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South Cambridgeshire West Local Representatives Group

Meeting 3

26 October 2022

01. Today's agenda

Today's agenda

- 01.**
Welcome and today's agenda

- 02.**
Housekeeping

- 03.**
Review of actions from previous meeting

- 04.**
Topic – Freight Process

- 05.**
Topic - Traction Strategy Process

- 06.**
Closing remarks and future meetings topics

02. Housekeeping

Housekeeping

Thank you for joining

This is a virtual meeting.

Please display your full name as when you registered to attend – this can be done through the ‘Participants’ section.

To help everyone feel part of the discussion, please feel free to turn your camera on during the meeting if you can.

Please use the ‘Raise Hand’ function to raise a question during the meeting, found in the bottom ribbon (under the ‘Reactions’ option).



Display your full name in username



Please use the mute function



Use the ‘Raise Hand’ function if you want to raise a point during the meeting



Please do put your camera on if possible

03. Review of actions from previous meetings

Completed actions

Meeting	No.	Action	Owner	Status
#2	1	To share its latest position around traction and freight with the Group	EWR Co	Complete – to be discussed at meeting #3
#2	2	To introduce discussion of proposed boundary changes to the Group	EWR Co	Complete – to be discussed at meeting #3

04. Topic – Freight

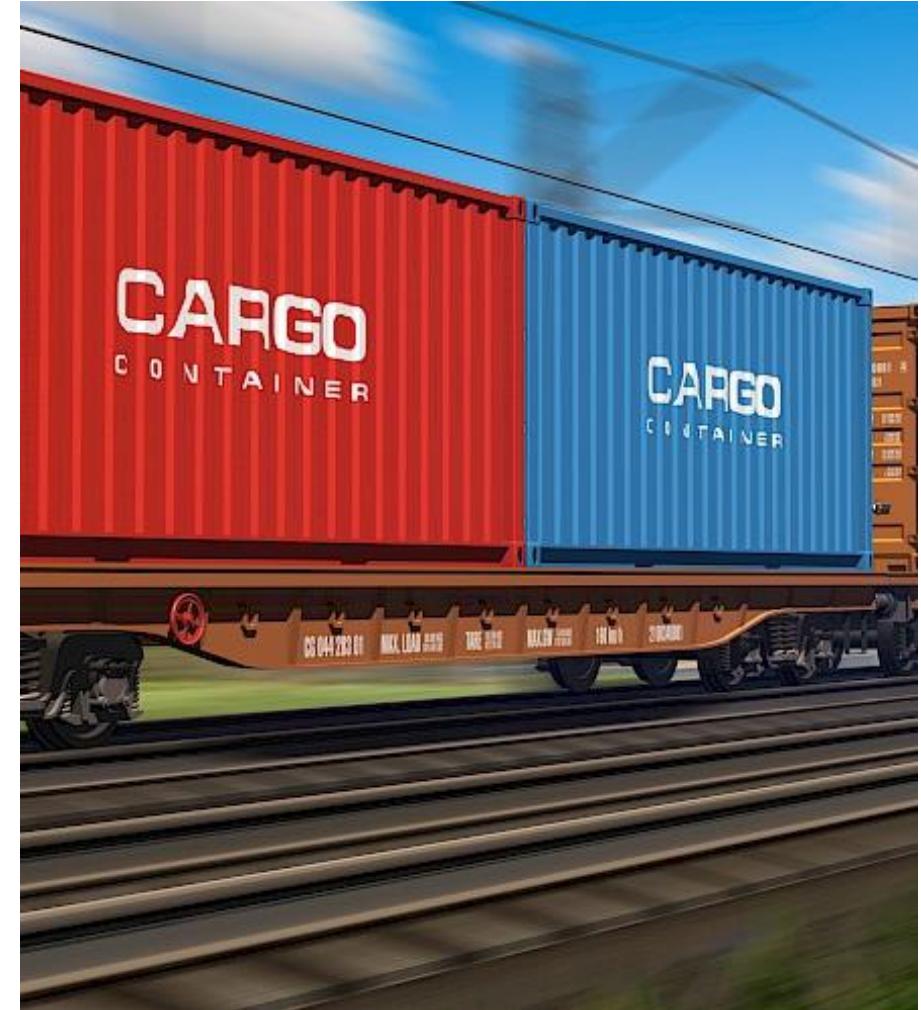
Joanna Lymboussis, Acting Head of Sponsorship & Assurance

Main types of rail freight

'Rail freight' represents different types of freight flows with different requirements to consider in design, mainly:

- **Intermodal (containerised) traffic**
 - ✓ to and from ports and between distribution hubs
 - ✓ from perishable food items to clothing, cars and toilet paper, carried in containers
- **Bulk freight**
 - ✓ construction and aggregates materials such as sand, stone and waste, & key flows supporting building and construction sites
 - ✓ carried in open or closed wagons

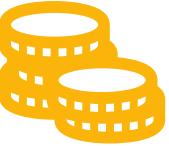
Rail freight operates in response to demand, based on open access agreements and commercial contracts, and needs to be agile and flexible to respond to the market.



