### Our Principles of Good Design



# Good Design

### Contents

- 2 Foreword
- 4 Acknowledgements
- 6 Introduction
- 8 Our network
- 10 Vision
- 12 Aim
- 14 Principles
- 56 A planned process

© Network Rail Limited copyright 2020. Version 1.0 as published January 2020.

The text of this document may be reproduced free of charge in any format or medium provided that it is reproduced accurately and not in a misleading context. The material must be acknowledged as Network Rail Limited copyright and the document title specified.

Where third party material has been identified, permission from the respective copyright holder must be sought.



Sir Peter Hendy CBE Chairman, Network Rail

The British railway termini were architectural wonders of their age when they were built in Victorian times. More recently, many of them have been restored to their original splendour, whilst being adapted for modern railway travel. Others, which were unsuitable, have been entirely rebuilt. Kings Cross, Birmingham New Street and London Bridge are all now examples of good design, in which, function and form, have been at the heart of their development. Good design also means good business, reducing costs over the life of projects. The new independent Design Advisory Panel will help Network Rail develop a culture where that is a given for all of our projects.



Anthony Dewar Professional Head of Buildings and Architecture, Network Rail

We know our assets add value to the local areas they serve. We want our assets to be developed in a way which is respectful of their history, yet embrace innovations of the future. We feel passionately that our services should be inclusive and connect people and places in a way which can be used by anyone. Most importantly, we know we cannot achieve this on our own. We have therefore developed Our Principles of Good Design. Our Principles of Good Design aim to ensure that a strong design culture is embedded into the requirements for anyone investing in our assets.

They will generate the heartbeat of our nation's transport system which will be felt in every corner of our network. Our smaller projects will have the same level of design thinking applied to them as major infrastructure improvements.

We believe that the heartbeat will deliver infrastructure that will consider the individual whilst connecting the nation. It will deliver functional solutions that are aesthetically pleasing. It will respect the past with designs that are fit for the future. We want to collaborate with other stakeholders to unlock the potential value surrounding our assets in a way which benefits local communities and private developers alike. We want to be known for our world class service delivering a better railway for a better Britain. The heartbeat will add greater value to investment in our nation's transport infrastructure for the benefit of all.





We would like to thank the members of Network Rail's Advisory Panel and Design Council, who have contributed their specialist knowledge and invaluable support during the development of Our Principles of Good Design.

With their assistance we have been able to define the heartbeat for our nation's transport system.

Tom Higginson (Chair)

Director Planning & Land Services

Andy Savage

Executive Director Railway Heritage Trust

Peter Batten

Head of Stations & Community Rail Policy, Department for Transport

Isabelle Milford
Station Capacity Manager,
Capacity & Planning

Carol Deveney Head of Sponsorship, Infrastructure Projects

Frank Anatole Principal Architect, Network Rail Anthony Dewar Professional Head,

Buildings & Architecture

Ian Grimes
Principal Engineer,
Safety Technical & Engineering

Trevor Wilson
Senior Architect,
Safety Technical & Engineering

Paul Beaty Pownall Director, bpr architects

Margaret Hickish Access & Inclusion Manager, Human Resources

Stuart Kistruck Director Route Asset Management, Wessex Alan Ross

Director Route Asset Management, South East

Matthew Tattersall Head of Programme Development,

Infrastructure Projects

Carol Pyrah Director of Planning, Historic England

**Stuart Baker**Programme Director,
Department for Transport

Jonathan Chatfield Rail Delivery Group

Victoria Lee Lead Programme Manager, Design Council





### **Our network**

We are one of the largest asset management organisations in Britain, with a diverse portfolio of assets, including:

30,000 bridges and tunnels,

2,500 stations and over

20,000 miles of track



### **Our Vision**

To deliver and maintain world class rail assets that provide the heartbeat for our nation's transport system.

