



# D | DYNAMON

EMPOWERING FLEETS FOR TOMORROW. TODAY.

**APSE Energy**  
18<sup>th</sup> September 2024

Data-driven fleet planning tools for cost saving and decarbonisation

 | ZERO

 | TYRE ANALYTICS

 | AERO ANALYTICS

 | PRECISION TRIAL ANALYTICS

# Fleet Decarbonisation & Transition to EV's

## Agenda:

- Introduction to Dynamon's Planning Software, ZERO:  
Discover how ZERO can help model your fleet's transition to EVs, ensuring optimal vehicle mix and load requirements aligned with grid capacity.
- EV Transition Test:  
Learn about this essential assessment tool and its application in evaluating your fleet's readiness for EV integration.
- Driving Fleet-Related Transition & Decarbonisation Plans:  
Explore various options for councils.
- Collaboration and Best Practices:





# Government Projects



- As a key member of the eFREIGHT 2030 consortium, Dynamon will collaborate with major industry players to support the deployment of 100 electric HGVs and 32 new charging locations.
- ZERO software will be used for modelling and optimising the integration electric HGVs into fleet operations



- Dynamon is leading the ZENFreight consortium, spearheading efforts to accelerate the adoption of electric heavy goods vehicles (HGVs).
- The consortium includes leading truck manufacturers, an academic partner, fleet operators and an energy company, working together to decarbonise HGVs



- Accelerating Transport to ZERO emissions
- Working across sectors such as Buses & Coaches, Cars, Commercial Vehicles, Energy Infrastructure, Collaborative Interests
- Connects members with access and insights into government policy and technical developments.



**TRUSTED  
BY**





# What is simulation?

- Mathematical computer programs that imitate real-world systems or processes.
- Allow users to experiment with different variables and scenarios to see how they might affect the outcome.

Flight Simulators

Vehicle Simulators

Race Simulators

Biological  
Simulators

Environmental  
Simulators

Computer Games



# Simulation Benefits

Decision-making

Planning

Flexibility

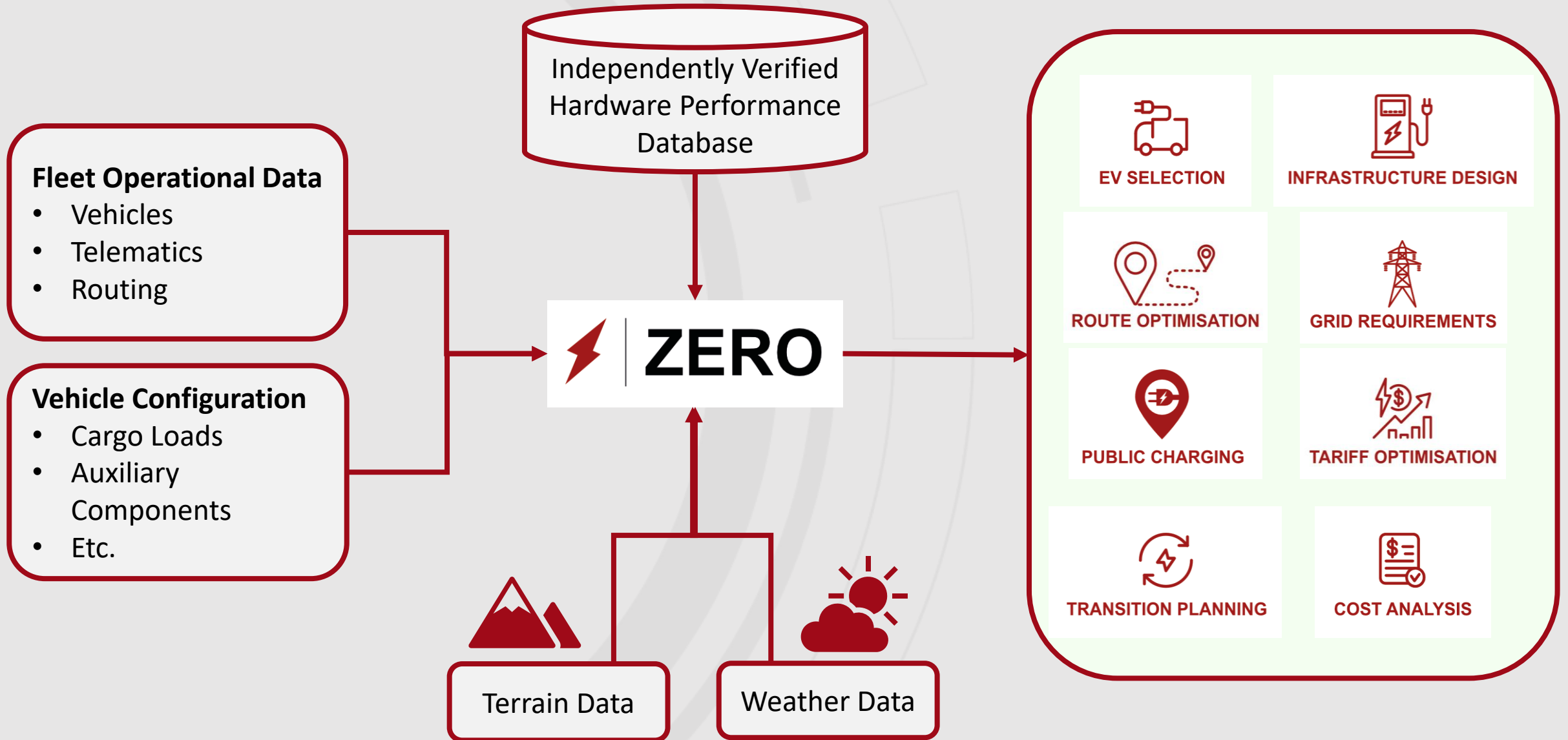
Cost-effectiveness

Accuracy

Speed



# About ZERO

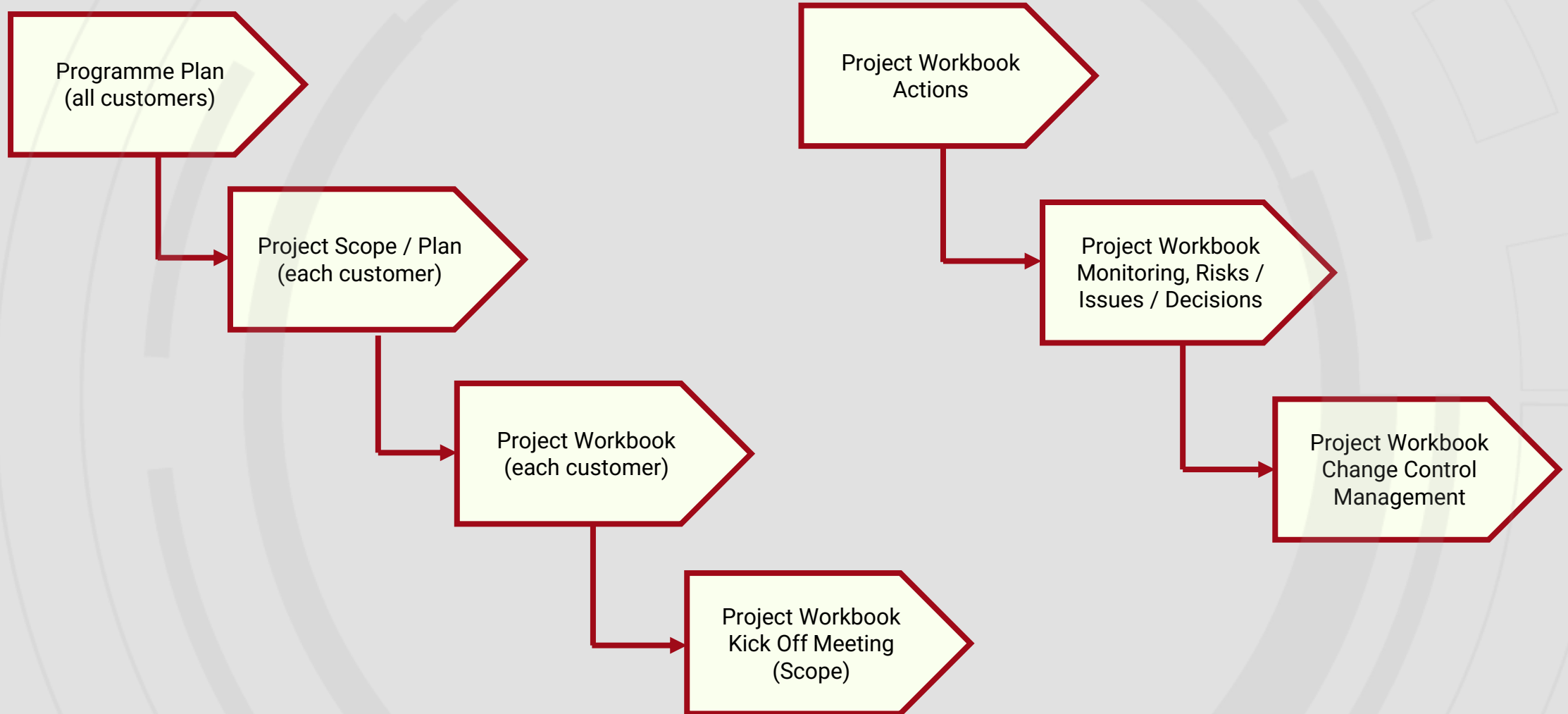




Our partnership approach to  
**Programme / Project Management**

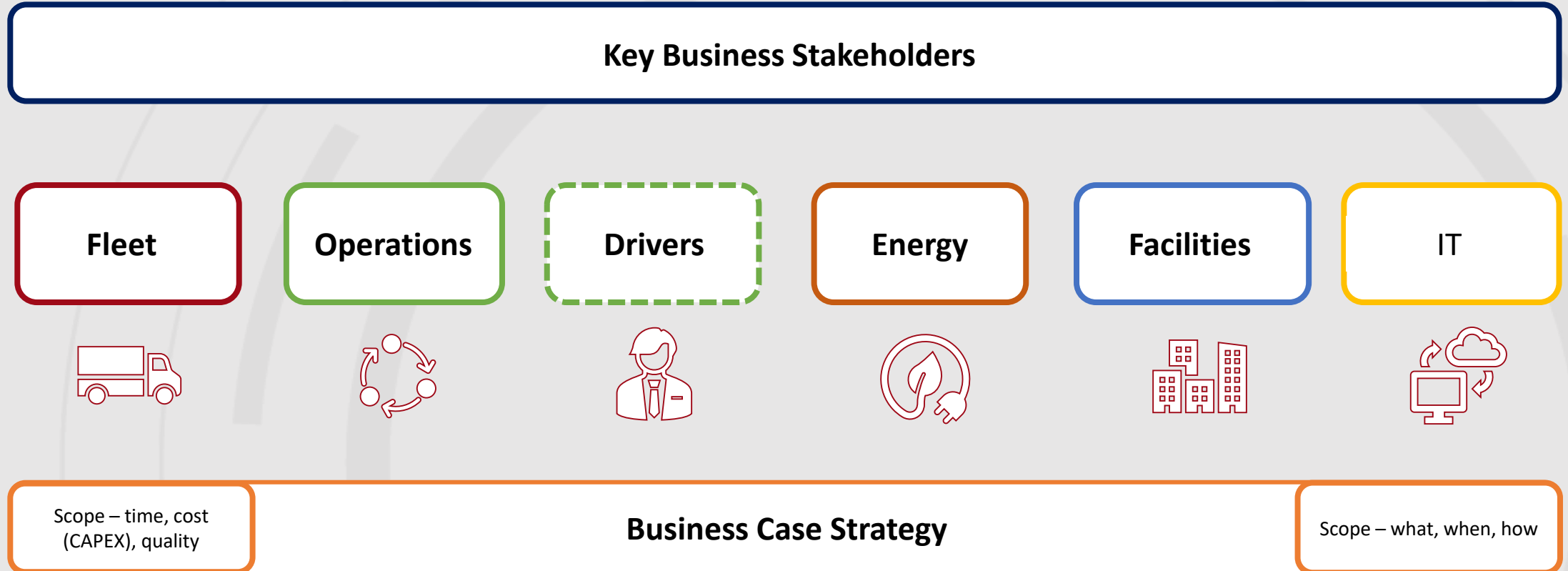


# Dynamon – Project Transition Planning Workflow



# Programme / Project Structure

## Fleet Electrification Programme





# Fleet Decarbonisation Strategy – Achieving Net Zero

Local authorities need to consider:

- Size of their fleets – Usually large with a mix of LCV's, HCV's and equipment
- Identify which vehicles that are suitable for replacement with alternative fuelled vehicles (EVs) and by when (future 10-year plan)
- Formulate a Procurement strategy recognising the ZEV mandate, vehicle class lifecycles and whole life costs.
- Install chargepoints at council depots and review the options for optimum EV charging.
- Address local air pollution by reducing Greenhouse gas emissions and realise energy efficient targets

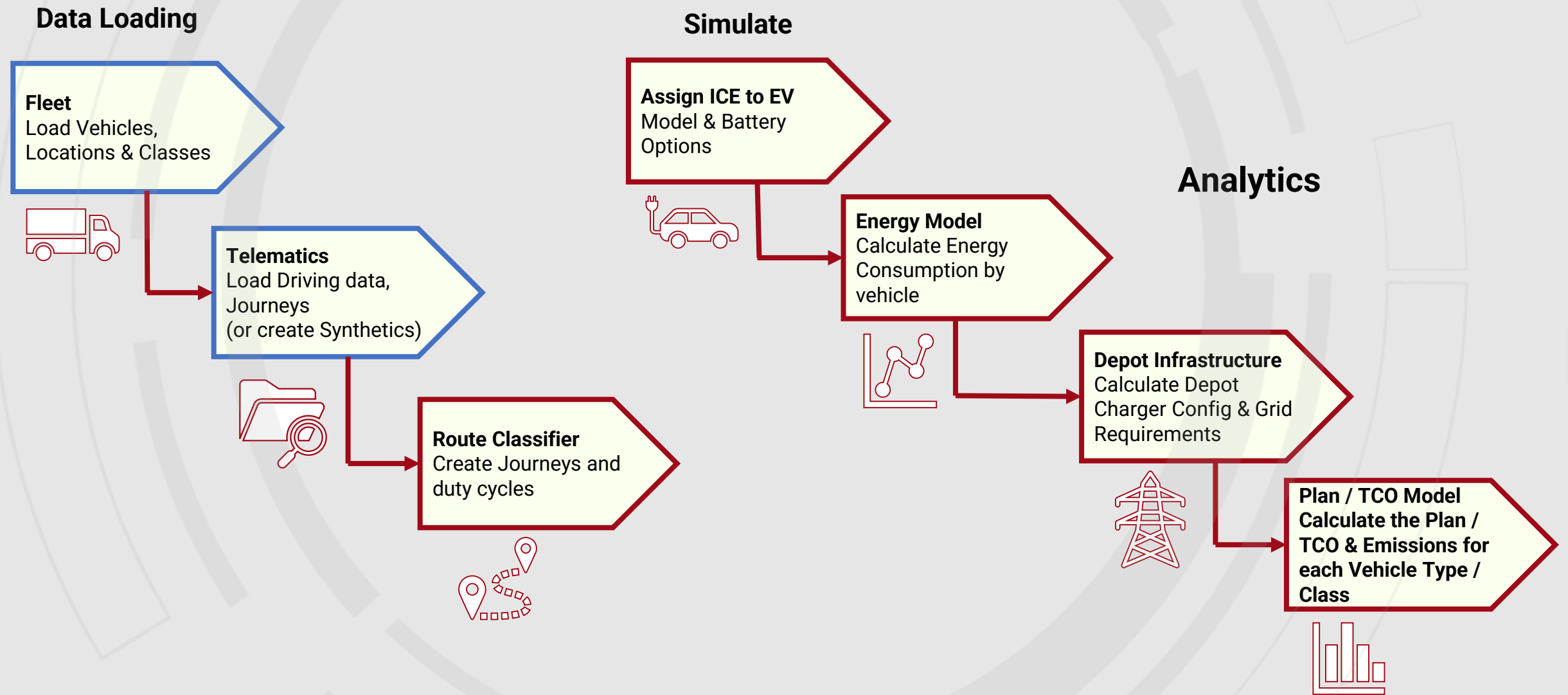


# Fleet Electrification Programme

EV Transition Test

What do we need from you ?

# Zero - Data Loading, Simulation & Analytics





# Delivery Phase – Plan – Time, Cost & Quality



## ZERO

### Zero Data Analytics

Vehicles

Journeys

Infrastructure

Drivers

Fleet Utilisation,  
EV Optimisation  
Review

Fleet  
Decarbonisation  
Plan (10yr)

TCO

Business  
Intelligence  
Monitors

Ops Journey  
Duty Cycle  
Plan

Costs, Charging  
Infrastructure  
Software, Plan

Engagement /  
Awareness

Downtime,  
Locations,  
Shifts

EV  
Procurement,  
Movements

By Vehicle  
Class

Monitors  
CAPEX, Opex  
Co2, NoX,  
Pm's

EV Duty Cycle  
Optimisation

Fully  
Integrated  
Depot, Home  
On Road

Training,  
Behaviour,  
Payments

Scope – time, cost, quality

### Business Case / Plan

Scope – what, when, how

## Working together – Partnerships

- LA Teams can analyse Zero outputs internally with own resources
- LA Teams can partner with an APSE associate to recommend options
  - Collaborate / Learn best practice and share opportunities with other LA's
  - Monitor and measure business intelligence outputs and change supported by APSE performance networks
  - Grab some APSE awards during 2024/5
- LA Teams could use their own contractors
- Dynamon could support

Over 570 councils have declared Climate emergencies to date!  
*Is “do nothing” still an option?*



# Insights and Analysis

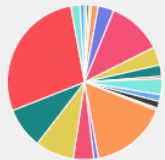
How can Zero help ?



# Dashboard KPI's "As-Is" Baseline & "To-Be" Reporting

## Fleet Composition

Fleet Location



- 2-4 Wheeled Powered Light Vehicles (Bike based) (200kg - 1200...
- Cars SUV (1400kg - 3000kg)
- Cars People Carriers (1400kg - 3000kg)
- Cars (off road) (1400kg - 3000kg)
- HCVs (Rigids 2 Axle) (3501kg - 7400kg)
- HCVs (Heavy Panel Van 2 Axle) (3501kg - 7400kg)
- HCVs (Rigids 2 Axle) (7401kg - 7500kg)
- HCVs (Rigids 2 Axle) (7501kg - 12000kg)
- HCVs (Rigids 2 Axle) (12001kg - 16000kg)

