

Coventry – City of Culture...and Innovation

14th Edition of Environment & Energy Conclave
Journey Towards Net Zero
At the Threshold of COP26

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The Electric City

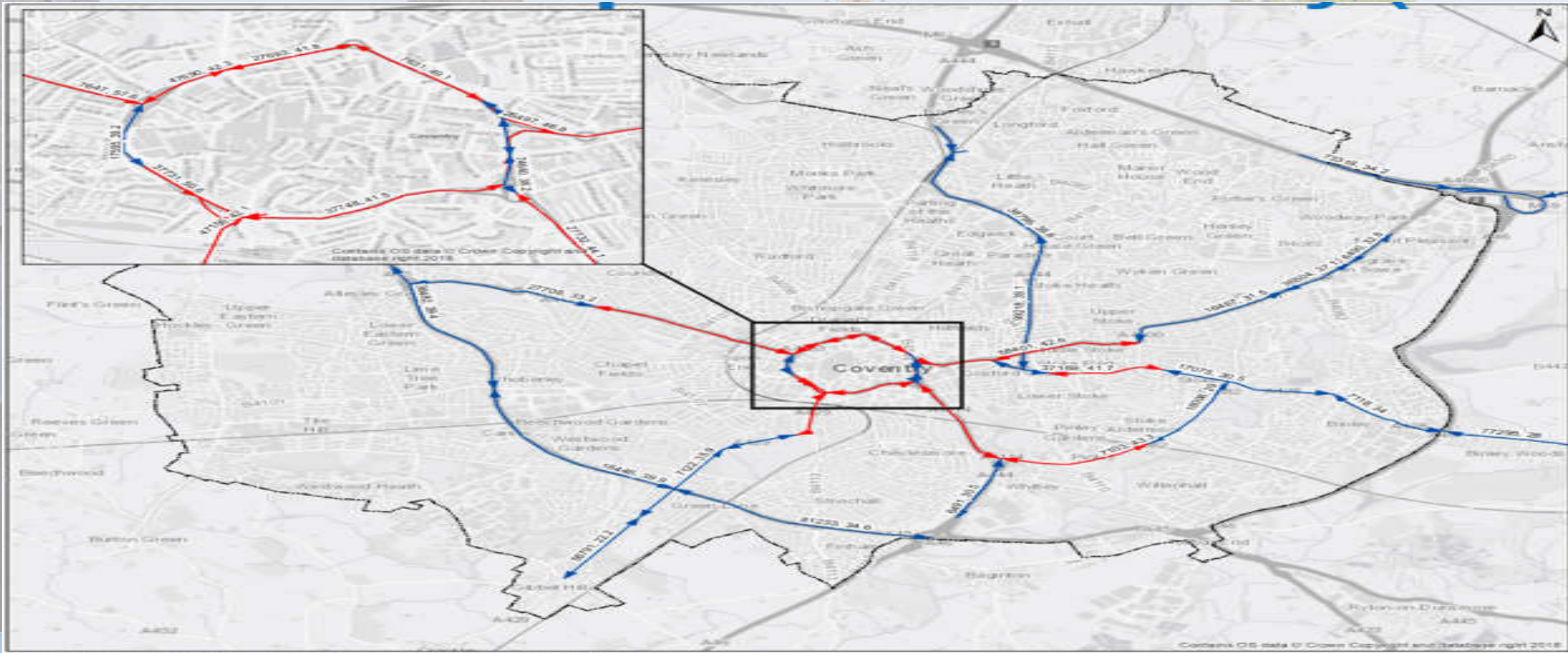
Why Electrify Coventry?

