



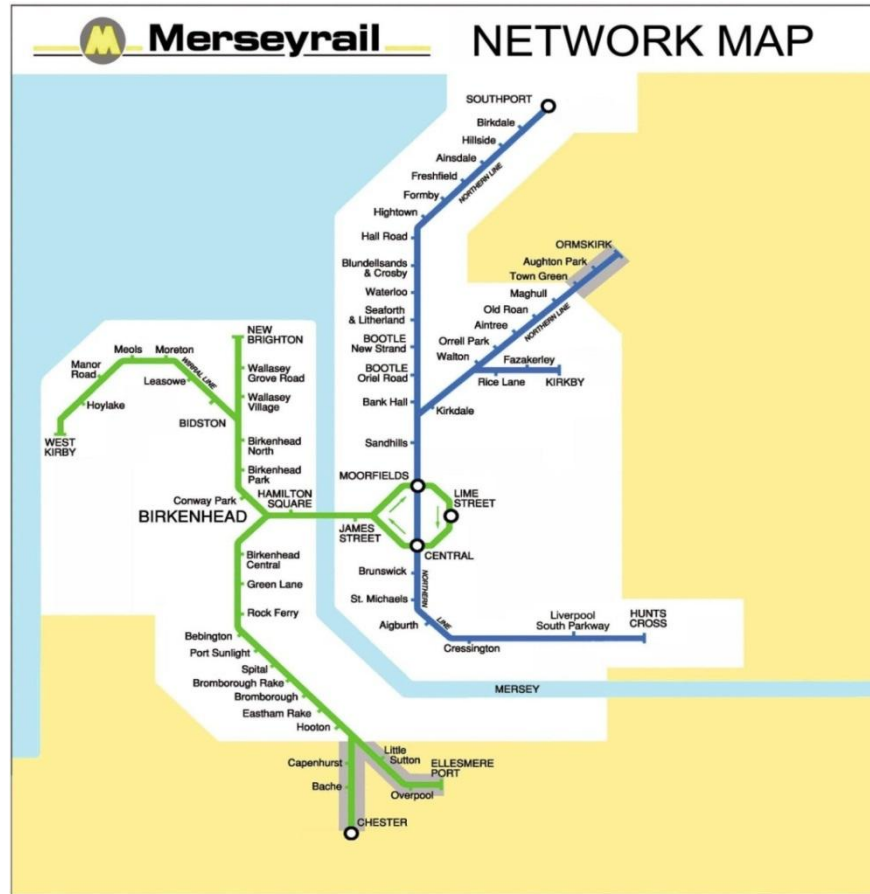
**Merseyrail Fleet Replacement Programme  
Presentation to the Ormskirk, Preston & Southport  
Travellers' Association  
David Powell – Merseytravel Programme Director  
24<sup>th</sup> February 2016**

# Merseytravel

- Merseytravel is the Executive body that provides professional, strategic and operational transport advice to the Liverpool City Region Combined Authority
- Accountable to Merseytravel Committee and the Combined Authority
- Merseytravel incorporates the powers of a Passenger Transport Executive
- It is also the delivery arm, overseeing the public transport network and is responsible for :-
  - managing the Merseyrail Electrics concession contract
  - coordinating bus and rail services
  - maintaining transport infrastructure
  - providing public transport information
  - operating the Mersey road tunnels
  - operating the Mersey Ferries and their associated visitor attractions
- Merseytravel is leading the fleet replacement programme



# Merseyrail Electrics - Network Overview



- Self-contained urban network
- 75 miles of track, 6.5 miles of which are underground
- Electrified at 750V d.c. 3<sup>rd</sup> rail
- One of the most intensively used networks in the UK
- Over 800 daily services Monday - Saturday
- In excess of 100,000 passenger journeys per day
- 67 stations, 66 of which are managed by Merseyrail; 5 underground stations