Our vision applies across our built environment and is guided by our responsibility to deliver through good design a safe and reliable railway to the millions of people who use it daily. We want our assets to be sustainable and our vision should enable us to deliver outstanding value for taxpayers and customers. Our heartbeat is driven by our ambition to strengthen our existing network and estate.



### **Our Aim**

To illustrate and strengthen Network Rail's commitment to good design. We want to enhance our identity as an organisation and ensure our assets are connected to the communities they serve, by seeking out opportunities that capture the wider benefits of our work.

To build on and contribute to national guidance on good design. Network Rail's Principles of Good Design dovetails from strategic guidance on good design. Importantly, this includes the National Infrastructure Commission's (NIC) four Design Principles — 'Climate, People, Places and Value'.

To ensure our stations, assets and operations are sustainable. To achieve this, our Principles of Good Design are strategic, holistic and interwoven. Each principle benefits from and contributes to the success of another. For example, our Passengers underpin our Identity and Community Focused stations require Collaboration.

Our Principles of Good Design provide the tools to enable Network Rail's assets to support a world class service.



- 1 Identity
- 2 Passengers
- 3 Community focused
- 4 Collaborative
- 5 Inclusive
- 6 Connected
- 7 Contextual
- 8 Enhancing Heritage
- 9 Innovative
- **10 Environment**





# A strong heartbeat defines our identity across the network.

### Identity

A strong heartbeat defines our identity across the network.

A holistic approach across the network will create a consistent heartbeat that will generate a world class identity for Network Rail through good design. Assets should be developed in a way which provides delight, value for money and a high-quality experience to the user.

We should take every opportunity to enhance the sustainability of our assets. This will help our property to become easily identified as part of the high quality Network Rail landscape.