National Value of Rail Freight



- Goods worth **£30bn** are transported to customers every year
- **£2.45bn estimated benefits to the UK annually**
 - £1.65bn user benefits, including cost and time savings and reliability improvements
 - £0.80bn benefits to the wider society, such as through modal shift, including congestion relief, noise and reduced safety incidences



- **Productivity gains and rebalancing the economy**, with more than 60% of its activity focused on former industrial centres in Yorkshire, the North West, Scotland and the Midlands



- Significant actor in the drive for **decarbonisation nationally**:
 - lower output from a fuel intensity and harmful emissions perspective compared to other modes, particularly road haulage - 76% fewer carbon emissions per tonne kilometre transported compared to road
 - 1 bulk train = up to 76 Heavy Goods Vehicles (HGVs), 1 container train = up to 34 HGVs
 - reduces the social cost of greenhouse gas emissions by 86% and improves air quality costs by 16% per avoided lorry km

Rail Freight is growing and forecast to double in 20 years

Volumes are forecast to grow significantly by 2043/44 - domestic & ports intermodal are forecast to grow the most

Ports Intermodal

- From continuous growth in demand through ports (more trade/more trade in containers) plus growth in rail freight interchanges

Domestic Intermodal

- Growth driven largely by the growth in rail freight interchanges

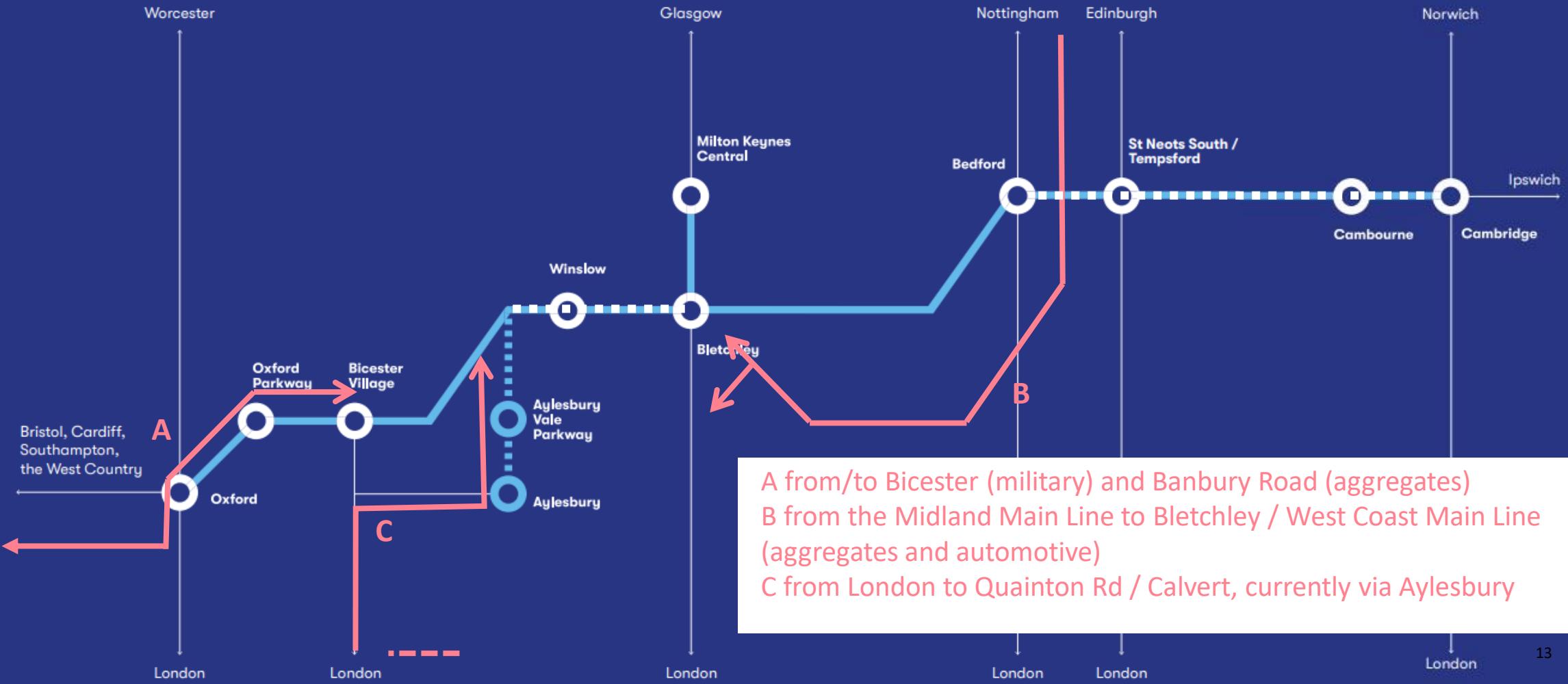
Construction Materials

- Growth based partly on growing demand but also on improvements in rail productivity such as longer trains