▲ 1/3 ▼

## Avg. Daily Driving Distance

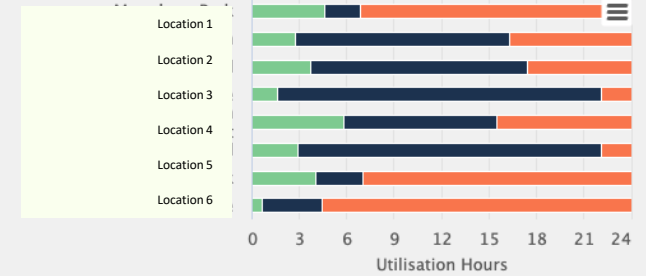
All Vehicles



● Average Distance Driven by Vehicle

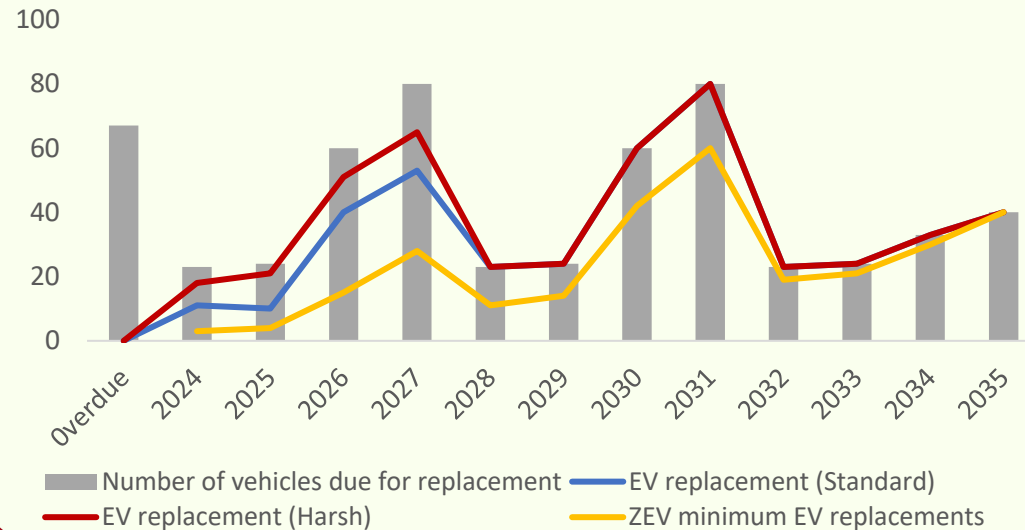
## Vehicle Utilisation Report

All Vehicles



- Driving
- Stopped at Known Location
- Stopped at Unknown Location

## Yearly Replacements with EV Scenarios



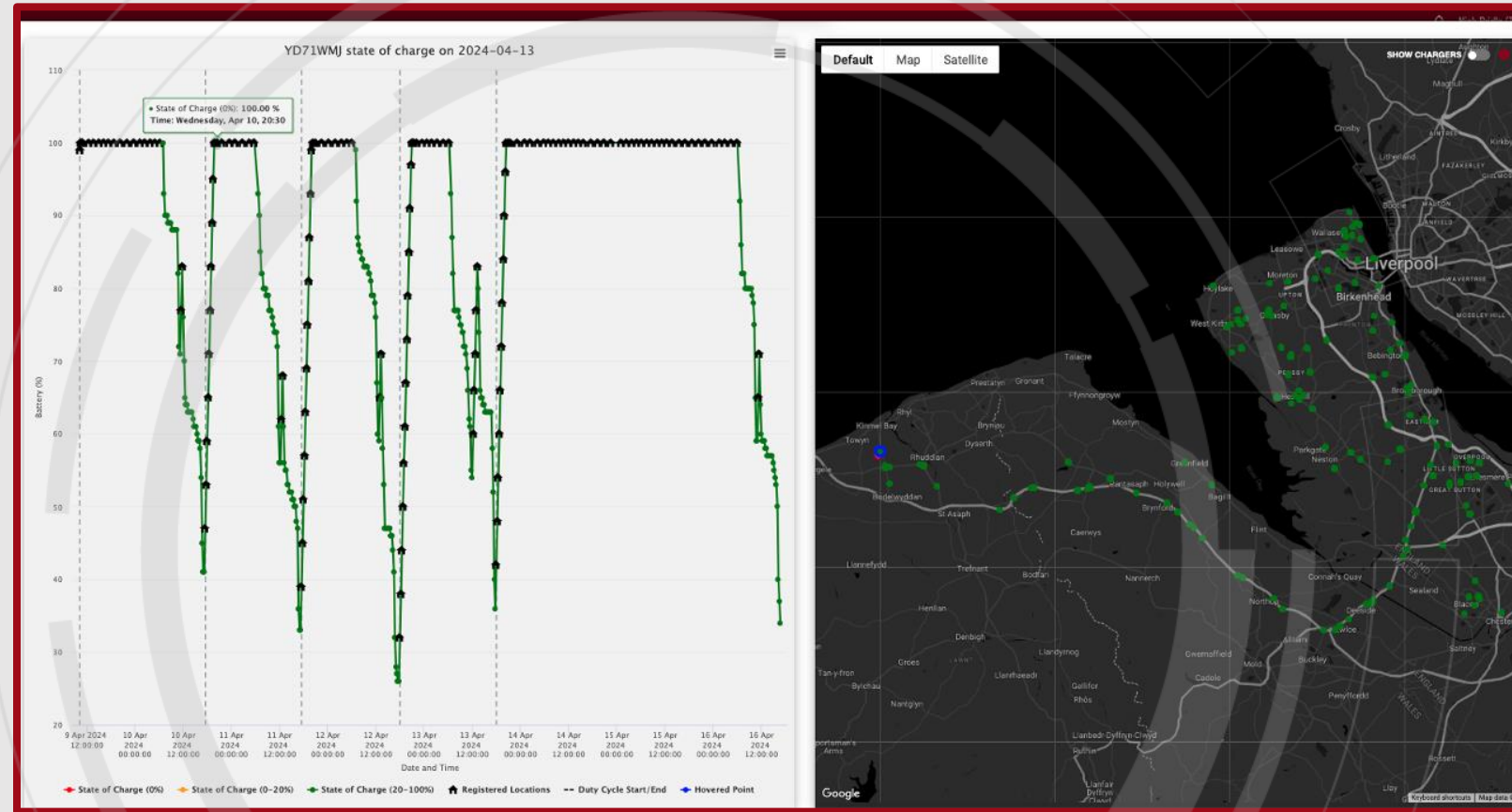


# EV Energy Model

Driving data and locations mapped via Telematics

## Journeys

Classify routes & create duty cycles with stops and total distance





# ICE to EV Selection

Use ZERO to **choose the best EVs for your specific operation**. Make sure EVs can do the work required, but don't have overly sized batteries causing unnecessary costs.

**Analyse the performance** of any commercial EV in any fleet operation by accessing a validated database of electric vehicles.

ZERO provides **real-world EV performance insights** considering specific vehicle configurations, modifications, fleet operations, driver behaviour, road conditions, weather, vehicle payloads, and auxiliary power consumption (e.g., refrigeration units and tail lifts).

## ICE TO EV SETUP

< BACK

**Save EV simulation as**  SAVE

**Simulation description**

**Use Charge Curves** No  Yes

**Advanced configuration** No  Yes

**FILTERS** **EXPORT**

Simulation Vehicle  Cargo Load  Aux Power  Home Charging  Rate (k... APPLY

<input type="checkbox"/>	Registration	Location	Make/Model	Vehicle Class ↑	Simulation Vehicle	Cargo Load (%)	Auxiliary Power (kW)
<input type="checkbox"/>	GK71TLV	Snodland CSC	Iveco - Daily Luton Box - with tail...	HCVs (Rigids 2 Axle) (3501kg - 7...	(Custom) Iveco eDaily 72...	75	High (1.68 kW)
<input type="checkbox"/>	GK		Iveco - Daily Luton Box - with tail...	HCVs (Rigids 2 Axle) (3501kg - 7...	(Custom) Iveco eDaily 72...	75	High (1.68 kW)
<input type="checkbox"/>	GK71TNE	Birmingham CSC	Iveco - Daily Luton Box - with tail...	HCVs (Rigids 2 Axle) (3501kg - 7...	(Custom) Iveco eDaily 72...	75	High (1.68 kW)
<input type="checkbox"/>	GK71TNZ	Tilbury CSC	Iveco - Daily Luton Box - with tail...	HCVs (Rigids 2 Axle) (3501kg - 7...	(Custom) Iveco eDaily 72...	75	High (1.68 kW)
<input type="checkbox"/>	GK71TNU	Snodland CSC	Iveco - Daily Luton Box - with tail...	HCVs (Rigids 2 Axle) (3501kg - 7...	(Custom) Iveco eDaily 72...	75	High (1.68 kW)
<input type="checkbox"/>	GK71TXD	Birmingham CSC	Iveco - Daily Luton Box - with tail...	HCVs (Rigids 2 Axle) (3501kg - 7...	(Custom) Iveco eDaily 72...	75	High (1.68 kW)
<input type="checkbox"/>	GK71TXH	Birmingham CSC	Iveco - Daily Luton Box - with tail...	HCVs (Rigids 2 Axle) (3501kg - 7...	(Custom) Iveco eDaily 72...	75	High (1.68 kW)
<input type="checkbox"/>	GK71TYD	Bolton CSC	Iveco - Daily Luton Box - with tail...	HCVs (Rigids 2 Axle) (3501kg - 7...	(Custom) Iveco eDaily 72...	75	High (1.68 kW)



# Fleet Route Classification / Simulation



# Simulation of Different Battery and Charging scenarios

Understand required battery and charger combinations

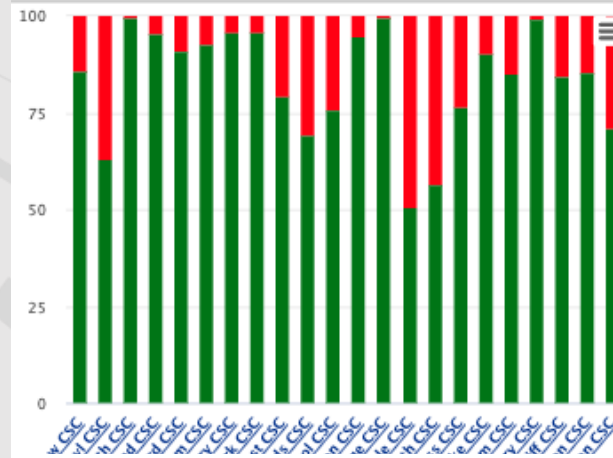
See which vehicles and routes can be electrified today

Future planning for transition as battery and charging technology improves

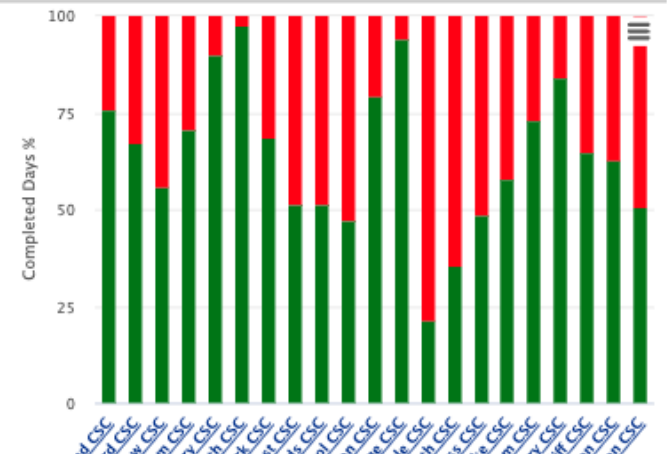
Dowsizing fleet options scenarios



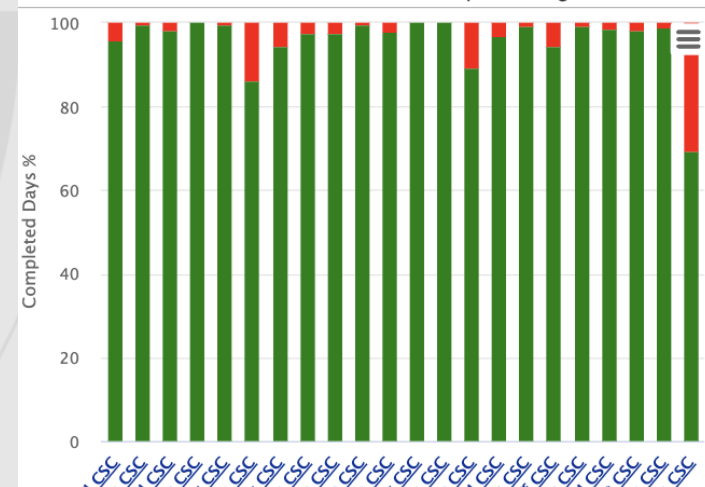
Iveco eDaily 4  
4.2T 111kWh, 7.2T 140kWh 4.2t set with 100% payload  
7.2t set with 75% payload - aux power medium



Iveco eDaily 5  
4.2T 111kWh, 7.2T 111kWh 4.2t set with 100% payload  
7.2t set with 75% payload - aux power medium

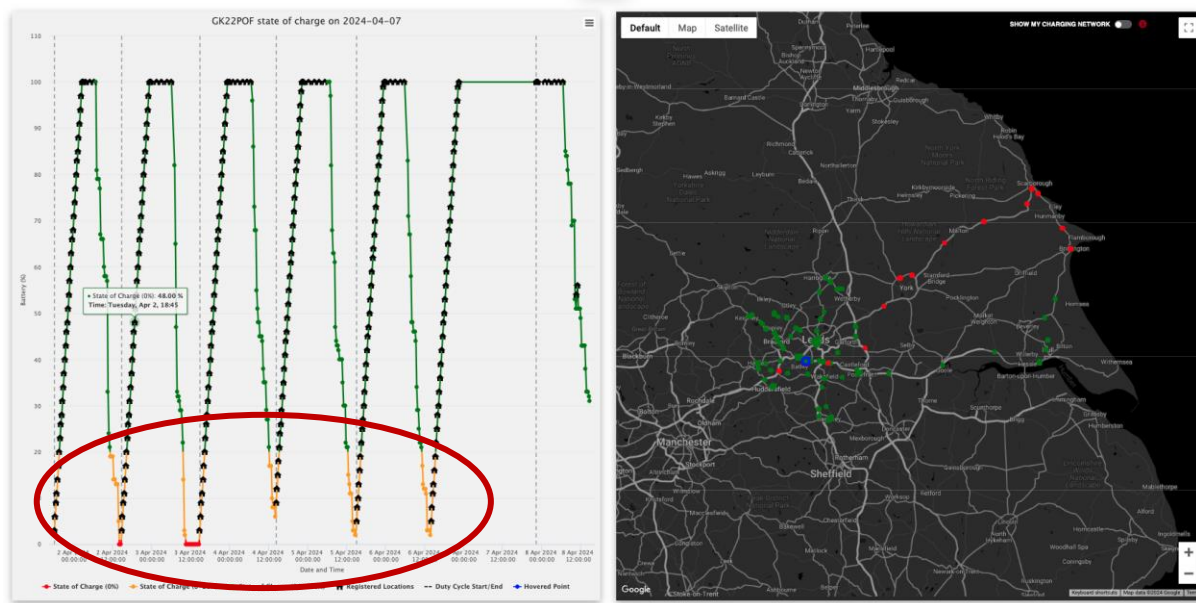


Iveco eDaily 7 downsize (270824 update)  
All Curry Fleet LCVs and HCVs are simulated by a Iveco eDaily 4.2T 111kWh, (down sizing opportunities) Cargo load set to 100% - aux power High