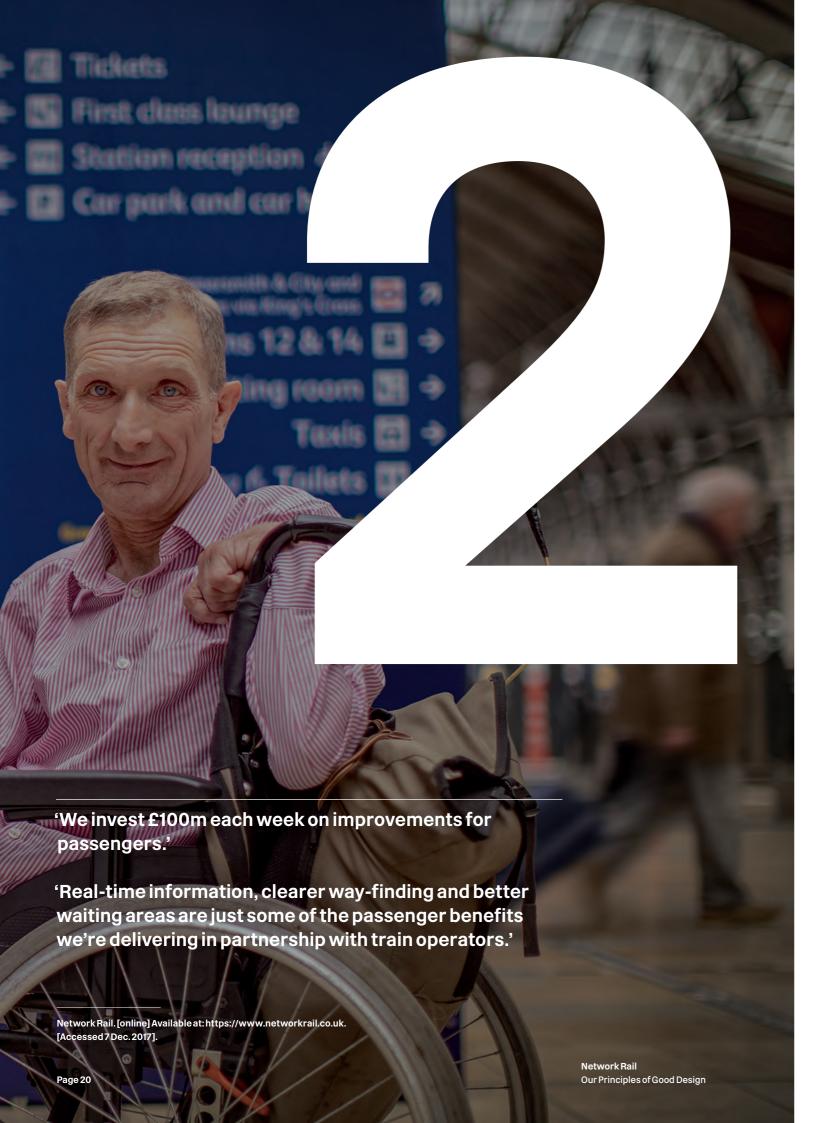
### Why it matters

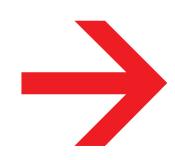
Network Rail is the latest chapter in the long and wellestablished story of railways in Britain. All assets contribute to the identity of Network Rail and ensuring that these are developed in a way which is consistent with Network Rail's identity is of utmost importance. By focusing on high quality design, Network Rail's heartbeat will add value to the network as well as the local community.

### What items to evidence

- What is the asset's contribution as part of Network Rail's wider Infrastructure?
- What does the asset contribute towards Network Rail's vision and aspirations?
- What is special about the asset in terms of Network Rail's narrative?
- What is the asset's relationship with the wider area and its benefit to the local community?

- How will Network Rail's identity be strengthened by the asset's development?
- How is the approach towards the asset consistent with the wider network?
- How does the development of the asset support the local community?
- How does the development of the asset add value to related developments?





# Passengers The needs of passengers are at the heart of everything we do.

Network Rail
Our Principles of Good Design

### **Passengers**

The needs of passengers are at the heart of everything we do.



Every year 1.7 billion people travel by rail, with more than 4.7m passengers passing daily through the stations that we manage. Passengers are the lifeblood of our business. Good design helps to maximise capacity while at the same time making the network a better and more accessible place for passengers. The design of good station environments facilitates the safe and efficient flow of passengers at peak hours, and are a key part of our upgrade plan.

### Why it matters

We recognise that customer satisfaction and well-being is vitally important to our business. By focusing on high quality design Network Rail adds value to the passenger and user experience. This encourages people to use the network, with benefits both to the local and national economy.

### What items to evidence

- What are the existing issues with station facilities, and are passenger satisfaction scores being addressed?
- Does the design address future station capacity requirements?
- Does the design improve legibility and wayfinding?
- Does the design improve the provision of information to customers?
- Does the design ensure passengers feel safe within the environment?

- The design improves access and orientation
- The design facilitates an improved service
- The design improves the overall customer experience and comfort
- The design makes passengers feel safe





# Community focused Local communities are placed at the heart of decisions.

### **Community focused**

Local communities are placed at the heart of decisions.

3

Network Rail

Our Principles of Good Design

People, communities and businesses are placed at the heart of the decisionprocess. Local community requirements are balanced with national rail infrastructure needs, alongside functional asset requirements.

The social demographics of the local area are understood and the asset is developed in a way which elevates local people's quality of experience. Opportunities to benefit the wider community are identified and captured through the design development process.

### Why it matters

As part of our pledge, we explain our commitment to being community focused. Local communities are the neighbours to our assets and our customers. It is critical that the design and development of our assets is undertaken in a way which enhances lives in a positive and socially responsible manner. Our assets are incorporated into the narrative of daily lives, so we need to understand how any changes will impact the character of local communities. Our assets should emphasise a sense of place and enhance the local aesthetic.

### What items to evidence

- What is the local area's social character demographics and any development plans?
- What opportunities have been identified that would benefit both the asset development & the wider community?
- What is the narrative of the asset within its local social context?
- Which members of the community have been consulted regarding the asset's development?

