

Promoting sustainable design

Nick Giesler: Head of Environment,
Crossrail 2

Crossrail 2 – new transport solution



A new railway to serve London and the wider Southeast

- 100km route, with twin tunnels over 35km
- 51 stations
- 30 trains per hour
- Carrying up to 270,000 people in peak
- Open in the early 2030s
- Joint TfL/Network Rail project

Crossrail 2 – an economic imperative

- Enables the development of up to 200,000 new homes
- Supports up to 200,000 new jobs in London and the wider South East
- Supports 60,000+ construction sector and supply chain jobs across the UK
- Adds up to £150bn to UK economy
- Transforms travel across the Southeast: faster, accessible and direct journeys across the region

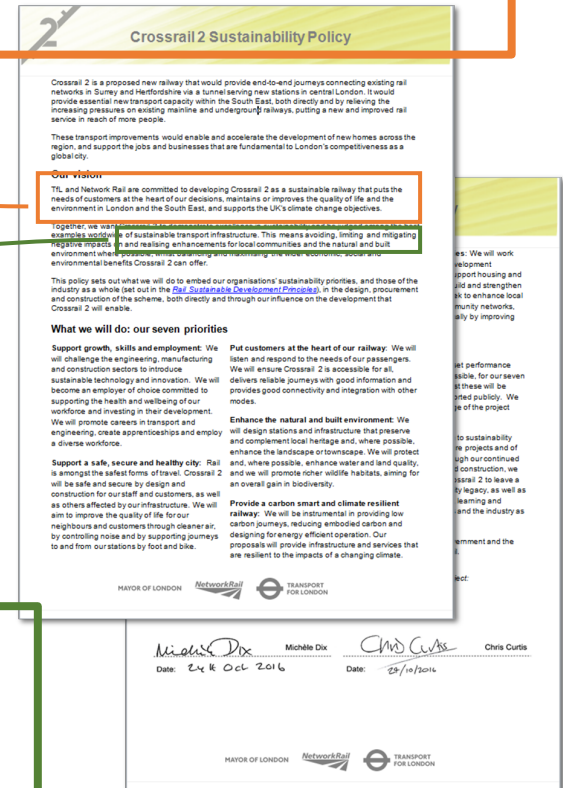


Crossrail 2 – a sustainable railway

TfL and Network Rail are committed to developing Crossrail 2 as a **sustainable railway** that puts the needs of **customers at the heart** of our decisions, maintains or **improves the quality of life and the environment** in London and the South East, and supports the UK's **climate change** objectives

- More than a railway
- Big investment, big impacts, long life span, wide ownership
- What else can we fix?
- How else can we help?
- It's all in the policy

.... **avoiding, limiting and mitigating negative impacts** on and realising enhancements for local communities and the natural and built environment where possible



Sustainable design and environmental mitigation

Two sides of the same coin

Sustainable
design

*Delivering the good
stuff*



Environmental
design

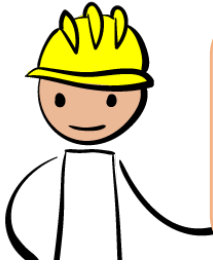
*Preventing the bad
stuff*

Establishing what's important

- Political, industry, corporate and project drivers
- What costs and benefits?
- What risks and opportunities?
- 19 sustainability themes, wrapped within the policy



Sustainable design! We like it: what is it?



Supporting skills,
growth and
employment

- More public transport capacity
- A competitive transport industry at home and abroad
- A legacy of skills and know-how



Supporting a
safe, secure and
healthy city

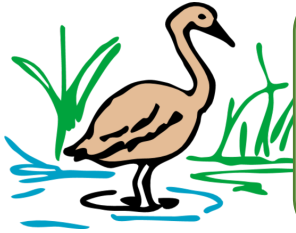
- Public transport and active travel modes door-to-door
- Clean and healthy city
- Keeping everybody safe



Putting customers
at the heart of
our railway

- Public transport for all

Sustainable design! We like it: what is it?



