

# Growing Consolidation and Electric Vehicle Solutions in Urban Logistics

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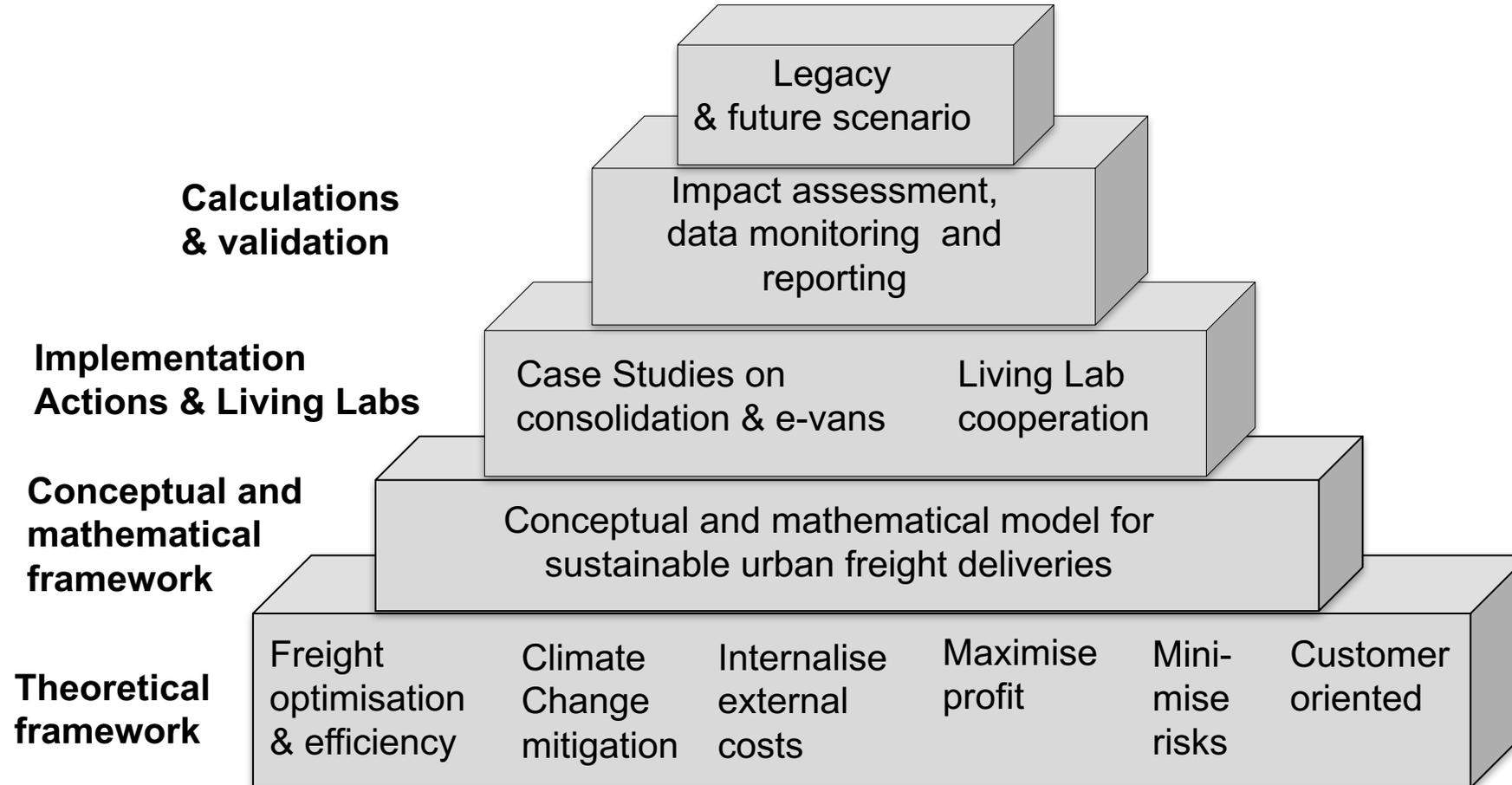
# Objectives of London CITYLAB trials