- Climate Change Strategy
- Coventry Local Air Quality Action Plan
- Boost jobs and growth in local economy
- Zero carbon transport system
 - Very Light Rail
 - Electric buses
 - Electric taxis
 - Electric vans
 - Public EV charging network
 - Plug in Charging
 - Static Charging
 - Pantograph Charging and
 - Dynamic Charging of Vehicle



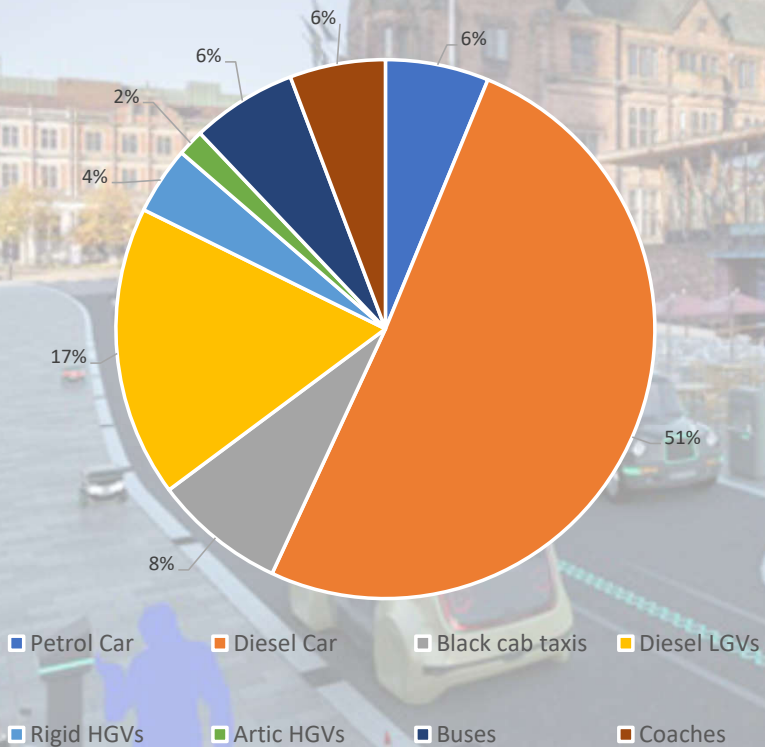


Modelled NO2 exceedances (2021- updated AQ modelling)

