



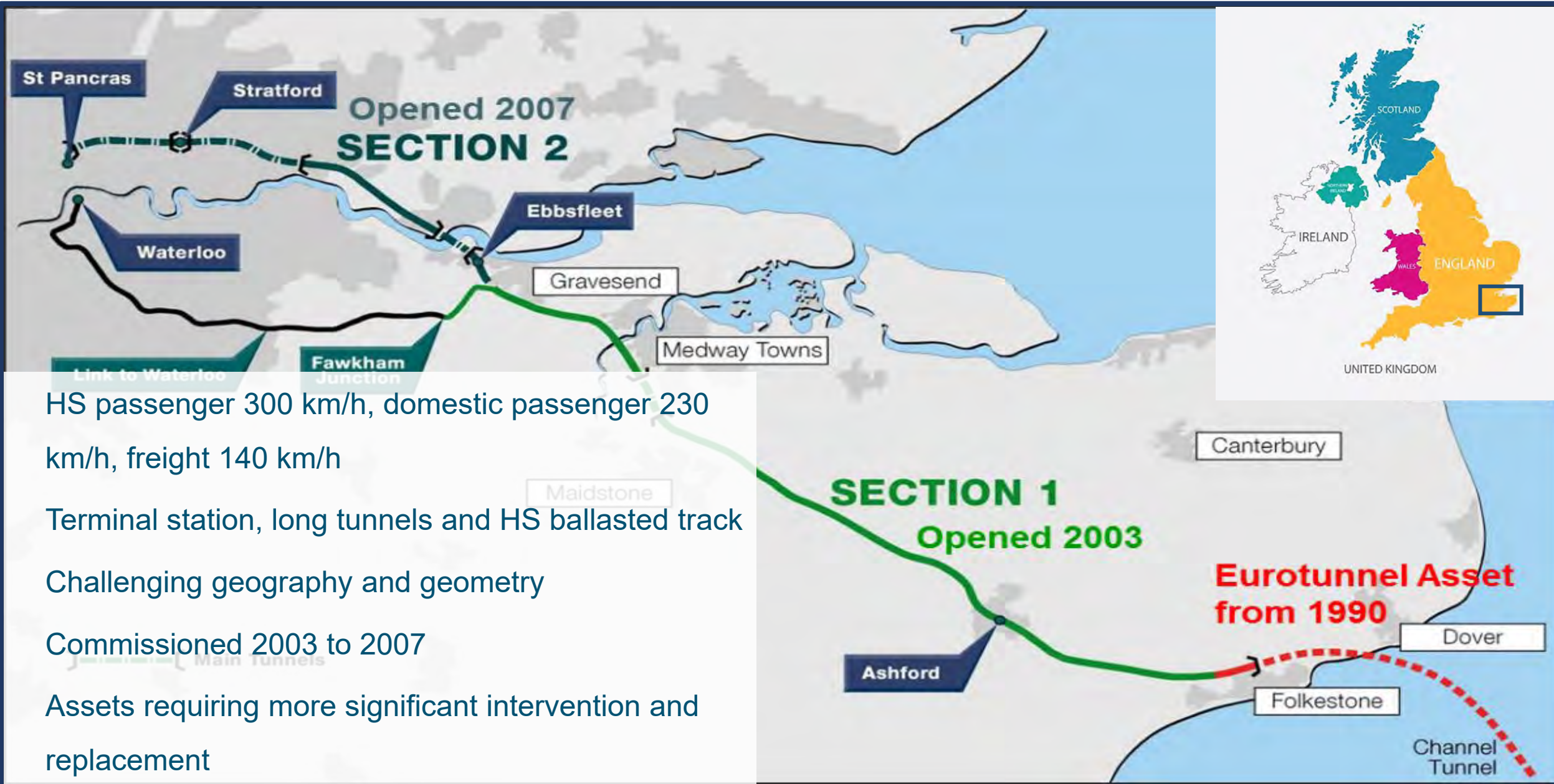
An Integrated Approach to High Speed Track Renewals