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Current freight on EWR



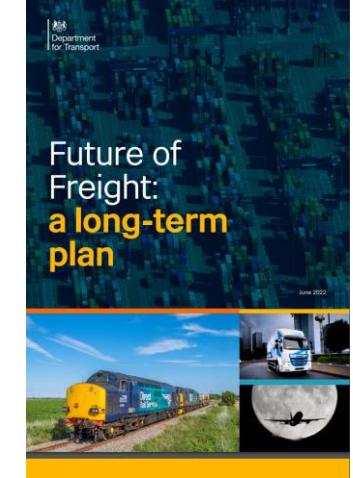
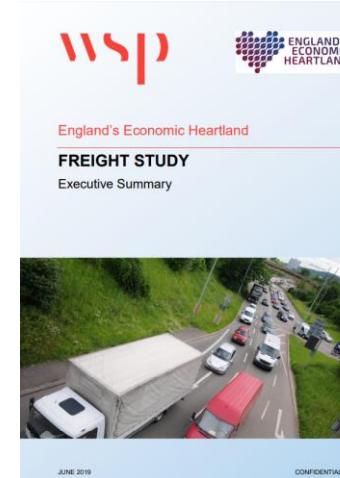
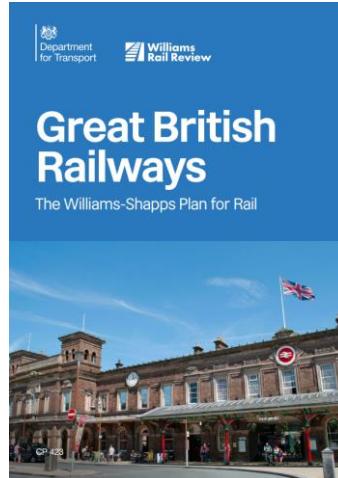
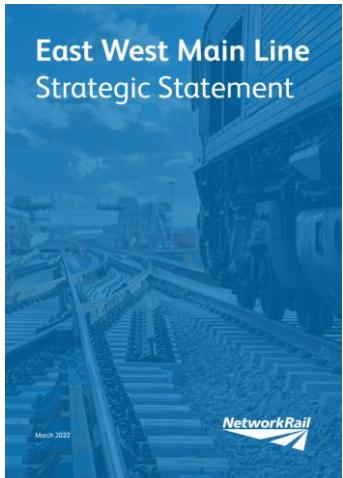
Rail Freight potential over EWR

- We are designing the railway to accommodate freight
- We are exploring the opportunities for freight created by EWR
- Our objective is to maintain current capacity for rail freight and make appropriate provision to enable future growth
- What this means in practice is still under review, and will depend on factors such as government policy, demand, impact & investment choices



All strategies identify a role for EWR to carry freight

- All reviewed regional transport and freight strategies **identify a role for EWR to carry freight**, including “rerouted” freight from Southampton and Felixstowe
- Nationally there is **renewed support for growth of rail freight**, not least to achieve **net zero carbon**. GBR is expected to be given a target to grow rail freight.



But! Working out the right approach to freight is not straightforward

Freight considerations are not the same across the route – different potentials for different flows on different sections

Ongoing work to consider:

- EWR's strategic fit into the national rail network and the role it can play
- The levels of potential freight demand, benefits & growth
- Additional investment that may be required to support different levels of freight
- Local community considerations and feedback from our consultation
- Green agenda, decarbonisation, rail transport and other policies
- and more...!