Enhancing the natural and built environment

- A rewarding urban realm
- Townscape and landscape fit
- Enhanced natural environment (water, land, biodiversity)



Providing a carbon smart and climate resilient railway

- A climate resilient design
- A carbon-smart scheme



Building and operating a resource efficient scheme

- Whole life costs
- There's no such thing as waste
- A resource efficient scheme
- Responsible procurement



Supporting sustainable communities

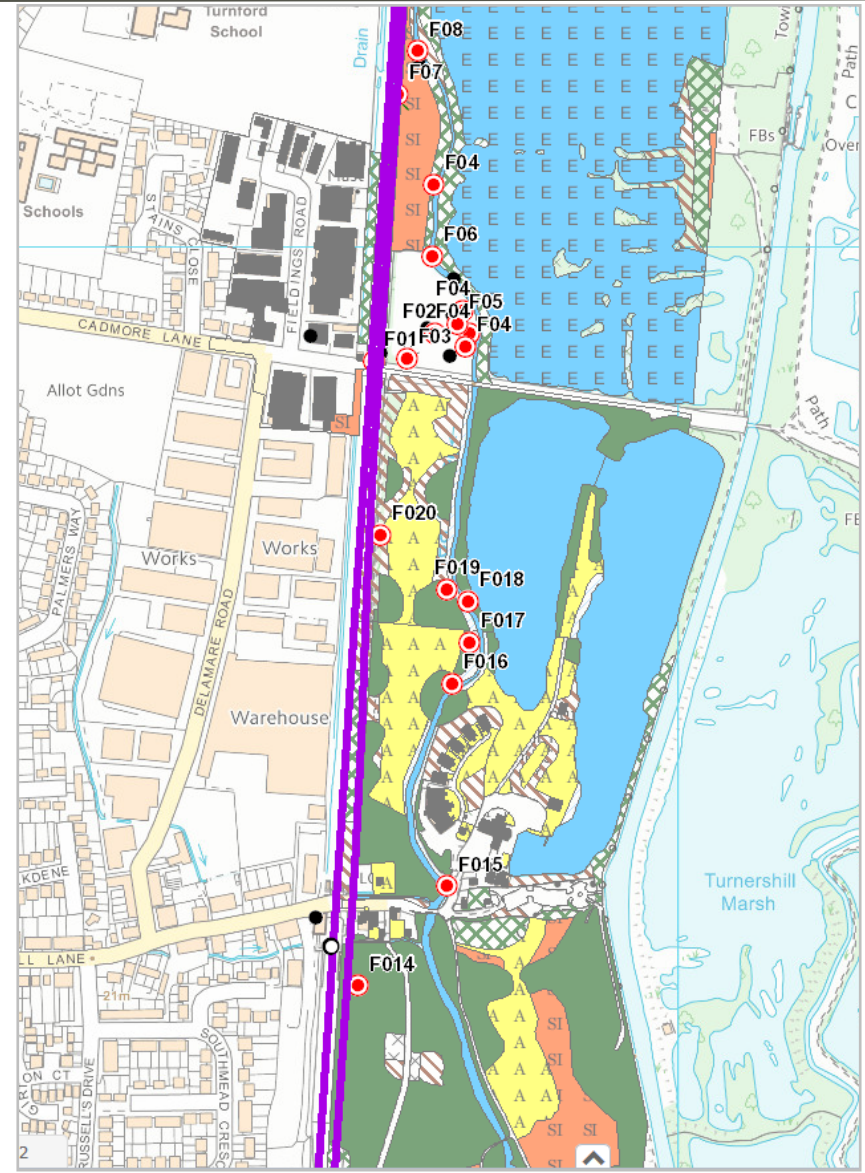
- Diverse, vibrant and productive station communities
- Sustainable communities through a diverse housing mix
- Connecting communities locally

