

Electrification for Freight

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Rail Freight Forum

The Freight Business

- Traditional baseload much reduced
- Coal almost gone BUT Freight is Growing!
- Non Coal Freight UP 37% 10 years/21% 5 years
- New Freight is 40% Consumer Goods
- Construction materials are 27%
- New Rail Freight Geography
- Old Freight was local, self-contained
- New Freight is long haul on main lines
- Consumer Goods – WCML, ECML
- Construction Materials – GWML, MML

Traction Policy

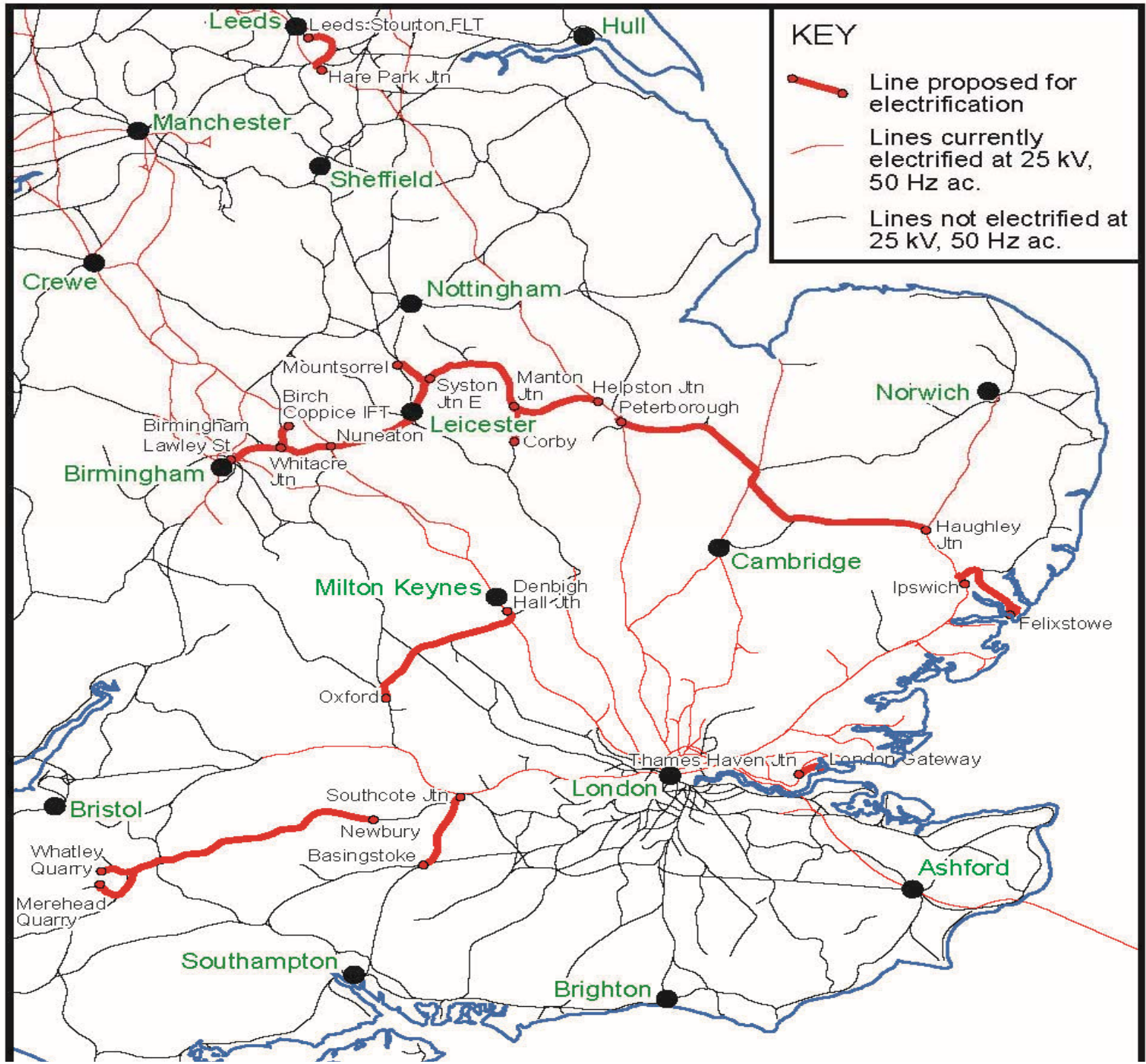
- Big diesels – Class 66 predominant, 60, 68, 70
- Few electrics – Class 90, 92, 2 x 86
- DRS Class 88 with last mile diesel capability
- First Class 66 already 20 years old (59's 35 y.o.)
- Will be 35 y.o. by 2035 – fully written down
- Must not replace with more diesels
- Siemens Vectron DM – Bimode Bo-Bo
- Heavy Haul Co-Co electric with 'last mile'
- By 2030, hopefully battery last mile capability
- Rapid recharge at terminals during discharge

Competition and Politics

- Battery trucks - low range, esp for artics
- Long range elusive – Musk’s Tesla mirage
- NIC – decarbonise all freight by 2050
- Blind faith in technology
- No motorway electrification
- Grudging acknowledgement of electric rail
- Treasury sponsor spooked by GWML
- We must get costs down and deliver
- Cities could impose ULEZ on rail