# Merseyrail Electrics – Building on Success

- Historically Merseyrail Electrics used to be characterised by low levels of investment, unreliable services and dirty trains/stations
- In 2003, the management of the operation was transferred from the DfT to Merseytravel
- A 25 year concession contract was awarded by Merseytravel to a 50/50 joint venture between Serco and Abellio (Merseyrail Electrics 2002)
- Subsequently there has been significant investment:
  - Train refurbishment (twice)
  - Liverpool South Parkway
  - Station modernisation
  - Underground station upgrades
  - MtoGo shops
  - Bike and Go
  - Park and ride

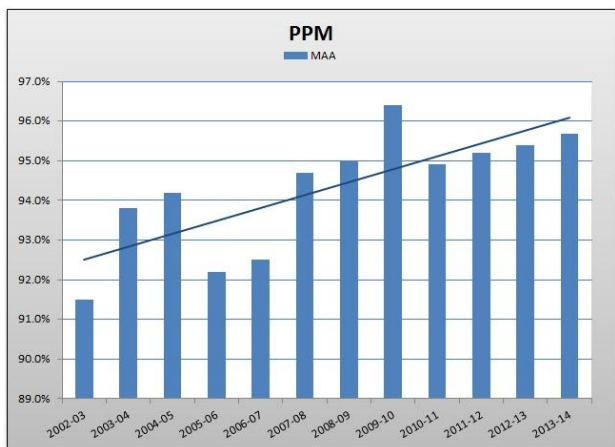
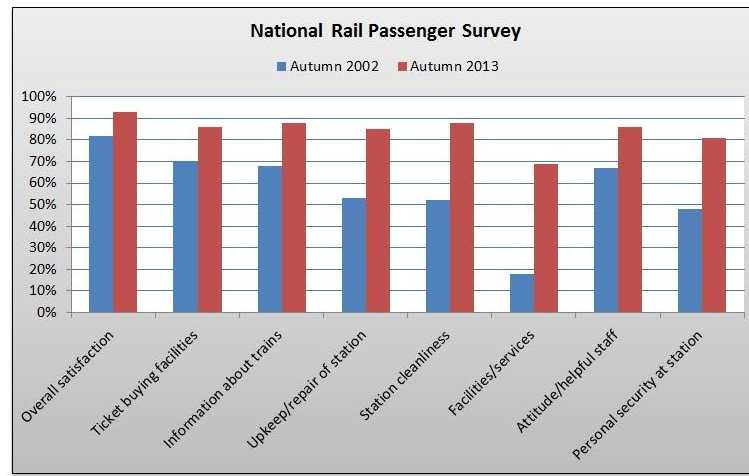
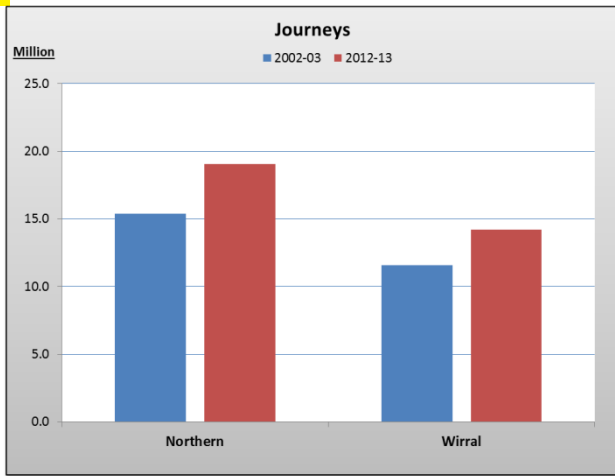


# Merseyrail Electrics – Building on Success

- The railway has undergone a transformation over the last ten years and now carries the highest proportion of passengers of any English city outside London
- Merseyrail Electrics is regularly one of the top 3 ranked UK train operators in the National Passenger Satisfaction surveys undertaken by Transport Focus and was also ranked first in a recent Which survey
- The devolution of the management of the network from DfT to Merseytravel is cited as a successful example of localism in action
- The network has seen a steady growth in patronage and revenue over the last decade, which is forecast to continue
- The operational performance of the railway has seen steady improvement
- However rolling stock capacity will increasingly become a constraint on growth if no action is taken