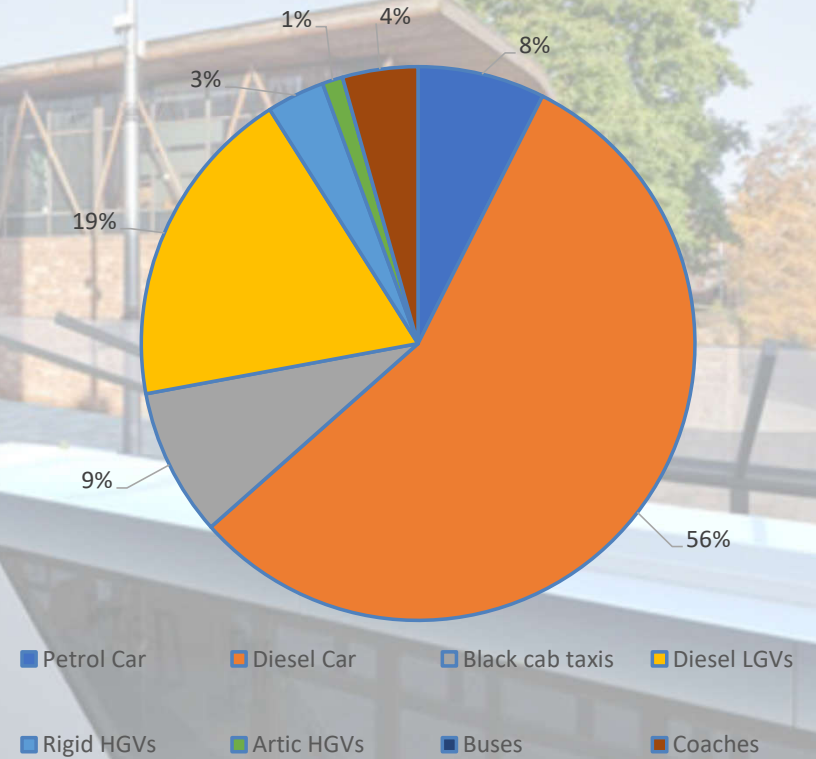


The challenge for Coventry

Source apportionment - Holyhead Road