### How will the development benefit our community?

- How have stakeholders been consulted on the development of the asset?
- How does the asset's development support its local context and rail network?
- How does the transport system connect into the local area through the proposal?
- How are people encouraged to use their local network through the asset's development?

Photography **Zefart** 





# Collaborative Exploring the benefits of the heartbeat through dialogue.

Network Rail
Our Principles of Good Design

### Collaborative

Exploring the benefits of the heartbeat through dialogue.



The project is developed around an open dialogue with people, communities and businesses that can contribute and feed into the heartbeat through mutually beneficial ideas. Assets are developed through an iterative design process which is collaborative at every stage.

Opportunities for investment are explored and stakeholders from the wider area are engaged in the design process.

### Why it matters

Many rail assets are located at pivotal boundaries between multiple stakeholders. To get the right development of the asset it is crucial to seek all parties' support both economically and socially to capture the greatest benefit from the investment.

### What items to evidence

- Which potential stakeholders have been identified and consulted?
- What are the opportunities for stakeholder investment in the project?
- What dialogue has been undertaken with local business, communities and people in order to develop and refine proposed ideas?
- What opportunities for alternative procurement and ownership structures have been explored?

- How do the funding streams highlighted generate a better overall project?
- How have multiple points of view been incorporated into the design's development?
- How are the responsibilities and ownership of the asset's local context shared to the mutual benefit of all stakeholders?





# Inclusive Placing people at the heart of the design process.

### **Inclusive**

Placing people at the heart of the design process.



Inclusive design places people at the heart of the design process. Assets are to be designed in a manner which allows people to use them in an equal way and reduce barriers to access and participation, making them welcome and popular.

Due consideration is given to the most vulnerable users of the asset to allow the design to develop in accordance with their requirements.

### Why it matters

We want to make our estate as easy to use and as enjoyable for as many people as possible. We want to reduce the barriers that prevent people from accessing our facilities. When developing an asset, there is an opportunity to improve the asset to better meet the requirements of everyone who wants to use it.

### What items to evidence

- What are the diversity and inclusion constraints of the existing asset?
- What opportunities are there to improve the use of the asset?
- What are the security considerations for the asset?
- Which assessments have been completed in the development of the asset?

- How does the design improve the lives of people who use the asset?
- How has the accessibility and inclusiveness of an asset been improved?
- How does the design of the asset remove potential or existing barriers preventing participation by all people?





# Connected The heartbeat of the network will be felt across the community.

Network Rail
Our Principles of Good Design

### Connected

The heartbeat of the network will be felt across the community.



The heartbeat of the network reaches out into the wider area through existing transport modes. Its pulse should be felt across the local community and promote wellbeing.

The sustainable development of the asset should seek to improve transport interfaces and simplify journeys.

### Why it matters

The success of transport infrastructure relies on connecting one mode of transport to another, putting passenger experience at the forefront of design considerations. Information about transport modes and times should be accessible and easy to find. Our assets can enable better connectivity through careful consideration of local transport needs.

### What items to evidence

- What are the main connection points and wider transport interfaces for all transport modes?
- What physical and digital tools are available to support people during their journey?
- What potential onward journeys are available to passengers using private and public transport?

- How have any interchanges been carefully planned to ensure legible routes?
- How has the location of signage been integrated to minimise confusion?
- How does the design interface clearly with other transport systems?





# Contextual The heartbeat of the network reaches every corner of Britain.

### **Contextual**

The heartbeat of the network reaches every corner of Britain.

Rail assets form part of a local area's physical identity and should be developed in a way that is consistent with the local context and culture.

This will enable the heartbeat of the network to reach every corner of Britain. The civic quality and character of the existing environment should be enhanced through the development of rail assets.

### Why it matters

Our assets should complement and enhance the areas in which they are located. The opportunity should be taken when developing an asset to respond to the scale and harmony of the surrounding area. Improvements to our assets should be completed in a way which is in proportion and sympathetic to the local character. We want our assets to be recognisable as part of our world class infrastructure but embedded within their local context.

