



# Ensuring infrastructure projects incorporate good design

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# Defining Infrastructure

- Infrastructure – essential to support society
- Economic infrastructure - energy/power, transport, digital, waste & sewage, flood risk
- Beyond 'economic infrastructure':
  - Environmental infrastructure/natural capital
  - Coastal defences
- Different forms of infrastructure present different opportunities for design: nature of 'physical' opportunity and different project processes inc approaches to flexibility and detail
- Important issues of scale and character of infrastructure project incs national vrs local
- Understanding of a new aesthetic and need

# Defining Design

- Design process - behaviour, allowing time to design and collaboration in complex delivery models and processes
- Design governance - to support process
- Design outcome – its not about necessarily objet d'art
- Approaches and justification for flexibility (this has a bearing on how design is governed and good design outcomes secured)
- Wider benefits - systems based approach - i.e. strategic planning to support multiple projects via development framework/coordinated ambition) and multiple beneficial outcomes inc social value

# Start well

- Secure design leadership and governance – design led
- Establish a clear brief and vision - client and team
- Understand the operational requirements
- Secure early understanding of level of design commitment and flexibility
- Set clear objectives and establish principles for the project
- Understand context – be contextually led

# Behaviour – Design thinking

- Common themes, ways of working and intentional behaviours that facilitate good 'design thinking' and outcomes:
- **More than a feeling:** analytical, understanding, synthesis, good communication and measuring and driving design with the same rigour as costs
- **More than a department:** cross-functional talent, collaboration, interdisciplinary and integrated working
- **More than a phase:** It's continuous iteration, optioneering, learning from others ( people and contexts), design your design process, flex and fixity
- **More than a product:** It's user experience, about people, listening, empathising and human connection/response

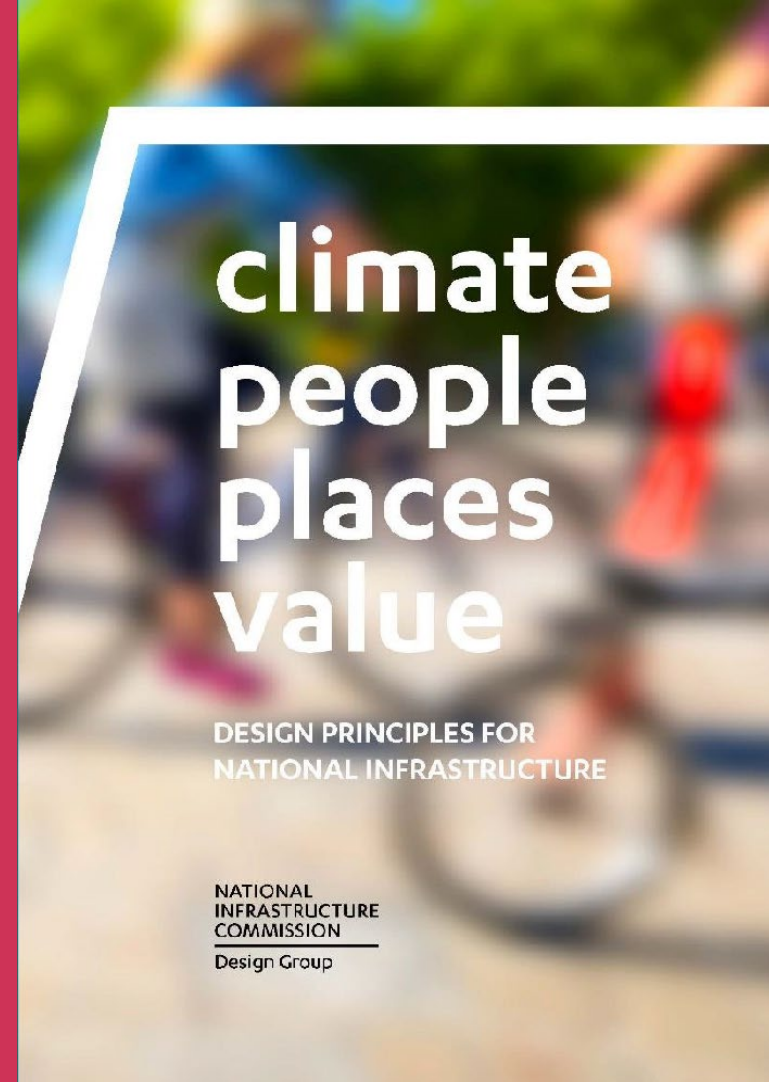
(Source: McKinsey, d School Stanford and NIC)

