



# Meeting customer expectations

whilst delivering safety, comfort and accessibility  
on the world's oldest underground railway

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# Synopsis

**The challenge London Underground faces is to develop a sustainable modern tube train in constrained tunnels within current safety & accessibility requirements. The result is a familiar yet innovative design that is safer, more reliable, comfortable and accessible.**

*A World Class Tube for a World Class City.*





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- **Background**
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# Background

- **LU is the world's oldest underground railway dating back to 1863**
- **Operating 12 lines and serving 275 stations, 20 hours a day, 364 days a year**
- **Approximately 1,000,000,000 passenger journeys annually**
- **A 30 year, £8bn investment programme through a Public Private Partnership (PPP) began in 2003**





# Victoria Line Upgrade overview

- **Key deliverable for Metronet BCV**
- **Due to complete by August 2013**
- **Journeys will become faster, safer, more comfortable and more reliable**
- **Delivery of 47 new trains built by Bombardier**
- **New Service Control Centre, upgraded ATO signalling and control systems, plus power and track improvement works**

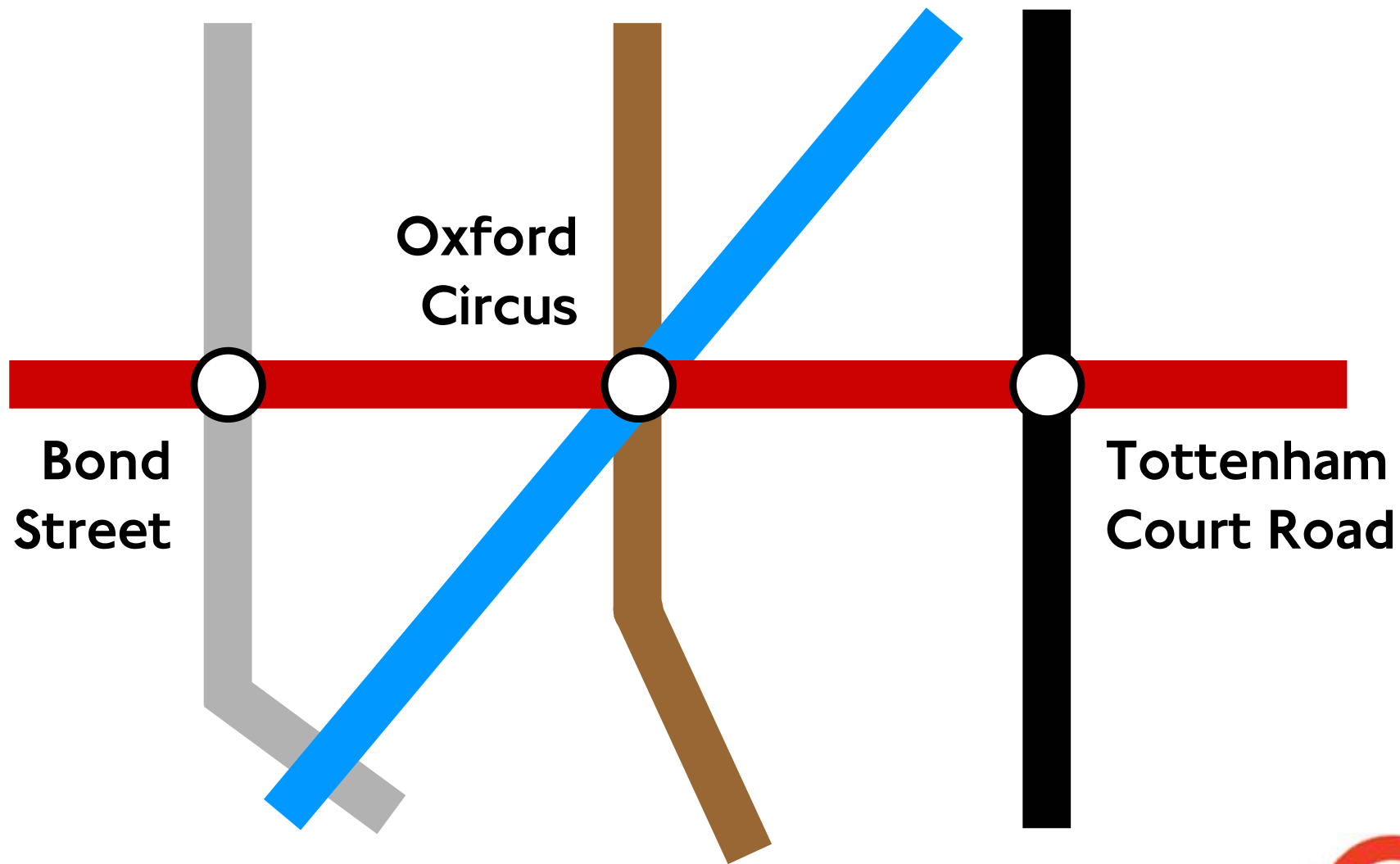




# Design concepts & constraints

- **Line identity**
- Fast, busy metro service
- Effective use of space
- Accessibility requirements







# Design concepts & constraints

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# Design concepts & constraints

## Line identity



Material palette for 2009TS. Both images ( C ) Bombardier Transportation.