Promoting the sustainability agenda

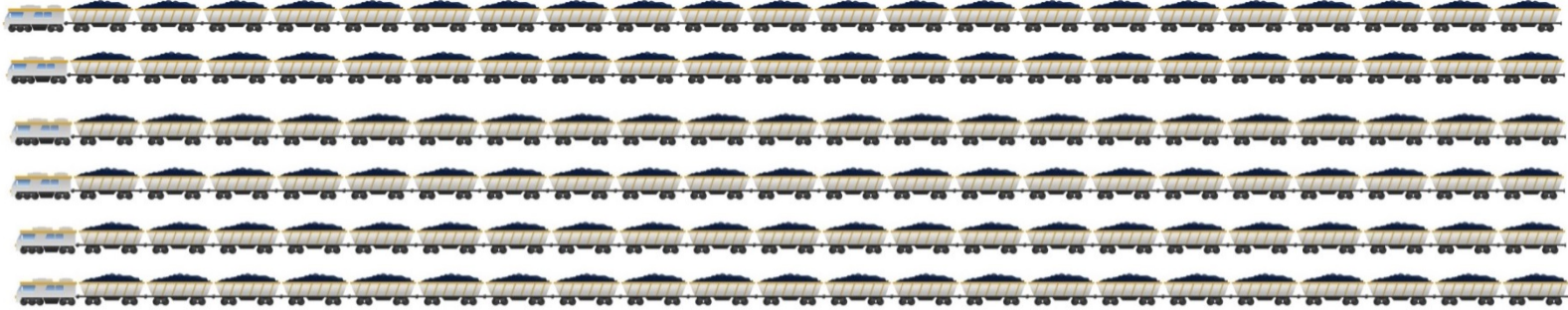
- Embed sustainability within the project brief
- Carpe diem: get moving early, lock into design, when decisions are made
- Make it relevant to the project
- Get high level endorsement (statement from the boss)
- Delegate, delegate – it's everyone's job
- Integrate within project requirements
- Third party endorsement, good but handle with care

Case study 1: enhanced natural environment net gain in biodiversity

- Supports UK, London and corporate vision
- Core principles reflect what it means for us
- Engaging with multiple stakeholders
- Six step process
 - Define scope & objectives
 - Calculate baseline
 - Inform mitigation
 - Identify offsets
 - Calculate units
 - Set up projects
- Uses the Defra metric
- Need to secure land and/or ongoing management