# Design principles design champions

## The role of the NIC Design Group

### Design Principles

- Support the design process
- Support the project narrative and communication
- Establish guardianship of design quality through the life of the project
- Principles that are applied and evidenced in the design



# People and place - societal expectation

- People and Place - Infrastructure brings change – emotional response - Hiraeth and Terrior - emotional and contextual response and understanding
- Social value
- Environmental responsibility and a new aesthetic
- Delight in the everyday
- With great powers comes great responsibility - Use of resources and intelligent investment to secure beneficial outcomes
- An expression of the society it supports .....so it should be 'good', leave a positive legacy and minimise impacts



# Planning +

- The democratic planning system - what is expected PINs and LPA informed judgement
- UN Sustainability Goals
- Well-being of Future Generation Act (Wales)
- Development Consent Order - 2008 Act – front loaded process lending itself to collaborative /community informed outcomes
- National Planning Statements inc EN1
- Advice and guidance inc National Design Guide
- NIC Design Principles

# UN Sustainable Development Goals – underpin outcomes?



# Who decides what is good?

The 'yard stick'? What are projects judged against ?

The audience:

- Examining authority /PINs
- Local Planning Authority
- Stakeholders
- The community
- Design review panels

The benefits of peer review

Quality and consistency of design review

- Users and those that live with the project will decide – delivery and experience of 'good'

# Outcomes

- It is not just about 'object da'
- Communities are often impacted - 'taking one for the national good' so communities need to be recognised
- The cost of investment should seek to secure beneficial outcomes beyond operational efficiency - beyond the red line thinking
- Change in EIA - Outcomes vrs impact
- A risk infrastructure only delivers operational efficiency and is 'adequately mitigated'
- The outcome should be its considered to be 'well designed' – reflecting process and outcome and as a result endorsed and adopted

# Environmental responsibility

- Climate change adaptation
- Resilience
- Natural capital
- Health and wellbeing
- Natural systems