- To grow the business of electric freight, and to monitor it thoroughly, in order to better understand the business case.
- To evaluate the impacts on:
  - Total distance driven in London and in delivery area
  - Road space occupancy during parking while making deliveries
  - Energy use, air pollutants and greenhouse gas emissions
  - Costs
- To coordinate the trial with the London Freight policies and networks, within the London Living Lab
- Learning from good examples → Transferability → Upscaling

# Sustainable Energy & Urban Logistics

- **Objective** of the CITYLAB London implementation is to verify/falsify the hypothesis that it is possible to support sustainable urban logistics growth and answer the **question**:
  - what could be the business case for future growth of electric urban logistics, considering an overall improvement in clean energy, traffic conditions and freight efficiency in urban area?

# Building blocks of developing, testing & evaluating solutions in urban logistics

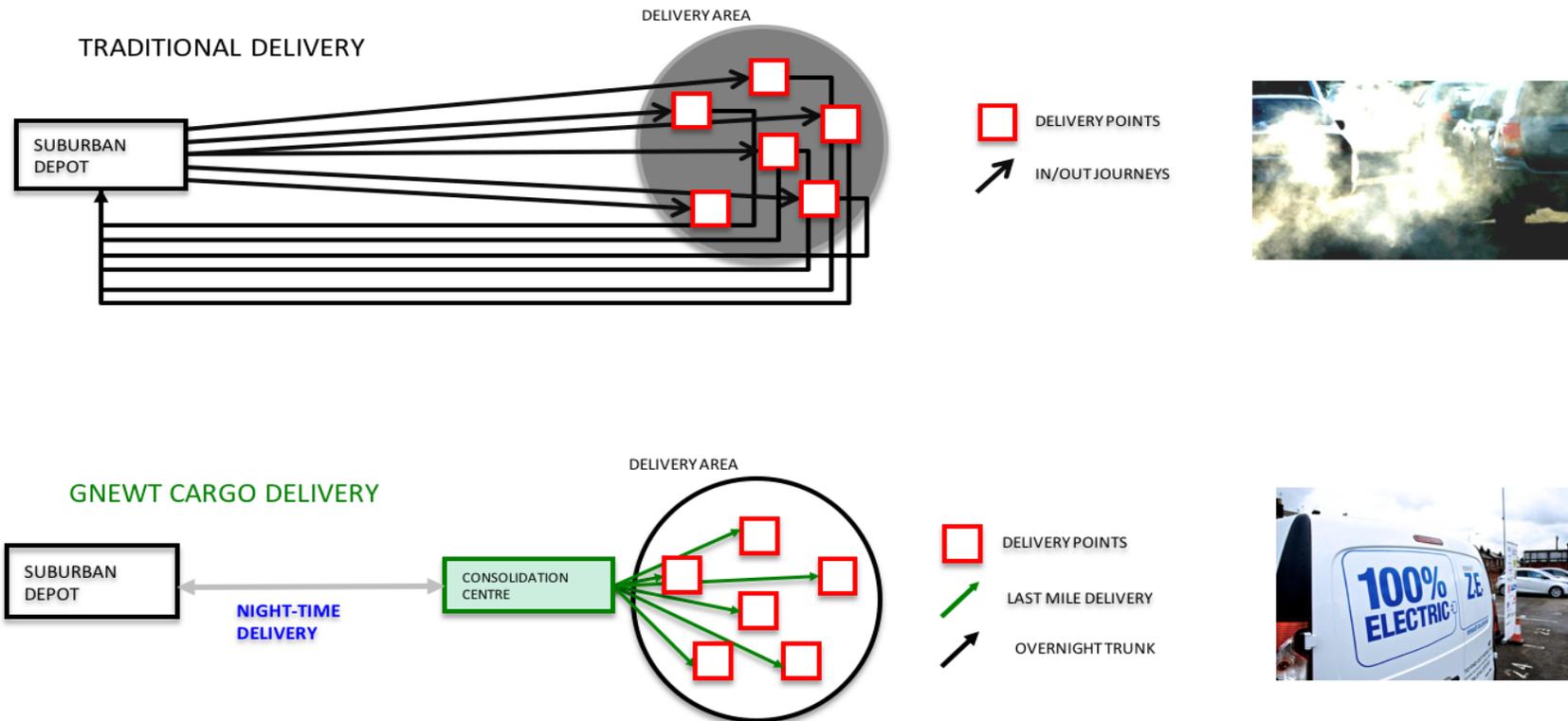


# Criteria for selection of initiatives and 'good examples'

- Recognition in the expert community: high
- Replication in different cities: more than 2 cities
- Applicability and feasibility: easy to difficult
- High impact on km driven: total trucks-km, vans-km
- Lowering emissions: PM, NO<sub>x</sub>, total CO<sub>2</sub>, CO<sub>2</sub> intensity per delivery unit
- Relatively low costs per km avoided
- Lowering noise: dB(A) reduction
- Existing quantified evaluation: yes-no
- Before-after data: yes-no
- Transferability to other cities: easy to implement?

# Case Study: London Business Gnewt Cargo

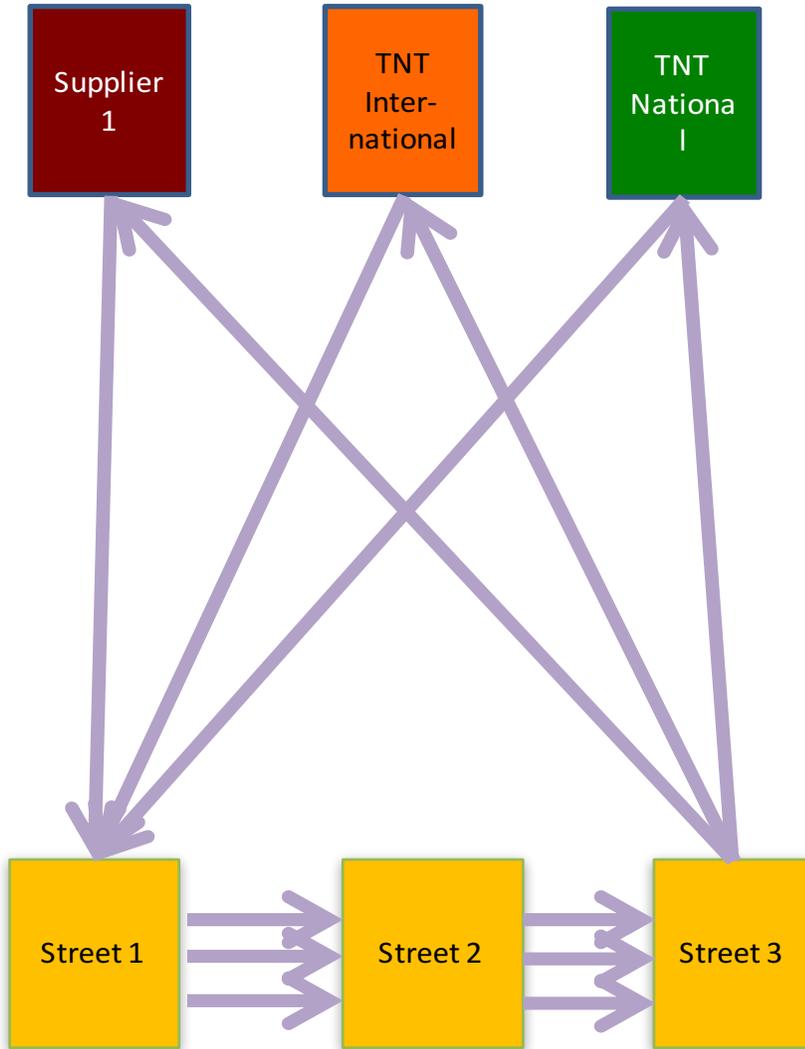
A last-mile logistic provider using a 100% ELECTRIC fleet and a centrally located urban logistics consolidation centre