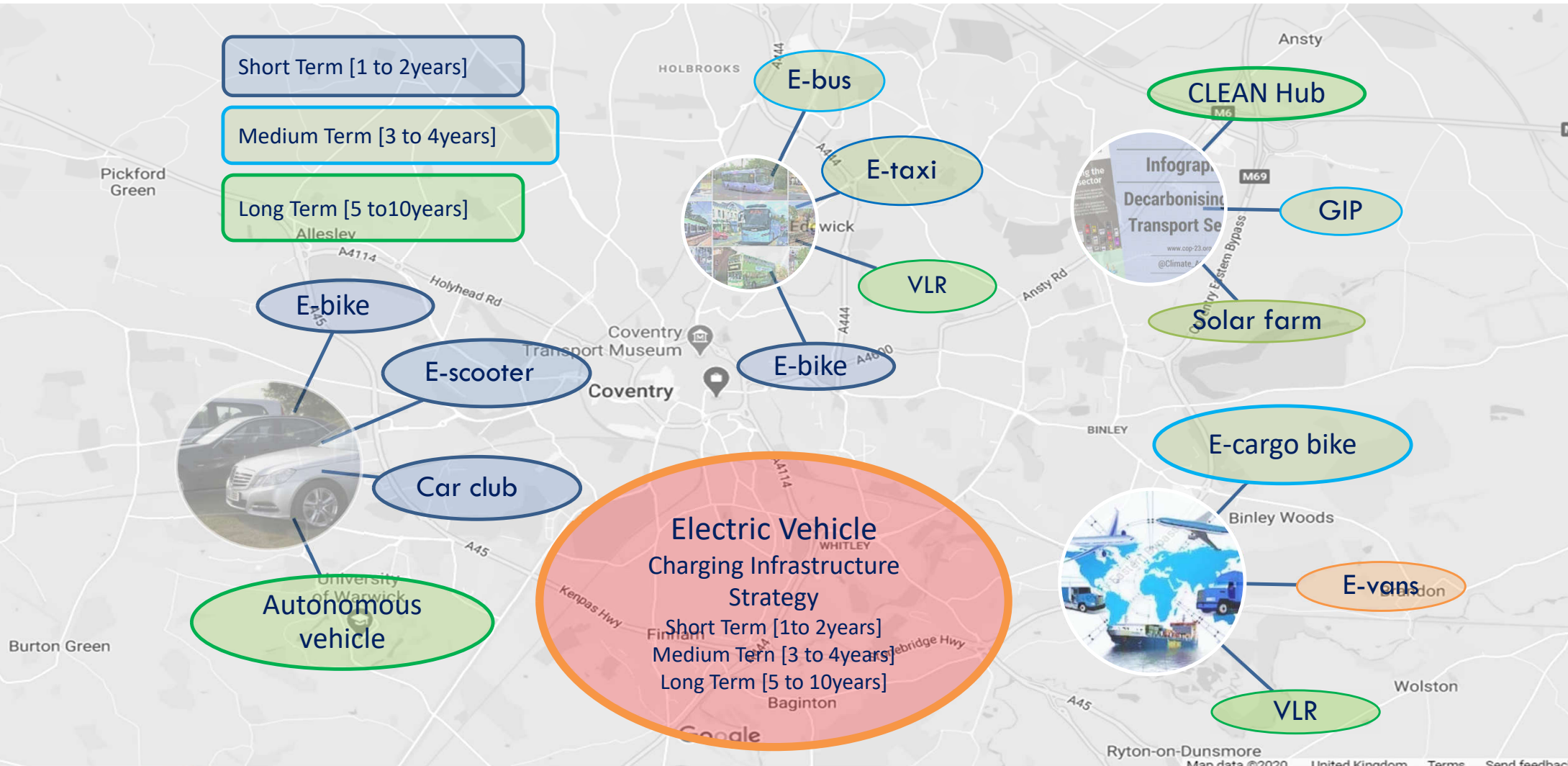


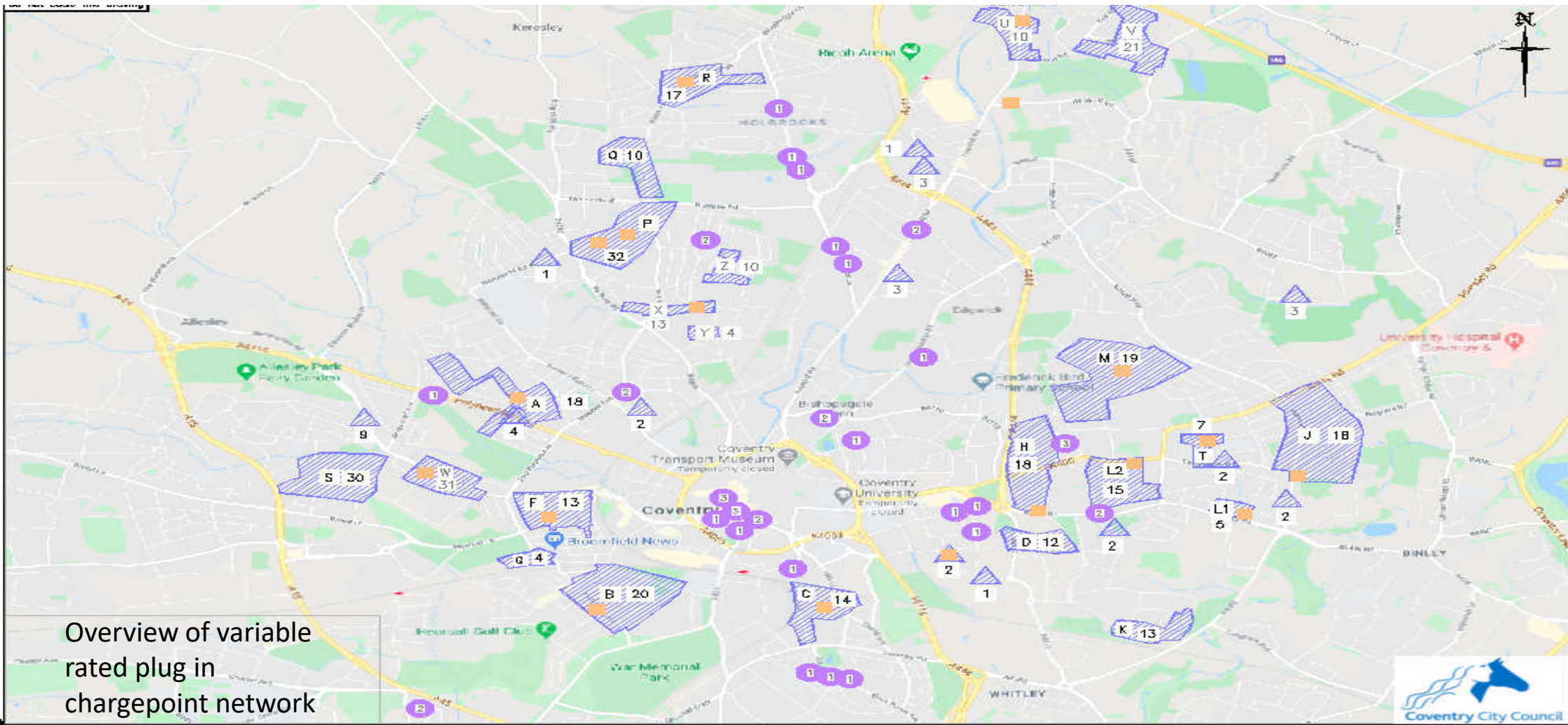
Source apportionment - SW quadrant ring road