# Future Positive Legacy

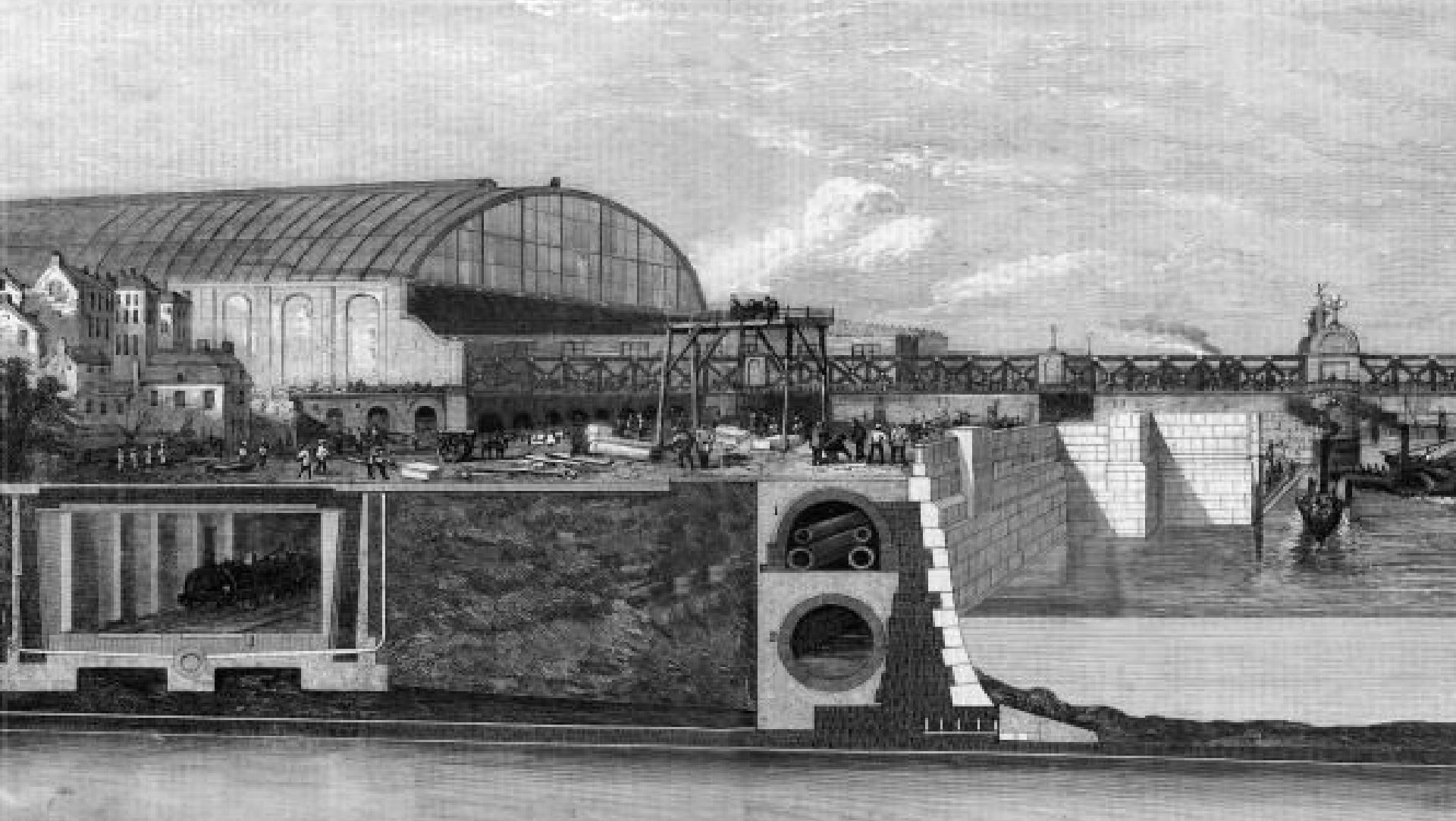


We share a common objective to leave a positive outcome for future generations and the environment we occupy – a legacy.

We get the history and future we deserve and we need to intentionally shape it and do the very best we can achieve.

# Precedent



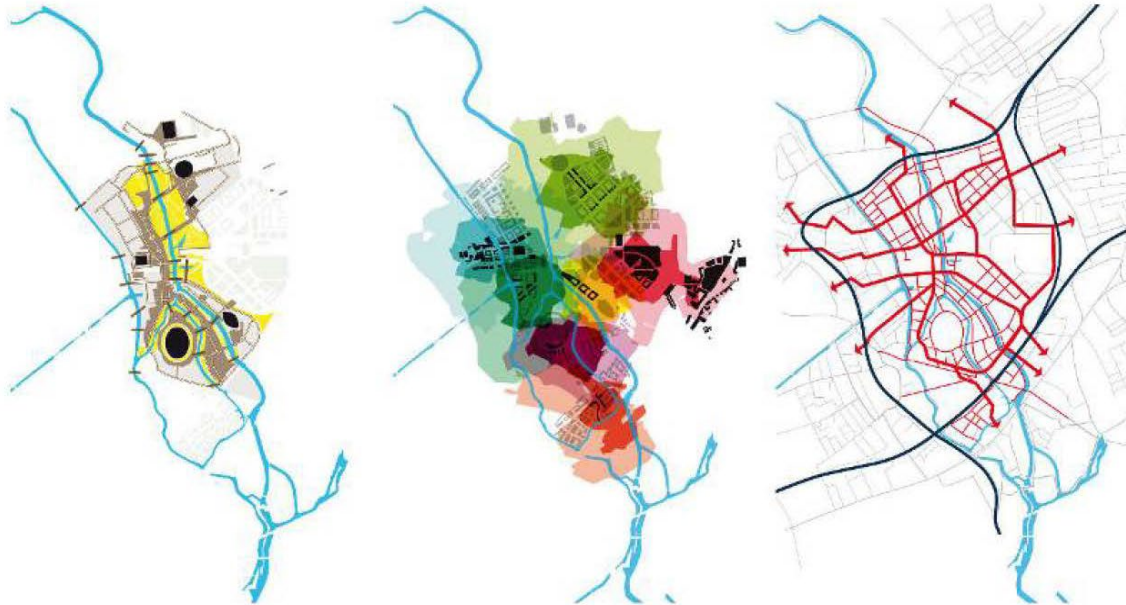






Glenfinnan Viaduct\_C.Dallas Epperson\_Flickr

# Transformation, Communities, Connectivity













SPEAKERS  
CAFE

SQUID INVY

CREAM CRACKENED

MUSH









Image: Knight Architects, Taplow