Questions or comments

05. Topic – Traction Strategy

Andy Bagguley, Head of Systems – Rolling Stock

EWR Initial Fleet

- Modern two-carriage diesel trains;
- Operate the initial Oxford to Bletchley with potential to extend to Milton Keynes Central service temporarily;
- Engines meet EU Stage IIIB emissions standards and use Ad Blue in the exhaust system to reduce nitrogen oxide (NOx) emissions;
- Each train has an accessible toilet, passenger information throughout, and dedicated spaces for three bikes.



Use of different types of traction

- Initial use of diesel only trains is a temporary solution;
- This allows EWR to commence services quicker, unlocking the benefits of the new railway earlier;
- Electrification remains under consideration with EWR Co awaiting a decision from government on this;
- This allows flexibility in future power options in line with the government commitment to removing all diesel only trains by 2040;
- EWR are also investigating alternative traction power including battery power and hydrogen fuel cells.

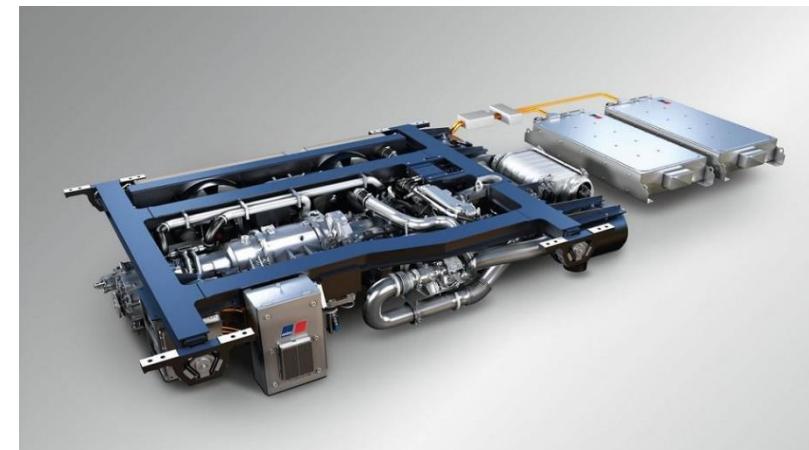


Long-Term Rolling Stock Options

Traction Type		Carbon	Cost	Complexity
EMU Electric Only		•	•	•
DMU Diesel Only		• • •	•	•
BMU Battery Only		•	• •	• •
HMU Hydrogen Fuel Cell Only		•	• • •	• • •
DEMU Diesel Electric Bi-Mode		• •	• •	•
DBMU Hybrid Diesel & Battery Hybrid		• •	• • •	• • •
BEMU Battery Electric Hybrid		•	• •	• • •
HEMU Hydrogen Electric Hybrid		•	• • •	• • •

Case study: B-DEMU Hybrid – Class 168 HybridFLEX™

- Partnership between Chiltern, Porterbrook and Rolls-Royce to develop the Hybrid concept;
- One hybrid battery-diesel train currently in service;
- Fitted with brand new engines combined with on-board batteries;
- Batteries are used at stations with diesel used at other times and capture energy lost through braking;
- Fuel consumption and CO2 emissions are reduced by up to 25%, Nitrous Oxide (NOx) emissions by over 70% and particulate emissions by over 90%, compared to the original 25-year-old engine;
- Feasibility for future use on EWR under review.



Case study: Battery EMU Hybrid – Class 379 IPEMU

- Partnership between Network Rail, Bombardier, Abellio, Future Railway and Department for Transport (DfT) to demonstrate the viability of a battery-powered train;
- Tested in passenger service for five weeks in 2015;
- Electric train fitted with traction batteries on one vehicle
- Batteries were used for a 30km section and charged from overhead line electrification on the remainder of the journey;



Ongoing Work



Active engagement with Rolling Stock Manufacturers, Owners and Train Operators...

to understand existing challenges with novel rolling stock traction types. Potential for EWR Co to lead innovation of future rolling stock to meet customer needs.



Electrification is being taken into account...

with passive provision included in designs where appropriate.