Case study 2: no such thing as waste material re-use



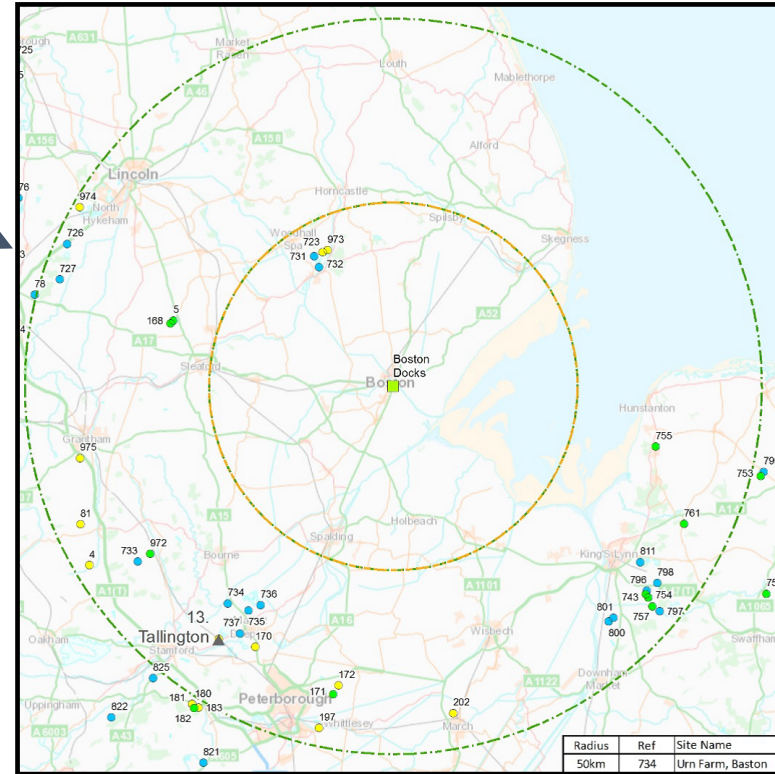
or



or



Case study 2: no such thing as waste material re-use



- Portals to rail heads
- Zones of travel to licensed sites

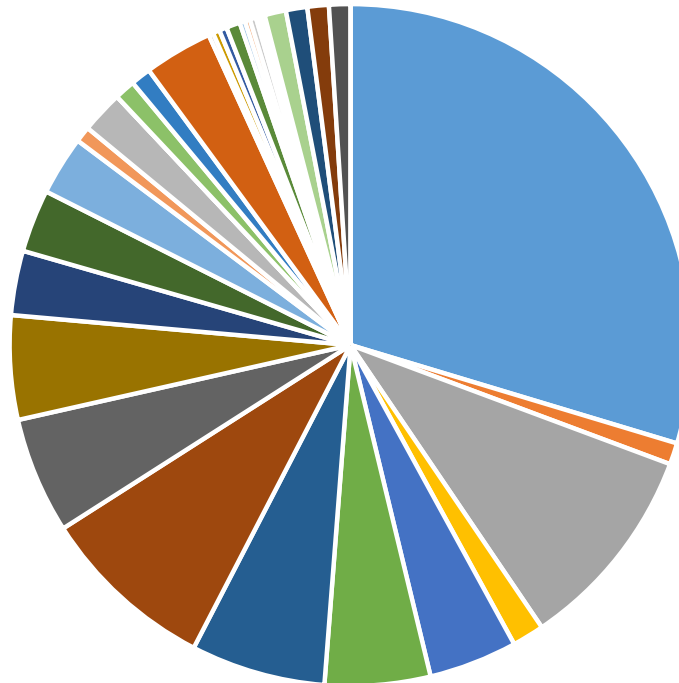
Case study 2: no such thing as waste material re-use

- Alternative to transport out by barge
- Reduces lorries in London
- Barge to railhead, then onward by rail or road
- Ideal to find coastal sites for biodiversity or coastal protection