### What items to evidence

- What is the local area's physical context and the physical character of the asset?
- What are the opportunities for improvements to the public realm?
- What is the existing area's urban gain and form?
- What is the physical significance of the asset to the local culture?

- How does the design improve the public realm?
- How will the asset become a vibrant location that can enhance the local context?
- How is the asset easily understood within its physical context?
- How does the design function as a landmark?
- How does the design of the asset add value to the local area?





# Enhancing heritage Our heritage is the historical heart of the network.

### **Enhancing heritage**

Our heritage is the historical heart of the network.



Assets are to be designed to strengthen the historical heart of the network by responding to the character of their heritage and social context. The rich existing heritage of Britain's railway infrastructure is to be respected and designs developed in a sympathetic manner.

New design solutions should aspire to be long lasting in a way which adds value to the national narrative of railway design in Britain.

### Why it matters

We have a long and valuable heritage of railway infrastructure in Britain which we want to preserve.

Asset developments of today will become the heritage of tomorrow. Many of our assets already have a rich history that we want to enhance. Any development of our assets should positively contribute to the narrative of the asset.

### What items to evidence

- What is the heritage assessment of the asset and its local context?
- Which relevant heritage stakeholders have been consulted?
- What is the heritage value and significance of adjacent property and other related historical areas?

- How does the design enrich the story of railway assets in Britain?
- How are items of special historical interest retained for generations to come?
- How does the design complement and enhance the heritage value of the local context?
- How has the existing heritage value been improved?
- How does the asset contribute towards the heritage narrative of the estate and its local context?





### Innovative

Giving new ideas strength through the pulse of the heartbeat.

### **Innovative**

Giving new ideas strength through the pulse of the heartbeat.



Innovative solutions should be explored to improve how the pulse of the heartbeat can reach across Network Rail's assets. Assets should be designed in a way which considers the whole life cycle of the project to minimise waste and provide future flexibility. The maintenance requirements of the asset are considered at the earliest design stages and sustainable solutions considered as an intrinsic part of the design.

### Why it matters

Network Rail's assets need to be designed and developed in a way which responds to a changing society's requirements. The technology and infrastructure which facilitates the railways has evolved since it was first established in Britain, and it is important that this continues to ensure the assets meet the requirements of the next generation. Innovative solutions can improve efficiency and safety during construction and provide long lasting low maintenance assets.

### What items to evidence

- What are the available options for innovative development in fabrication or technology?
- What are the potential project innovations that can add value and reduce costs?
- How will any innovative technologies be maintained as part of the Network Rail estate?
- What are the opportunities for efficiencies in sustainability?

- How will the sustainability and maintenance of assets be improved through their development?
- How does the asset development meet the requirements of an evolving society?
- How does the design reduce levels of waste and provide for better future flexibility?
- How is the connectivity of the asset improved through familiar and accessible technology?
- How is long term data capture used to improve the monitoring of the asset's performance?





### **Environment** The impact of our transport network on the environment must be at the heart of our strategic thinking and design.

### **Environment**

The impact of our transport network on the environment must be at the heart of our strategic thinking and design.



Our vision is to serve the nation with the cleanest, greenest mass transport system possible. We need to put users and the environment first, helping passengers and freight users to make green choices, supporting local communities, and being a good neighbour.

To deliver our vision we have to concentrate of delivering a low-emission railway by specifying low carbon assets, and running a reliable service that is resilient to climate change. We need to promote improved local biodiversity of plants and wildlife, while championing minimal waste and the sustainable use of materials.

### Why it matters

We recognise that our natural world has finite resources, and that a healthy environment will benefit everyone. Activities that damage our planet's ecosystems prevent us and future generations from living healthy lives. Almost a fifth of all ill-health in developing countries can be attributed to environmental factors relating to climate change and pollution.

