided as part of the Meridian Water Development. It will sit at the heart of an integrated transport hub to be provided on Meridian Way, which will include bus stops, a new controlled pedestrian crossing, cycle parking, taxi bays, Blue Badge parking and a pick up/drop off point. The station bridge will also form a crucial link over the railway for pedestrians and cyclists between areas of the Meridian Water Development on either side of the railway corridor.

## **Conclusion**

The new station would have an important interface with the Meridian Water Development as well as provide improvements to transport facilities in the local area. Network Rail has worked closely with Enfield London Borough Council to design and locate the station such that the benefits flowing from this interface are maximised.

The appraisal undertaken to support the station closure process demonstrates that the proposed new station will bring substantial benefits. There are additional strategic benefits tied to the wider development which the appraisal does not quantify; these strengthen the case for closure of the existing Angel Road station and opening of a new Meridian Water station.

In light of all the benefits that the new station brings and in accordance with the Railways Act 2005, the Department is carrying out a consultation on the proposed closure of Angel Road station, and is seeking views on this closure.

## What will happen next?

Following the consultation period, we will review the responses to the closure proposal and undertake such further analysis as might be necessary. We will produce a summary of the outcome of the consultation and publish this on the DfT website.

The outcome of the closure consultation will be shared with Network Rail. Should the outcome of the consultation process agree with Network Rail's assessment, the Office of Rail and Road will then be required to ratify the proposal to ensure it satisfies the Railways Closures Guidance before the closure can go ahead.

If you have questions about this consultation please contact: Andrew Johnson, Department for Transport, Great Minster House, 33 Horseferry Road, London SW1P 4DR Telephone 0300 330 3000 Website [www.dft.gov.uk](http://www.dft.gov.uk)

# Annex A: Summary of formal appraisal

## Introduction and context

The appraisal describes the benefits and costs of two options:

- Investing in Angel Road station to be compliant with current accessibility rules (the "Do Minimum" case).
- Constructing a new Meridian Water station to replace Angel Road, whose public access will be about 580 metres south of the existing station's entrance.

Investing in Angel Road station presents lower value for money when compared to investing in a new Meridian Water station.

## Formal appraisal

### Scheme objectives

The principle objective of the station improvement scheme is to provide a third track and platform to allow up to an additional 2 trains per hour to operate between Stratford and Angel Road/Meridian Water, which is required for the Lee Valley Rail Programme. The new station location aims to improve access not only on foot via reduced walking times and more convenient routes, but also in the form of a future integrated public transport interchange on Meridian Way.

### Station options

Investing in Angel Road station was considered as a "Do Minimum" option, with work to update the access to the existing Angel Road station and provide a third track and platform. This is required as part of the Lee Valley Rail Programme - some aspects of which are currently underway, for example, improvements at Northumberland Park station to build an accessible footbridge<sup>3</sup>. There was virtually no additional benefit to passengers from improving step-free access at the existing Angel Road station, since the station catchment was not widened, albeit that people with reduced mobility within that area could be considered to be beneficiaries.

This was compared to the "Do Something" which offers an alternative station location closer to the main development zone, the same increase in the frequency of train service as tested in the "Do Minimum" and with a larger catchment area to support extra homes and jobs. The bulk of the existing Angel Road station catchment would be absorbed within the new Meridian Water station location.

There was no "Do Nothing" option, as the present Angel Road station has no step-free access, nor a third platform which would be required for the intended extra half-

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<sup>3</sup> More information about the Lee Valley Rail Programme is available at: <https://www.networkrail.co.uk/running-the-railway/our-routes/anglia/lee-valley-rail-programme/>



hourly local service using a third track, as part of the Lee Valley Rail Programme which is already underway.

### **Appraisal methodology and sources**

The socio-economic appraisal in this document takes account of the Department for Transport's (DfT) transport analysis guidance or WebTAG, available at [www.gov.uk/dft](http://www.gov.uk/dft).

Standard DfT/HM Treasury Green Book discounting factors have been applied, at 3.5% per annum for 30 years and 3% thereafter. All values and prices in the appraisal summary table are expressed in 2010 market prices.