Case study 3: carbon smart scheme

Carbon and value engineering

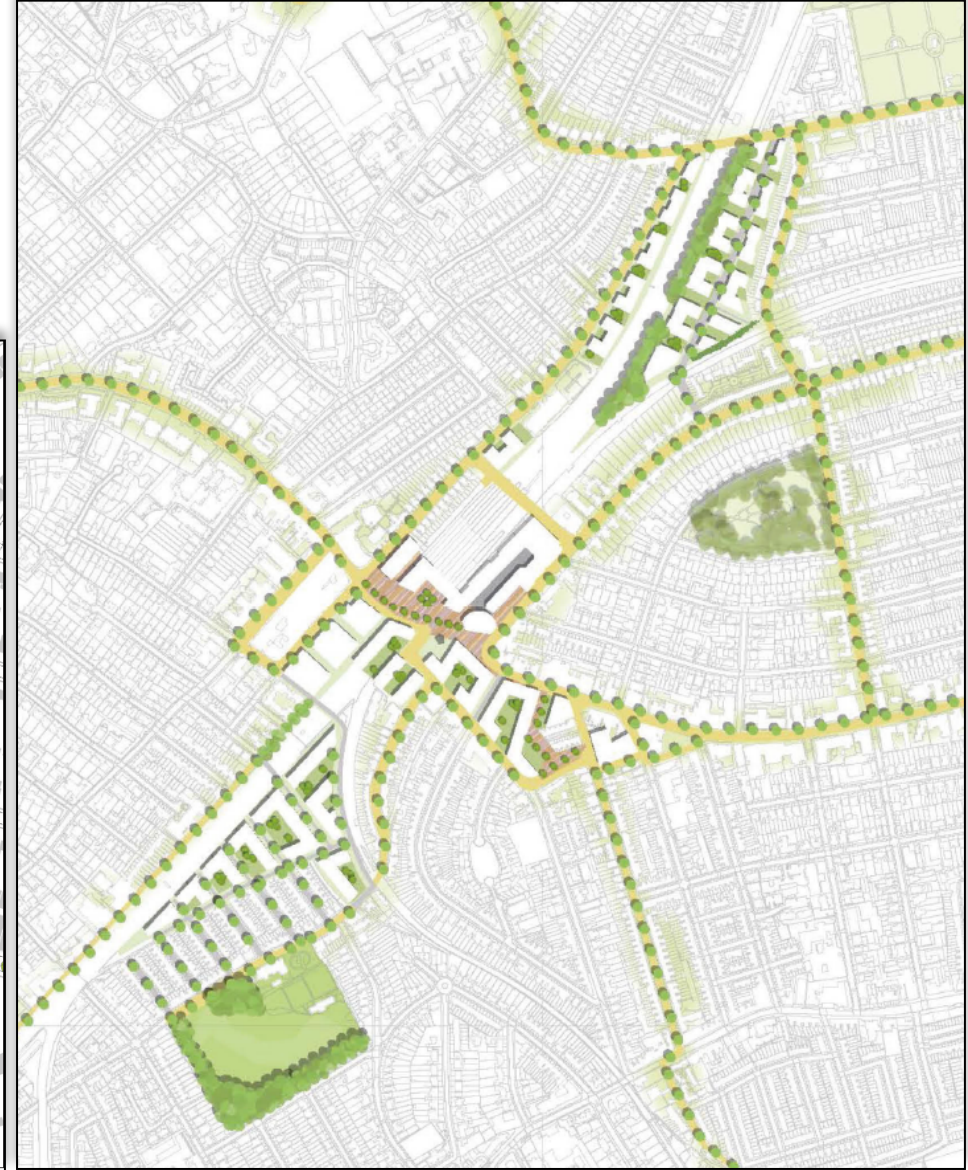


- | | | | |
|--------------------------------------|-------------------------------------|--------------------------------|----------------------------------|
| ■ Running Tunnels | ■ Above ground Track | ■ Tunnel Infrastructure | ■ Cross-passages |
| ■ Tooting Broadway - Station | ■ Clapham Junction - Station | ■ Victoria - Station | ■ Tottenham Court Road - Station |
| ■ Euston St Pancras - Station | ■ Angel - Station | ■ Dalston - Station | ■ Seven Sisters - Station |
| ■ Wood Green - Station | ■ New Southgate - Station | ■ Wimbledon - Station | ■ Weir Road - Depot |
| ■ Oakleigh Road - Depot | ■ New Southgate - portal | ■ Tottenham Hale - portal | ■ Gap Road - portal |
| ■ Waterside Way, T1 - Shaft | ■ Springfield Hospital, T4a - Shaft | ■ Heathfield Road, T4b - Shaft | ■ Battersea Park, 7 - Shaft |
| ■ Victoria Coach Station, 10 - Shaft | ■ Shoreditch Park, 20 - Shaft | ■ Stamford Hill, 23b - Shaft | ■ Shoreditch Park, 20 - Junction |
| ■ Stamford Hill 23b - Junction | ■ Wimbledon - Crossover | ■ Battersea Park - Crossover | ■ Angel - Crossover |
| ■ Stamford Hill, 23b - Crossover | ■ Network level | | |

Case study 4: rewarding urban realm

urban integration

- Outline local masterplanning potential
- Integrating with the wider urban realm