# Logistics Model of Gnewt Cargo: multi-carrier multi-depots consolidation of deliveries

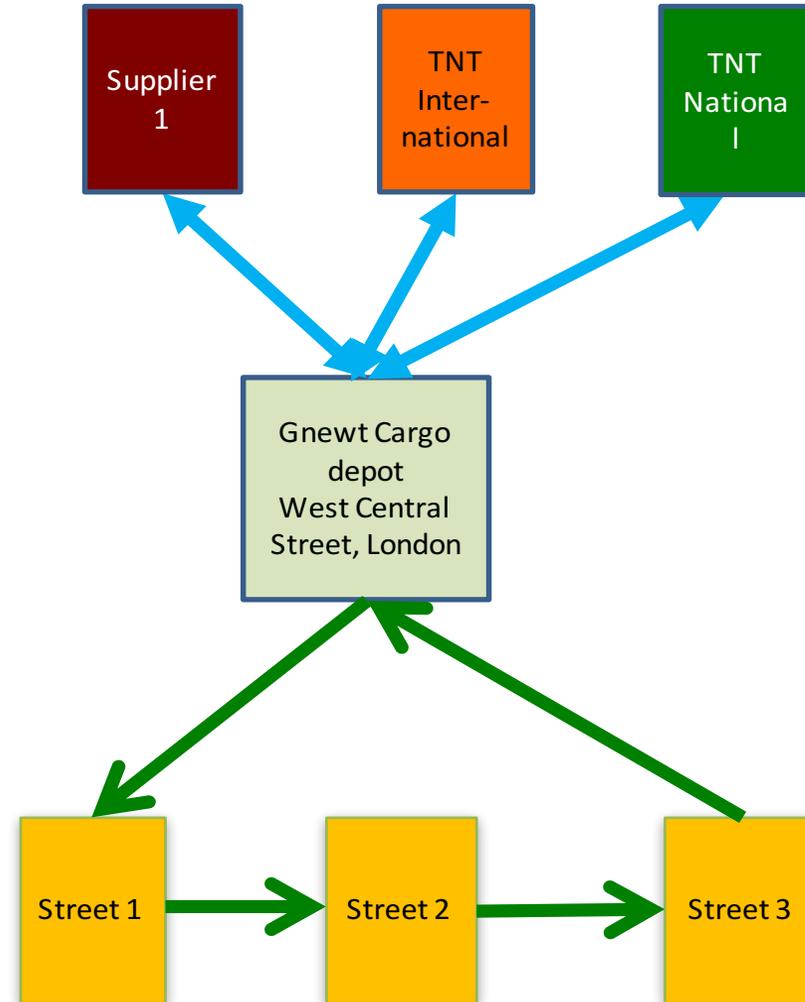
Limits of the system of data collection

**BEFORE** starting using Gnewtcargo



➔ Diesel trucks and vans, peak traffic

**AFTER** starting using Gnewtcargo



➔ Electric van peak traffic

↔ Diesel trucks off-peak