We must reduce our carbon footprint to help the environment flourish. This means going well beyond business as usual, by actively planning and designing greener transport systems and driving circular economy in our supply chain. Through better, greener solutions more people will be encouraged to use the rail network, providing greater opportunities to deliver social value to all users.

### What items to evidence

- What is the carbon footprint of the design?
- Does the design require an Environment Impact Assessment (EIA)?
- Has the design undertaken an Environment and Social Appraisement (ESA)?
- Has the design completed an Environment and Social Management Plan (ESMP)?
- Has an accredited sustainability target been set?
- Are materials and services responsibly sourced?

### The development will benefit the environment in the following ways:

- Cleaner, healthier stations
- Network Rail being a good neighbour and responsible asset owner ensuring land and building assets are used and maintained effectively
- Adapting and responding to Climate Change and offering social value benefits such as encouraging multi=modal transport
- Engaging with current communities to ensure future generations benefit from what we do today.
- How is long term data capture used to improve the monitoring of the asset's performance?

# What the principles are for:

To ensure projects are considered within a wide context and that correct practice has been used and that relevant local groups have been consulted, to maximise the benefits of the project.

To advise designers on the process required to develop proposals which strengthen Network Rail's heartbeat in a sensitive and considered manner.

To provide a set of principles that apply across the whole of Network Rail and are underpinned by the Network Rail Vision to create a strong identity for the whole network.

To provide a consistent way of approaching design and development of Network Rail's assets.

# What the principles are NOT for:

To tell designers what the 'correct' answer for a project is. Each proposal should be developed through analysis of Our Principles of Good Design.

To duplicate existing processes already established within Network Rail. Existing processes should be followed and referenced, rather than changed or duplicated.

To state which standards the project should be compliant with or to check if these standards are being met. This should be determined on a project by project basis. Network Rail already have internal systems which check that proposed designs are meeting the relevant Network Rail standards.

A tick box exercise. The design principles and Design Advisory Panel should enhance the design development process and not be seen as an end goal in their own right.

### A planned process

At Network Rail we have established processes in place to enable us to deliver Britain's railway. Using Our Principles of Good Design, we want to enhance the quality of the assets we own by considering each development from a variety of different perspectives. To achieve this, we need to review the existing context of the project before deciding on the developments required.

### **Analyse**

The first stage of any asset's development should be to analyse and understand the asset and it's context as it is currently performing:

- What areas of the asset could be improved?
- Who already uses the asset?
- How can the quality of the asset be enhanced?
- What is the context of the asset?

### Respond

The proposed scheme for the development of an asset can then be prepared and should be clearly communicated to Network Rail:

- Where is the proposed boundary for the project?
- Who will the development affect?
- What is the 'vision' for the asset's development?
- What opportunities are there to add value from the investment?

### Define

Once the analysis of the asset and its context has been completed, the information should be reviewed to enable the designer to define the scope of the project and any opportunities to benefit from the investment:

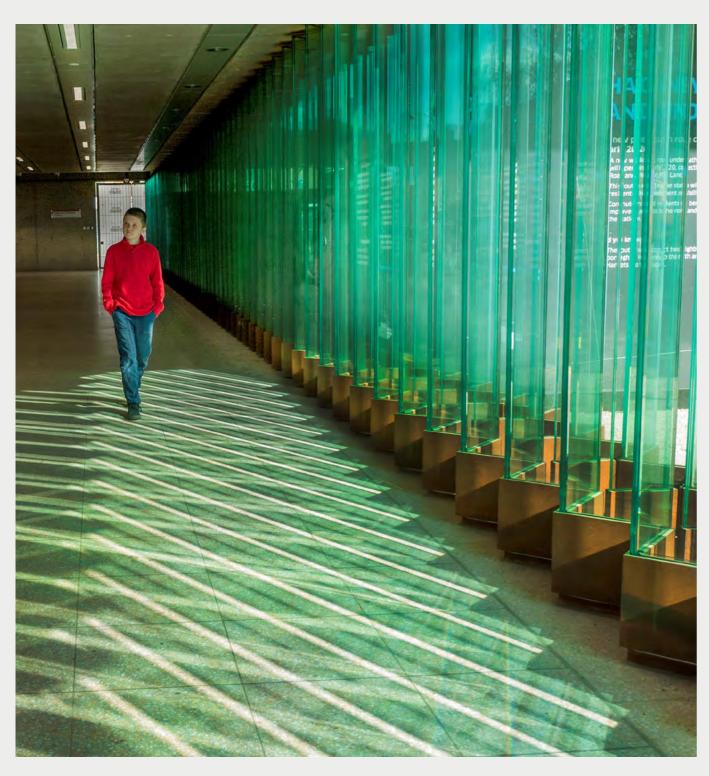
- What is the proposed development and how does this meet the project's objectives?
- How will the proposal contribute to our world class estate?
- What are the benefits of the development?