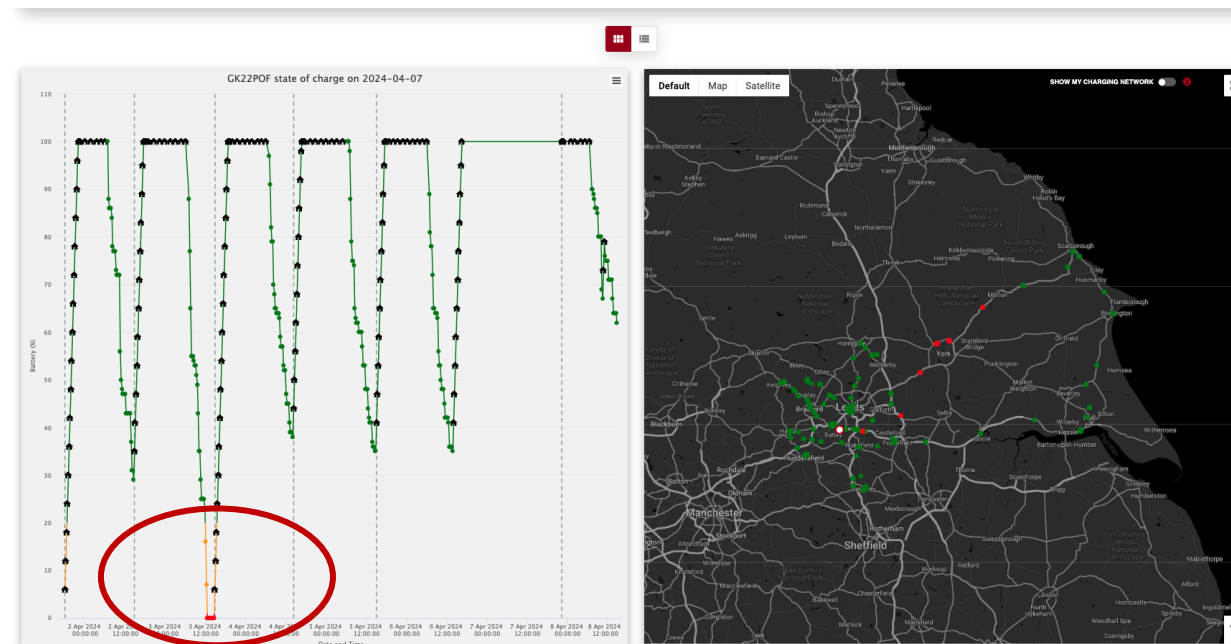


# Duty Cycle Analysis

- Average duty cycle distance - 130 miles
- Iveco eDaily 7,2t 74kW battery – Duty cycle incomplete,
- Iveco eDaily 7,2t 111kW battery – Duty cycle almost complete, bigger battery
- Depot charge Power not an issue



7.2t box van 74kW Battery



7.2t box van 111kW Battery



# Duty Cycle Analysis

## Transition analysis

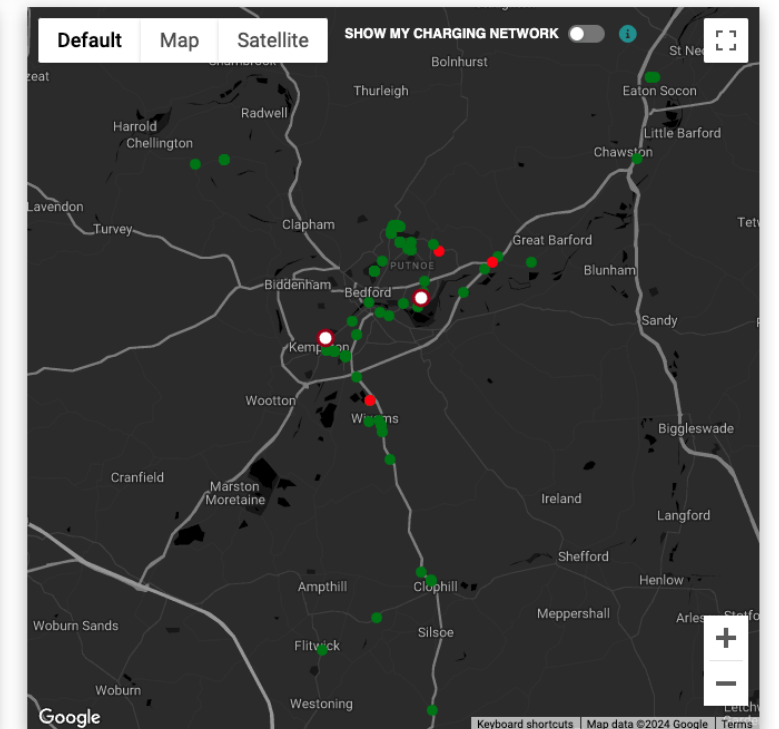
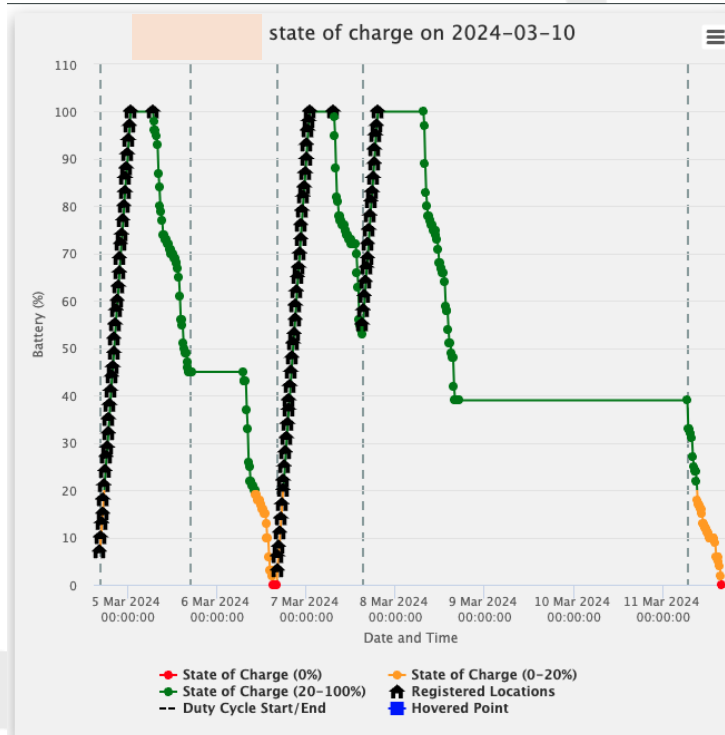
- Vehicle = LCV 3.5t (75kWh battery)
- Completed duty cycle = 71%
- Average duty cycle distance = 55 miles
- Average Journey distance = 44 miles
- SOC at zero on two occasions
- Location dwell time = 11 hours
- 7kW charger is enough to fully charge the vehicle due to dwell time
- Issue = Vehicles not returning to depot

Duty Cycles for Registration -

Vehicle Config: Simulation 1 | Charger Config: 07 kW | Weather Conditions: IDEAL HARSH

Week	Registration	Start Date / Time	Distance	Time	Completed	Lowest SOC	Final SOC ...
2024-03-04 (5)			371 mi	116h 33mins	No	-6.7%	<a href="#">VIEWING</a>
	EJ67HKX	2024/03/04 16:08	79 mi	24h 17mins	Yes	7%	<a href="#">SELECT</a>
	EJ67HKX	2024/03/05 16:26	76 mi	23h 40mins	No	-6.7%	-6.7% <a href="#">SELECT</a>
	EJ67HKX	2024/03/06 16:07	69 mi	22h 57mins	Yes	2.8%	<a href="#">SELECT</a>

1 row selected | Total Rows: 13





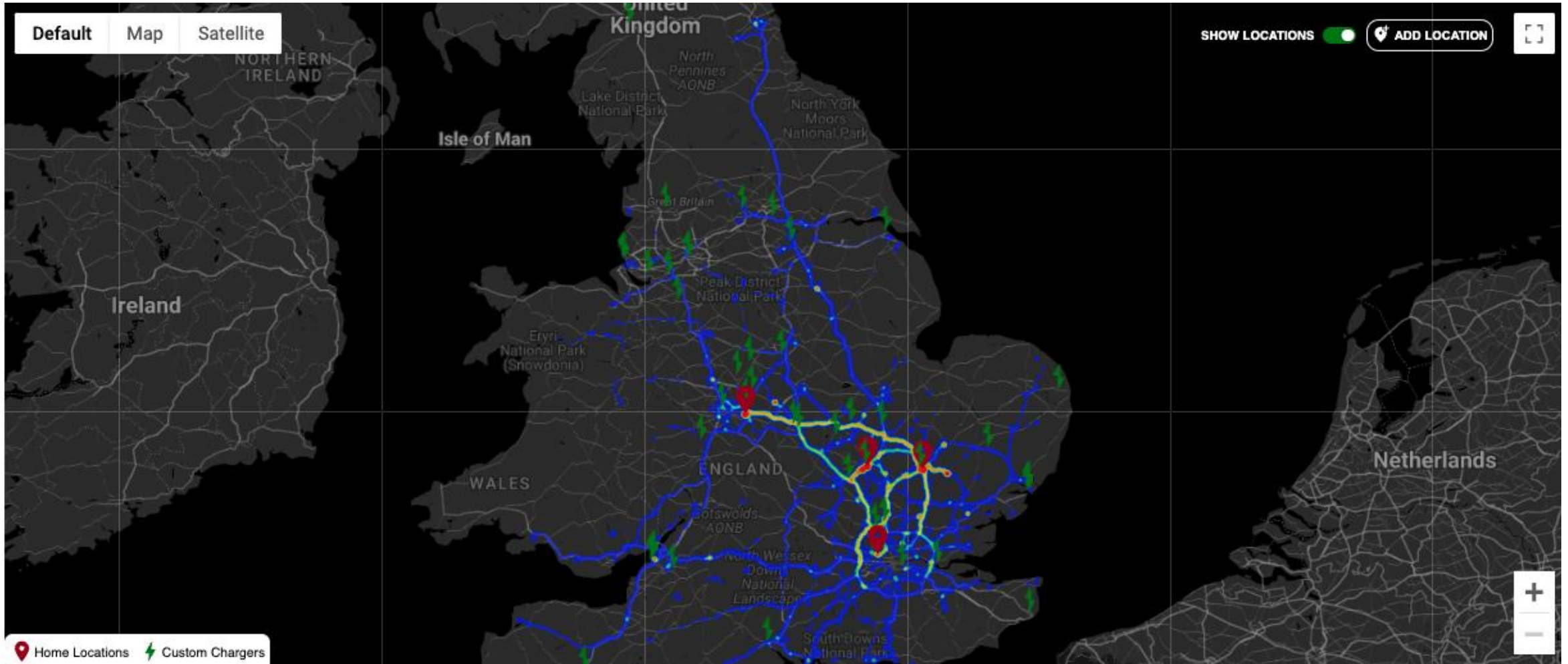
# Public Charging

Detailed analysis of nearby public charging points for when electric vehicles require top-up and identify hot spots where future infrastructure could be deployed.