Developing an EV culture

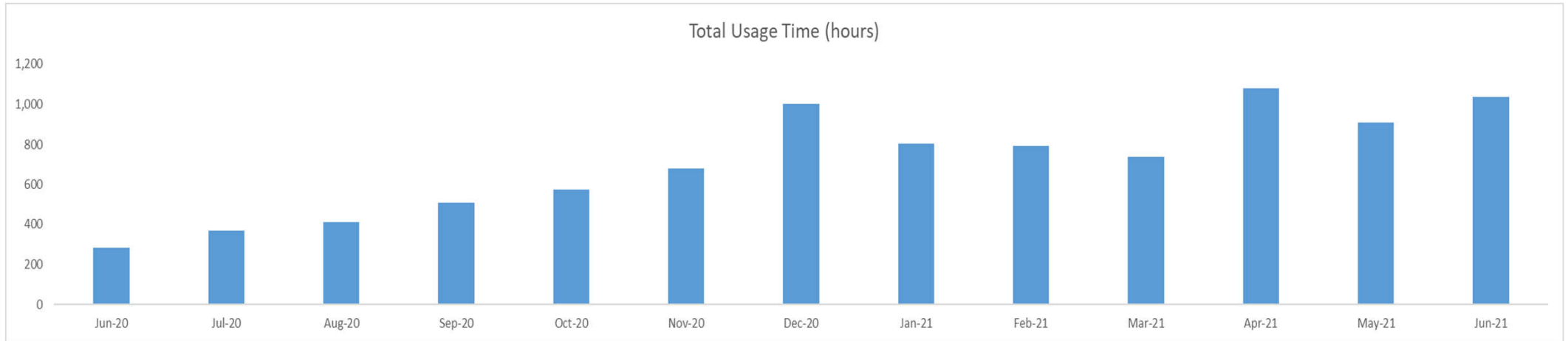
- £5.11M OZEV Funding
- 25% of the above funding supported by TfWM, National Express and private sector
- Holistic approach of extending EV charging infrastructure to the wider city
- Access to Charge points in the City of Coventry for Electric Taxi's [Hackney carriages]
- Promote increase use of EV cars through workplace charging, home charging and onstreet charging
- Improve Air Quality
- Future Proofing for Emerging Technology