# Design concepts & constraints

## Line identity



Computer generated image of 2009TS saloon and vestibule interior. ( C ) Bombardier Transportation.





# Design concepts & constraints

- Line identity
- **Fast, busy metro service**
- Effective use of space
- Accessibility requirements





# Design concepts & constraints

Fast, busy metro service



View through double door way in to vestibule. Both images ( C ) Bombardier Transportation.





# Design concepts & constraints

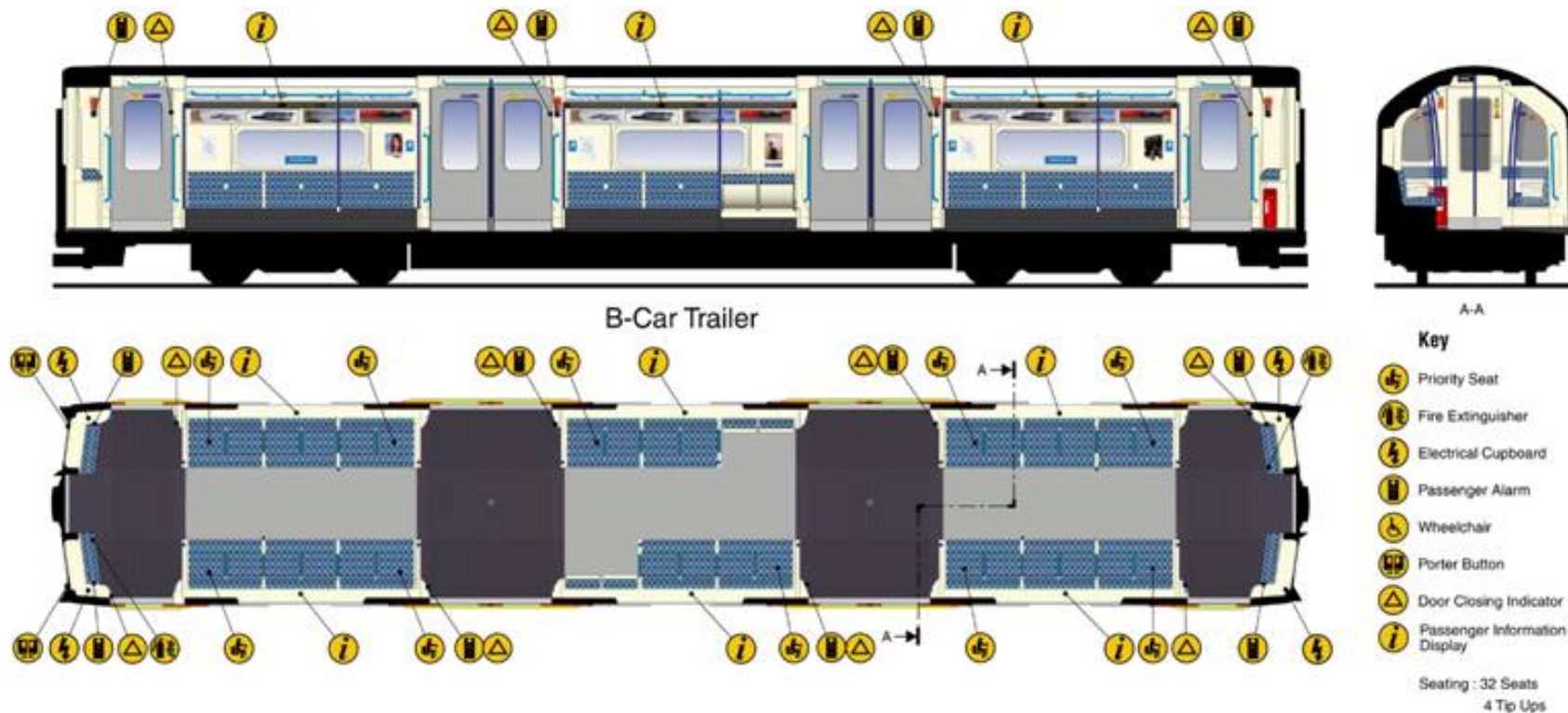
- Line identity
- Fast, busy metro service
- **Effective use of space**
- Accessibility requirements





# Design concepts & constraints

## Effective use of space



Schematic of B car. Both images ( C ) Bombardier Transportation.