**BEFORE: Standard 3.5t diesel van:  
Capacity of 1270 kg and 15 m<sup>3</sup>**



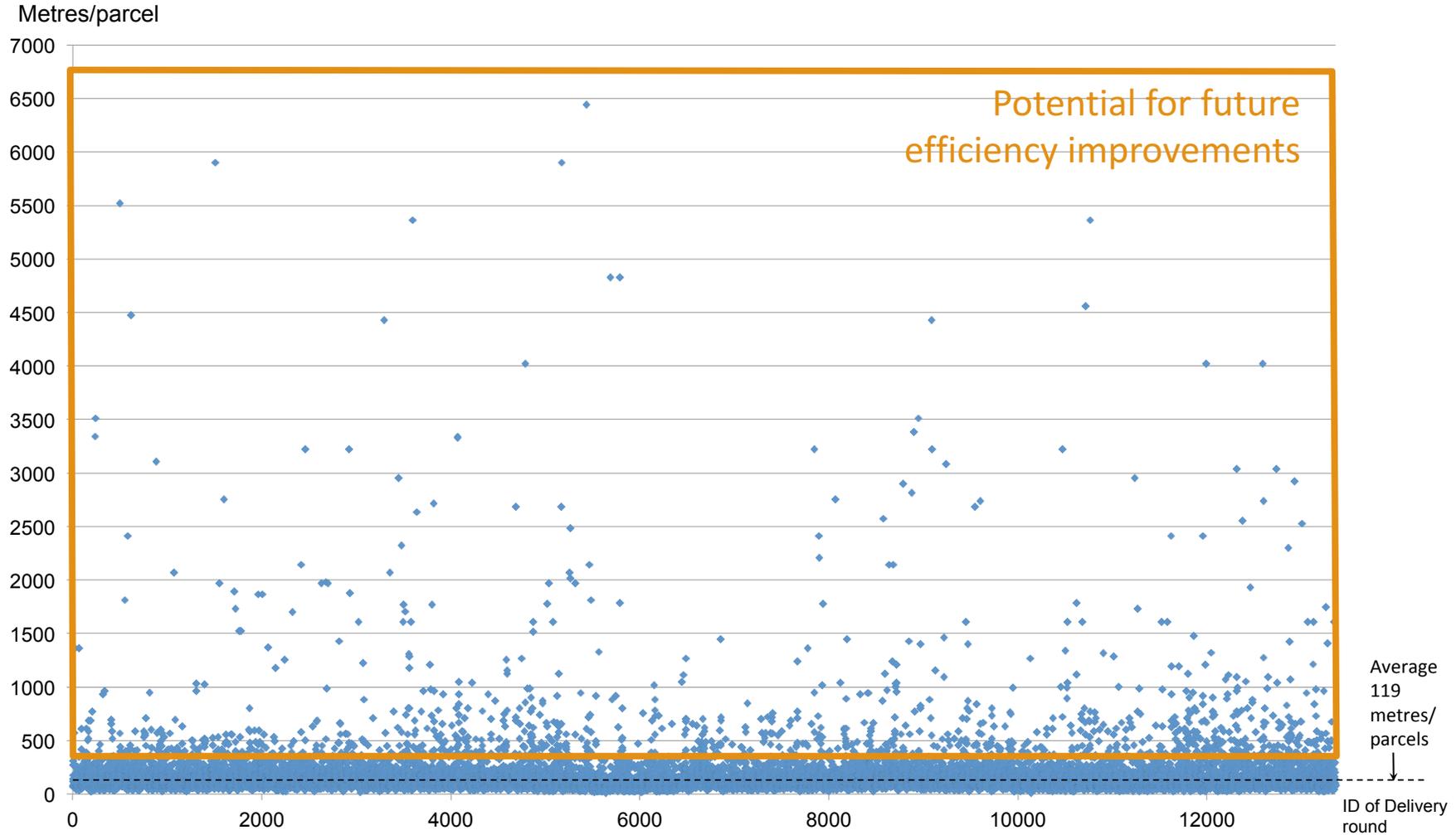
# AFTER: new electric vehicles and cycles



# Metres per parcel delivered

Gnewt Cargo trials, London, 1st July 2015 – 30 June 2016 (n = 13,358)

one point = average distance in metres per parcel for one delivery route, one driver, one day