# Over a Decade of Transformation



- Sustained improvement of key metrics
- Passenger growth is the key driver of the programme



# Long Term Rail Strategy





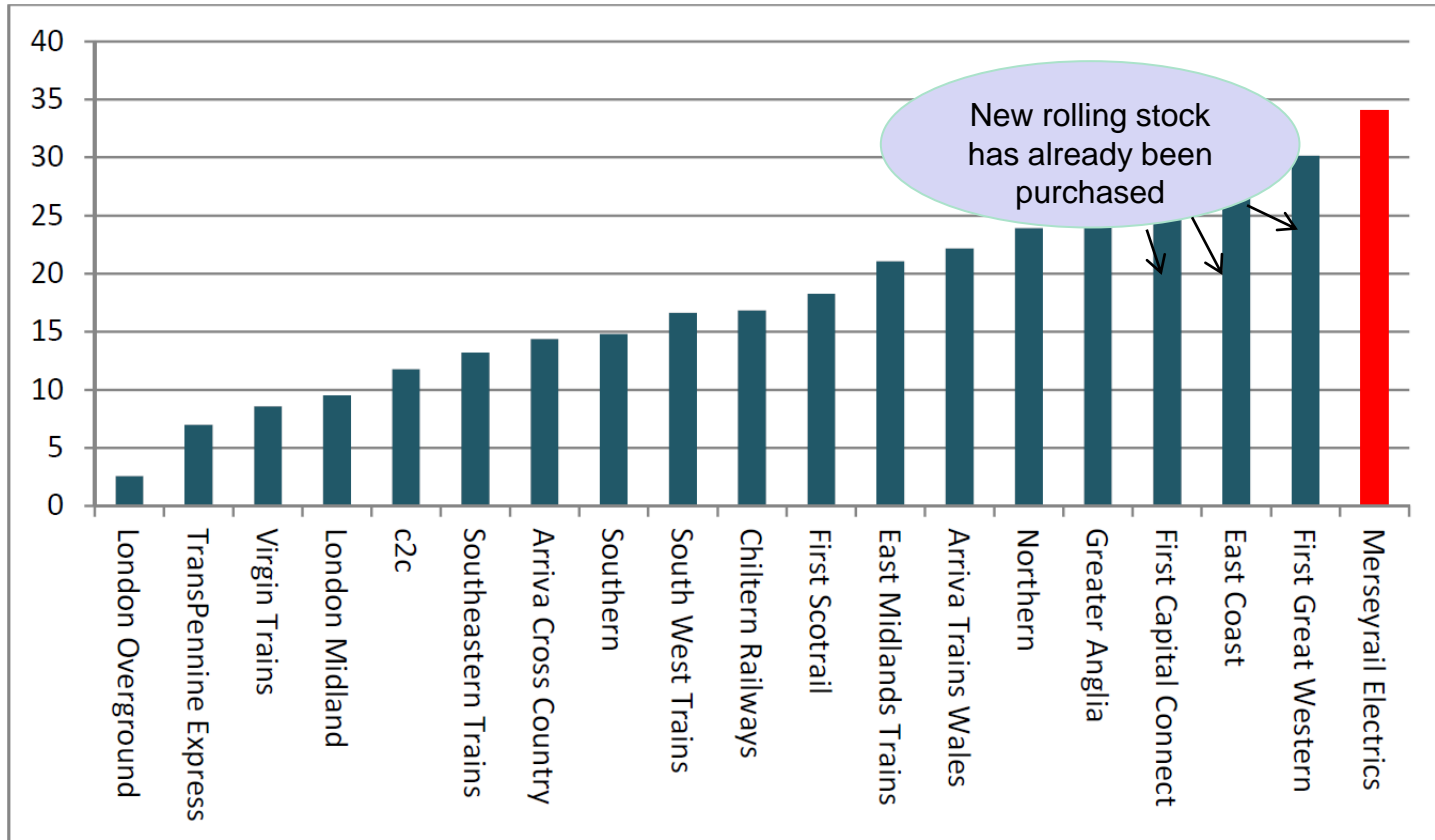
# Current Fleet and Programme Rationale

- The Merseyrail fleet consists of 59 Class 507/508 3 car units
- These were built in the late 1970s and will be more than 40 years old before they could be withdrawn from service
- The trains are owned by Angel Trains, leased by Merseytravel and then sub-leased to Merseyrail
- The trains are comfortable for suburban rolling stock but have a relatively low passenger carrying capacity (303)
- An investment programme to refresh the fleet is approaching completion which will be sufficient to allow the trains to continue operating until the end of the decade
- The trains' have shown a steady improvement in reliability and now perform relatively well in comparison with other fleets of a similar age
- The need to increase passenger carrying capacity and the age of the existing fleet are the key drivers





# UK Comparative Fleet Ages



Source: National Rail Trends quarterly summary 2012/13 Q2, Office of Rail Regulation (excludes Gatwick Express for which there is no data and Island Line).

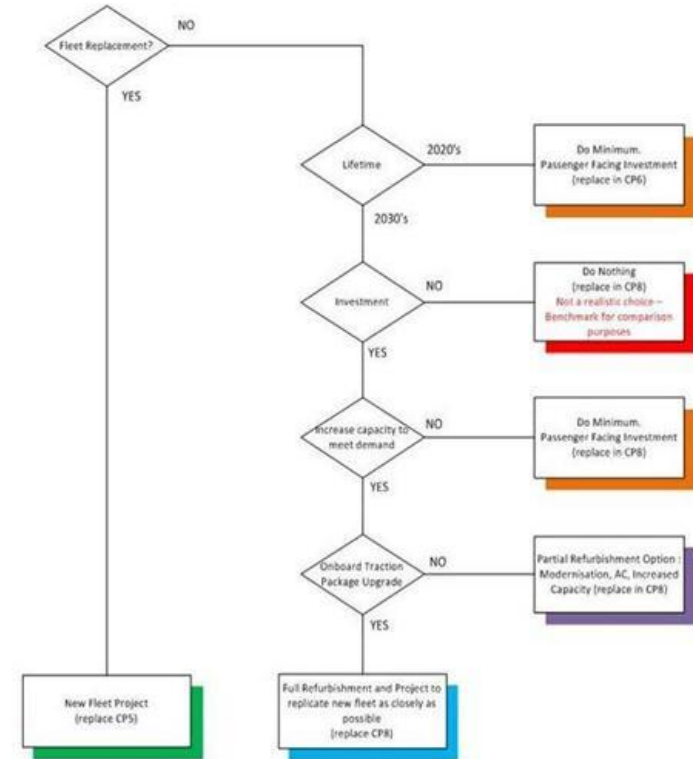


# Programme Objectives

- A set of programme objectives has been developed:
  - To provide world-class facilities for Merseyrail's current and potential passengers which contribute to an enhanced journey experience, tailored to meet their requirements;
  - To deliver the foundations upon which the Merseyside LTRS can be successfully delivered by providing additional passenger carrying capacity in line with projections and preparing for the subsequent expansion and reconfiguration of the Merseyrail Electrics network;
  - To provide facilities which enable the railway to be operated and maintained in a cost-effective and efficient manner;
  - To promote sustainability throughout the programme to ensure that future transport needs can be delivered in a sustainable way;
  - To ensure that the programme delivers the maximum economic benefits for the Liverpool City Region;
  - To minimise the impact of the programme on the on-going operation of the railway;
  - To undertake the programme in a manner which acts as a template for excellent project delivery and delivering value for money; and
  - To ensure the health and safety of all involved in the delivery of the programme and to achieve increased safety levels for all rail users and staff

