

Electrification of Bus Fleets Webinar Part 2

- 1. The webinar will be recorded and uploaded to view after with the meeting slides shared with participants.**
- 2. All participants will be muted throughout the webinar.**
- 3. Keep video turned off and microphones muted**
- 4. Please use the chat section to submit questions.**
If you cannot use the chat please email your question to Daniel.hayes@lowcvp.org.uk

Agenda	
11.00	Welcome and Introduction – Dan Hayes LowCVP
11.05	Electrification of Park and Ride Services in York Marc Bithemann, First Group Robert Drewery, Optare Group
11.30	Questions & Answers
11.40	Accelerating the Transition to Clean Energy and Transport Marianne Costigan, Pivot Power
11.50	Questions & Answers
12.00	End



Double Deck ZEVs For York Park & Ride

Marc Bichtemann – Managing Director - First York
Robert Drewery – Commercial Director - Optare

June 2nd 2020



Your Narrators..



Marc Bichtemann
Managing Director
First York



Robert Drewery
Commercial Director
Optare

Agenda

- Introduction
- York Park & Ride Expansion
- The EV Solution
- Infrastructure
- Service Roll Out Plan

Introduction

- **A long term partnership**



- **A medieval walled city**
- **Congestion**
- **Air quality issues**
- **Park & Ride from 1990**
- **EV Bus Pioneer in 2014**



- **Part of FirstGroup**
- **>100 vehicles**
- **50k journeys per day**
- **York partner 20 years +**
- **>1m miles EV operation**



- **One of UK's largest OE's**
- **EVs since 2010**
- **Optare design & build**
- **A third of all UK Bus EVs**
- **EV Partner since 2014**

York Park & Ride Expansion

- York is UK's largest P&R scheme
- 6 high quality sites with over 5,000 parking spaces
- 5 million journeys each year
- Patronage growing at 6% YOY
- Focus on improving customer experience
- 2018 commitment to 21 all electric deckers
 - Adds to 12 x 2014 Optare EV single decks
- First contracted operator past 2025



York Park & Ride Expansion

- P&R expansion accompanied by new look
- Development of a premium brand to attract car users
- Consistent application across the network
- Themed High Spec Interior
 - Embroidered E Leather Seats
 - USB Charging
 - WiFi
 - Luggage racks
 - Next stop/AV



Bus mock up (Blue & Copper)



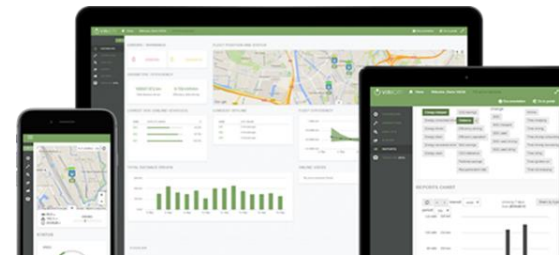
The EV Solution

- **Learnings from 2014 applied to 2019 Project**
 - In service trials & route planning
 - Vehicle choice
 - Charging strategy
 - Infrastructure
 - Whole life approach to maintenance & aftercare

- **Operator led partnership to deliver an end to end solution**

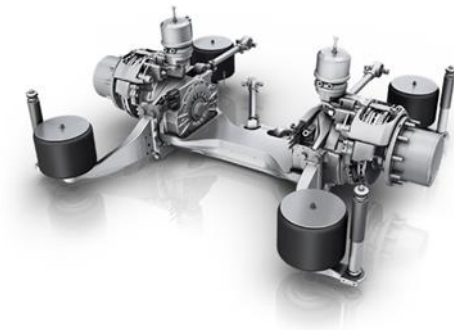
The EV Solution – Route planning & Vehicle Choice

- 2017 service trial of TfL spec. Metrodecker EV
- Proof of concept
- Route consumption mapping via Viriciti
- Success contributed to Metrodecker selection