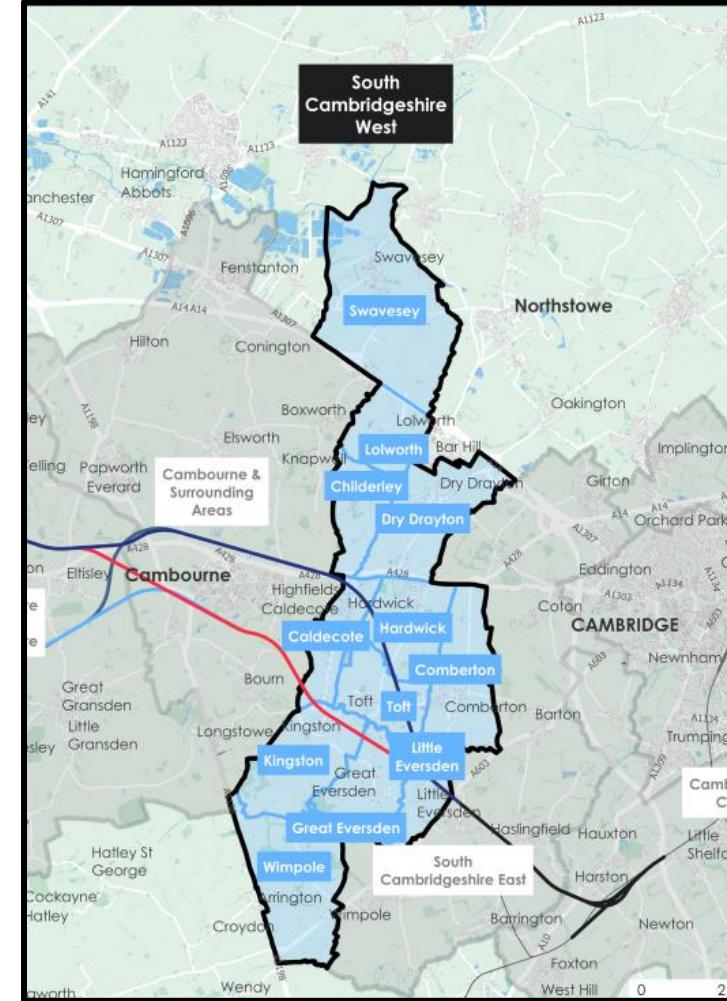
Continued engagement with the Department for Transport (DfT)...

to ensure EWR Co align with the decarbonisation agenda and 'The Williams-Shapps Plan for Rail'.

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- Services to Cambridge will be operated by a future fleet which will depend on the route alignment and service frequency.
- The decision on traction power for this fleet has yet to be made.



Questions or comments

06. Closing remarks

Topics for future discussion



Meeting #4 –

Meeting #5 –

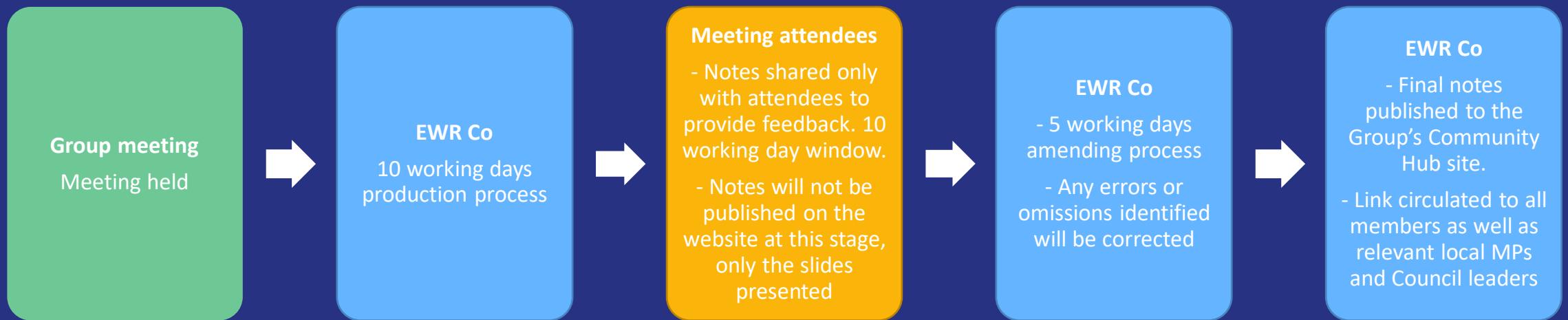
Discussion: Other topics for future meetings

Agreed frequency: Quarterly meeting

Outcomes:

Actions:

Creating meeting notes



We're always here

All the Group's relevant documents will be available on its **Community Hub** site.

We will notify you when available.



Got a question?

If you have any questions about the Group, please email:

localrepresentativesgroups@eastwestrail.co.uk

If you have any questions about the project, please email:

contact@eastwestrail.co.uk

Or you can also call us on **0330 134 0067**