# Heat Map Analysis (eFREIGHT 2030)





# Depot Simulation results by Vehicle Class

22 locations 500 Fleet Vehicles (internal)	Total vehicles	No of vehicles 3.5t	No. of vehicles 7.2t	Av Daily mileage driven 3.5t	Av Daily mileage driven 7.2t	Charger Power	Iveco eDaily 1 3.5T 37kWh, 7.2T 74kWh	Iveco eDaily 2 3.5T 74kWh, 7.2T 111kWh	Iveco eDaily 3 4.2T 111kWh, 7.2T 111kWh	Iveco eDaily 3 Depot Transition Challenge
<b>Location 1</b>										<b>9.4</b>
All vehicles	22					7kwh	54.02%	85.57%	87.54%	
Heavy Panel Van(LCV)		2		<b>111</b>			13.64%	66.67%	93.94%	
Heavy Vehicle Small (HCV)			20		<b>93</b>		56.24%	86.61%	87.19%	
Bolton (all vehicles)	22					22kWh	54.73%	87.54%	88.49%	
Bolton (Heavy Panel Van(LCV)		2		<b>111</b>			24.24%	87.88%	<b>96.97%</b>	
Bolton (Heavy Vehicle Small (HCV)			20		<b>93</b>		56.41%	87.52%	<b>88.02%</b>	
Bolton (all vehicles)	22					75kWh	55.21%	87.85%	88.56%	
Bolton (Heavy Panel Van(LCV)		2		<b>111</b>			27.27%	93.24%	98.48%	
Bolton (Heavy Vehicle Small (HCV)			20		<b>93</b>		56.74%	87.52%	88.02%	



# Depot Simulation results by Vehicle Class

## Vehicle Simulation –

- Vehicle Class, Model & Battery size
- Charger Power

	Spec 1 = Iveco eDaily 3.5t = 37kW battery & 7.2t= 74kWh battery			Spec 2 = Iveco eDaily 3.5t = 74kW battery & 7.2t= 111kWh battery			Spec 3 = Iveco eDaily 3.5t =111kW battery & 7.2t= 111kWh battery			Grand Total
	Iveco eDaily 1 - 22kw	Iveco eDaily 1 - 7 kW	Iveco eDaily 1 - 75kw	Iveco eDaily 2 - 22kw	Iveco eDaily 2 - 7 kW	Iveco eDaily 2 - 75kw	Iveco eDaily 3 - 22kw	Iveco eDaily 3 - 7 kW	Iveco eDaily 3 - 75kw	
Vehicle 1	55.68	54.55	55.68	92.05	92.05	92.05	92.05	92.05	92.05	79.80
Vehicle 2	50.00	50.00	50.00	91.67	88.89	91.67	91.67	88.89	91.67	77.16
Vehicle 3	64.52	64.52	64.52	91.94	91.94	91.94	93.55	93.55	93.55	83.33
Vehicle 4	67.47	67.47	67.47	93.98	93.98	93.98	95.18	95.18	95.18	85.54
Vehicle 5	64.77	63.64	64.77	96.59	95.46	96.59	96.59	95.46	96.59	85.61
Vehicle 6	63.51	63.51	63.51	90.54	90.54	90.54	91.89	91.89	91.89	81.98
Vehicle 7	37.50	37.50	38.75	77.50	77.50	77.50	77.50	77.50	77.50	64.31
Vehicle 8	42.05	42.05	42.05	71.59	71.59	71.59	71.59	71.59	71.59	61.74
Vehicle 9	71.95	71.95	73.17	90.24	89.02	90.24	92.68	91.46	92.68	84.82
Vehicle 10	76.09	76.09	76.09	95.65	95.65	95.65	97.83	97.83	97.83	89.86
Vehicle 11	46.75	46.75	48.05	81.82	77.92	81.82	81.82	79.22	81.82	69.55
Vehicle 12	61.18	61.18	62.35	92.94	90.59	92.94	92.94	90.59	92.94	81.96
Vehicle 13	51.92	51.92	51.92	92.31	92.31	92.31	92.31	92.31	92.31	78.85
Vehicle 14	50.00	50.00	50.00	68.18	68.18	68.18	68.18	68.18	68.18	62.12
Vehicle 15	57.45	57.45	57.45	91.49	90.43	91.49	91.49	90.43	91.49	79.91
Vehicle 16	47.13	47.13	47.13	79.31	78.16	79.31	79.31	78.16	79.31	68.33
Vehicle 17	24.24	13.64	27.27	87.88	66.67	93.94	96.97	93.94	98.49	67.00
Vehicle 18	<b>54.84</b>	<b>54.08</b>	<b>55.30</b>	<b>87.39</b>	<b>85.34</b>	<b>87.75</b>	<b>88.44</b>	<b>87.54</b>	<b>88.53</b>	<b>76.58</b>



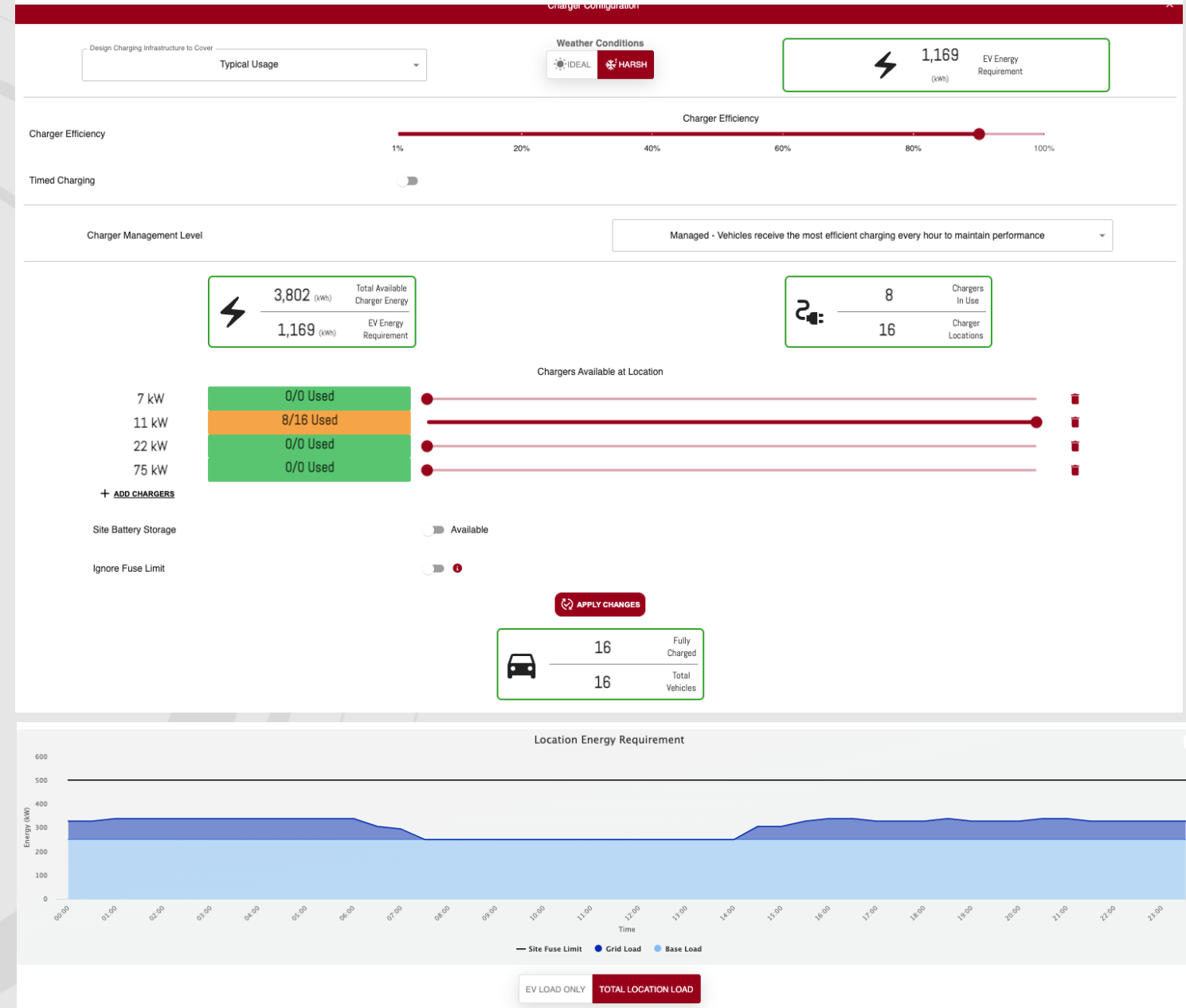
# Infrastructure Design



# Infrastructure Design – Depot Charging



- ✓ Design infrastructure to support charging requirements
- ✓ Analyse projected electrical load throughout the day
- ✓ Find the optimum tariff for your unique charging profile





# **Fleet Transition Decarbonisation Planning – inc. TCO**



# Market Context

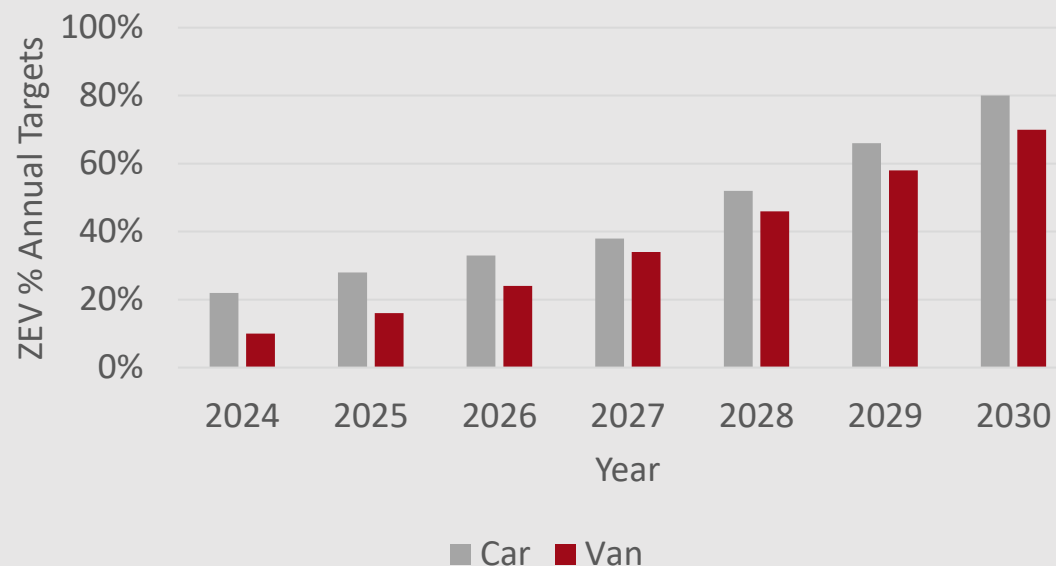
The recent Government announcement to reinstate the date for the ban on the sale of the traditional internal combustion engine vehicles from 2035 to 2030

The zero-emission vehicle (ZEV) mandate means that in 2024, 22% of all cars sold by manufacturers in the UK must be fully electric, rising incrementally year on year until it reaches 80% in 2030. Electric van sales have slightly lower targets, starting at 10% in 2024 and rising to 70% by 2030.

Forecasts suggest there will be 8 million BEVs on UK road by 2030, an eightfold increase on the 1 million BEVs currently on the road.

This significant increase highlights how fleets need to be prepared and ahead of the curve when it comes to their fleet electrification and associated charging infrastructure.