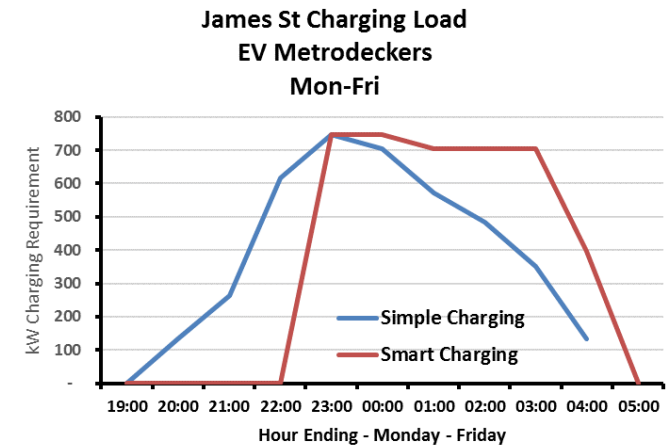
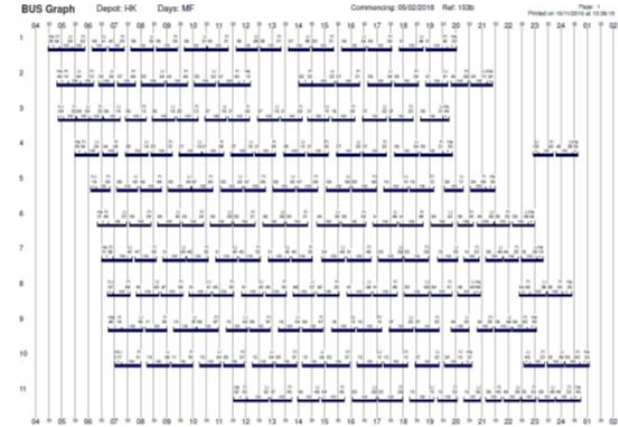
The EV Solution – The Vehicle

- **300 kWh Metrodecker integral double deck**
 - Modular Lithium ion packs
 - ZF hub motors
- **11.1m maximum length**
- **97 passenger capacity. 83 seated max**
- **11T unladen. 18T GVW**
- **150 miles (240 km) ZE winter range**
 - Pre-heat on charge. Ambient HVAC control
- **Slow AC & fast DC charge options**



The EV Solution – Charging Strategy

- 145 mile maximum run length
- Route requires overnight slow charging only
- No need for fast charging at P&R sites
- Fast charging will be for contingency only
- Smart charging reviewed but not adopted



The EV Solution – Infrastructure

- Fleet based at York James St depot
- Compact & crowded site
- 207 kVA Existing EV fleet max demand
- Deckers need additional 800 kVA
- Site transformer upgrade required
- Buses charged where they are parked



The EV Solution – Infrastructure

- 44 kW AC charge point for each bus
- 1 x 150 kW DC charger (for both fleets)
- Infrastructure managed by First
- Works commenced May 2019
- Commissioned & tested December 2019
- On time & on budget



Service Roll Out Plan

- **1st bus received in January 2020**
- **Planned route launch in Q2 2020**
- **Driver & depot training underway**
- **Progress halted for lockdown**
- **Factory re-opened end May**
- **Post COVID mods in process**
- **Service launch Q4 2020**



Thank You!



LowCVP Suppliers Portal – Pivot Power

LowCVP is developing a “Suppliers Portal” – a one stop shop for all the suppliers to support the shift to net-zero transport. Pivot Power is one of these suppliers:

Marianne Costigan, Pivot Power – Accelerating the Transition to Clean Energy and Transport
mcostigan@pivot-power.co.uk <https://www.pivot-power.co.uk/>

- Pivot Power offers high voltage connections with guaranteed future capacity and price certainty in selected locations across England and Wales.
- Pivot Power is developing the world's largest transmission-connected battery storage and electric vehicle charging network

Presentation followed by Q&A

Thanks for attending

Slides and video will be shared & uploaded to the [LowCVP website for you to download](#)

Next Webinar on Electrification of Bus Fleets on ***Tuesday 9th June at 14:00 – 15:00 BST***

Depot electrification with on-site battery storage and leasing of electric buses with Newport Bus, Zenobe Energy and Yutong – [Register Here](#)

LowCVP members - Energy Infrastructure Working Group – Launch meeting

[Thursday 11th June at 14.00-16.00](#)

[LowCVP Annual Conference - SAVE THE DATE – July 15th](#) (free for members)

Interested in joining [LowCVP's membership](#) and supporting the shift to net-zero?

Contact Daniel.hayes@lowcvp.org.uk for more details.