The appraisal period covers a 60 year period with benefits occurring from 2019 (when the station is expected to be operational).

The location of public access to the stations has a major influence on the effective catchment served by a station. Angel Road station local access is off Conduit Lane, an elevated access road to the north of the North Circular Road, with stairs and a 130m footpath to reach the north end of the station platforms. Because Conduit Lane is a high level road viaduct, there is a 340m walk east and a 370m walk west to reach any of the local residential and business catchment. As a result, for demand modelling purposes, at Angel Road the appraisal assumes an 800m circle to allow for the more challenging access. Access to Meridian Water station will be from the Angel Edmonton Road near to Glover Drive. The 192 bus service calls near to both the Angel Road station and Meridian Water station on Glover Drive. All overlaps in catchment for each of Angel Road station and Meridian Water station with other station catchments have been excluded from the appraisal. In effect, it is assumed that passengers in a catchment for another station will use the other station over Meridian Water or Angel Road stations.

For demand modelling purposes, assumptions have been made about the population of the new development; it has been assumed that construction ramps up from 2020 to 2023, to achieve a steady state of 550 homes constructed per year from 2023, with the first completions in 2021. This assumes that all 10,000 homes would be completed by 2040. In 2031, the Meridian Water population would reach around 11,000 people (based on 2.3 people per household, on average) and the Meridian Water population would keep growing, to 23,000 persons in 2040. We have carried out a sensitivity test to see the impact of fewer new homes being built in Meridian Water, i.e. a situation where 5,000 new homes are built in Meridian Water by 2040 (and 0 new homes built per/year post-2040). The results of this are shown in Figure 5.

The Meridian Water development plan is expected to provide around 5000 permanent new jobs. The modelling is based on Meridian Water plans for a new employment area of 74,205 square metres. The modelling assumes an average of 38.6 square metres per job and a steady increase of 225 jobs per year.

### **Costs and benefits**

The costs and benefits comprise the following elements which are addressed in turn:

- Capital costs
- Ongoing renewal costs
- Operating costs
- Benefits

## Capital costs

The scheme will be funded through investment made by Enfield London Borough Council. Capital costs used for appraisal purposes are shown in Figure 3, and the cost of decommissioning the Angel Road site is included here. These were provided by mpbc Infrastructure and as the project is under construction, no Optimism Bias was included. However, JRC and mpbc included a risk allowance of 10.75% in the appraisal - as some of the costs are not estimated on a fully engineered basis, this seems a reasonable risk to adopt. Additional costs associated with Meridian Water being a 'gateway' station have not been included.

**Figure 3 Capital costs of investing in Angel Road (Do Minimum) and Meridian Water (Do Something), in 2017 prices**

	Do Minimum	Do Something
Capital costs (includes cost of building, and preliminaries etc.)	£9.1m	£12.6m
Project/design team, and other costs	£1.3m	£2.9m
<b>Total capital costs (undiscounted)</b>	<b>£10.4m</b>	<b>£15.5m</b>

## Ongoing renewal/maintenance costs

When complete, the Meridian Water station when complete will have two station entrances, compared to the Do Minimum option at Angel Road which has just one station entrance, so in the appraisal, it is assumed there will be an increase in ongoing renewal costs between the "Do Minimum" and "Do Something" options. Any additional costs arising from Meridian Water station's specification to be a development 'gateway' have been excluded.

## Operating costs

Meridian Water is assumed to be a staffed station for the benefit of passengers and train service operation. Staff costs at Angel Road station would be slightly lower reflecting the lower level of staffing required because fewer passengers would use the station.

Train power supply and track and train wear and tear charges would arise from running the STAR (Stratford to Angel Road/Meridian Water) service a further quarter mile north beyond Meridian Water, to a terminus at Angel Road in the Do Minimum scenario. Therefore the track/train wear and tear charges are greater in the Do Minimum scenario (where we invest in Angel Road station), compared to the Do Something (where we build Meridian Water station).

This is a substantial cost over 60 years, and therefore the Do Minimum option of investing in Angel Road, incurs greater operating costs over the 60 years compared to the Do Something option of building the new Meridian Water station.