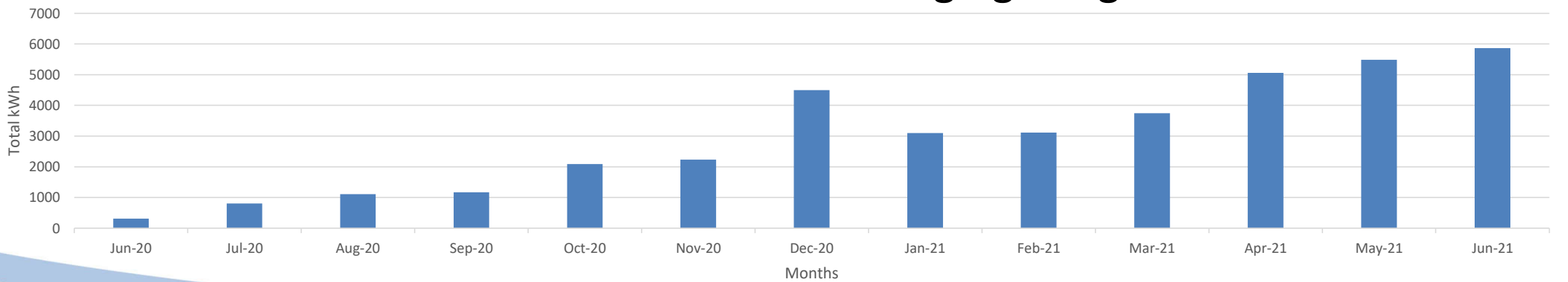


Overview of variable rated plug in chargepoint network

Rapid Charging Usage



Residential Onstreet Charging Usage



Ultra-fast Charging Hubs / Green Innovation Park

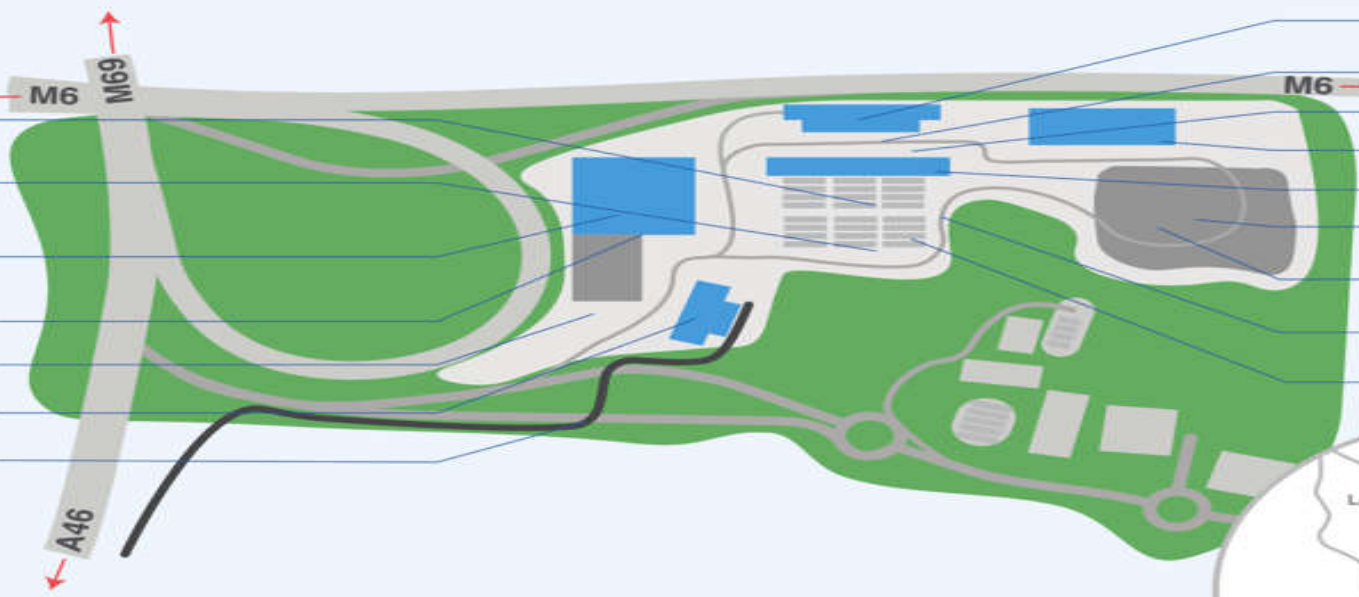
- Council working with partners to unleash the potential for ultra-fast charging hubs across Coventry.
- These state of the art facilities would provide volume charging facilities for all types of electric vehicles.
- Developing options for multi-fuel hubs including hydrogen and gas
- Opportunities for associated facilities and SME research hubs
- Energy generation and supply opportunities.



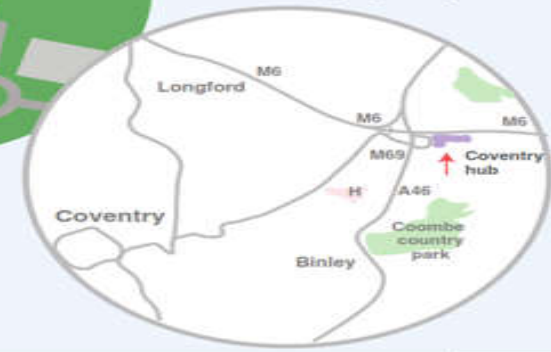
Coventry & Warwickshire City Linking Energy and Network Hub (CLEAN Hub)



- Wind Energy Generation
- Solar Energy Generation
- Park & Ride carpark area
- Low/high power EV charging carpark area
- Consolidation centre/last mile
- Parcel pickup
- E-scooters/e-bikes
- VLR station
- Very Light Rail (VLR)
- Cycle-highway
- Flying goods vehicles (drones)



- Electric bus charge park
- Electric shuttle bus
- Bus stop
- Innovation zone
- Retail area
- Multi-fuel hub
- Hydrogen fuel production
- Battery Storage
- Static wireless charging bays