# Design concepts & constraints

## Effective use of space



Illustration of end-car perch seats. Both images ( C ) Bombardier Transportation.





# Design concepts & constraints

- Line identity
- Fast, busy metro service
- Effective use of space
- **Accessibility requirements**





# Design concepts & constraints

## Accessibility requirements



Illustration of wheelchair bay. Both images ( C ) Bombardier Transportation.





# Design concepts & constraints

## Accessibility requirements

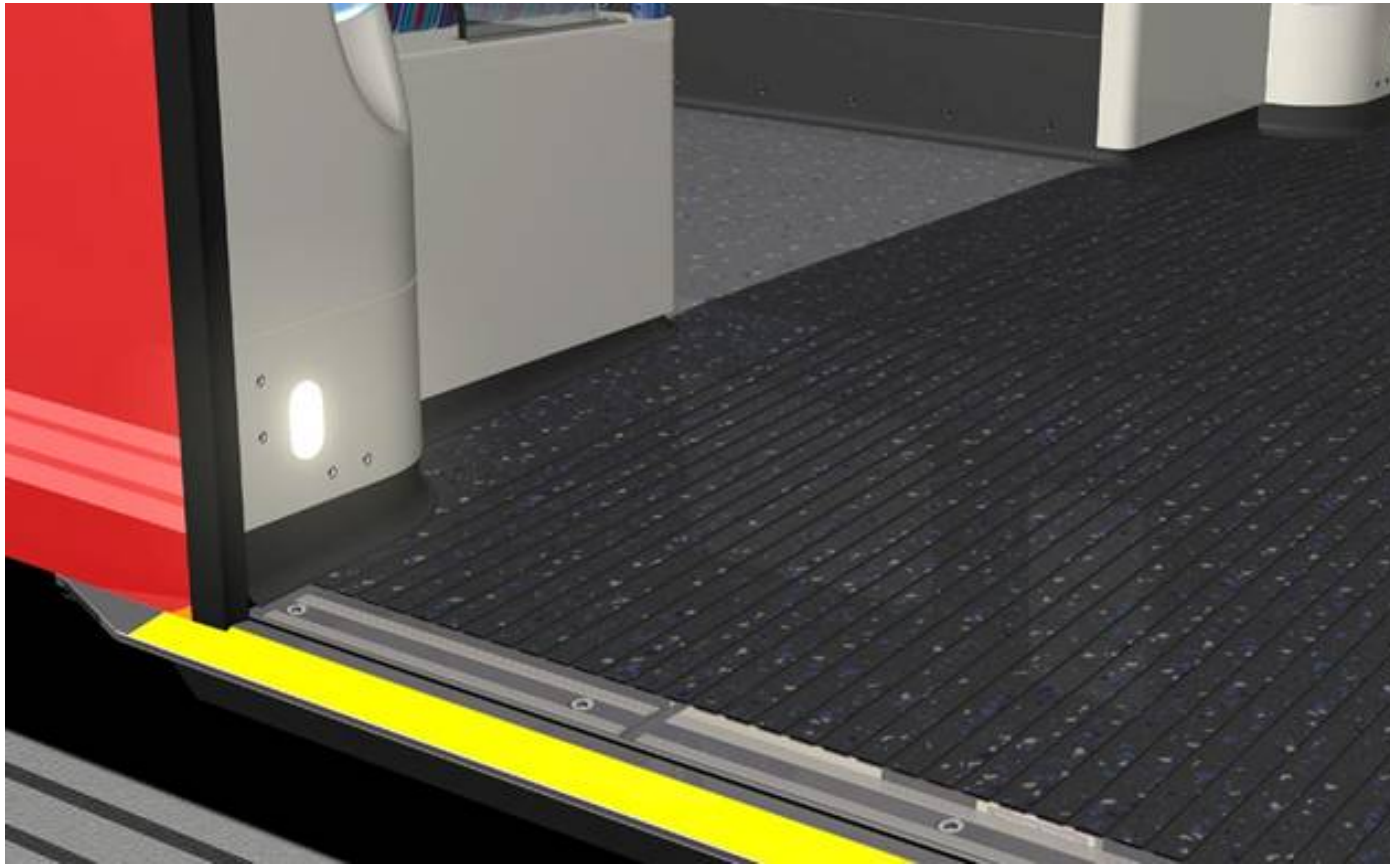


Illustration of door threshold. Both images ( C ) Bombardier Transportation.





# Integrating Accessibility

- **Improving accessibility benefits all customers**
- **Look ahead to the future, not today's demand**
- **Everything doesn't have to be yellow!**





## ***Delivering World Class Upgrades***

### **Questions?**

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