Car and Van Manufacturers' Annual ZEV Targets



More than 570 local authorities in the UK have declared a climate emergency, covering around 95% of the population. Many of which are aiming to be carbon neutral by 2030 and have net zero targets before the Government's legally binding date in 2050.

Fleet and vehicle emissions account for a large proportion of emissions and therefore electrification of these assets will be a key focus in the coming years.



# Fleet Transition / Decarbonisation Plan Strategy

## Fleet related transition & decarbonisation plans options

- Baseline ICE replacement plan 10 years (*Do nothing*)
  - What does your current ICE replacement plan look like ?
  - Peaks and troughs based on lifecycles and CAPEX shortages ?
  - CAPEX & CO<sub>2</sub> impacts by year
- ZEV Mandate Overlay (Car & Commercial Vehicles)
  - What does your baseline replacement plan (do nothing) look like with a ZEV mandate overlay to 2030 ?
  - CAPEX & CO<sub>2</sub> impacts by year
- ZERO transitions option overlayed on Decarbonisation plan
  - Offer the board 3 decarbonisation plans as part of the programme
  - Take into account overdue Asset impacts
  - Plan for stranded assets
  - Depot charging insights, chargers required with power impacts
  - CAPEX & CO<sub>2</sub> impacts by year

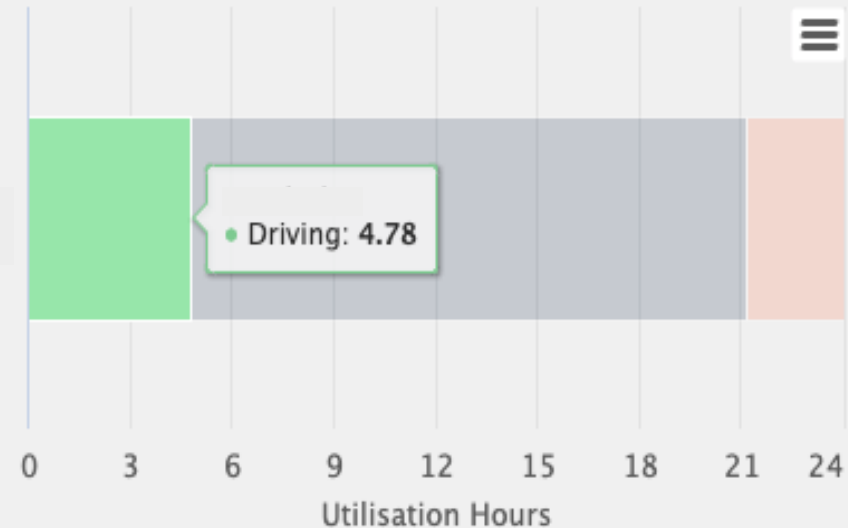


# Vehicle Utilisation – Operational Baseline

- ✓ Identify asset utilisation percentage at each location
- ✓ Visualisation of low utilisation assets for review
- ✓ Optimise the number of assets required for operational performance