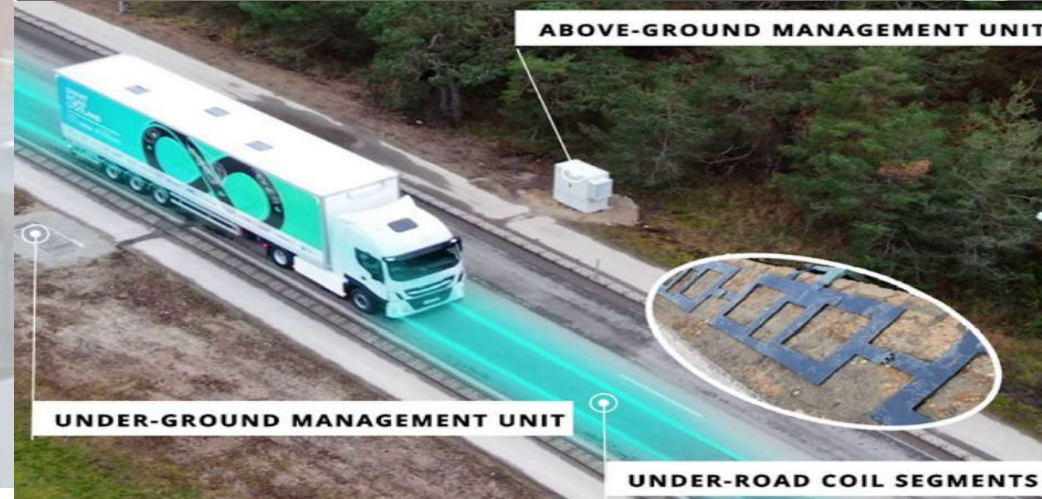
EV - Future Works

CCC exploring 'car clubs' and 'lift-share'

Linked to future mobility pilot scheme which would allow people to trade in their older, polluting cars for mobility credits. Credits could be used on trains, buses, car clubs and bike hire.

Potential inclusion of car club cars into residential and mixed-use developments.

Charging on the move: Dynamic Wireless Power Transfer (DWPT)



Battery production facilities to help EV transition

UK Battery Industrialisation Centre (UKBIC) The £130 million UK Battery Industrialisation Centre (UKBIC) is a pioneering concept in the race to develop battery technology for the transition to a greener future. The unique facility provides the missing link between battery technology and successful mass production. Based in Coventry, the publicly-funded battery product development facility welcomes manufacturers, entrepreneurs, researchers and educators.

Gigafactory Coventry Airport Coventry Airport has been chosen as the preferred site across the West Midlands for a new Gigafactory facility. The recently submitted plans would deliver 5.7m sq ft of space for both battery production and recycling, would add £434m in GVA to the regional economy each year.



Coventry- All Electric Bus City





Very Light Rail



Zero emission

Designed and built
in the UK

Battery powered

Capacity
20 seated
36 standing

Lightweight construction

Innovative bogie designed for tight corners
with all axles driven

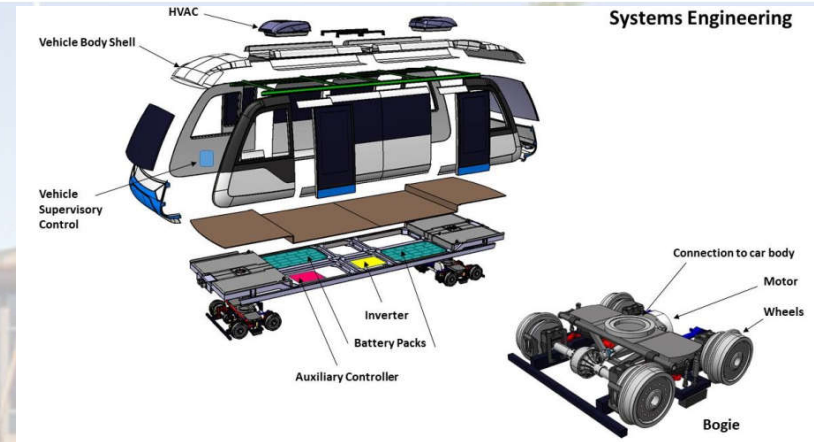
Low cost trackform

The Vehicle

VLR Technology

- Self-propelled vehicle
- Battery powered vehicle
- Lightweight design
- Much lower axle load compared with a conventional tram
- Lightweight track requiring only shallow excavations within the highway
- New charging technologies