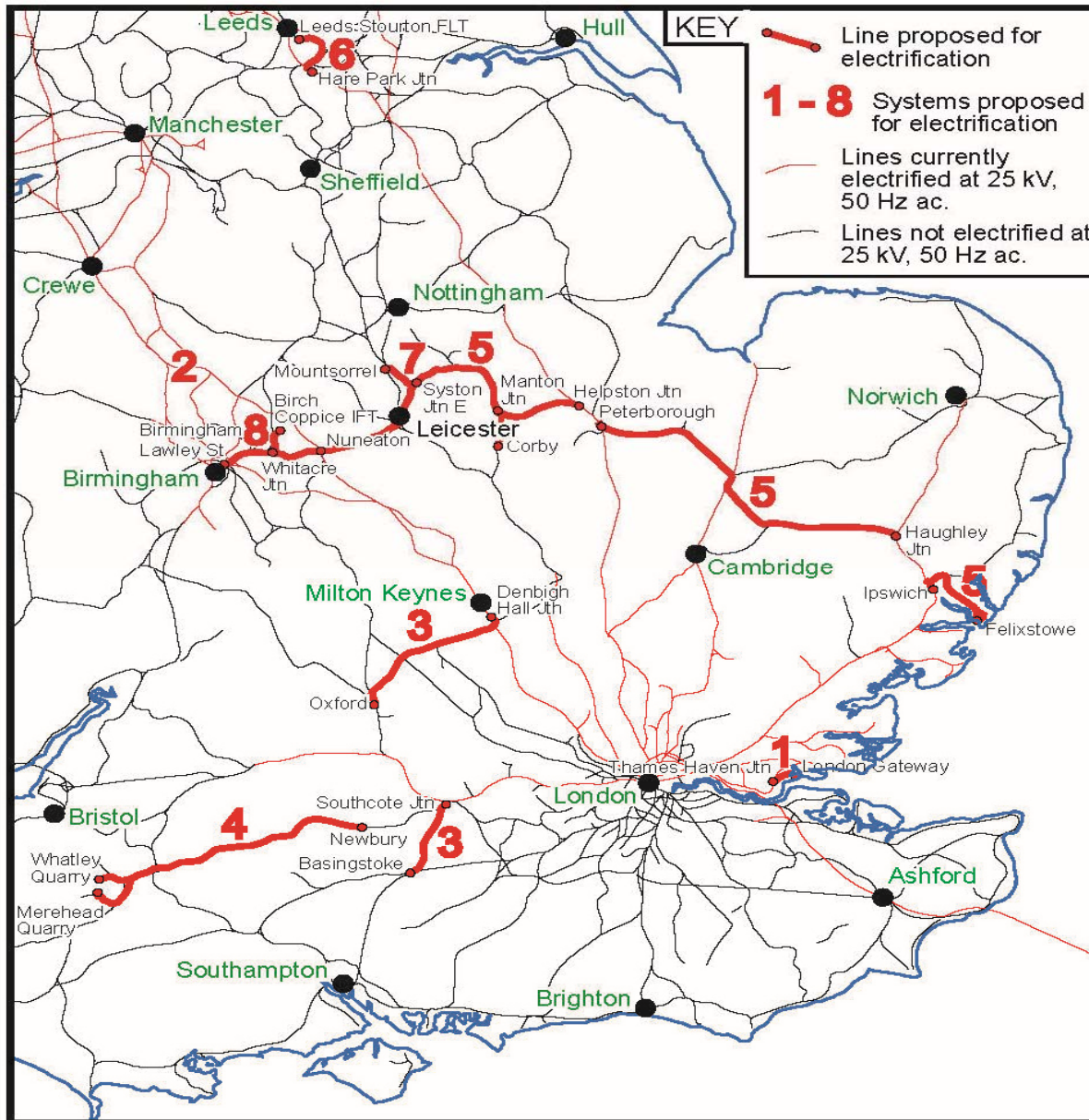
The Strategy

- 175 miles of wiring extensions plus
- Felixstowe–Nuneaton 145 miles = 320 miles
- 66-75% of freight electrically hauled
- Start early 2020's with 30 miles p.a.
- Priority to easy wins – more trains quickly
- Complete early/mid 2030's – 66's 30+ years old
- New Freight electric Co-Co tested and in build
- Proportion DC for SR – Southampton, Kent
- Interim options – spare Class 92's
- Class 90's ex Anglia; 91's ex ECML?



Routes (NB Passenger Synergies)

- London Gateway-LTS 1.5 miles, 16 trains a day
- Nuneaton-Lawley Street 20 miles, 32 trains/day
- Basingstoke - Southcote Junction and
- Oxford - Denbigh Hall Jn 42 miles, 48 trains/day
- Mendips-Newbury 72 miles, 28 (big) trains/day
- Felixstowe-Ipswich/Haughley Jn-P'borough &
- Helpston-Nuneaton 146 miles, 56 trains/day
- Hare Park Jn to Stourton 18 miles, 28 trains/day
- Mountsorrel – Syston Jn and
- Manton Jn-Corby 15 miles, 30 trains a day
- Whitacre Jn-Birch Coppice 6 miles, 10 trains/day



The Rest

- Steel Industry survival (automotive is key)
- Margam – Cardiff 25 miles, 30 trains a day
- Immingham – Doncaster 43 miles, 40 trains/day
- 400 miles – c.85% of freight under wires
- Outliers – Scotland/Wales/Cornwall/Anglia
- Later Class 66's/68's/70's well into 2040's
- Little urban exposure – stick with diesel?
- Peak District conundrum – Hope Valley/Mnchstr
- NE-SW similar – urban areas: Siemens Bimode?
- Passenger electrification dependent

Queries?

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