## Benefits

The appraisal focusses on the benefits associated with passengers having improved access to the station, and the associated demand impacts, and does not account for wider strategic benefits tied to the surrounding development. For this reason, these extra capital cost and benefits are not incorporated into the appraisal.

A purpose-designed station such as that now under construction at Meridian Water can be planned to have a larger effective catchment, so can maximise accessibility to remoter parts of the nominal catchment. The catchment of Meridian Water station also accommodates the majority of the existing Angel Road catchment within an 800m distance of Meridian Water station. Almost all of Angel Road's catchment would be within the 1km Meridian Water Station catchment.

It is expected that once the proposed local redevelopment is completed Meridian Water will receive approximately double the number of rail passengers compared to Angel Road, and with a similar doubling in annual revenues. While Angel Road would only have a catchment accessible to 47% of the Meridian Water development zone, Meridian Water station would provide access<sup>4</sup> to 93% of the development zone. This increase in passenger numbers results in an expected increase in Train Operating Company (TOC) revenues.

The other benefits included in the appraisal are:

- The time savings for passengers using the railway who would not otherwise have done so (the railway being beneficially faster than alternative modes or more attractive compared to alternative journey options). Allowing for waiting times for the passenger train services, Meridian Water station provides an average 4.8 minutes travel time saving, after allowing 60% of journeys in the morning and evening peak period and 40% off-peak.
- The mode shift related benefits linked to fewer highway accidents, lower emissions and the change in motoring tax revenues.

Although further developments would be required, compared to Angel Road, the new Meridian Water station is better placed to contribute to the target set by the Mayor of London, for walking, cycling and public transport to achieve 80% of all trips by 2041<sup>5</sup>.

## Appraisal results

The value of these costs and benefits discussed above are shown in Figure 4. The preferred option, to invest in the new Meridian Water station over the Do Minimum option of investing in Angel Road, generates benefits to wider society and 'pays for itself' in the long-run since outlays are less than revenues and cost-savings combined. The Net Present Value is £25.1m and the Benefit Cost Ratio (BCR) is -2.3<sup>6</sup>. Value for money is "Very High (and Financially Positive)."

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<sup>4</sup> As measured by TfL's Public Transport Accessibility Levels

<sup>5</sup> Mayor's Transport Strategy 2018, accessible at: <https://www.london.gov.uk/what-we-do/transport/our-vision-transport/mayors-transport-strategy-2018>

<sup>6</sup> Railways Closures Guidance 2006 recommends use of the benefit cost ratio to help to assess value for money. However, for a scheme such as this where the additional revenue is greater than the change in costs, this leads to a negative BCR as calculated by WebTAG. Therefore, we use the Net Present Value to assess value for money as this is a more intuitive measure of net monetised benefit.

Figure 4 Meridian Water station appraisal: incremental costs and benefits compared to Do Minimum option, £ millions present value, 2010 prices

	Central Case
Benefits	
Rail user benefits	12.63
Highway impacts	4.95
Total benefits (a)	17.58
Costs & revenue	
Capital costs	5.86
Operating and maintenance costs	-0.02
Revenue	13.34
Total costs less revenue (b)	-7.50
Net Present Value (NPV) (a-b)	25.08
Benefit-Cost Ratio (BCR) (a/b)	-2.3 <sup>7</sup>

## Sensitivity tests

In addition to the central case scenario presented above, this appraisal considers the impact on the appraisal of three adverse scenarios.

### 1. Change in train service frequency

The central case scenario presented in this appraisal is based on the Department for Transport's East Anglia Rail Franchise agreement for train service frequency requirements. A "low case" train service frequency scenario has also been modelled; this is where the service level is the 2 trains per hour STAR service on the semi-independent third track, and fewer or no extra trains at Meridian Water. Even with a reduced train service frequency, this scenario delivers "Very High (and Financially Positive)" value for money with a NPV of £24.0m.

### 2. Fewer new homes built in the Meridian Water area

If the number of new houses built was less than expected, this would lower forecasts for passenger demand at the new Meridian Water station, and therefore reduce benefits and revenue compared to the central case.