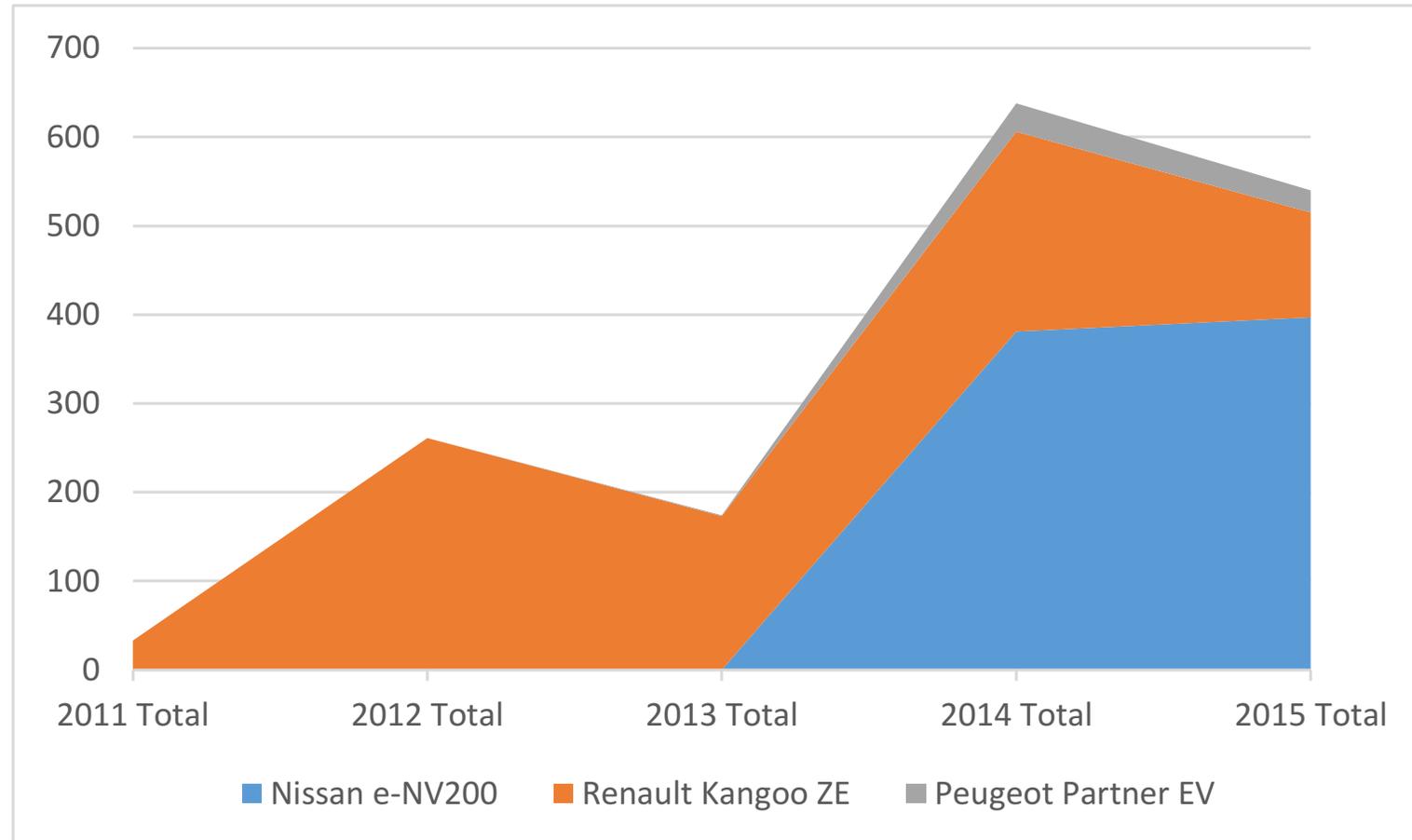
**Provisional impacts data  
of Citylab London implementation  
% change BEFORE-AFTER  
September 2015 to September 2016**

- 0% in total number of trips
- - 67% in miles/parcel delivered
- - 100% in CO<sub>2</sub>/parcel
- - 100% in NO<sub>x</sub>/parcel at the tailpipe
- - 100% in tailpipe emission reduction for particles/parcel
- - 75% in oil equivalent per parcel
- - 93% of the last mile empty distance driven by all vehicles