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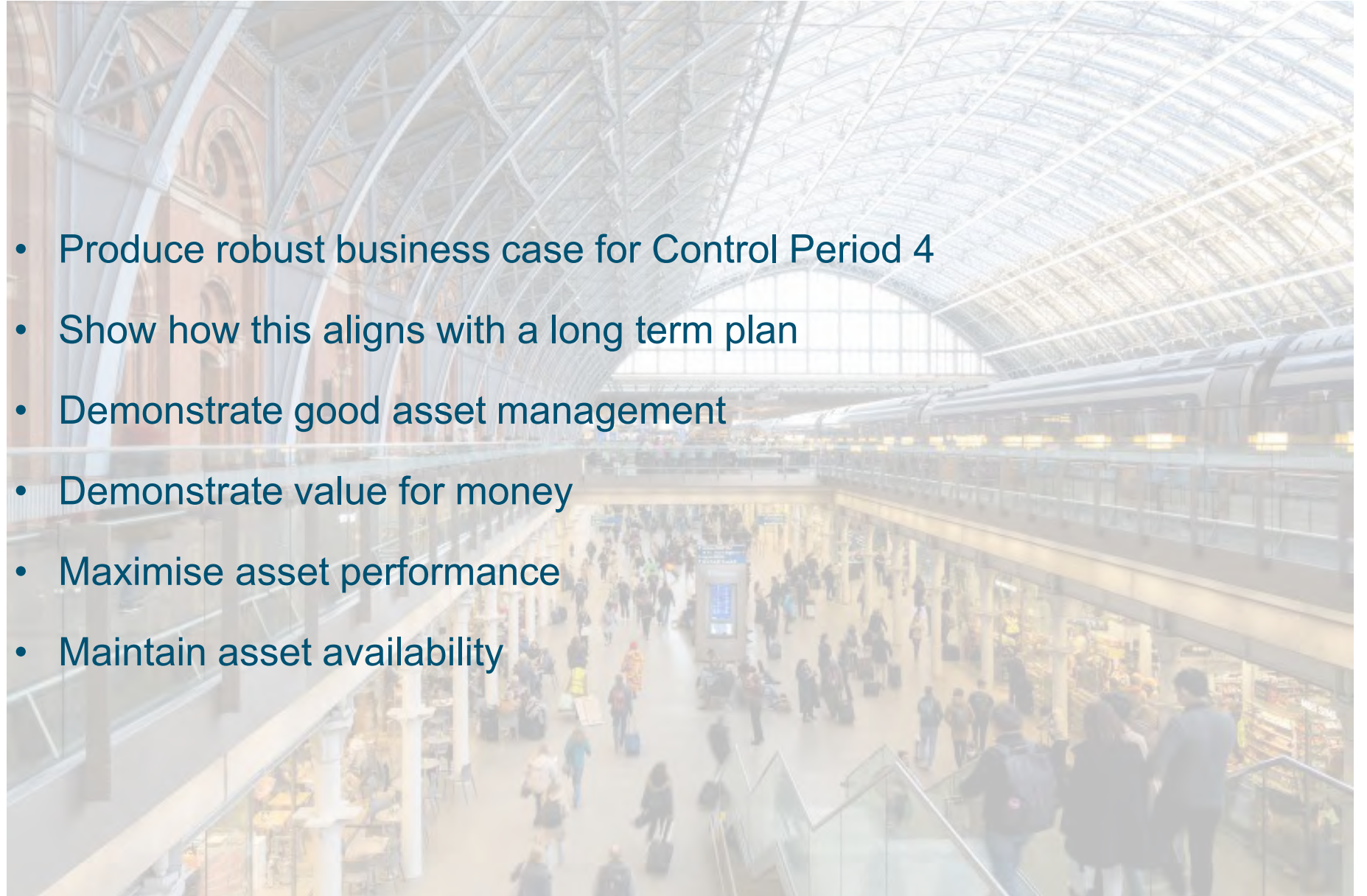
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Asset Overview



The Challenge

- Produce robust business case for Control Period 4
- Show how this aligns with a long term plan
- Demonstrate good asset management
- Demonstrate value for money
- Maximise asset performance
- Maintain asset availability



Why Change Approach?