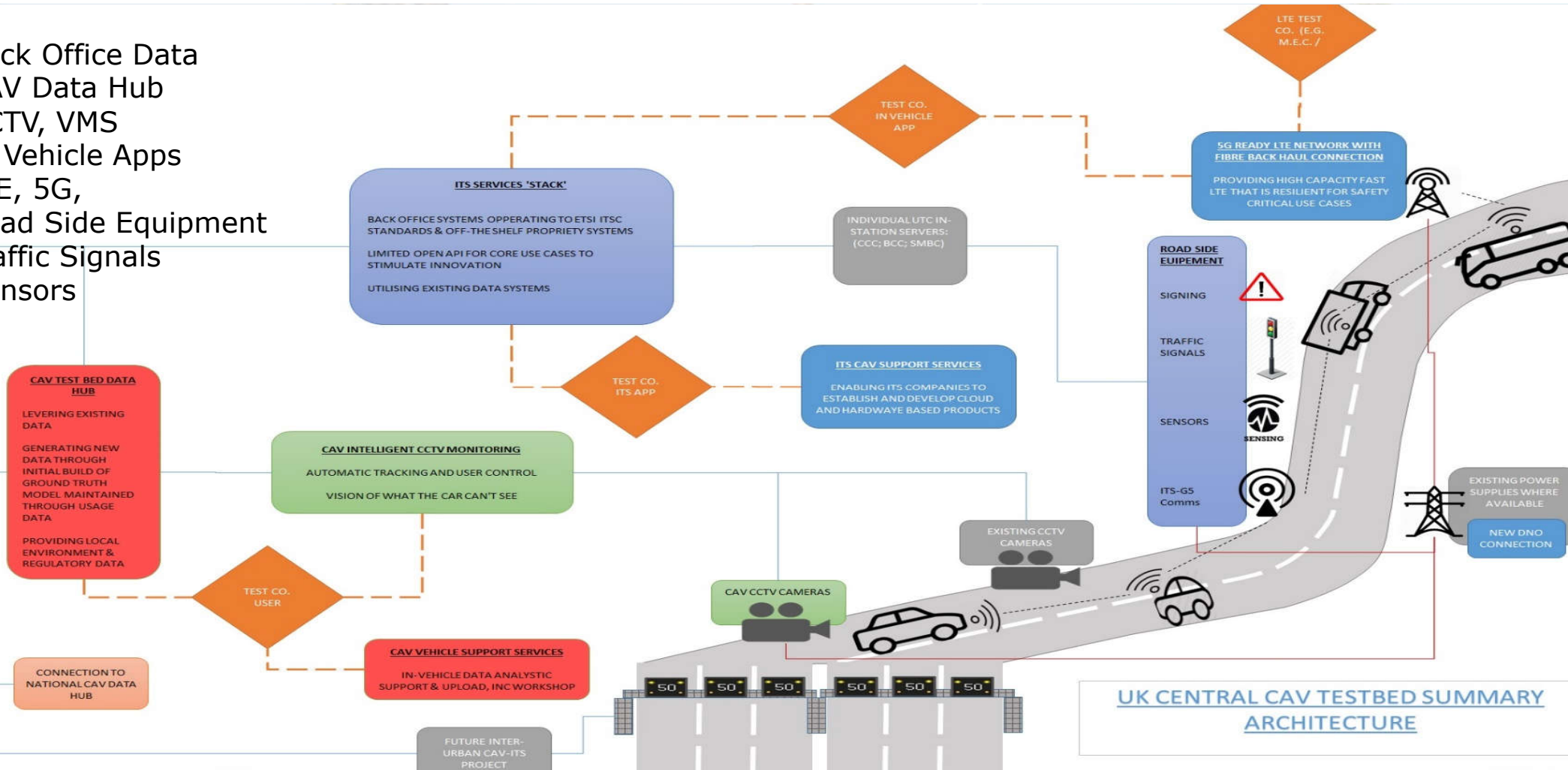
Ultimately autonomous operation at a high frequency in order to provide a “turn up and go” service.



CAV Testbed Overview

- 'UK Central CAV Testbed'
- **Funding** Innovate UK
- **Objective** Connected & Autonomous Vehicles Test Bed – Testing Infrastructure Programme
- **Duration** 10 years from 1st May 2018
- **Project Value** £25.3m **Grant** £17.6m **TfWM Grant** £5.6m
- **Partners** Warwick Manufacturing Group (leader), Amey, AVL, Costain, Coventry University, Horiba Mira, Transport for West Midlands, Wireless Infrastructure Group. Coordinated through Meridian Mobility UK

- Back Office Data
- CAV Data Hub
- CCTV, VMS
- In Vehicle Apps
- LTE, 5G,
- Road Side Equipment
- Traffic Signals
- Sensors



UK CENTRAL CAV TESTBED SUMMARY ARCHITECTURE

CAV Testbed Architecture

Thank you Any questions?

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