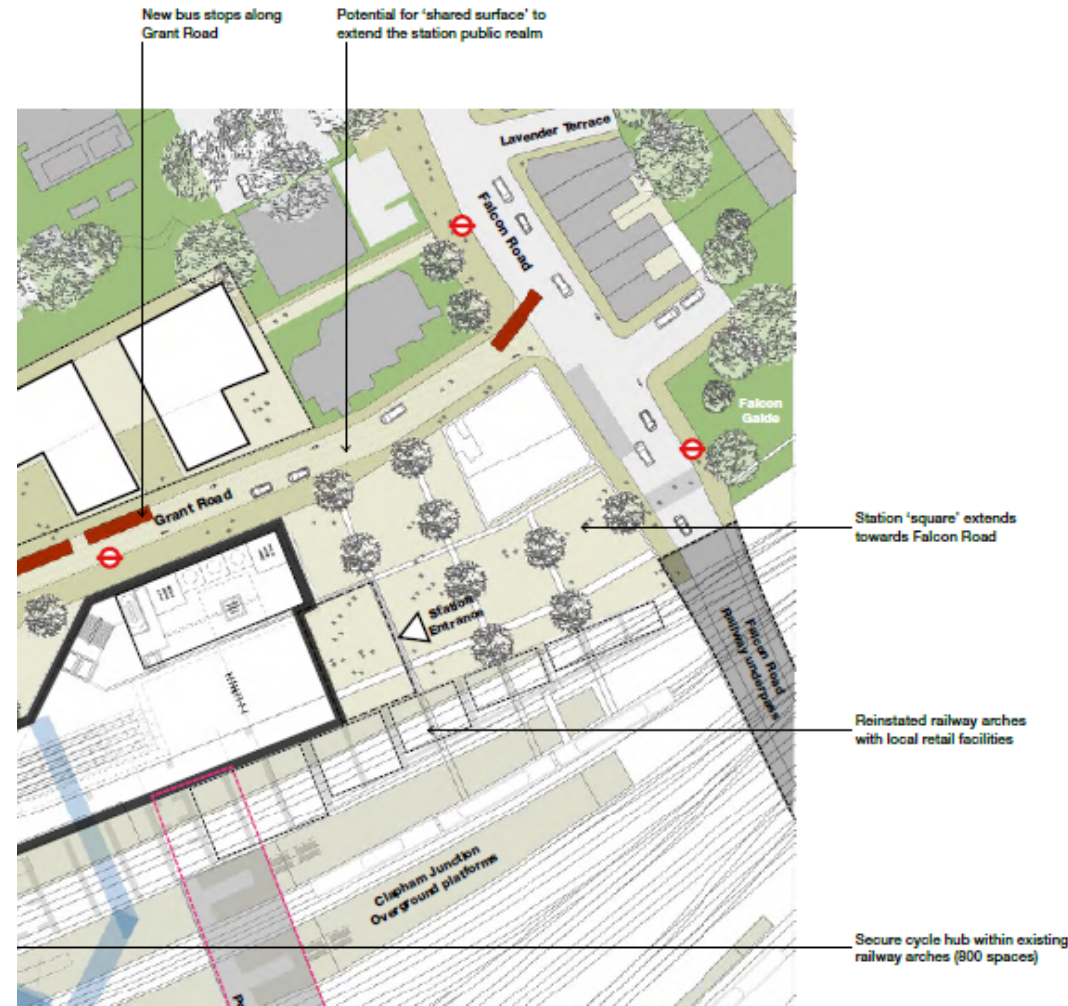
Case study 4: rewarding urban realm urban integration

Urban realm integration studies explore stations in relation to urban context, and how to integrate with surroundings:

- understand sensitivities
- examine movement and interchange.
- accommodate council aspirations and vision

Confirm constraints/
opportunities; develop vision:

- entrances, interchanges, routes, public realm and OSD
- inform designs and assumptions; optimise urban integration
- define essential public realm works



Thank you

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