## Vehicle Utilisation Report

HCVs (RCV 3 Axle) (18001 - 27000 kg) ▾

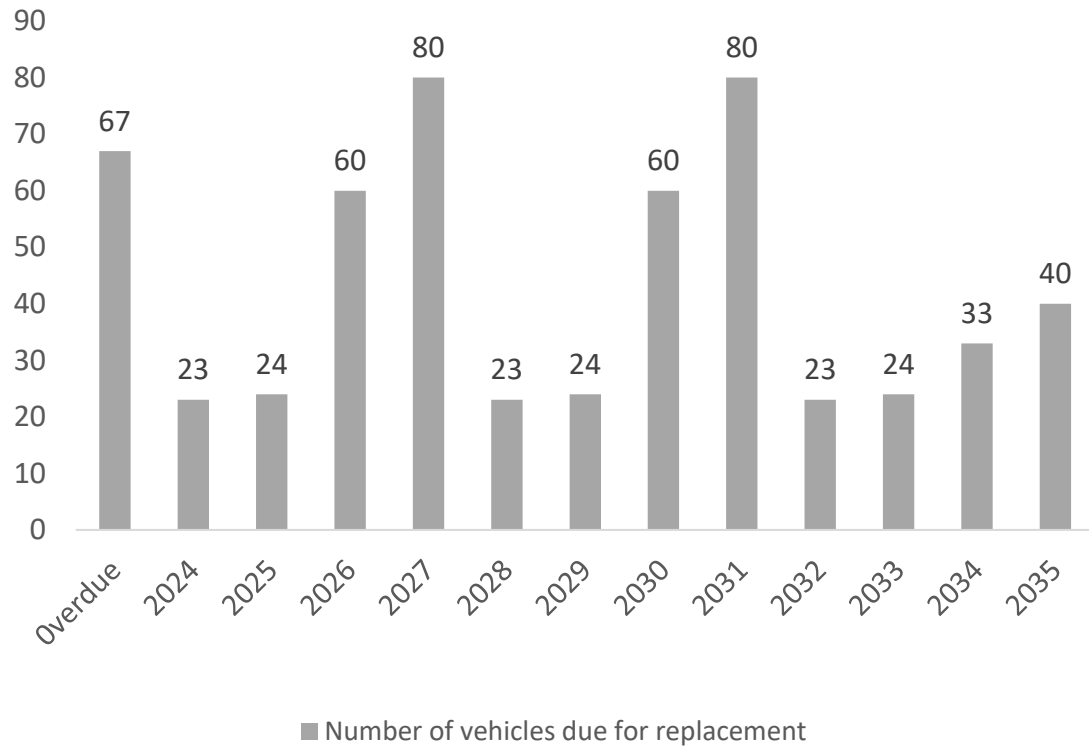


- Driving
- Stopped at Known Location
- Stopped at Unknown Location

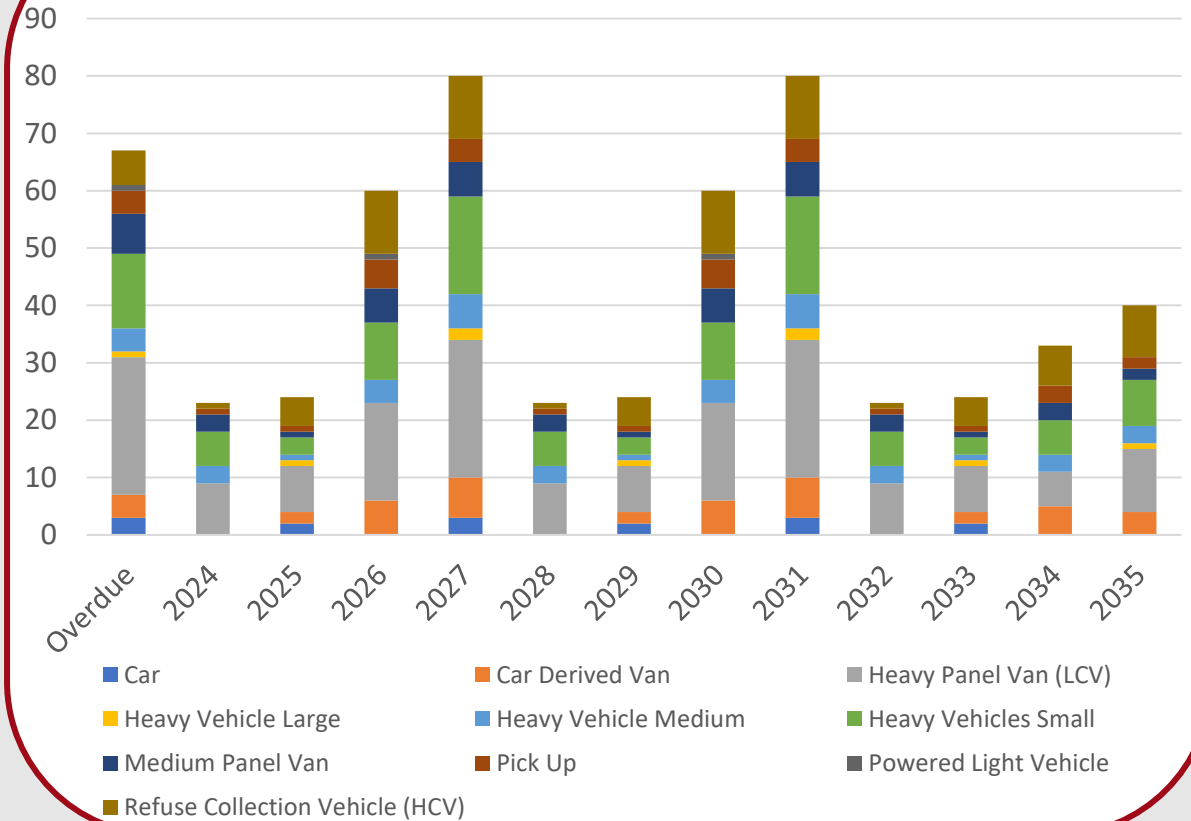


# Fleet Transition / Decarbonisation Plan Strategy

## Yearly Replacements



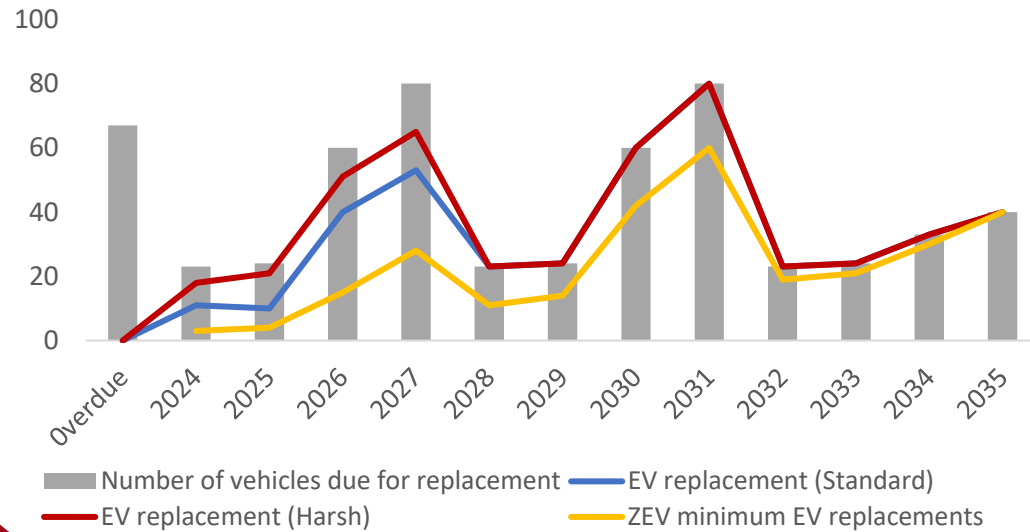
## Yearly Replacements by Vehicle Class



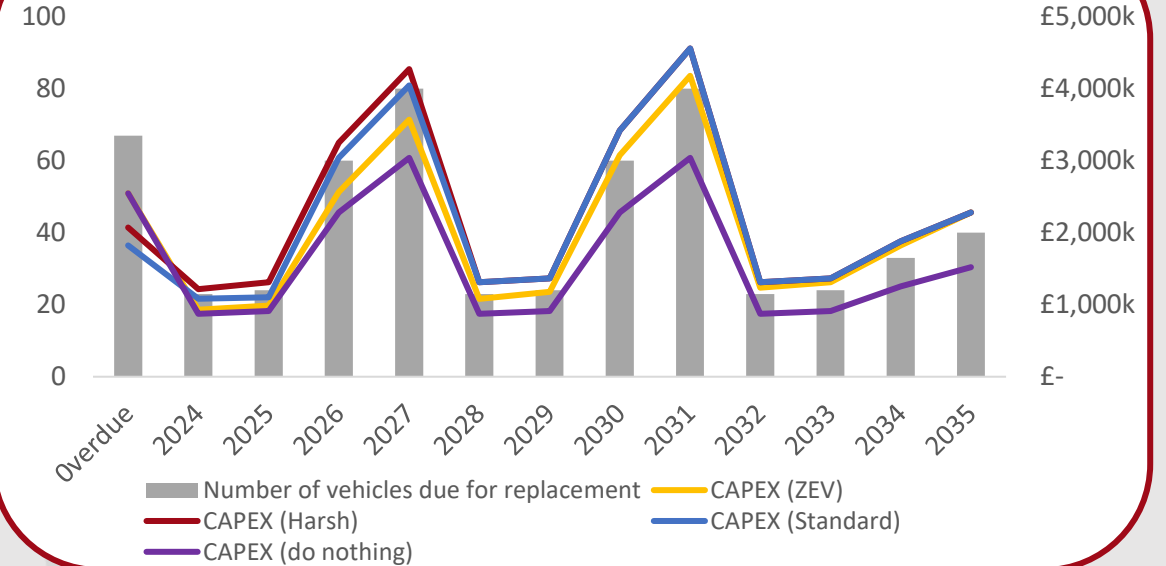


# Fleet Replacement Planning

### Yearly Replacements with EV Scenarios



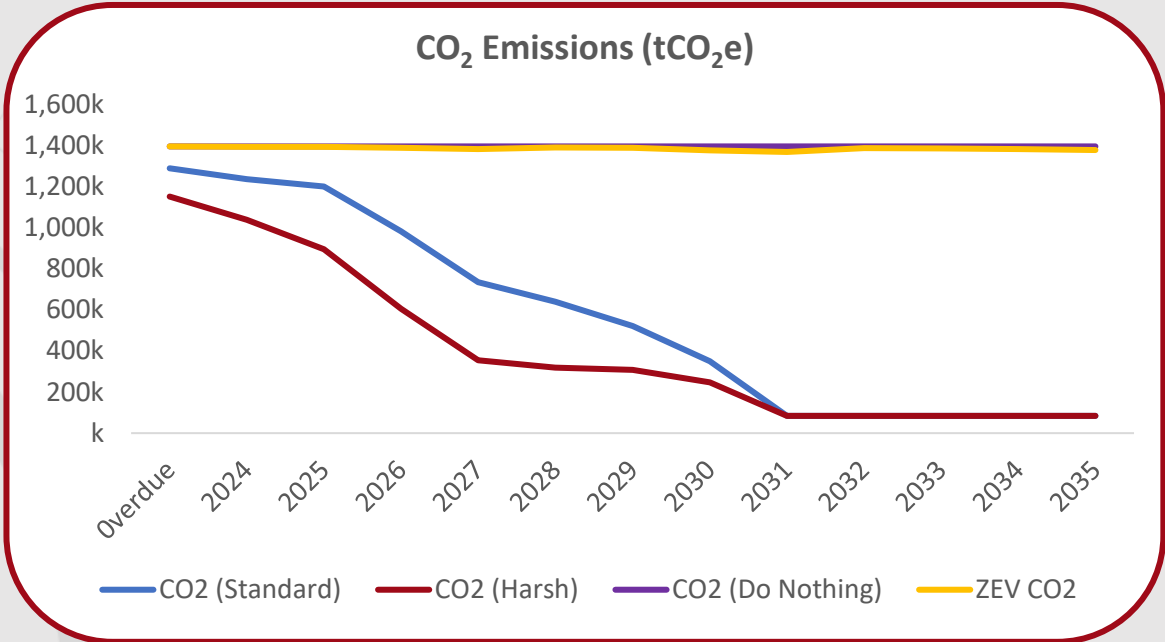
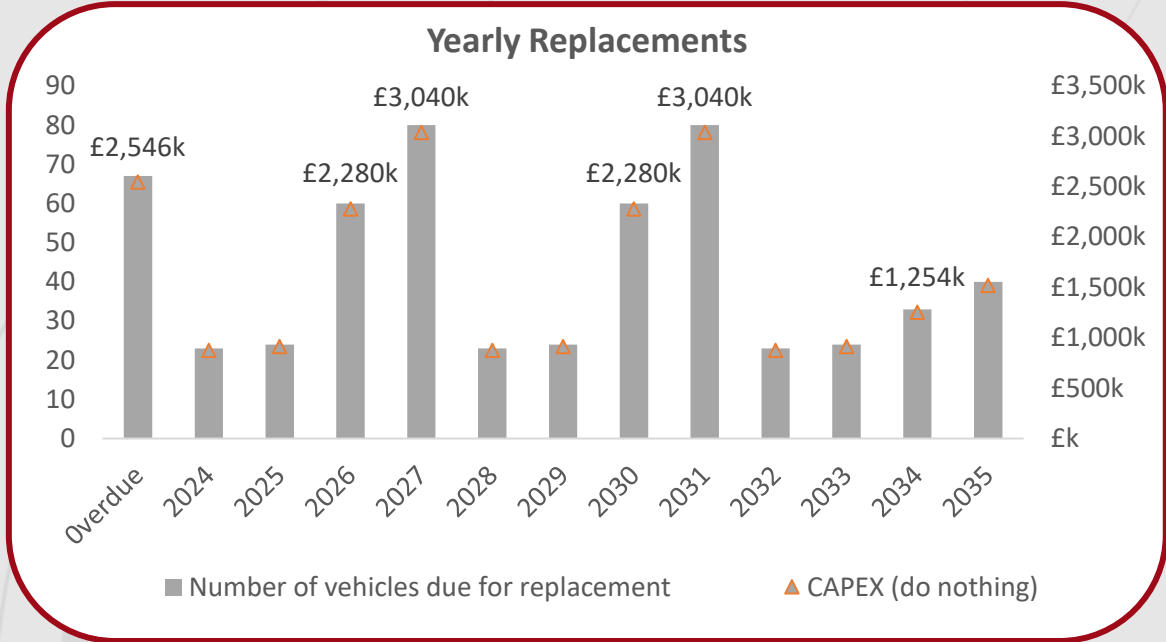
### Yearly Replacements with CAPEX



CAPEX Scenario	Overdue	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
<b>Replacements</b>	67	23	24	60	80	23	24	60	80	23	24	33	40	
<b>Standard</b>	£1,824,000	£1,083,000	£1,102,000	£3,040,000	£4,047,000	£1,311,000	£1,368,000	£3,420,000	£4,560,000	£1,311,000	£1,368,000	£1,881,000	£2,280,000	£28,595,000
<b>Harsh</b>	£2,071,000	£1,216,000	£1,311,000	£3,249,000	£4,275,000	£1,311,000	£1,368,000	£3,420,000	£4,560,000	£1,311,000	£1,368,000	£1,881,000	£2,280,000	£29,621,000
<b>Do nothing</b>	£2,546,000	£874,000	£912,000	£2,280,000	£3,040,000	£874,000	£912,000	£2,280,000	£3,040,000	£874,000	£912,000	£1,254,000	£1,520,000	£21,318,000
<b>ZEV</b>	£2,546,000	£931,000	£988,000	£2,565,000	£3,572,000	£1,083,000	£1,178,000	£3,078,000	£4,180,000	£1,235,000	£1,311,000	£1,824,000	£2,280,000	£26,771,000



# Fleet Replacement Planning



CO <sub>2</sub> Scenario	Overdue	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
<b>Replacements</b>	67	23	24	60	80	23	24	60	80	23	24	33	40	
<b>Standard</b>	1,289,763	1,236,172	1,200,317	983,271	735,203	639,432	521,289	349,588	84,154	84,154	84,154	84,154	84,154	7,375,805
<b>Harsh</b>	1,152,135	1,038,898	895,559	605,336	354,876	318,752	308,094	247,570	84,154	84,154	84,154	84,154	84,154	5,341,993
<b>Do nothing</b>	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	1,396,421	18,153,476
<b>ZEV</b>	1,396,421	1,395,071	1,394,621	1,389,671	1,383,821	1,391,471	1,390,121	1,377,520	1,369,420	1,387,871	1,386,971	1,382,921	1,378,420	18,024,320



# Fleet Decarbonisation Plan - CAPEX Cost Baseline by Vehicle & Type

✓ Identify asset replacement dates by year

✓ Visualisation of assets for review

✓ Capex reflects new Alternative Fuelled vehicle costs

Vehicle Type / Year	Overdue	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Car	£114,000	£0	£76,000	£0	£171,000	£0	£114,000	£0	£171,000	£0	£114,000	£0	£0
Car Derived Van	£190,000	£0	£114,000	£304,000	£380,000	£0	£114,000	£342,000	£399,000	£0	£114,000	£285,000	£228,000
Heavy Panel Van (LCV)	£1,216,000	£494,000	£437,000	£931,000	£1,292,000	£513,000	£456,000	£969,000	£1,368,000	£513,000	£456,000	£342,000	£627,000
Heavy Vehicle Large	£38,000	£0	£38,000	£0	£95,000	£0	£57,000	£0	£114,000	£0	£57,000	£0	£57,000
Heavy Vehicle Medium	£190,000	£114,000	£38,000	£171,000	£285,000	£171,000	£57,000	£228,000	£342,000	£171,000	£57,000	£171,000	£171,000
Heavy Vehicles Small	£494,000	£247,000	£114,000	£513,000	£855,000	£342,000	£171,000	£570,000	£969,000	£342,000	£171,000	£342,000	£456,000
Medium Panel Van	£380,000	£152,000	£57,000	£342,000	£304,000	£171,000	£57,000	£342,000	£342,000	£171,000	£57,000	£171,000	£114,000
Pick Up	£152,000	£38,000	£38,000	£228,000	£209,000	£57,000	£57,000	£285,000	£228,000	£57,000	£57,000	£171,000	£114,000
Powered Light Vehicle	£38,000	£0	£0	£57,000	£0	£0	£0	£57,000	£0	£0	£0	£0	£0
Refuse Collection Vehicle (HCV)	£228,000	£38,000	£190,000	£494,000	£456,000	£57,000	£285,000	£627,000	£627,000	£57,000	£285,000	£399,000	£513,000
<b>Total</b>	<b>£2,926,000</b>	<b>£1,083,000</b>	<b>£1,026,000</b>	<b>£3,040,000</b>	<b>£3,876,000</b>	<b>£1,311,000</b>	<b>£1,254,000</b>	<b>£3,420,000</b>	<b>£4,389,000</b>	<b>£1,311,000</b>	<b>£1,254,000</b>	<b>£1,881,000</b>	<b>£2,280,000</b>



# Fleet Decarbonisation Plan – overdue assets

- ✓ Identify overdue asset replacements
- ✓ Visualisation of 'low hanging fruit'
- ✓ Replace 'easy to transition' vehicles as a priority

Vehicle Id	Ice Vehicle Class	Cheaper as EV	EoE Score	Replace with EV?
246	Heavy Vehicles Small	FALSE	1	No
254	Medium Panel Van	TRUE	1	Yes
255	Heavy Vehicles Small	FALSE	1	No
259	Medium Panel Van	TRUE	1	Yes
266	Heavy Panel Van (LCV)	TRUE	1	Yes
276	Heavy Vehicles Small	FALSE	1	No
284	Heavy Panel Van (LCV)	TRUE	1	Yes
285	Car	FALSE	1	No
294	Heavy Vehicles Small	FALSE	1	No
295	Pick Up	TRUE	2	No
298	Heavy Panel Van (LCV)	TRUE	2	No
305	Heavy Vehicles Small	FALSE	1	No
307	Pick Up	FALSE	1	No
308	Heavy Panel Van (LCV)	TRUE	1	Yes
311	Heavy Panel Van (LCV)	TRUE	1	Yes
313	Heavy Vehicles Small	FALSE	1	No