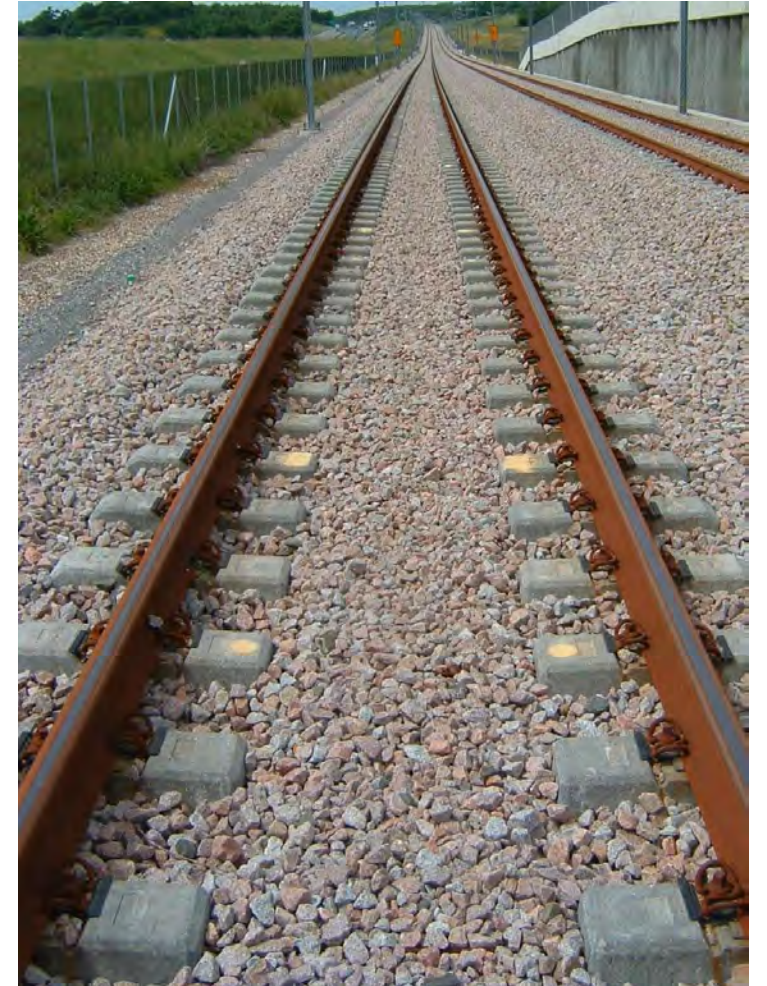


- Continuous improvement
- Renewal capability developed over last few years
- CP3 plan based on expected asset behaviour
- Renewal timescales in years
- Observed condition has not always matched expectations
- Age, traffic and geometry of other high speed lines
- Alignment with industry models
- Approach to construction, maintenance and performance



Track Modelling approach

- Use wealth of data to inform decisions
- Shift from time to tonnage
- Identify key influencers on deterioration
- Factor in geometry and fixed features
- Model 'artificial wear' due to maintenance
- Critical limits and factors of safety
- Ability to build in extra channels
- Flexibility for future demand



Work Bank Development

- Identify target years from model
- Smoothed plan by control period for efficient delivery
- Quantify additional maintenance / unused life
- Manage interfaces and islands e.g. S&C



Delivery Integration



Future Development

- Fill in knowledge gaps
- Update and iterate on the deterioration model
- Improve data quality
- Automation and machine learning
- Access optimisation
- Possession management efficiency



Transferrable Lessons

- Know your asset
- Understand your customers
- Be consistent... but adaptable
- Build a solid foundation
- Take a system view
- Never stop developing