# Are these good examples going to be growing?

- Transfer, replicate, growth?
  - Electric van market is slow

**New registrations of  
Battery Electric  
Light Commercial  
Vehicles  
2011-2015  
in UK**



# TfL drives forward £18 million electric vehicle scheme

26 April 2017

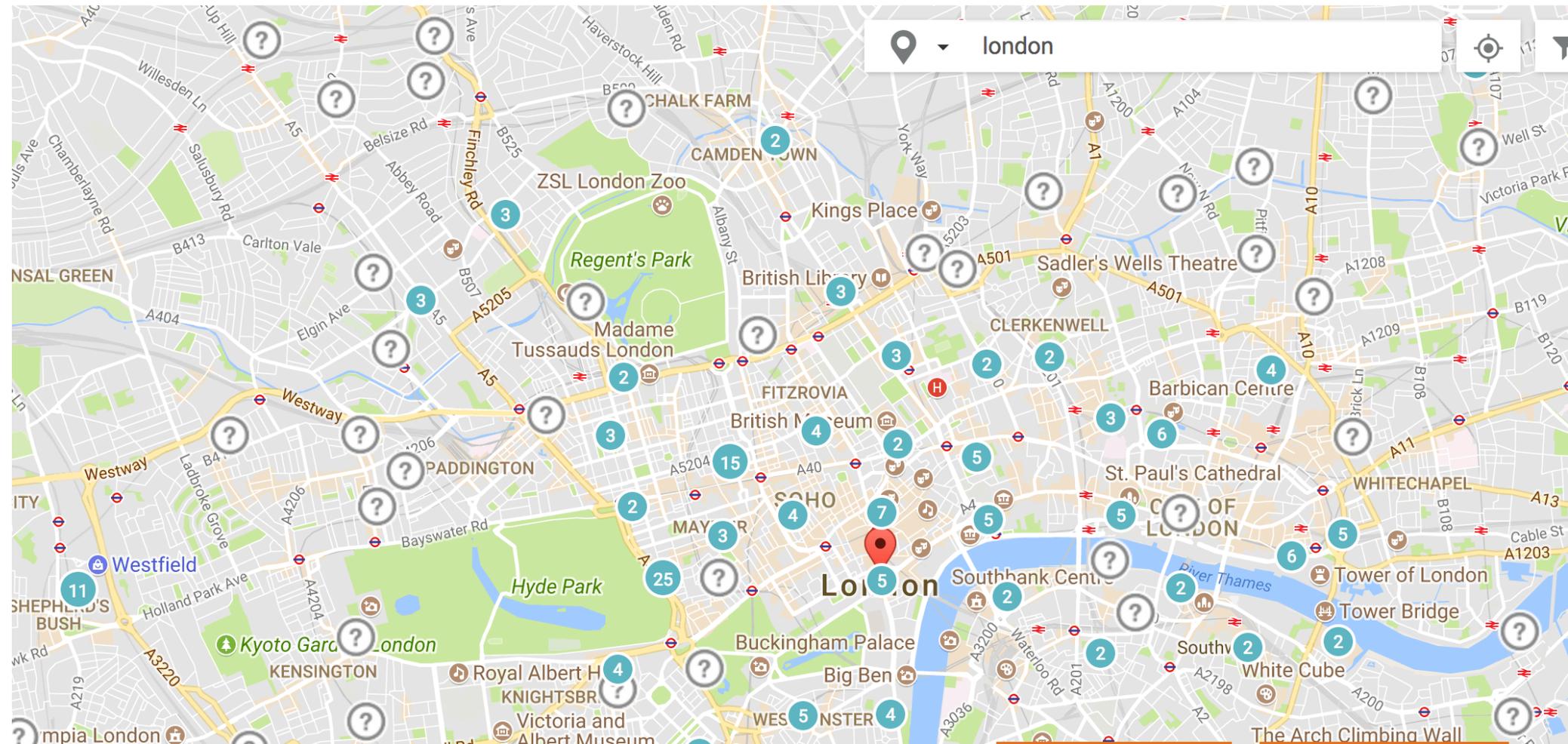
Rapid charge points that power vehicles in 30 minutes to be installed in coming months



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# Competition and cooperation: private actors in London

- The Centrica Consortium
- ESB (Ireland Energy provider)
- Chargemaster Plc
- Bluepointlondon & Source London
- Fastned