In the central case, we take the assumption that the 10,000 new homes are built by 2040 as part of the Meridian Water development scheme. We have carried out a

<sup>7</sup> Railways Closures Guidance 2006 recommends use of the benefit cost ratio to help to assess value for money. However, for a scheme such as this where the additional revenue is greater than the change in costs, this leads to a negative BCR as calculated by WebTAG. Therefore, we use the Net Present Value to assess value for money as this is a more intuitive measure of net monetised benefit.

sensitivity test to what the value for money impacts of the proposal are if only 5,000 homes are built by 2040 and no more after that.

As shown in Figure 5, this scenario delivers "Very High (and Financially Positive)" value for money with a NPV of £9.14m.

### 3. Higher capital costs

Another sensitivity considered for this analysis looks at the impact of higher capital costs.

In order for the investment in Meridian Water station to continue to be financially positive compared to Angel Road the capital cost difference cannot exceed £13.36m<sup>8</sup>. This is more twice the current differential of £5.86m.

**Figure 5 Meridian Water station sensitivity tests: incremental costs and benefits compared to Do Minimum option, £ millions present value, 2010 prices**

	Central case	1. Low service frequency	2. Fewer new homes	3. Higher capital costs
<b>Benefits</b>				
Rail user benefits	12.63	12.21	6.16	12.63
Highway impacts	4.95	4.78	2.39	4.95
Total benefits (a)	17.58	16.99	8.55	17.58
<b>Costs &amp; revenue</b>				
Capital costs	5.86	5.86	5.86	13.36
Operating and maintenance costs	-0.02	-0.02	-0.02	-0.02
Revenue	13.34	12.89	6.44	13.34
Total costs less revenue (b)	-7.50	-7.04	-0.60	0.00
Net Present Value (NPV) (a-b)	25.08	24.03	9.14	17.58
Benefit-Cost Ratio (BCR) <sup>9</sup> (a/b)	-2.3	-2.4	-14.3	n/a

<sup>8</sup> Excluding additional costs arising due to Meridian Water being a 'gateway' station.