'Network Rail's role is to deliver a safe and reliable railway every day for the four and half million people and businesses who rely on it. The company carefully manages and delivers thousands of projects every year.'

Network Rail. (2018). About Us. [online] Available at: https://www.networkrail.co.uk/who-we-are/about-us/[Accessed 11th Jan. 2018]

## Analyse

### What is the existing context and situation?



Every rail asset has a unique set of criteria when the type and function, national requirement and local context are overlaid. To be able to identify the most suitable solution for an asset's development, we need to fully understand the context of the existing situation.

Each of Our Principles of Good Design should be used as a way to analyse the asset and highlight potential opportunities for improving the overall experience, quality and function of that asset.

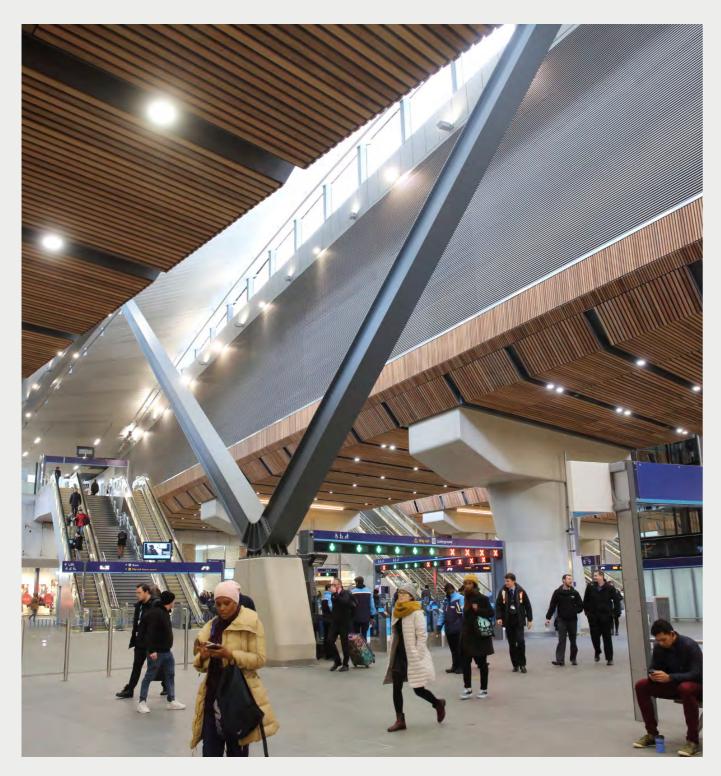
Those developing an asset will need to be able to clearly show how they have analysed the existing site and context. This may require undertaking some or all of the items listed below or additional items relevant to the project. We have provided some suggestions but the list below is not exhaustive.

The analysis should be used to inform how the asset is developed in a way that improves how it meets Our Principles of Good Design listed within this document.