# Grid and electricity supply on the go?

As of: 20 June 2017

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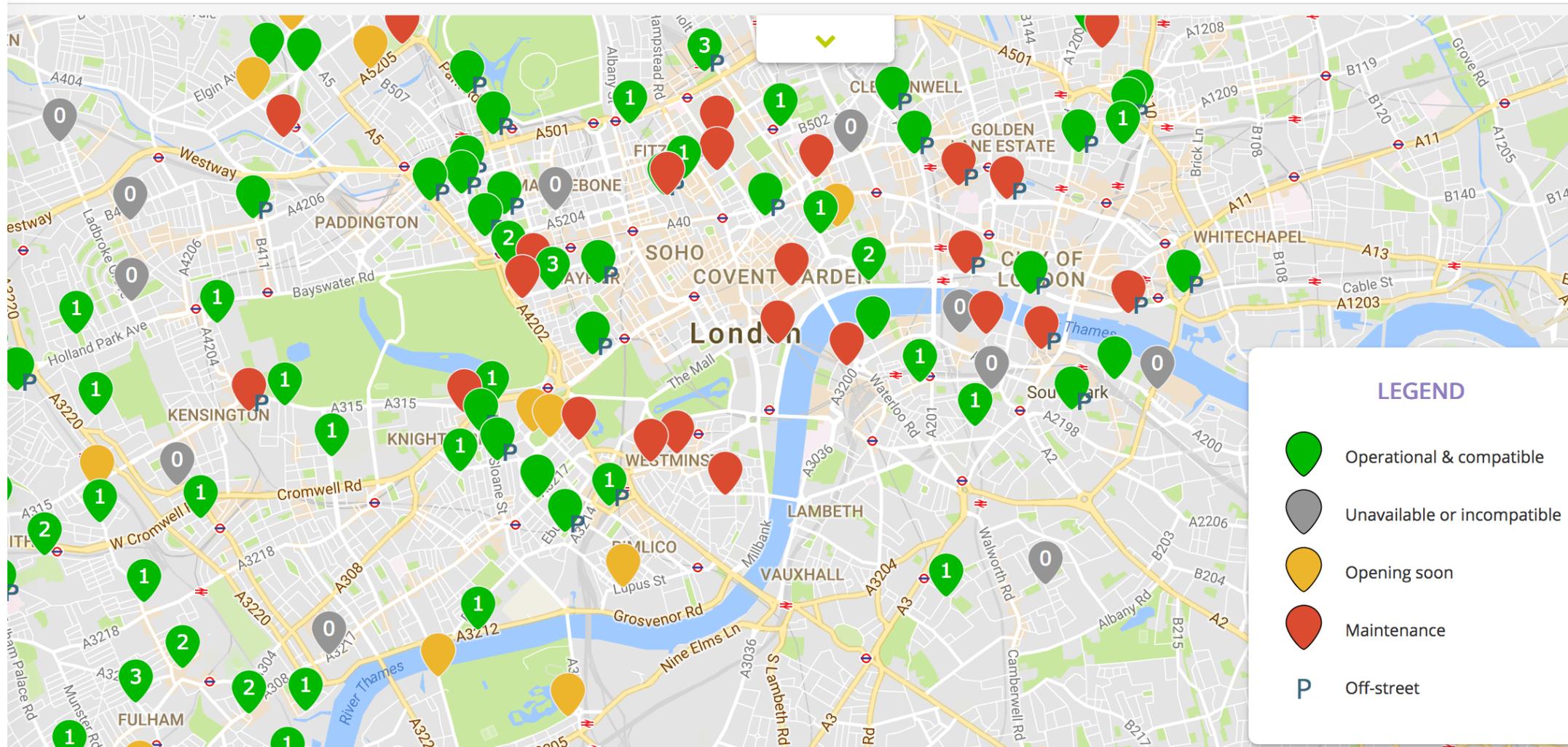
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# Specific problems/barriers → potential solutions

- *We don't know* the best business model to grow and scale up sustainable urban logistics solutions  
→ **CITYLAB started working on scaling up**
- Biggest problem is that none of the Gnewt Cargo *depots* in Central London are accessible by a big truck  
→ **Setting up of a new depot, suitable for growth**  
→ **Help from TfL, London Boroughs, CRP**
- Growth implies a shift in business from one subcontractor to another → **contractual change?**
- *Shared use* of depots and vehicle and customer data  
→ **businesses accept the idea that subcontractors could share depots, vehicles & data?**

# Potential supportive policy actions beyond grid infrastructure

- Specific **access rules for electric vehicles** for certain urban areas such as pedestrian zones and other restricted areas?
- Access authorisation to **restricted parking and permit bays** and for loading bays in all central areas
- Continuity for electric vehicle parking and stopping areas across **all** boroughs
- Help in **finding logistics depots** that are reasonably priced, but centrally located
- In the case of absence of any suitable depots, develop a **land-use policy with dedicated areas reserved for sustainable logistics**, and investments in new, suitable inner city depots
- Help develop and **test different types of suitable technology** with research funding
- Having a regular contact with local businesses and helping to **coordinate the activities** around new sustainable freight and new solutions for different clients, big and small