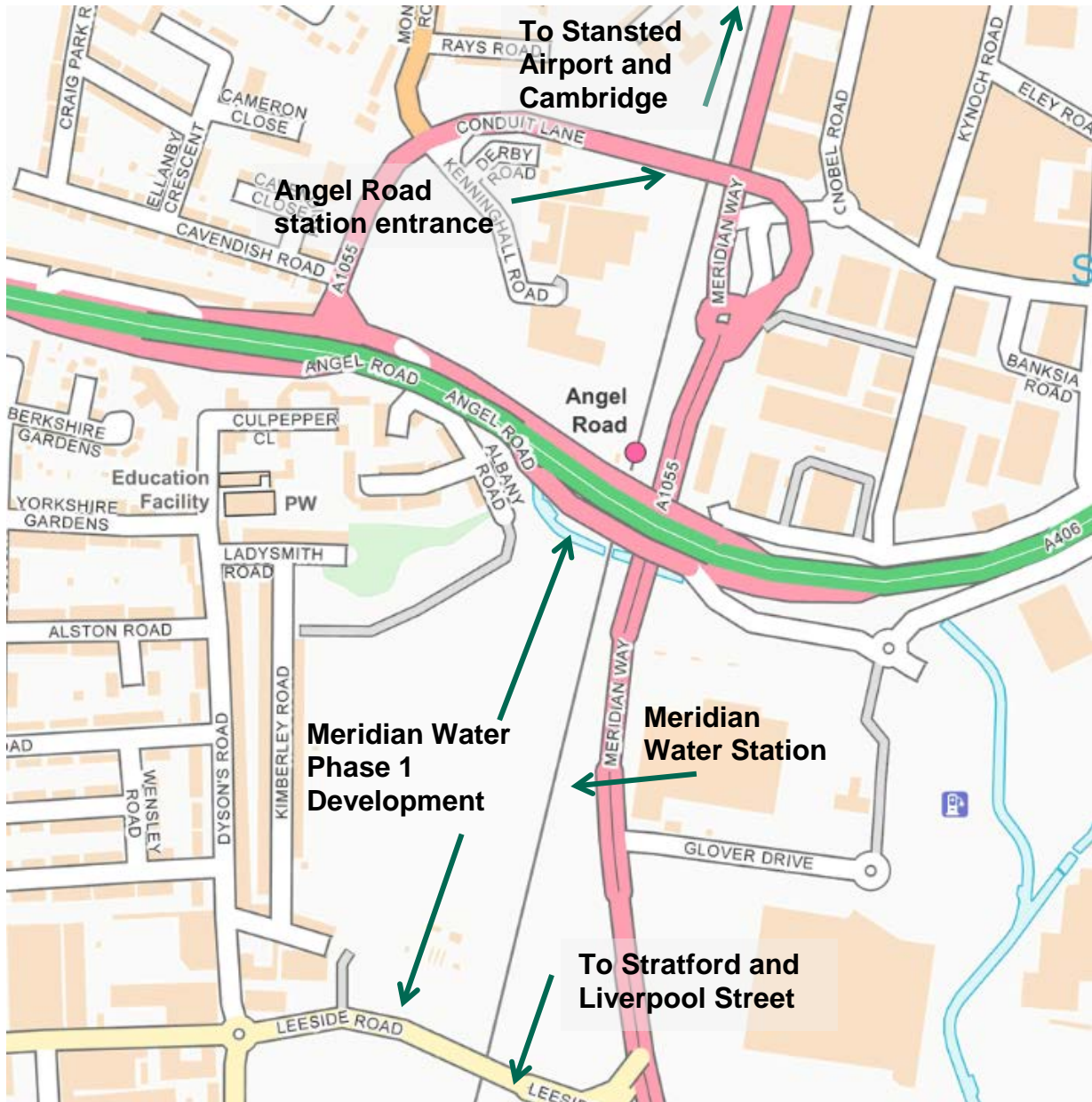
<sup>9</sup> Railways Closures Guidance 2006 recommends use of the benefit cost ratio to help to assess value for money. However, for a scheme such as this where the additional revenue is greater than the change in costs, this leads to a negative BCR as calculated by WebTAG. Therefore, we use the Net Present Value to assess value for money as this is a more intuitive measure of net monetised benefit.

## Annex B: List of those consulted

The following stakeholders have been sent a copy of this consultation document and invited to respond:

Abellio East Anglia Ltd  
British Transport Police  
DB Cargo Ltd  
Direct Rail Services Limited  
Disabled Persons Transport Advisory Committee  
Enfield Disability Action  
Enfield Mencap  
Enfield Transport Users Group  
Freightliner Ltd  
GB Railfreight Ltd  
Greater London Authority  
Kate Osamor MP (Edmonton)  
Lee Valley Regional Park Authority  
London Assembly  
London Borough of Enfield  
London Economic Action Partnership  
London TravelWatch  
Mayor of London  
Network Rail  
Office of Rail & Road  
One-to-One (Enfield)  
Rail Delivery Group  
Rail Freight Group  
STARS Enfield  
Transport Focus  
Transport for London

# Annex C: Diagram of affected area



# Annex D: Existing station and artist's impression of new station



Angel Road station: entrance from Conduit Lane



Angel Road station: staircase element linking Conduit Lane and footpath to platforms 130m south



Angel Road station: footpath between Conduit Lane and platforms



Angel Road station: basic facilities at existing station, looking towards North Circular Road





Artist's impression - day view of the new Meridian Water station from the west



Artist's impression - night view of the new Meridian Water station from the south-east

# Consultation principles

The consultation is being conducted in line with the Government's key consultation principles which are listed below. Further information is available at <https://www.gov.uk/government/publications/consultation-principles-guidance>

If you have any comments about the consultation process please contact:

Consultation Co-ordinator  
Department for Transport  
Zone 1/29 Great Minster House  
London SW1P 4DR  
Email [consultation@dft.gov.uk](mailto:consultation@dft.gov.uk)