# Business Case

- The programme has been structured into seven interlinking projects, which have been factored into the business case:
  - Operations (Concession Development)
  - Rolling stock
  - Depots
  - Maintenance
  - Infrastructure
  - Asset ownership
  - Connectivity and passenger information
- The business case has considered a comprehensive range of potential options
- Detailed financial analysis over a 40 year time horizon has been undertaken of a range of scenarios
- Extending the current fleet's life beyond the 2030s is not considered viable, fleet replacement is therefore factored into the model for each scenario
- The business case has concluded that fleet replacement now is the most attractive option available to Merseytravel and fully meets the programme objectives



# Programme Benefits

- Undertaking a fleet replacement and associated depot and infrastructure upgrade will provide the following benefits:
  - Increased passenger carrying capacity to ensure that growth in passenger numbers can continue to be met;
  - Reduced journey times (circa 12%);
  - Improved reliability;
  - Improved facilities for passengers;
  - Reduced fleet size;
  - Reduced operating costs;
  - Reduced maintenance costs
- An economic assessment of the project has identified that fully delivering these benefits by fleet replacement and infrastructure investment will provide a significant boost to the regional economy (£70m p.a.) and provide the stimulus for significant job creation (1,000 FTEEs)

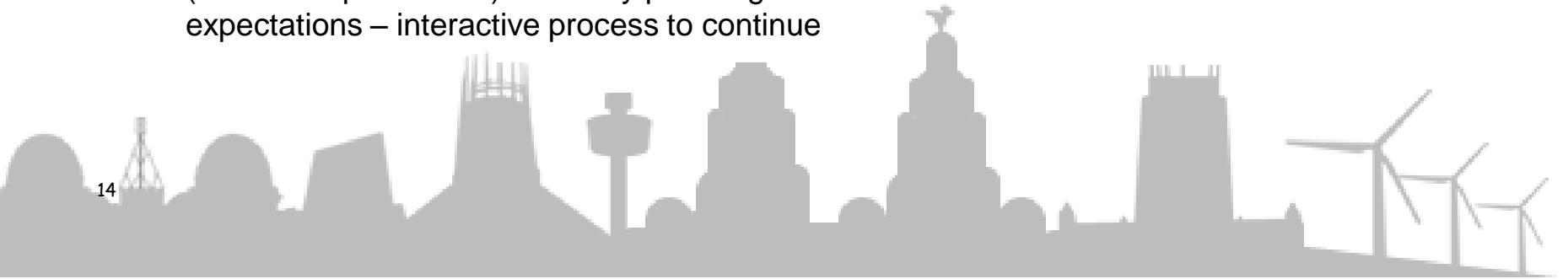


# Procurement Package

- Merseytravel has identified a package of works to be procured from the market comprising:
  - New rolling stock
  - Depot modernisation
  - Maintenance and cleaning of existing rolling stock
  - Maintenance and cleaning of new fleet
- The procurement process for this integrated package of works was initiated by the OJEU notice published on 2<sup>nd</sup> October 2015
- A shortlist of five bidders was announced in January 2016
  - Bombardier
  - CAF
  - Mitsui, J-Trec and Alstom
  - Siemens
  - Stadler
- Bidding process launched 21<sup>st</sup> January 2016
- Bids are due back by the end of April and a preferred bidder is expected to be identified by the end of 2016

# Rolling Stock

- Nominal 60m length
- Increased passenger carrying capacity
- High acceleration and braking rates to deliver journey time savings
- Improved passenger information
- Improved energy efficiency
- Air conditioning
- Improved passenger environment – light, bright and open
- Improved comfort particularly for standing passengers
- Mock ups
- Simulator
- Future-proofed to allow subsequent upgrades e.g. dual voltage, ERTMS
- Facilities tailored to meet passengers' needs
- Merseytravel commissioned Passenger Focus (now Transport Focus) to survey passengers expectations – interactive process to continue