# Fleet Financial Planning Tool

## TCO Cost Analysis

Total Cost of Ownership (TCO)

(Rate Cards ICE vs BEV)

Could use APSE Categories

### FINANCIAL PLANNING TOOL

#### ICE Rate Card

Rate Card Name:  Save

[Load saved ICE rate card](#)

**General Details**

Vehicle Replacement Age  km

Vehicle Replacement Odometer  yrs

**Capital Costs**

Purchase Price  £

Sale Price  £

**Operational Costs**

Insurance  £/yr

SMR  £/yr

VED  £/yr

PPM Costs (Eg. Tyres)  £/km

Emission Zone Fees  £/yr

Fuel Price  £/L

Fuel Efficiency  mpg

#### EV Rate Card

Rate Card Name:  Save

[Load saved EV rate card](#)

**General Details**

Vehicle Replacement Age  km

Vehicle Replacement Odometer  yrs

**Capital Costs**

Purchase Price  £

Sale Price  £

**Operational Costs**

Insurance  £/yr

SMR  £/yr

VED  £/yr

PPM Costs (Eg. Tyres)  £/km

EV Tax Rebate  £/yr

On site Electricity Tariff  £/kWh

Public Electricity Tariff  £/kWh

#### EV Rollout Plan

**Threshold**

Replace ICE with EV if cost difference is less than X%

% 10

Calculate

Note to Dev: I have just modelled the error version on this button to show what would happen if there is missing vehicle information



# TCO Fleet Cost Analysis

Fleet transition opportunity grouped by location, replacement year inc. costs difference

### FINANCIAL PLANNING TOOL

#### ICE Rate Card

Rate Card Name:  Save

[Load saved ICE rate card](#)

**General Details**

Vehicle Replacement Age  km

Vehicle Replacement Odometer  yrs

**Capital Costs**

Purchase Price  £

Sale Price  £

**Operational Costs**

Insurance  £/yr

SMR  £/yr

VED  £/yr

PPM Costs (Eg.Tyres)  £/km

Emission Zone Fees  £/yr

Fuel Price  £/L

Fuel Efficiency  mpg

#### EV Rate Card

Rate Card Name:  Save

[Load saved EV rate card](#)

**General Details**

Vehicle Replacement Age  km

Vehicle Replacement Odometer  yrs

**Capital Costs**

Purchase Price  £

Sale Price  £

**Operational Costs**

Insurance  £/yr

SMR  £/yr

VED  £/yr

PPM Costs (Eg.Tyres)  £/km

EV Tax Rebate  £/yr

On site Electricity Tariff  £/ kWh

Public Electricity Tariff  £/ kWh

#### EV Rollout Plan

**Threshold**

Replace ICE with EV if cost difference is less than X%

% 10

**Calculate**

Note to Dev: I have just modelled the error version on this button to show what would happen if there is missing vehicle information

**Tabular Results** | TCO Overview | Rollout Strategy | Fleet Costs

Group by Replacement year | Group by Location | Group by Cost difference

Columns | Filters | Export

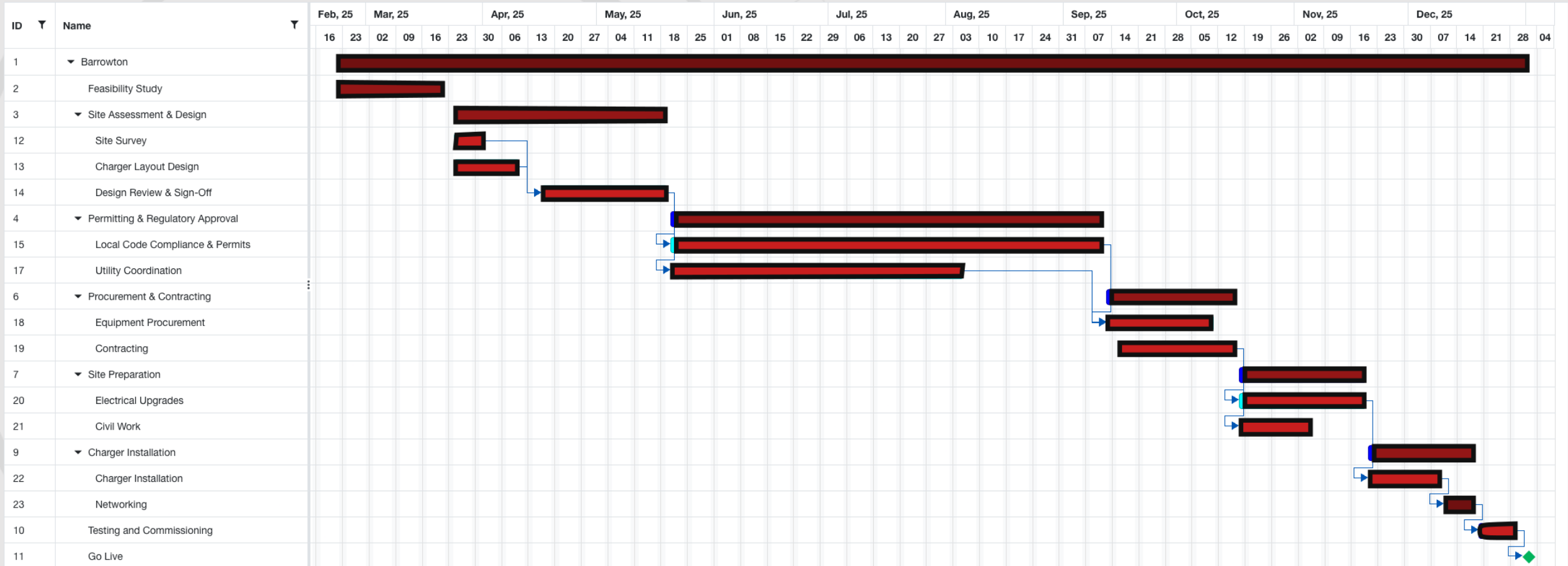
Location & Replacement Year	Vehicle Class	Vehicle Reg	TCO EV (£/year)	TCO ICE (£/year)	Cost difference	In service date
> Bristol (6)						
v 2023 (4)						
	Large Van (3500)	HN23 ABC	£900	£1000	-1%	12 Nov 2023
	Large Van (3500)	HN23 ABC	£1500	£1000	5%	12 Nov 2023
	Large Van (3500)	HN23 DEF	£2000	£1000	10%	12 Nov 2023
	Large Van (3500)	HN23 GHI	£2500	£2000	15%	12 Nov 2023
v 2024 (2)						



# **Infrastructure Roll out Strategy**

## **Plan & TCO Considerations**

# Infrastructure Roll Out Strategy





# Depot Infrastructure Capex & TCO

## DNO Connection

DNO	Northern Powergrid
Site Capacity Requirement Upgrade	73 kW
Upgrade Size Category	Medium
Low Estimate	£16,000
High Estimate	£110,000

## LV Infrastructure

Low Estimate	£20,000
High Estimate	£35,000

## Charge Point Infrastructure

Project Management and Planning Overheads	£2,170
Charge Point Cost	£12,436
Civil Costs and Installation	£3,769
Electric Materials Costs	£7,860
Cost of Set-up, Transport and Plant	£3,775
Testing and Commissioning	£472
<b>Total</b>	<b>£26,482</b>

## Total Cost Estimation

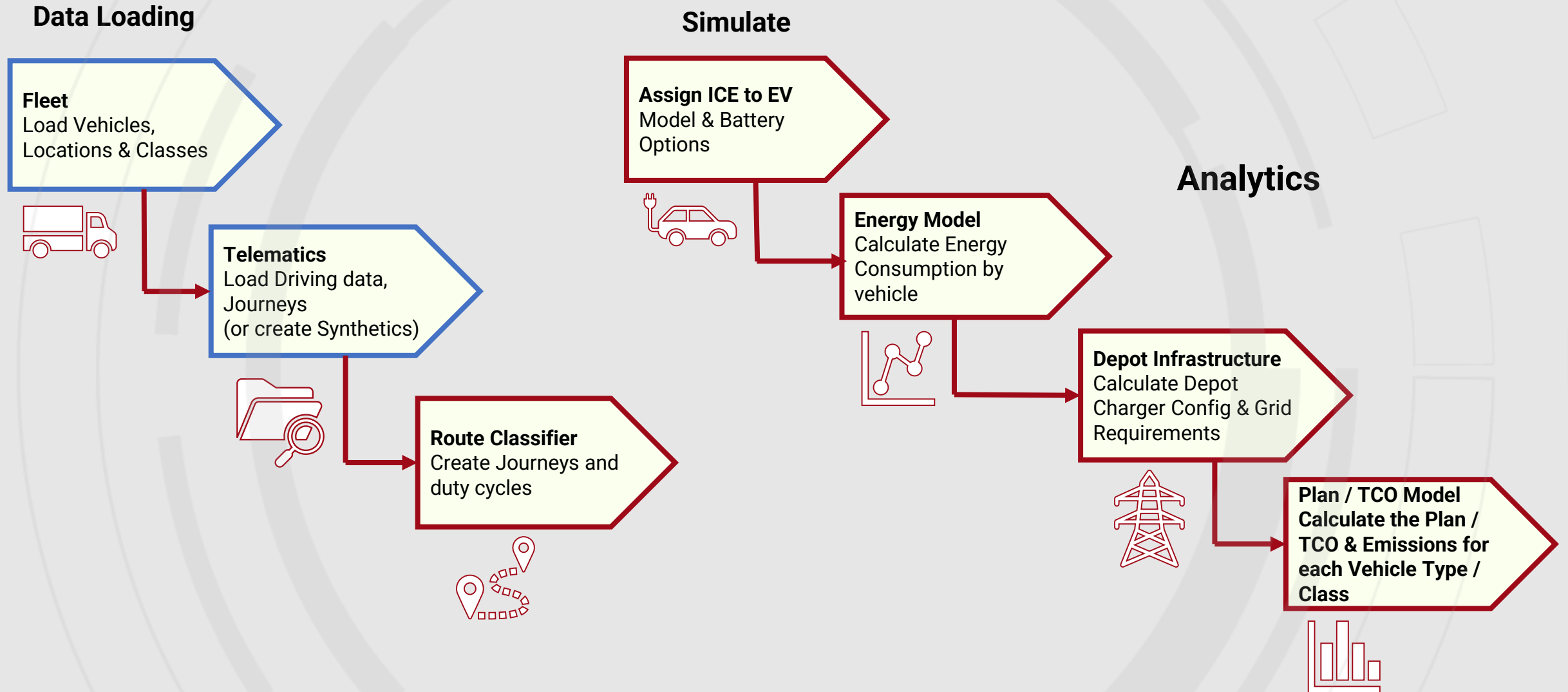
Low Estimate	£62,842
High Estimate	£171,482



**In Summary**

**What do we need from you ?**

# Zero - Data, Simulation & Analytics





# Questions

# Contact

**If you would like to connect,  
learn more about our software  
tools and discuss your  
requirements please contact:**

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