### Items to consider:

- Local character and context.
- National requirements and functional needs of the asset.
- Local strategic development plans and community requirements.
- Local transport systems and adjacent activities.
- Potential stakeholders and partners.
- The heritage value of the asset and surrounding
- Quality of the existing asset and its contribution to both the local area and national needs.
- Sustainable and environmental credentials of the asset and its context.

### What are the project's objectives?



### Define

An overall vision for the individual asset's development should be defined to clarify what the project aims to achieve. This will help to prioritise the most important issues affecting the asset.

The vision for the project should be determined from and informed by the analysis to define the project's objectives.

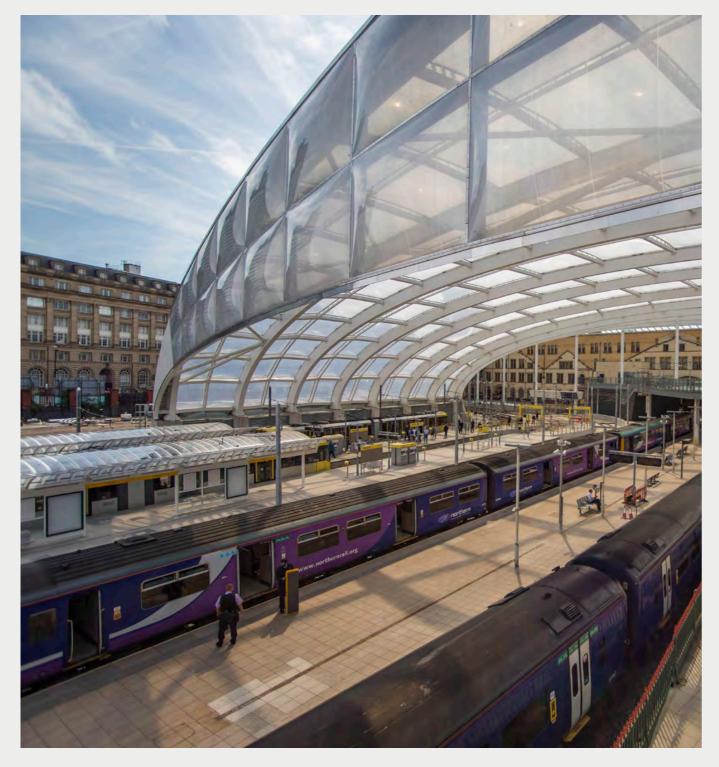
We have a wealth of regulations at Network Rail that have been developed over many years and are as relevant now as ever. When developing our assets these should be utilised while also ensuring we capture opportunities to enhance the wider area.

Projects that maximise the impact of investments should be identified. From this, we can define objectives that result in the right outcome for the people who use our assets.

### Items to consider:

- The project's requirements
- Potential to improve access to the asset.
- Potential to support local plans.
- Potential to add value to adjacent development.
- Potential to enhance heritage assets.
- Extent of works to be completed.
- Local people's views and comments.

## What is included in the proposal?



## Respond

A design is prepared that will contribute to enhancing the world class estate of Network Rail. The proposal should respond to the asset's specific analysis and project objectives. The process to develop our asset must be clear and transparent. Stakeholders' views are to be considered to inform the proposals.

We want to continually enhance and improve the quality of our estate across Britain in a consistent manner, while responding to each specific asset's context. Using the 'Analyse, Define and Respond' process to inform our decisions will improve those decisions.

Each proposal will be different, but the same approach will be used towards our estates development every time. This will create a coherent identity across our national estate, while allowing our assets to contribute towards their local context and situation.

### Items to consider:

- High quality design presentation for review.
   Include applicable drawings, photos, maps.
- The vision for the project and describe how the proposal strengthens the asset's contribution to the wider estate.
- How the proposal meets the specific project objectives.
- The intended impact of the proposal and how it benefits the local community.
- The 'Design Principles Statement'.

Page 66

Network Rail The Quadrant MK Elder Gate Milton Keynes MK91EN

+44 (0)19 0869 1691 www.networkrail.co.uk