# Depots and Maintenance

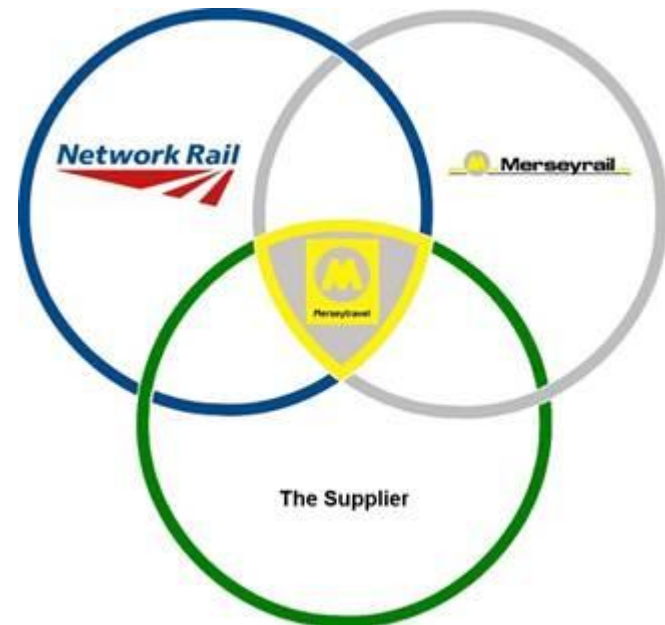
- 2 depots on the network at present
  - Birkenhead North
  - Kirkdale
- Modernisation of maintenance facilities for new fleet
- Depot reference designs drawn up but alternatives will be encouraged and considered
- Transfer of part of the current Merseyrail workforce under TUPE regulations
- Maintenance of existing and new fleets during transition
- Long term maintenance and overhaul of new fleet
- New fleet maintenance to deliver industry leading
  - reliability,
  - availability and
  - presentation





# Key Partnership Relationships

- In parallel with this procurement, Merseytravel and Network Rail will be developing the infrastructure interventions required to allow the maximum benefit of the new fleet to be realised of which the key components are:
  - Reinforcement of the traction power supply
  - Regularisation of the relationship between the track and platform to enable a considerably improved platform train interface (gap and step)
- Merseytravel and Merseyrail will be working closely to ensure that the Concession Agreement aligns with the changes associated with these investments
- Partnership working will be a key ingredient of success



# Funding

- To date >£6m has been invested in the programme by Merseytravel
- Merseyrail and Network Rail have both contributed
- Analysis to date has been undertaken on the basis that Merseytravel funds the project directly and owns the new fleet as this provides access to the most cost-effective funding sources
  - Merseytravel has accumulated reserves which could potentially be invested in the project
  - Public Works Loan Board (PWLB) funding is available
  - European Investment Bank (EIB) have assessed the project and have advised that it could be eligible for up to 50% funding of the capital value
- Other potential funding sources will continue to be explored in parallel with undertaking the procurement



# Timetable

- OJEU Notice 2<sup>nd</sup> October 2015
- Issue of Invitation to Negotiate 21<sup>st</sup> January 2016
- Bid return 28<sup>th</sup> April 2016
- Contract award end 2016
- Transfer of maintenance responsibility mid 2017
- Infrastructure/depot construction commences late 2017
- Rolling stock manufacturing commences mid 2018
- Infrastructure/depot construction complete mid 2019
- Delivery of first units to Merseyside mid 2019
- First new unit into revenue service 2019/2020
- Entire new fleet in passenger service 2020/2021
- Fleet acceptance (reliability growth) 2023
- Maintenance contract complete potentially whole life (35 years)



# Questions?